

# Office of River Protection



## Monthly Reporting Period

October 1–October 31, 2020<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 September 2020.

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## Acronyms and Abbreviations

COVID-19	coronavirus disease 2019
CV	cost variance
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
DSA	documented safety analysis
DST	double-shell tank
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ETF	Effluent Treatment Facility
FY	fiscal year
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i> (HFFACO and TPA are used interchangeably throughout this report)
IQRPE	independent, qualified, registered, professional engineer
LERF	Liquid Effluent Retention Facility
MCS	monitoring and control system
ORP	U.S. Department of Energy, Office of River Protection
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	Tank-Side Cesium Removal
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	B. Harkins	In Dispute
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	B. Harkins	In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	B. Harkins	In Dispute
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	B. Harkins	In Dispute
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	B. Harkins	In Dispute
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD <sup>1</sup>	B. Harkins	On Schedule
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD <sup>1</sup>	B. Harkins	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD <sup>1</sup>	B. Harkins	On Schedule
<b>Fiscal Year 2021 (October 1, 2020 – September 30, 2021)</b>				
M-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2020	B. Harkins	Complete

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
M-062-40H	Submit System Plan to Ecology	10/31/2020 <sup>2</sup>	M. Irwin	On Schedule
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	01/30/2021	B. Harkins	On Schedule
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2021	G. Trenchard	On Schedule
M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW	3/31/2021	B. Harkins	Complete
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021	B. Harkins	On Schedule
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	4/30/2021	B. Harkins	In Dispute
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2021	G. Trenchard	On Schedule
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2021	B. Harkins	On Schedule
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2021	B. Harkins	On Schedule
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	09/30/2021	B. Harkins	On Schedule
<b>Fiscal Year 2022 (October 1, 2021 – September 30, 2022)</b>				
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm	10/31/2021	B. Harkins	On Schedule

<sup>2</sup> DOE and Ecology agreed to an extension until November 13, 2020, for submission of System Plan Rev. 9.

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
M-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm	10/31/2021	B. Harkins	On Schedule
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2021	B. Harkins	On Schedule
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5	12/31/2021	B. Harkins	On Schedule
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan	12/31/2021	B. Harkins	On Schedule
M-062-52-T01	Submit to Ecology, as a Primary Document, a Secondary Solid Waste Disposition Work Plan	12/31/2021	B. Harkins	On Schedule
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs	1/31/2022	B. Harkins	On Schedule
M-045-92AA	Barrier 4 Design Approved by Ecology	1/31/2022	B. Harkins	On Schedule
M-062-01AR	Submit Semi-Annual Project Compliance Report to Ecology	1/31/2022	B. Trimberger	On Schedule
M-062-53A	Achieve Substantial Completion of EMF Construction	4/30/2022	W. Abdul	On Schedule
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types	5/15/2022	B. Harkins	On Schedule
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste	5/15/2022	B. Harkins	On Schedule
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	7/31/2022	B. Harkins	On Schedule

Milestone	Title	Due Date	DOE PM	Status
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2022	B. Trimberger	On Schedule
M-045-15	Completion of Tank A-103 SST Waste Retrieval	9/30/2022	B. Harkins	On Schedule
M-045-98	Submit to Ecology a RFI/CMS Work Plan for WMA A/AX as a Primary Document	9/30/2022	B. Harkins	On Schedule
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA	9/30/2022	B. Harkins	On Schedule
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	9/30/2022	B. Harkins	On Schedule
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	9/30/2022	B. Harkins	On Schedule

<sup>1</sup> To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

CD	=	critical decision	RCRA	=	<i>Resource Conservation and Recovery Act</i>
CMIP	=	corrective measures implementation work plan	SST	=	single-shell tank
DFLAW	=	direct-feed low-activity waste	TBD	=	to be determined
DOE	=	U.S. Department of Energy	TSCR	=	tank-side cesium removal
Ecology	=	Washington State Department of Ecology	WMA-C	=	C Tank Farm waste management area
Mod	=	modification	WTP	=	Waste Treatment and Immobilization Plant
PM	=	project manager			

## System Plan

**Responsible Assistant Manager:** Mat Irwin  
**Technical Lead:** Kaylin Burnett  
**Ecology Project Manager:** Dan McDonald, Jeff Lyon

**M-062-40H Submit System Plan to Ecology**

Due: October 31, 2020<sup>3</sup>

Status: On schedule

**M-062-45-A Complete Negotiations 6-Months after Last Issuance of System Plan**

Due: April 30, 2021

Status: On schedule

## Significant Past Accomplishments

- The selected scenarios for the *River Protection System Plan, Rev. 9*, were agreed upon by the U.S. Department of Energy (DOE), Office of River Protection (ORP) and the Washington State Department of Ecology (Ecology). ORP documented the agreement and transmitted letter 19-MIO-0020, “Request for Concurrence on Selected Scenarios for the River Protection Project System Plan, Revision 9,” dated September 25, 2019, to Ecology for concurrence. Ecology concurred on October 2, 2019, via letter 19-NWP-158, “Transmittal of Signed Concurrence for *Selected Scenarios for the River Protection Project System Plan, Revision 9*, RPP-RPT-61707, Rev. 0.”
- As of May 2020, cost and schedule development of the selected scenarios was completed, and the results were presented to Ecology representatives. Development of the *River Protection Project System Plan, Rev. 9*, document is ongoing.
- As of August 2020, the draft of the *River Protection Project System Plan, Rev. 9*, was completed and sent out for review and all comments were dispositioned.
- Washington River Protection Solutions, LLC has formally transmitted the *River Protection System Plan, Rev. 9*, to ORP and ORP accepted it.
- The U.S. Environmental Protection Agency (EPA), DOE, and Ecology met in the first mediated session of the “Holistic Negotiations” on June 25, 2020. Two negotiation sessions occurred in October.

## Significant Planned Actions in the Next Six Months

- Discuss disputes with regard to milestone M-062-45 and its associated milestones during “Holistic Negotiations.”
- ORP will transmit *River Protection System Plan, Rev. 9*, by the extended due date of November 13, 2020.

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<sup>3</sup> DOE and Ecology agreed to an extension until November 13, 2020, for submission of System Plan Rev. 9.

## Issues

- Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June, 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing 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, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the Tri-Party Agreement (TPA), and if other actions may be necessary.

## Acquisition of New Facilities

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

- |                 |   |
|-----------------|---|
| <b>M-090-14</b> | <b>Submit CD-1<sup>4</sup> for Facility to Store Spent Ion Exchange Columns Prior to DFLAW<sup>5</sup></b>              |
| Due:            | March 31, 2021  |
| Status:         | Complete  |
| <br>            |   |
| <b>M-090-13</b> | <b>CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY<sup>6</sup></b>                                      |
| Due:            | September 30, 2025  |
| Status:         | On schedule   |
| <br>            |   |
| <b>M-090-00</b> | <b>Acquire/Modify Facilities for Storage of First Two Years of IHLW<sup>7</sup> from the WTP<sup>8</sup> Operations</b> |
| Due:            | December 31, 2036   |
| Status:         | On schedule   |
| <br>            |   |
| <b>M-047-00</b> | <b>Completion of Work for Management of Secondary Waste from the WTP</b>  |
| Due:            | To be determined  |
| Status:         | On schedule   |

### Significant Past Accomplishments

- Submitted CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW.

### Significant Planned Actions in the Next Six Months

- None.

### Issues

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

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<sup>4</sup> CD denotes critical decision.

<sup>5</sup> DFLAW denotes direct-feed low-activity waste.

<sup>6</sup> ECY denotes Washington State Department of Ecology.

<sup>7</sup> IHLW denotes immobilized high-level waste.

<sup>8</sup> WTP denotes Waste Treatment and Immobilization Plant.

operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Ricky Bang  
**Ecology Project Manager:** Dan McDonald

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

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

<b>M-062-45-T01</b>	<b>Complete Negotiations 6-Months after Last Issuance of System Plan</b>
Due:	April 30, 2015
<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>9</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-062-45-XX</b>	<b>Complete Negotiations to Resolve Future Disputes M-062-45, Paragraphs 4 and 5</b>
Due:	December 31, 2021
Status:	On schedule
<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>9</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-062-00     Complete Pretreatment Processing and Vitrification of HLW<sup>10</sup> and LAW<sup>11</sup> 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.

**Issues**

- Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June, 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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<sup>10</sup> HLW denotes high-level waste.

<sup>11</sup> LAW denotes low-activity waste.

## Low-Activity Waste Pretreatment System

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Janet Diediker  
**Ecology Project Manager:** Dan McDonald

**M-062-50**    **Submit to Ecology as a Secondary Document, a Mass Balance Flow**  
Due: January 30, 2021  
Status: On schedule

### Significant Past Accomplishments

- None.

### Significant Planned Actions in the Next Six Months

- None.

### Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Tank-Side Cesium Removal System

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Janet Diediker  
**Ecology Project Manager:** Dan McDonald

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

### Significant Past Accomplishments

- Concrete pour for the south side of Tank-Side Cesium Removal (TSCR) shield walls was completed. Installation of primary piping for the route between W-211 and ICD-30/31 is in progress. Twenty spools were placed in the trench and eleven piping welds were completed.
- The final TSCR Ion Exchange forklift testing was completed and the forklift will be shipped to the site the first week of November.

### Significant Planned Actions in the Next Six Months

- ORP will review the Documented Safety Analysis (DSA) addendum, Technical Safety Requirements, and TSCR Readiness Plan of Action for approval.
- TSCR construction activities will be completed and readiness activities will commence.
- ORP will approve the TSCR DSA.

### Issues

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

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

## 242-A Evaporator Status

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Paul Hernandez  
**Ecology Project Manager:** Jeff Lyon

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

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
TBD	EC-11	N/A	N/A	Per DOE direction, cold runs will not be used to maintain 242-A Evaporator readiness, staff proficiency, and cycle idle equipment while transfer lines are being replaced.

DOE = U.S. Department of Energy.

N/A = not applicable.

TBD = to be determined.

### Significant Past Accomplishments

- Completed installation of the 242-A Evaporator proximity security entry system.
- Completed replacement of pre-filters on two of the three building exhaust plenums.
- Completed 100 percent design for the 242-A Evaporator transfer line replacement.
- Continued wall nozzle fabrication for the 242-A Evaporator slurry and feed transfer line replacement.
- Completed actuator fabrication and functional testing.
- Completed work on the resolution of the universal joint potential inadequacy in the safety analysis. Universal joint testing has been completed, and the vendor has incorporated the new universal joints into the calculations, engineering change notices, and drawings.
- Completed work on the resolution of the buried pipe potential inadequacy in the safety analysis. The calculations for Nuclear Safety to perform the safety basis amendment were completed.
- Completed development of the 100 percent engineering design for the 242-A Evaporator DSA upgrades.
- 242-A Evaporator DSA upgrades hardware and software procurement initiated.

### Significant Planned Actions in the Next Six Months

- Complete replacement of the third, and final, set of pre-filters on the building exhaust plenums.
- Procure new PB-1 and PB-2 replacement pumps

- Initiate pit work in support of 242-A Evaporator transfer line replacement
- Initiate DSA safety system upgrades construction phase
- Complete wall nozzle fabrication for the 242-A Evaporator slurry and feed transfer line replacement.

## Issues

- Initial testing revealed an issue with the original universal joints on the actuators used to drive the tank farm double isolation valves. A potential inadequacy in the safety analysis was written. Testing of different universal joints has now been completed, and the vendor has incorporated the new universal joints into the calculations, engineering change notices, and drawings.
- Following universal joint determination, 92 universal joints/actuators will need to be replaced. Project team and facility operations personnel are initiating phased planning of replacement to support tank transfer operations.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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

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

- M-062-51-T01**    **Submit to Ecology, as a Primary Document for Approval a Secondary Liquid Waste Disposition Work Plan**  
                     Due: December 31, 2021  
                     Status: On schedule
- M-062-51-T02**    **Submit Permit Modification Request for Redesign Upgrades And Operations to Support Volumes of Waste Types Expected**  
                     Due: May 15, 2022  
                     Status: On schedule
- M-062-51**        **Achieve Substantial Completion of LERF<sup>12</sup>/ETF<sup>13</sup> Construction Upgrades Necessary for LAW Hot Commissioning**  
                     Due: April 15, 2023  
                     Status: On schedule

### Significant Past Accomplishments

- Total fiscal year (FY) 2021 processing volume: approximately 0 gallons
- Completed ten project activities in the previous year (FY 2020):
  - ETF Chiller system upgrade to improve reliability and reduce system maintenance
  - ETF Dilute Caustic Tank upgrade to replace with a stainless steel tank
  - ETF Verification Tank repair to replace the interior protective coating
  - ETF Peroxide Decomposer Vessel system upgrade to effectively treat the WTP DFLAW effluent
  - ETF Load-In Station drain & filter system upgrade to install a new sump tank system.
  - ETF Evaporator valve upgrade to address leak-prone issues
  - ETF Cooling Tower system upgrade to improve reliability and reduce system maintenance
  - ETF Uninterruptible Power Supply upgrade to improve reliability and reduce system maintenance
  - Liquid Waste Processing Facility Stairs And Ladder replacements to improve personnel safety and ergonomics

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<sup>12</sup> LERF denotes Liquid Effluent Retention Facility.

<sup>13</sup> ETF denotes Effluent Treatment Facility.

- ETF Rough Filter & Hoist refurbishment to reduce processing down time.
- Completed six design activities in the previous year (FY 2020):
  - ETF Ultraviolet/Oxidation system upgrade as the existing system is no longer supported by the manufacturer
  - ETF Monitoring and Control System (MCS) and Hardware system upgrade, which is currently operating on outdated systems
  - LERF Basin 41 installation project for additional capacity during DFLAW operations
  - ETF Redundant Filtration to reduce processing down time
  - ETF Load-In Station building expansion to support enhanced facility operation during DFLAW operations
  - ETF Vessel Off-gas system upgrade to repair its degraded condition.

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

- Complete design of the ETF supplemental organic treatment system (i.e., ETF acetonitrile treatment) to provide the capability to treat the WTP DFLAW effluent
- Complete design of the ETF modular grout system to provide the onsite capability to stabilize the WTP DFLAW effluent
- Complete design of the ETF brine storage tanks to provide the capacity to manage the WTP DFLAW effluent
- Complete design of the ETF carbon dioxide membrane contactors to provide the capability to treat the WTP DFLAW effluent
- Complete design of the ETF motor control center upgrade to address the deficient condition and provide additional capability for ongoing upgrade projects
- Receive material procurements for the ETF MCS, Ultraviolet/Oxidation, Redundant Filtration, and Vessel Off-gas system upgrades.

### **Issues**

- Work has paused on the LERF Basin 44 cover replacement project while nuclear safety evaluations are performed by Washington River Protection Solutions, LLC and ORP. Evaluations are being performed due to visual indication of solid material in the basin and sample results from that material. ORP has provided approval to implement the approach that will pump down the remaining volume in LERF Basin 44 to perform a radiological analysis of the solids.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

### 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>14</sup>

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	+ 4,500	-
Mixed Waste Trench 31 and 34	+6,900	-	-
Other <sup>1</sup>	+2,400	-	-
Processing Campaign(s)	-	-	-
<b>Total Volume</b>	2,954,000	6,479,000	733,000

<sup>1</sup> 325 retention process sewer.  
Data Date: November 2, 2020.  
Values shown in gallons.

<sup>14</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:** Rob Hastings  
**Technical Lead:** Dustin Stewart  
**Ecology Project Manager:** Jeff Lyon, Nina Menard

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

**M-045-91E4 Provide SST<sup>15</sup> Farms Dome Deflection Surveys Every 2 Years to Ecology**

Due: September 30, 2021  
 Status: On schedule

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

Due: September 30, 2023  
 Status: On schedule

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

Due: March 31, 2024  
 Status: On schedule

**M-045-91L Obtain Assessment Reviewed/Certified by an IQRPE<sup>16</sup> Attesting to SST Structural Integrity**

Due: September 30, 2034  
 Status: On schedule

### Double-Shell Tank Integrity

#### Significant Past Accomplishments

- Received and installed a retractable corrosion monitoring probe in Tank 241-AP-102 and 241-AZ-101.
- Completed ultrasonic testing inspections for the following tanks in FY 2020:
  - 241-AW-102
  - 241-AW-101
  - 241-AW-106.
- Completed enhanced annulus visual inspection in FY 2020:
  - 241-AW-101
  - 241-AW-102

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<sup>15</sup> SST denotes single-shell tank.

<sup>16</sup> IQRPE denotes Independent Qualified Registered Professional Engineer.

- 241-AW-103
  - 241-AW-104
  - 241-AW-105
  - 241-AW-106
  - 241-SY-101
  - 241-SY-102
  - 241-SY-103.
- Released RPP-RPT-62123, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double-Shell Tank 241-AW-102 – FY 2020*, in June 2020.
  - Released RPP-RPT-62202, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double-Shell Tank 241-AW-101 – FY 2020*, in August 2020.
  - Issued a contract to fabricate, test, and deliver a primary tank bottom volumetric inspection system to be deployed into the annulus of double-shell tanks (DST) and used to characterize regions of the primary tank bottom.
  - Issued a competitive procurement contract to a vendor to design and fabricate a tertiary leak detection inspection tool for deployment beneath the secondary liner of a DST.
  - Revised TFC-ENG-CHEM-D-19, *Maintain Tank Monitoring Surveillance Baselines*, to accommodate tank baseline changes in tank farms MCS.
  - Initiated DST Annulus visual inspections for FY 2021, starting with AP-103 and AP-101.
  - Initiated Ultrasonic testing at AW-105 DST.

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

- Complete the FY 2021 ultrasonic testing inspections at tanks 241-AW-105, 241-AW-104, and 241-AP-103
- Complete DST Annulus visual inspections at nine tanks
- Complete fabrication/receipt of Southwest Research Institute Guided Wave system.

### **Ultrasonic Testing Report Status**

- 241-AW-102 ultrasonic testing report released in June 2020.
- 241-AW-101 ultrasonic testing report released in August 2020.
- 241-AW-106 ultrasonic testing draft report in progress with anticipated completion in November 2020.

### **Issues**

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

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

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

### **Single-Shell Tank Integrity**

#### **Significant Past Accomplishments**

- Performed TFC-ENG-CHEM-P-57, *Intrusion Notification and Tank Leak Assessment Process*, on the following tanks in FY 2020:
  - 241-SX-104
  - 241-T-109
- Visual inspections were completed for the following tanks in FY 2020:
  - 241-TX-101 (completed December 2019)
  - 241-TX-102 (completed December 2019)
  - 241-TX-104 (completed January 2020)
  - 241-TX-107 (completed January 2020)
  - 241-S-103 (completed January 2020)
  - 241-S-110 (completed January 2020)
  - 241-BX-112 (completed February 2020)
  - 241-BY-107 (completed February 2020)
  - 241-SX-112 (completed February 2020)
  - 241-TY-104 (completed February 2020)
  - 241-TX-110 (completed February 2020)
  - 241-BX-109 (completed February 2020)

- 241-B-107 (completed March 2020)
- 241-BX-108 (completed March 2020)
- 241-BX-105 (completed June 2020)
- Visual inspections for extent of condition, as a result of Tank 241-SX-112 findings in February 2020:
  - 241-SX-112 (completed July 2020)
  - 241-SX-109 (completed July 2020)
  - 241-SX-108 (completed August 2020)
  - 241-SX-111 (completed August 2020)
  - 241-SX-110 (completed August 2020)
  - 241-SX-106 (completed August 2020)
- Visual inspections for CHEM-P-57 tank leak assessment:
  - 241-B-109 (completed September 2020)
- Completed work package planning for visual inspection of five miscellaneous underground storage tanks.
- Completed the in-tank laser scan for dome spalling extent of condition, as a result of Tank 241-SX-112 findings in February 2020:
  - Tank 241-SX-112 Leica laser scan (August 2020)
  - Tank 241-SX-111 Leica laser scan (September 2020)
  - Tank 241-SX-109 Leica laser scan (September 2020)

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

- Perform TFC-ENG-CHEM-P-57 on tanks 241-TX-113 and 241-B-109 (in progress)
- Perform FY 2021 visual inspections of SSTs.

### **Issues**

- Tank 241-SX-112 was inspected visually in late February. The concrete dome was inspected fully, and there were three spots of spalled concrete in the dome. While there have been past inspections of the tank, they did not include the full dome; and this was the first inspection to reflect the spalling. There was no evidence of structural issues; however, the dome loading is being limited to current levels until further analysis is complete. The full analysis may take several months to complete, but a structural analysis contract is in place with the Pacific Northwest National Laboratory. Tank 241-SX-112 was inspected visually again in late July. The inspection did not identify any changes in the condition of the spalled locations. Concrete was noted on the waste surface under the spalled locations, suggesting that the spalling took place after 1969 when the tank was pumped and taken out of service. Further analysis is ongoing.

- Tank 241-SX-109 was inspected visually in late July. Spalled concrete was identified in the northeast portion of the tank dome next to a rectangular construction manhole. Additional small/shallow spalling locations, similar to those in Tank 241-SX-112, were noted on the tank dome. Concrete has been noted on the waste surface, and, comparing to past visual inspections, suggests that the spalling occurred post-1996.
- Tank 241-SX-108 was inspected visually in early August. Minor spalled concrete was identified on the tank dome.
- Tank 241-SX-111 was inspected visually in mid-August. Spalled/Cracked concrete was identified in various locations on the tank dome. Concrete has been noted on the waste surface, and, when comparing to past visual inspections, suggests that the spalling occurred post-1987. On September 1, 2020, a laser scan of SX-111 was performed. Review of the laser scan results identified a new spalling location since the visual inspection.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Independent Qualified Registered Professional Engineer Activities

- DST system:
  - RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*, Rev. 1, was completed in 2016.
  - The independent, qualified, registered, professional engineer (IQRPE) recommended the next DST system integrity assessment report be completed in 10 years.
- Single-shell tank (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) Comment 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, and ORP will continue to comply with the permit condition.
- ETF:
  - Completed RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*, in 2019.
  - The IQRPE recommended the next ETF integrity assessment be completed in 10 years.
- 219-S Tank system:
  - Completed RPP-IQRPE-50029, *219-S Integrity Assessment Report*, in February 2020.
  - The IQRPE recommended the next 219-S Tank system integrity assessment be completed in 20 years.

## In-Tank Characterization and Summary

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Dustin Stewart  
**Ecology Project Manager:** Jeff Lyon

### Reports Completed or Released

For October 2020, the following reports were completed (internal access only) or released (external access):

- Completed:
  - RPP-RPT-56866, *Derivation of Best-Basis Inventory for Tank 241-A-103 as of October 1, 2020*, Rev. 3
  - RPP-RPT-58727, *Derivation of Best-Basis Inventory for Tank 241-TX-114 as of October 1, 2020*, Rev. 1
  - RPP-PLAN-63172, *Tank 241-A-104 Grab Sampling and Analysis Plan - Fiscal Year 2019*, Rev. 1
  - RPP-PLAN-63800, *Tank Sampling and Analysis Plan for Residual Solid Waste in Tank 241-AX-102*, Rev. 4
  - RPP-RPT-61182, *Final Analytical Report for Tank 241-AZ-102 Grab Samples – Post-Recirculation 2018*, Rev. 1
  - RPP-RPT-60718, *Final Analytical Report for Tank 241-AW-106 Grab Samples in Support of Evaporator Campaign EC-09*, Rev. 2
  - RPP-RPT-61303, *Final Analytical Report for Tank 241-SY-101 TBI Grab Sampling 2018*, Rev. 5.
- Released:
  - HNF-EP-0182, *Waste Tank Summary Report for Month Ending August 31, 2020*, Rev. 392.

### Tank Sampling

#### Significant Past Accomplishments

- For October 2020, the following tank sampling was conducted:
  - Performed Tank 241-AX-102 post-retrieval solids grab sampling on October 1, 2020 and October 28, 2020. Six grab samples were received at the laboratory.
  - Performed Tank 241-AN-106 core sampling between October 22, 2020 and October 28, 2020. Four core samples were received at the laboratory.

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

- Tank 241-AN-106 core sampling is planned for November 2020.
- Tank 241-AN-106 liquid grab sampling is planned for December 2020.
- Tank 241-AP-107 qualification liquid grab sampling is planned for December 2020.
- Tank 241-AP-107 large-volume liquid grab sampling is planned for January 2021.
- Catch Tank C-301 grab sampling is planned for January 2021.

### **Issues**

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

#### **Significant Past Accomplishments**

- Best-basis inventory updates for the following tanks were completed in October 2020:
  - 241-A-103
  - 241-TX-114.

### Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in November 2020:
  - 241-AZ-101
  - 241-B-201
  - 241-BX-109
  - 241-BX-111
  - 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. 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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- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Single-Shell Tank Closure Program

**Tank Farms Assistant Manager:** Rob Hastings

**Technical Lead:** Rod Lobos

**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 Corrective Measures Implementation Work Plan (CMIP) for WMA-C<sup>17</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-045-92AD Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**  
 Due: October 31, 2020  
 Status: Completed October 7, 2020
- M-045-97 Submit to Ecology as a Primary Document a Waste Management Area Integration Study for WMA A/AX as described in HFFACO<sup>18</sup> Appendix I.2.1.1**  
 Due: September 30, 2021  
 Status: On schedule
- M-045-92Y Complete Construction of Barrier 3 in 241-TX Farm**  
 Due: October 31, 2021  
 Status: On schedule
- M-045-92Z Submit to Ecology Design for Barrier 4 in 241-U Farm**  
 Due: October 31, 2021

<sup>17</sup> WMA-C denotes C Tank Farm waste management area.

<sup>18</sup> HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

Status:	On schedule
<b>M-045-92AA</b>	<b>Barrier 4 in 241-U Farm Design Approved by Ecology</b>
Due:	January 31, 2022
Status:	On schedule
<b>M-045-85</b>	<b>Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs</b>
Due:	January 31, 2022
Status:	On schedule
<b>M-045-98</b>	<b>Submit to Ecology as a Primary Document an RFI/CMS<sup>19</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:	On schedule
<b>M-045-102</b>	<b>Submit to Ecology a Performance Assessment (PA) Maintenance Plan for WMA A/AX PA</b>
Due:	September 30, 2022
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-045-103</b>	<b>Submit to Ecology a PMR<sup>20</sup> 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

- Submitted RPP-RPT-62684, *FY2019 Annual Interim Surface Barrier Monitoring Report*, Rev. 0, to Ecology via letter 20-TF-0095, "The U.S. Department of Energy, Office of

<sup>19</sup> RFI/CMS denotes *Resource Conservation and Recovery Act* Facility Investigation/Corrective Measure Study.

<sup>20</sup> PMR denotes Permit Modification Request.

River Protection, Transmittal of RPP-RPT-62684, Fiscal Year 2019 Annual Interim Surface Barrier Monitoring Report, Rev. 0, to Meet Hanford Federal Facility Agreement and Consent Order Milestone M-045-92AD” on October 7, 2020. This completed the M-045-92AD Milestone.

- Submitted revisions and comment responses to Ecology for RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*; RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for 241-C-200 Series Tanks*; and RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*.
- Continued permitting workshops with Ecology for the SST closure plans in the Hanford Site-wide permit. The workshops are currently being conducted as teleconferences.
- Submitted RPP-ENV-61497, *Preliminary Performance Assessment of Waste Management Area A-AX*, 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*, on September 29, 2020, to meet the M-045-99 Milestone.
- Held two data quality objective meetings for WMA A/AX boundary with Ecology and EPA, September 1 and September 16, 2020.
- Held a data quality objective sampling meeting for WMA A/AX with Ecology on September 29, 2020.
- Held a sample depth meeting for D0006 in WMA A/AX with Ecology on October 14, 2020.
- Completed liner installation on the TX Evapotranspiration Basin on August 31, 2020.
- Report RPP-RPT-61684, Rev. 00B, was delivered to Ecology on October 10, 2019, to complete the M-045-92AC Milestone. Submitted RPP-RPT-61684, *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, Rev. 1, to Ecology via letter 20-TF-0069, “The U.S. Department of Energy, Office of River Protection, Transmittal of RPP-RPT-61684, Maintenance and Performance Monitoring Plan for the Interim Barriers Program, Rev. 1,” on July 23, 2020. Ecology extended its review of the document until September 18, 2020 (20-NWP-137, “Extension of the Department of Ecology’s (Ecology) Comment Review Period for the *Maintenance and Performance Monitoring Plan*, RPP-RPT-61684, Revision 1, for the Interim Barriers Program”). ORP received Ecology comments on the document on September 18, 2020 (20-NWP-159, “Department of Ecology’s [Ecology] Comments on the United States Department of Energy – Office of River Protection’s [USDOE-ORP] *Maintenance and Performance Monitoring Plan for the Interim Barriers Program* [RPP-RPT-61684, Rev. 1]). On October 8, 2020, ORP requested an additional 60 days past October 18, 2020 to provide responses to Ecology’s comments on the primary document (20-TF-0101, “Response to 20-NWP-159 from the Washington State Department of Ecology). On October 9, 2020, Ecology approved ORP’s request for a 60-day extension (20-NWP-164, “Approval of the United States Department of Energy’s 60-day Extension Request for Comment Response

on the Maintenance and Performance Monitoring Plan for the Interim Barriers Program, RPP-RPT-61684, Rev.1).

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

- Resolve Ecology's comments on RPP-RPT-59389, RPP-RPT-59390, and RPP-RPT-58858
- Respond to Ecology's comments on RPP-RPT-61684
- Release updated TPA Appendix I Performance Assessment documents incorporating Ecology comments as appropriate for WMA-C
- Complete the storm water drainage system for the TX evapotranspiration basin
- Hold additional WMAs A/AX boundary meetings for the purpose of reaching agreement. Next Scheduled meeting is November 3, 2020
- Award construction subcontract for TX Farm Barrier.

### **Issues**

- The boundary of WMA A-AX must be defined in order to complete milestones M-045-97 and M-045-98. In September 2020, Ecology proposed adding three areas to WMA A-AX: (1) the 244-AR Vault and 241-AR-151 diversion box; (2) the soil in the area around DST AY-102; and (3) an area outside the east of A Farm fence line. Meetings about the boundary for WMA A-AX continued through October 2020, and into November 2020. Work necessary to meet these two milestones has fallen behind schedule as the scope is unresolved and resources are being used to support the evaluation of Ecology's requests. As discussions continue regarding the boundary, the DOE's ability to complete these milestones is impacted. Additionally, if discussions yield the need to add additional areas to the WMA A-AX boundary, the milestones' dates will also be impacted. These impacts will be addressed by DOE proposing new dates for these milestones through a TPA Change Control Form.
- The content of the WMA Integration Studies has been negotiated and agreed upon by DOE, EPA and the State of Washington, and is captured in Section 2.1.1 of Appendix I of the HFFACO Action Plan. This content had been agreed upon prior to establishment of milestone M-045-97. Following establishment of milestone M-045-97, Ecology submitted a five page annotated outline to DOE for the WMA A-AX Integration Study via letter on September 10, 2020 (20-NWP-154, "Re: Waste Management Area (WMA) A/AX Integration Study Outline"). Although the transmittal letter says the "...outline provides a detailed description of the elements necessary to meet Hanford Facility Agreement and Consent Order Appendix I requirements," the outline includes many elements not required under Section 2.1.1 of Appendix I of the HFFACO Action Plan. Some of the elements of Ecology's annotated outline will not be completed for years. DOE is reviewing Ecology's annotated outline to determine the schedule impacts of including all elements in the WMA A-AX Integration Study.

- Ecology proposed (via an email from Mr. Jeff Lyon on June 17, 2020) to remove the milestone (i.e., M-045-62, “Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C”) for submittal of the CMIP, with the intent to install a final closure cap, rather than implement the planned interim barrier. Ecology’s proposal to install the final closure cap before most of the closure activities would be completed at tank farms 241-A, 241-AN, 241-AP, 241-AW, 241-AX, 241-AY, and 241-AZ is an issue for the following reasons:
  - Could impact retrievals and tank structural stability
  - Could cause runoff issues for adjacent tank farms
  - Is not consistent with the approach analyzed in DOE/EIS-0391, *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*, and the record of decision (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 is developing the CMIP to submit to Ecology and has followed this path since RPP-RPT-59379 was approved in June 2018. DOE understands that the CMIP is the vehicle that Ecology will use to meet its TPA/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<sup>21</sup> 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.

Notwithstanding Ecology’s forthcoming recommendations and whether they also indicate Ecology’s position that corrective actions are not needed for the dangerous waste constituents, the EPA Administrator has sole authority to make the CERCLA remedial action decisions. DOE has not received a clearly articulated rationale for any Ecology-proposed change or the process Ecology plans to use to recommend any remedial action(s) to the EPA and to obtain the EPA’s selection of remedial action(s).

- 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,

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<sup>21</sup> CERCLA denotes the *Comprehensive Environmental Response, Compensation, and Liability Act*, 42 USC § 9601 *et seq.*

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Single-Shell Tank Retrieval Program

**Tank Farms Assistant Manager:** Rob Hastings

**Technical Lead:** Jeff Rambo

**Ecology Project Manager:** Jeff Lyon

**M-045-86 Submit Retrieval Data Report (RDR) to Ecology for 19 Tanks Retrieved Under Consent Decree**

Due: To be determined (12 months after retrieval certification).

Status: No retrieval data reports are currently underway. The next planned retrieval is Tank 241-AX-102.

**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 2020

September-2020

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$155,922	\$146,535	\$131,588	(\$9,387)	\$14,947	0.94	1.11			
FYTD	\$797,218	\$754,279	\$717,125	(\$42,939)	\$37,154	0.95	1.05	\$797,218		
CTD	\$6,319,815	\$6,206,897	\$6,136,228	(\$112,918)	\$70,668	0.98	1.01	\$7,022,665	\$6,965,489	\$57,176

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			

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.

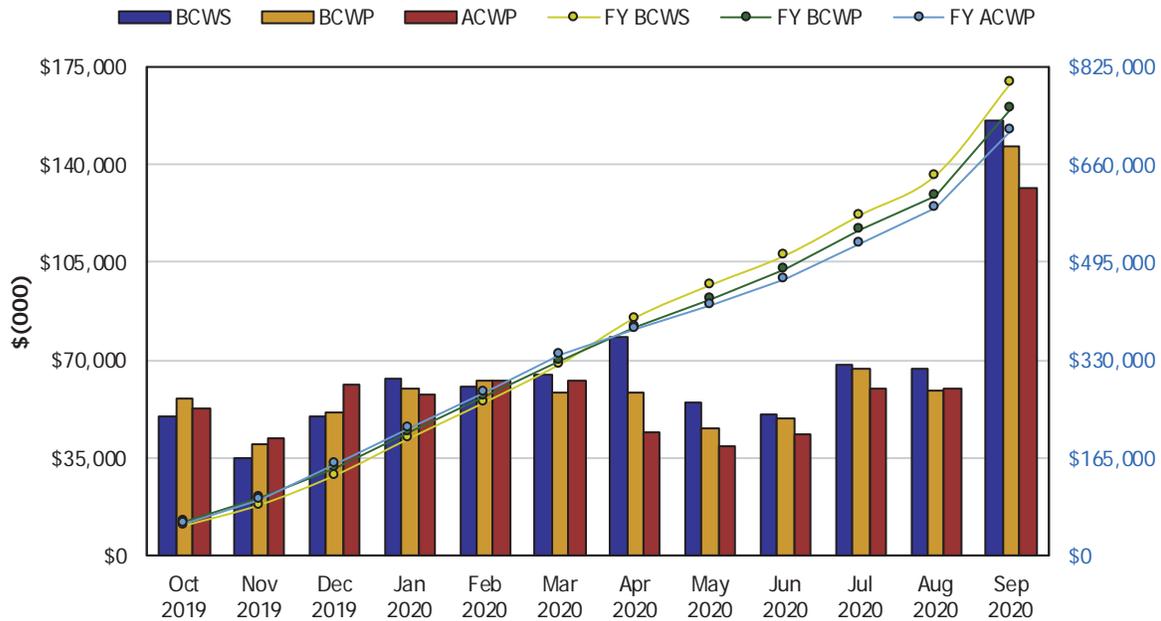
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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 2020

September-2020

**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 2019	\$49,558	\$56,275	\$52,812	1.14	1.07	\$49,558	\$56,275	\$52,812	1.14	1.07
Nov 2019	\$34,954	\$39,741	\$42,066	1.14	0.94	\$84,512	\$96,016	\$94,879	1.14	1.01
Dec 2019	\$49,841	\$51,597	\$61,200	1.04	0.84	\$134,353	\$147,613	\$156,079	1.10	0.95
Jan 2020	\$63,048	\$59,514	\$57,979	0.94	1.03	\$197,401	\$207,128	\$214,059	1.05	0.97
Feb 2020	\$60,669	\$62,504	\$62,711	1.03	1.00	\$258,071	\$269,632	\$276,770	1.04	0.97
Mar 2020	\$64,495	\$58,502	\$62,318	0.91	0.94	\$322,565	\$328,133	\$339,088	1.02	0.97
Apr 2020	\$78,113	\$58,649	\$44,236	0.75	1.33	\$400,679	\$386,782	\$383,324	0.97	1.01
May 2020	\$55,020	\$45,899	\$39,337	0.83	1.17	\$455,699	\$432,681	\$422,661	0.95	1.02
Jun 2020	\$50,419	\$48,860	\$43,270	0.97	1.13	\$506,117	\$481,541	\$465,931	0.95	1.03
Jul 2020	\$68,072	\$67,055	\$59,629	0.99	1.12	\$574,189	\$548,596	\$525,560	0.96	1.04
Aug 2020	\$67,107	\$59,148	\$59,977	0.88	0.99	\$641,295	\$607,743	\$585,536	0.95	1.04
Sep 2020	\$155,922	\$146,535	\$131,588	0.94	1.11	\$797,218	\$754,279	\$717,125	0.95	1.05

CTD	\$6,319,815	\$6,206,897	\$6,136,228	0.98	1.01
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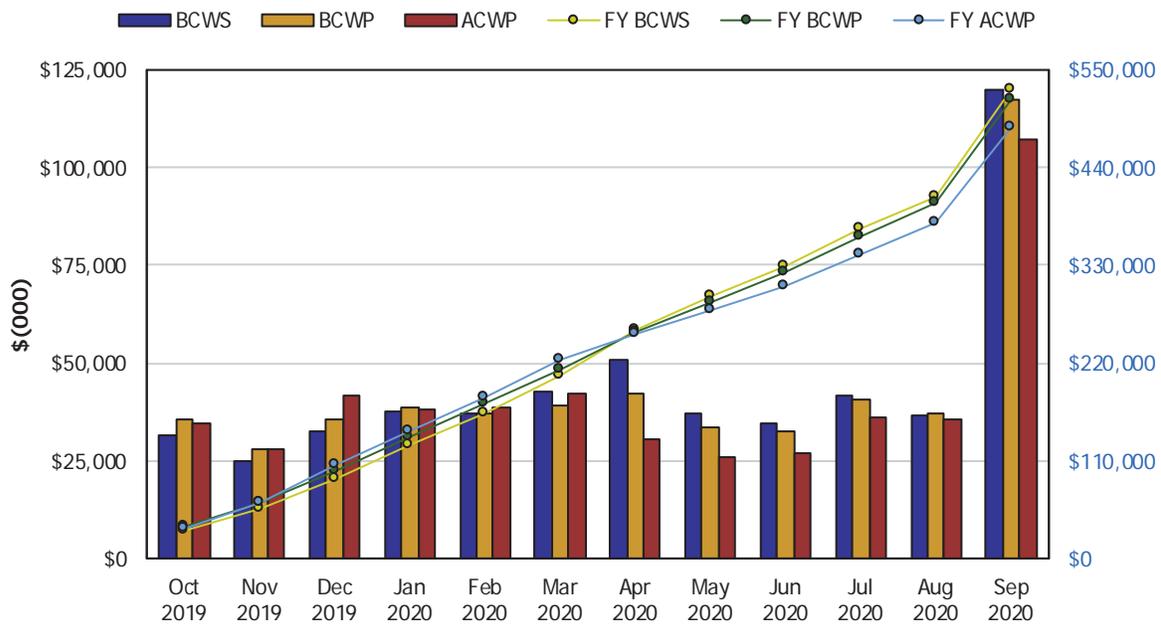
- ACWP = actual cost of work performed
- BCWP = budgeted cost of work performed
- BCWS = budgeted cost of work scheduled
- CPI = cost performance index
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

Earned Value Data: Fiscal Year 2020

September-2020

**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 2019	\$31,720	\$35,563	\$34,769	1.12	1.02	\$31,720	\$35,563	\$34,769	1.12	1.02
Nov 2019	\$24,924	\$27,726	\$27,829	1.11	1.00	\$56,644	\$63,289	\$62,598	1.12	1.01
Dec 2019	\$32,399	\$35,357	\$41,699	1.09	0.85	\$89,043	\$98,646	\$104,297	1.11	0.95
Jan 2020	\$37,525	\$38,619	\$38,174	1.03	1.01	\$126,568	\$137,265	\$142,471	1.08	0.96
Feb 2020	\$37,219	\$37,342	\$38,509	1.00	0.97	\$163,787	\$174,607	\$180,980	1.07	0.96
Mar 2020	\$42,891	\$38,955	\$42,127	0.91	0.92	\$206,678	\$213,562	\$223,107	1.03	0.96
Apr 2020	\$50,864	\$42,080	\$30,456	0.83	1.38	\$257,542	\$255,642	\$253,563	0.99	1.01
May 2020	\$36,892	\$33,386	\$25,784	0.90	1.29	\$294,435	\$289,028	\$279,347	0.98	1.03
Jun 2020	\$34,378	\$32,642	\$27,185	0.95	1.20	\$328,812	\$321,670	\$306,532	0.98	1.05
Jul 2020	\$41,800	\$40,542	\$36,139	0.97	1.12	\$370,612	\$362,211	\$342,671	0.98	1.06
Aug 2020	\$36,727	\$37,130	\$35,690	1.01	1.04	\$407,339	\$399,342	\$378,361	0.98	1.06
Sep 2020	\$119,790	\$117,186	\$107,084	0.98	1.09	\$527,129	\$516,528	\$485,444	0.98	1.06

CTD	\$4,185,779	\$4,136,106	\$4,054,872	0.99	1.02
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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:*** Rob Hastings  
***Technical Lead:*** Ricky Bang

### 5.01 – Base Operations

The September 2020 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$2,603,400) was primarily due to:

- Delays to the anticipated field work completions of the 242-A Evaporator wall nozzle installations and the AW02E Pump and Jumper replacements. Delays were due to impacts associated with the COVID-19 pandemic and additional permitting.

The current month **favorable** CV of \$10,102,200 was primarily due to:

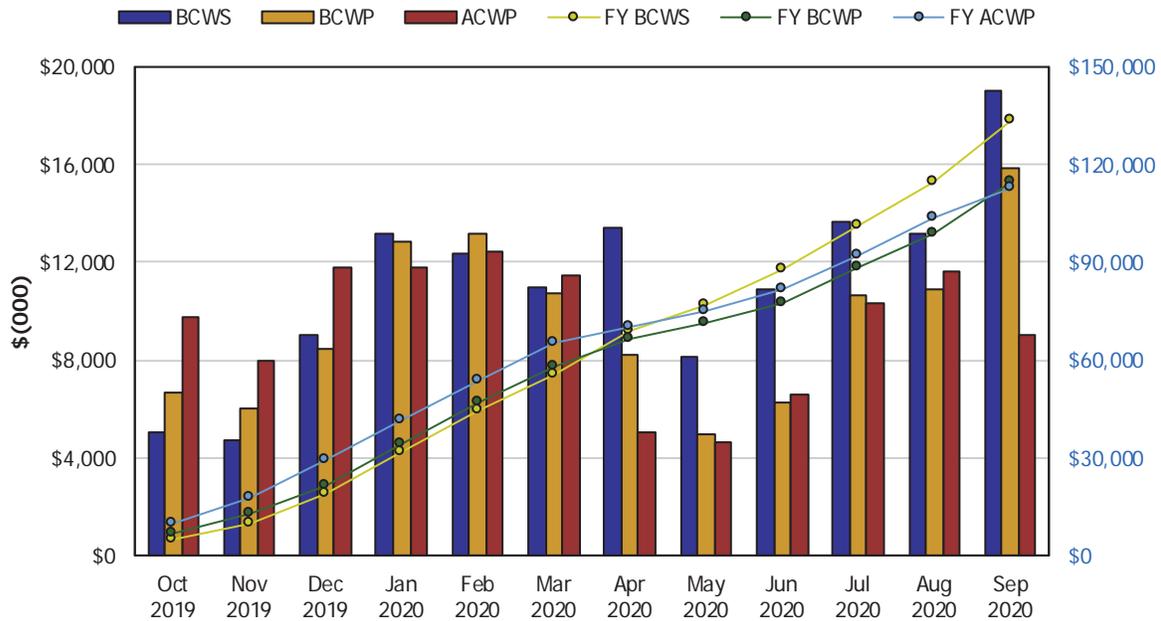
- Favorable FY 2020 year-end indirect pool liquidations “passbacks” were experienced in the current reporting period. The favorable “passbacks” were a result of the actual FY end indirect rates being less than the provisional indirect rates utilized to allocate indirect costs to the projects over the course of the FY. This is a one-time credit incurred at the end of the FY to liquidate the following indirect pools:
  - Production Ops Support Services
  - 222-S Laboratory General Support
  - ETF/LERF/ Treated Effluent Disposal Facility Ops & Maintenance
  - Industrial Hygiene
  - Tank Farm Projects Program Oversight
  - Waste Management Program
  - Production Ops Prod. Control Support
  - Prod. Ops Central Shift Office
  - SY Farm Exhauster Upgrade
  - TOC Direct Facilities Support.

Earned Value Data: Fiscal Year 2020

September-2020

**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 2019	\$5,039	\$6,662	\$9,772	1.32	0.68	\$5,039	\$6,662	\$9,772	1.32	0.68
Nov 2019	\$4,722	\$6,050	\$7,940	1.28	0.76	\$9,761	\$12,712	\$17,711	1.30	0.72
Dec 2019	\$9,040	\$8,482	\$11,822	0.94	0.72	\$18,801	\$21,193	\$29,534	1.13	0.72
Jan 2020	\$13,201	\$12,877	\$11,828	0.98	1.09	\$32,003	\$34,070	\$41,362	1.06	0.82
Feb 2020	\$12,323	\$13,174	\$12,473	1.07	1.06	\$44,326	\$47,245	\$53,834	1.07	0.88
Mar 2020	\$10,984	\$10,744	\$11,497	0.98	0.93	\$55,310	\$57,989	\$65,331	1.05	0.89
Apr 2020	\$13,412	\$8,230	\$5,011	0.61	1.64	\$68,722	\$66,218	\$70,343	0.96	0.94
May 2020	\$8,123	\$4,957	\$4,623	0.61	1.07	\$76,845	\$71,175	\$74,966	0.93	0.95
Jun 2020	\$10,857	\$6,262	\$6,619	0.58	0.95	\$87,702	\$77,437	\$81,585	0.88	0.95
Jul 2020	\$13,648	\$10,678	\$10,292	0.78	1.04	\$101,350	\$88,115	\$91,877	0.87	0.96
Aug 2020	\$13,193	\$10,903	\$11,608	0.83	0.94	\$114,543	\$99,019	\$103,484	0.86	0.96
Sep 2020	\$19,005	\$15,847	\$8,994	0.83	1.76	\$133,549	\$114,865	\$112,479	0.86	1.02

CTD	\$1,217,810	\$1,176,207	\$1,231,262	0.97	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:*** Rob Hastings  
***Technical Lead:*** Jeff Rambo

### **5.02 – Retrieve and Close Single-Shell Tanks**

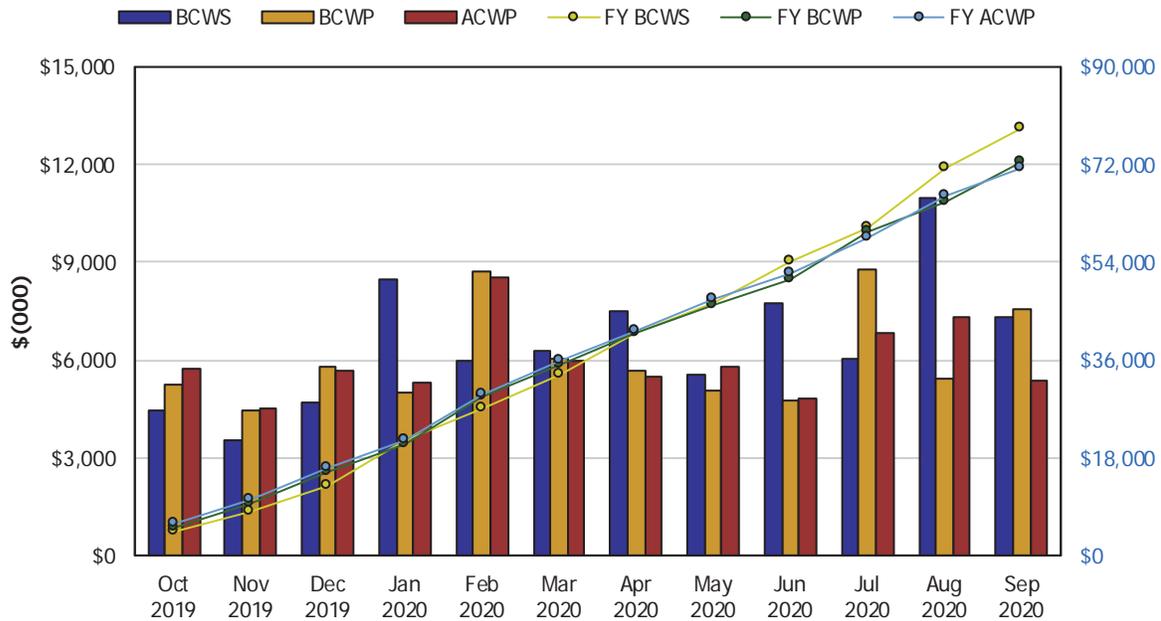
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2020

September-2020

**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 2019	\$4,444	\$5,240	\$5,748	1.18	0.91	\$4,444	\$5,240	\$5,748	1.18	0.91
Nov 2019	\$3,521	\$4,447	\$4,535	1.26	0.98	\$7,965	\$9,687	\$10,283	1.22	0.94
Dec 2019	\$4,707	\$5,765	\$5,664	1.22	1.02	\$12,672	\$15,452	\$15,947	1.22	0.97
Jan 2020	\$8,446	\$5,009	\$5,307	0.59	0.94	\$21,118	\$20,461	\$21,254	0.97	0.96
Feb 2020	\$5,997	\$8,716	\$8,545	1.45	1.02	\$27,115	\$29,177	\$29,799	1.08	0.98
Mar 2020	\$6,256	\$6,053	\$5,966	0.97	1.01	\$33,371	\$35,230	\$35,765	1.06	0.99
Apr 2020	\$7,498	\$5,683	\$5,490	0.76	1.04	\$40,868	\$40,913	\$41,256	1.00	0.99
May 2020	\$5,562	\$5,055	\$5,822	0.91	0.87	\$46,430	\$45,968	\$47,078	0.99	0.98
Jun 2020	\$7,720	\$4,764	\$4,803	0.62	0.99	\$54,150	\$50,732	\$51,881	0.94	0.98
Jul 2020	\$6,060	\$8,797	\$6,826	1.45	1.29	\$60,209	\$59,529	\$58,707	0.99	1.01
Aug 2020	\$10,973	\$5,438	\$7,333	0.50	0.74	\$71,182	\$64,967	\$66,040	0.91	0.98
Sep 2020	\$7,314	\$7,561	\$5,373	1.03	1.41	\$78,496	\$72,527	\$71,413	0.92	1.02

CTD	\$654,874	\$644,253	\$596,839	0.98	1.08
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- ACWP = actual cost of work performed
- BCWP = budgeted cost of work performed
- BCWS = budgeted cost of work scheduled
- CPI = cost performance index
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

***Tank Farms Assistant Manager:*** Rob Hastings  
***Federal Program Manager:*** Brian Harkins

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

The September 2020 variances below do not impact TPA milestones.

The current month **favorable** SV of \$247,000 was primarily due to:

- The Mechanical Waste Gathering System (MWGS) completed final testing, testing analysis with final report, subcontractor review, and acceptance of the MWGS test rig.

The current month **favorable** CV of \$2,187,300 was primarily due to:

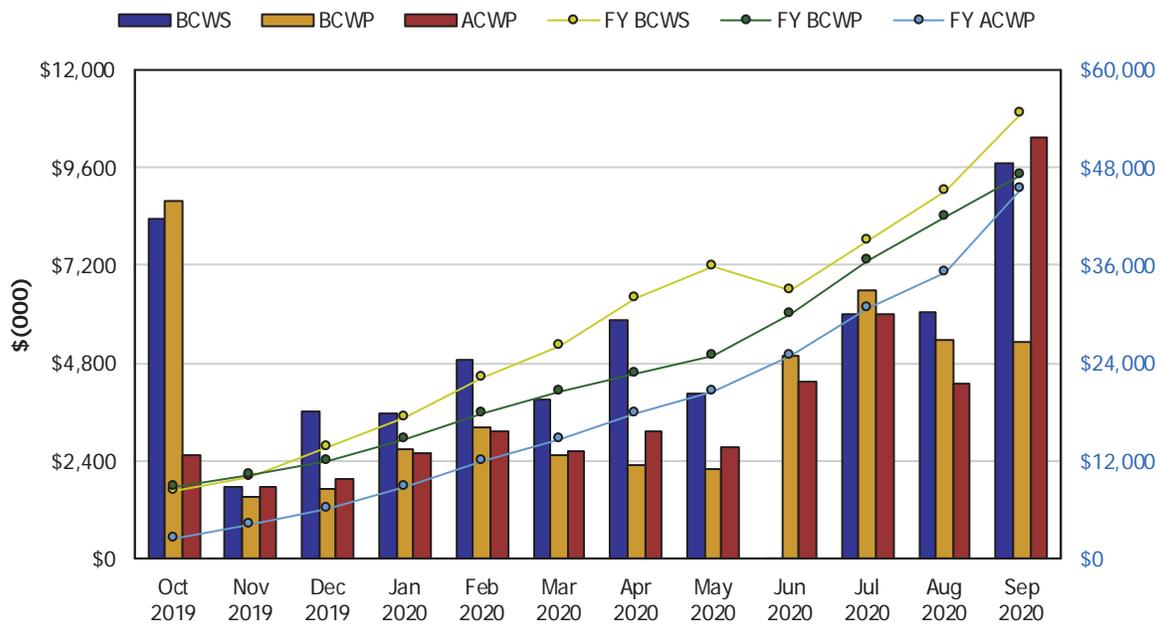
- Immobilized low-activity waste (ILAW) Transporters pallet and trailer commissioning costing substantially less than planned. During FY 2020 planning, the assumption was made that all ILAW trailers and pallets would need to be commissioned. As pallet fabrication and delivery commenced, it was determined that only ILAW trailers would be commissioned resulting in reduced cost to the ILAW Transporter project.
- Favorable FY 2020 year-end indirect pool liquidations “passbacks” were experienced in the current reporting period. The favorable “passbacks” are a result of the actual FY end indirect rates being less than the provisional indirect rates utilized to allocate indirect costs to the projects over the course of the FY. This is a one-time credit incurred at the end of the FY to liquidate the following indirect pools:
  - Waste Feed Delivery Technology
  - WTP Transition Support.

Earned Value Data: Fiscal Year 2020

September-2020

**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 2019	\$8,344	\$8,802	\$2,523	1.05	3.49	\$8,344	\$8,802	\$2,523	1.05	3.49
Nov 2019	\$1,778	\$1,510	\$1,759	0.85	0.86	\$10,122	\$10,312	\$4,282	1.02	2.41
Dec 2019	\$3,591	\$1,715	\$1,940	0.48	0.88	\$13,713	\$12,027	\$6,223	0.88	1.93
Jan 2020	\$3,546	\$2,663	\$2,588	0.75	1.03	\$17,260	\$14,691	\$8,810	0.85	1.67
Feb 2020	\$4,867	\$3,230	\$3,133	0.66	1.03	\$22,127	\$17,921	\$11,944	0.81	1.50
Mar 2020	\$3,928	\$2,526	\$2,646	0.64	0.95	\$26,055	\$20,446	\$14,590	0.78	1.40
Apr 2020	\$5,844	\$2,283	\$3,128	0.39	0.73	\$31,900	\$22,730	\$17,718	0.71	1.28
May 2020	\$4,059	\$2,179	\$2,731	0.54	0.80	\$35,959	\$24,908	\$20,449	0.69	1.22
Jun 2020	(\$2,984)	\$4,984	\$4,323	-1.67	1.15	\$32,974	\$29,892	\$24,772	0.91	1.21
Jul 2020	\$5,995	\$6,589	\$5,986	1.10	1.10	\$38,969	\$36,480	\$30,758	0.94	1.19
Aug 2020	\$6,071	\$5,361	\$4,281	0.88	1.25	\$45,040	\$41,841	\$35,040	0.93	1.19
Sep 2020	\$9,687	\$5,294	\$10,323	0.55	0.51	\$54,727	\$47,135	\$45,363	0.86	1.04

CTD	\$237,924	\$226,998	\$231,699	0.95	0.98
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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:*** Rob Hastings  
***Federal Program Manager:*** Brian Harkins

### 5.05 – Treat Waste

The September 2020 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$4,392,400) was primarily due to:

- Delays in procurement/fabrication of items by the construction subcontractor. Procurement and fabrication of a number of the components were impacted by COVID-19 controls within fabrication facilities and supply chain delays.
- The vendor experiencing a delay in the fabrication of filter assemblies and delivery of the fabricated items. The filter head to shell weld did not pass the non-destructive inspection. The heads were removed, replacement heads were ordered. Recovery is forecast for November.
- Delayed completion of the DSA and Technical Safety Requirement Documents that make up the total DSA Addendum package, this activity is now forecasted to be complete in December.

The current month **unfavorable** CV of (\$4,837,700) was primarily due to:

- COVID-19 impact collected costs through August, which were transferred to the account in September as directed by ORP.
- Construction subcontractor accruals were not in alignment with budget/performance spread in baseline.

**Table 1 Administrative Record Metadata**

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
M-062-45	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-ZZ	Negotiate a One-Time Supplemental Treatment Selection
M-062-45-ZZ-A	Convert M-062-31-T01 Thru M-062-34-T01 to Interim Milestones
M-062-31-T01	Comp. 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-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-062-40H	Submit System Plan to Ecology
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology
M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm
M-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
M-062-52-T01	Submit to Ecology, a Secondary Solid Waste Disposition Work Plan as a Primary Document
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs
M-045-92AA	Barrier 4 Design Approved by Ecology
M-062-01AR	Submit Semi-Annual Project Compliance Report to Ecology
M-062-53A	Achieve Substantial Completion of EMF Construction
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology
M-045-15	Completion of Tank A-103 SST Waste Retrieval
M-045-98	Submit to Ecology a RFI/CMS Work Plan for WMA A/AX as a Primary Document
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA
M-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
S-2-3	Double-Shell Tank System (DST)
S-2-4	Single-Shell Tank System (SST)
S-2-8	Liquid Effluent Retention Facility (LERF)
T-2-6	242-A Evaporator
T-2-8	Effluent Treatment Facility (ETF)
TS-2-8	Low-Activity Waste Pretreatment System (LAWPS)

CD = critical decision

TSCR = tank-side cesium removal

DFLAW = direct-feed low-activity waste

WMA = waste management area

DOE = U.S. Department of Energy

WTP = Waste Treatment and Immobilization Plant

RCRA = *Resource Conservation and Recovery Act*