

Office of River Protection



Monthly Reporting Period

February 1–February 28, 2021¹

¹ The narrative descriptions of progress in this report cover the reporting period. Information outside the reporting period may also be included for purposes of providing continuity or useful context. Information may be repeated in multiple sections of this report for continuity and clarity. Earned Value Management System data and descriptions cover the period through January 2021.

Topic	Page
Acronyms and Abbreviations	2
Administrative Items/Milestone Status	3
System Plan	7
Acquisition of New Facilities	9
Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications	11
Low-Activity Waste Pretreatment System	13
Tank-Side Cesium Removal System.....	14
242-A Evaporator Status	16
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	18
Tank System Update	21
Independent Qualified Registered Professional Engineer Activities	26
In-Tank Characterization and Summary	27
Single-Shell Tank Closure Program	30
Single-Shell Tank Retrieval Program	37
Tank Operations Contract Overview	38
Table 1 Administrative Record Metadata	48

Acronyms and Abbreviations

CD	critical decision
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
COVID-19	coronavirus disease 2019
CMIP	corrective measures implementation work plan
CV	cost variance
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
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
MCMF	Multi-Craft Maintenance Facility
MCS	Monitoring and Control System
ORP	U.S. Department of Energy, Office of River Protection
PMR	Permit Modification Request
RCRA	<i>Resource Conservation and Recovery Act</i>
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	Tank-Side Cesium Removal
UV/OX	Ultraviolet/Oxidation
WMA	waste management area
WTP	Waste Treatment and Immobilization Plant

Administrative Items/Milestone Status

Milestone	Title	Due Date	DOE PM	Status
Prior Years				
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	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 ^a	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 ^a	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 ^a	B. Harkins	On Schedule
Fiscal Year 2021 (October 1, 2020 – September 30, 2021)				
M-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2020	B. Harkins	Complete
M-062-40H	Submit System Plan to Ecology	11/13/2020 ^b	M. Irwin	Complete
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	01/30/2021	B. Harkins	Complete

Milestone	Title	Due Date	DOE PM	Status
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2021	G. Trenchard	Complete
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	In Dispute
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
Fiscal Year 2022 (October 1, 2021 – September 30, 2022)				
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm	10/31/2021	B. Harkins	On Schedule
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

Milestone	Title	Due Date	DOE PM	Status
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
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

Milestone	Title	Due Date	DOE PM	Status
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	9/30/2022	B. Harkins	On Schedule

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

^b DOE and Ecology agreed to an extension until November 13, 2020, for submission of System Plan Rev. 9.

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

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: November 13, 2020²

Status: Complete

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

Due: April 30, 2021

Status: In Dispute

Significant Past Accomplishments

- The U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), and Washington State Department of Ecology (Ecology) met in the first mediated session of the “Holistic Negotiations” on June 25, 2020. There was one negotiation session held in January.
- On November 13, 2020, DOE transmitted the final *River Protection Project System Plan*, Rev. 9, to Ecology per letter 20-ORP-0016, “Transmittal of the River Protection Project System Plan, Revision 9.”
- On January 27, 2021, DOE submitted signed change package M-62-21-01 to Ecology for evaluation to extend the M-62-45 Milestone date 90 days due to “Holistic Negotiations” progress. This change package was not concurred on by Ecology within the 14 day period and therefore went into dispute on February 10, 2021.

Significant Planned Actions in the Next Six Months

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

Issues

- Ecology and DOE Office of River Protection (ORP) have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing 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

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

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: Delmar Noyes
Technical Lead: Janet Diediker
Ecology Project Manager: Dan McDonald, Jeff Lyon

M-090-13	CD-1³ for Interim Hanford Storage Project and CR for CD-2 to ECY⁴
Due:	September 30, 2025
Status:	On schedule
M-090-00	Acquire/Modify Facilities for Storage of First Two Years of IHLW⁵ from the WTP⁶ Operations
Due:	December 31, 2036
Status:	On schedule
M-047-00	Completion of Work for Management of Secondary Waste from the WTP
Due:	To be determined
Status:	On schedule

Significant Past Accomplishments

- Completed M-090-14 Milestone, “Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW⁷.” ORP transmitted letter 20-ECD-0050, “Submittal of CD-1 for Facility to Store Spent Ion Exchange Columns Prior to Direct Feed Low-Activity Waster Tri-Party Agreement Milestone M-090-14,” on October 23, 2020, to Ecology.

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

³ CD denotes critical decision.

⁴ ECY denotes Washington State Department of Ecology.

⁵ IHLW denotes immobilized high-level waste.

⁶ WTP denotes Waste Treatment and Immobilization Plant.

⁷ DFLAW denotes direct-feed low-activity waste.

implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that 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: Delmar Noyes
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."

M-062-45-T01 Complete Negotiations 6-Months after Last Issuance of System Plan
 Due: April 30, 2015

M-062-45-ZZ Negotiate a One-Time Supplemental Treatment Selection
 Due: April 30, 2015

M-062-45-ZZ-A Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones
 Due: April 30, 2015

M-062-31-T01 Complete Final Design and Submit RCRA⁸ Part B Permit Modification Request for Enhanced WTP & Supplemental Treatment
 Due: April 30, 2016

M-062-32-T01 Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
 Due: April 30, 2018

M-062-33-T01 Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
 Due: April 30, 2021

M-062-45-XX Complete Negotiations to Resolve Future Disputes M-062-45, Paragraphs 4 and 5
 Due: December 31, 2021
 Status: On schedule

M-062-34-T01 Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
 Due: December 30, 2022

M-062-21 Annually Submit Data Which Demonstrates Operation of the WTP at a Rate Sufficient to Meet M-062-00
 Due: February 28, 2023
 Status: At risk

⁸ RCRA denotes *Resource Conservation and Recovery Act*.

M-062-00 Complete Pretreatment Processing and Vitrification of HLW⁹ and LAW¹⁰ 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.

⁹ HLW denotes high-level waste.

¹⁰ LAW denotes low-activity waste.

Low-Activity Waste Pretreatment System

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

Significant Past Accomplishments

- Completed M-062-50 Milestone, “Submit to Ecology as a Secondary Document, a Mass Balance Flow.” ORP transmitted letter 20-ECD-0057, “Completion of Tri-Party Agreement Milestone M-062-50,” on December 4, 2020, to Ecology.

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: Delmar Noyes
Technical Lead: Janet Diediker
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

- ORP approved the Documented Safety Analysis (DSA) addendum Technical Safety Requirements.
- Completed electrical tie-ins for the Tank Side Cesium Removal (TSCR) enclosures.
- Completed the TSCR shield wall installation.
- Completed hydrostatic testing of primary piping in waste transfer line SN-700, which connects AP Tank Farm to the main W-211 transfer line leading to WTP. The testing included the re-purposed portion of the W-211 transfer line and marks completion of integrity testing for that section, supporting closure of a major project risk.
- Installed two filter units and three Ion Exchange Columns (IXCs) into the TSCR Enclosure in preparation for water runs.
- IXC base plates were installed for the first 20 spent IXC's.

Significant Planned Actions in the Next Six Months

- Receive the *Resource Conservation and Recovery Act* (RCRA) Permit from Ecology.
- Complete TSCR construction operations.
- Initiate TSCR Operational Acceptance Test.

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

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

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
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 work on the resolution of the universal joint potential inadequacy in the safety analysis. Universal joint testing was completed, and the vendor has incorporated the new universal joints into the calculations, engineering change notices, and drawings.
- Replaced bag filters on both the K1 and K2 ventilation systems.
- Completed 242-A exhaust stack quarterly American National Standards Institute testing.
- Installed new wall nozzle in the AW-02E pit in support of the new 242-A Evaporator slurry line and feed transfer lines.
- Completed 242-A Evaporator pump room pre-permit scope in support of the 242-A Evaporator slurry line and feed transfer line replacements.
- Completed 242-A K1 Ventilation Continuous Air Monitor calibration and functional test.
- Completed 242-A overhead crane preventive maintenance to support slurry line replacement.
- Completed replacement of the third, and final, set of pre-filters on the building exhaust plenums.
- Removed spare PB-1 and miscellaneous equipment from the pump room, pump storage and load-out rooms.

Significant Planned Actions in the Next Six Months

- Procure new PB-1 and PB-2 replacement pumps.
- Complete development of the 100 percent engineering design revisions for the 242-A Evaporator DSA upgrades.

- Receive 242-A DSA Safety System upgrades procurements.
- Initiate 242-A DSA safety system upgrades construction phase.
- Complete wall nozzle fabrication for the 242-A Evaporator slurry and feed transfer line replacement.
- Initiate 242-A Ventilation Control System upgrades.
- Install new wall nozzle in the AW-02A pit in support of the new 242-A Evaporator slurry line and feed transfer lines.
- Mobilize AW Tank Farm transfer line excavation for the 242-A Evaporator slurry and feed transfer line replacement.
- Install new wall nozzles in the evaporator pump room to support the new 242-A Evaporator slurry and feed transfer lines.
- Remove the old 242-A Evaporator feed pump and install a new one in the AW-02E pit.

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

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

Due: December 31, 2021
 Status: 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 LERF¹¹/ETF¹² 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 3.2 million gallons.
- Completed processing operations for FY 2021, and began facility cleanout activities in preparation for plant outage.
- Completed third party inspections of the ETF Evaporator and Thin Film Dryer boiler.
- Completed transfer of the remaining heel volume from LERF Basin 44 to LERF Basin 42 in support of Basin 44 cover replacement.
- Continued fieldwork for the ETF Monitoring and Control System (MCS) upgrade.
- Began site mobilization of the construction subcontractor for the ETF Ultraviolet/Oxidation (UV/OX) upgrade.
- Began conceptual design of the ETF modular grout system.
- Completed conceptual design of the ETF brine storage tanks.
- Completed preliminary design of the ETF carbon dioxide membrane contactors.
- Completed preliminary design of the ETF motor control center upgrade.
- Completed preliminary design of the ETF freeze protection upgrade.
- Began conceptual design of the ETF instrument air system.

¹¹ LERF denotes Liquid Effluent Retention Facility.

¹² ETF denotes Effluent Treatment Facility.

Significant Planned Actions in the Next Six Months

- Complete facility cleanout activities for plant outage to allow for subsequent maintenance activities and upgrades projects.
- Complete replacement of the LERF Basin 44 cover to address the degraded condition.
- Complete the FY 2021 portion of the ETF MCS upgrade, as it is currently operating on outdated systems. This includes the ETF main treatment train, secondary treatment train, and local control units 15 and 17.
- Complete the ETF UV/OX upgrade, as the current system is no longer supported by the manufacturer.
- Complete procurement and fabrication of the ETF supplemental organic treatment (i.e. steam stripping) systems 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 added capacity to manage the WTP DFLAW effluent.
- Complete design of the ETF carbon dioxide membrane upgrade 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.
- Complete design of the ETF freeze protection upgrade, as systems have become degraded and many replacement parts are considered obsolete.
- Complete design of the ETF instrument air upgrade to provide added capability to manage the WTP DFLAW effluent.
- Continue procurements and fabrications for the ETF MCS, UV/OX, redundant filtration, carbon dioxide membrane, freeze protection, instrument air, and vessel off-gas system upgrade projects.

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.

Liquid Effluent Retention Facility Volumes

LERF liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated.¹³

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 ^b (Basin 44)
AZ-301 Condensate	-	+ 2,900	-
Mixed Waste Trench 31 and 34	+ 14,000	-	-
Other ^a	-	-	-
Processing Campaign(s)	- 427,000	-	-
Basin 44 to Basin 42	+ 355,000		- 355,000
Total Volume	1,020,000	6,590,000	0 ^c

^a 325 retention process sewer.

^b LERF Basin 44 was placed out-of-service on January-14, 2021.

^c LERF Basin 44 was emptied to allow for radiological surveys to support cover replacement.

Data Date: March 01, 2021.

Values shown in gallons.

¹³ The volume in each LERF basin is calculated from liquid level sensor readings. Therefore, based on sensor fluctuations and/or environmental effects (e.g., precipitation, temperature), values for basin volumes may vary slightly from the net inputs and outputs shown for the basin.

Tank System Update

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

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

M-045-91E4 Provide SST¹⁴ 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 IQRPE¹⁵ Attesting to SST Structural Integrity

Due: September 30, 2034
 Status: On schedule

Double-Shell Tank Integrity

Significant Past Accomplishments

- Released RPP-RPT-34311, *Double-Shell Tank Integrity Inspection Report for 241-AY Tank Farm*, in December 2020.
- Completed fieldwork for nine of nine enhanced annulus visual inspections for the following double-shell tanks (DSTs):
 - Tank 241-AP-101.
 - Tank 241-AP-102.
 - Tank 241-AP-103.
 - Tank 241-AP-104.
 - Tank 241-AP-105.
 - Tank 241-AP-106.
 - Tank 241-AP-107.

¹⁴ SST denotes single-shell tank.

¹⁵ IQRPE denotes Independent Qualified Registered Professional Engineer.

- Tank 241-AP-108.
- Tank 241-AY-101.
- Completed ultrasonic testing inspections at Tank 241-AW-105.
- Completed ultrasonic testing inspections at Tank 241-AW-104.
- Began ultrasonic testing field work at Tank 241-AP-103.
- Completed Tank 241-AW-106 ultrasonic testing report.

Significant Planned Actions in the Next Six Months

- Complete ultrasonic testing inspections at Tank 241-AP-103.
- Complete limited ultrasonic testing inspection scans at Tank 241-AP-106, and Liquid Air Interface scans at Tanks 241-AY-101 and 241-AZ-102.
- Draft ultrasonic testing inspection reports for Tanks 241-AW-104 and 241-AP-103.
- Complete report development for the nine DST annulus visual inspections performed in FY 2021.
- Receive and test Southwest Research Institute Guided Wave inspection system at Pacific Northwest National Laboratory.

Ultrasonic Testing Report Status

- Tank 241-AW-106 ultrasonic testing report was released as RPP-RPT-62764, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AW-106 FY 2020*, on February 17, 2021.
- Tank 241-AW-105 ultrasonic testing report is in the review phase with expected release by March 2021.
- Tank 241-AW-104 ultrasonic testing report is in the drafting phase with expected release by June 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.

- 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.
- Two of the annulus Enrafs in Tank 241-AY-102 began giving erratic readings in early 2021. The erratic readings were initially thought to be caused by the Enraf plummet coming into contact with wetted solids, as the liquid in the annulus has been slowly evaporating. The Enrafs were flushed on January 29, 2021, after which the readings resumed normal behavior. A visual inspection of the annulus was performed after the flushing operations, which did not indicate that either Enraf plummet was in contact with wetted solids. As water evaporates from the annulus waste, the waste and inhibiting chemicals are becoming more concentrated. It is assumed that as the waste becomes more concentrated, the rate at which solid waste builds up on the Enraf plummet during operation increases.
- One of the annulus Enrafs in Tank 241-AN-105 alarmed high on February 13, 2021. The indicated level reached approximately 0.77 inches for several hours. The readings then took several more hours to return to their prior level. A visual inspection was performed in the annulus on February 18, 2021, which confirmed the presence of liquid in the annulus under the Enraf that had alarmed. Neither the annulus visual inspection nor a radiation survey of the Enraf plummet suggested that any waste was present in the annulus. It is currently suspected that snowmelt entered the annulus space through an unused pump pit. Investigation into the cause of the intrusion is ongoing.

Single-Shell Tank Integrity

- The comment period for RPP-PLAN-63133, *Single-Shell Tank Structural Integrity Work Plan*, Rev. 0, has ended and ORP is moving forward with the document as final.

Significant Past Accomplishments

- Performed TFC-ENG-CHEM-P-57, *Intrusion Notification and Tank Leak Assessment Process*, on Tank 241-TX-113.
- Visual inspections were completed for the following single-shell tanks (SSTs):
 - Tank 241-B-106 (completed November 2020).
 - Tank 241-B-108 (completed December 2020).
 - Tank 241-BY-112 (completed December 2020).
 - Tank 241-BY-104 (completed January 2021).
 - Tank 241-BY-108 (completed January 2021).
 - Tank 241-AX-104 (completed January 2021).
 - Tank 241-BY-103 (completed February 2021).

- Tank 241-B-109 (completed February 2021).

Significant Planned Actions in the Next Six Months

- Perform visual inspections of the following SSTs:
 - Tanks 241-U-108, 241-U-110, 241-U-112, 241-U-201, 241-U-202, 241-U-203, and 241-U-204.
 - Tanks 241-S-102 and 241-S-112.
- Complete report development for the SST integrity visual inspections performed in FY 2021.
- Complete development and release of final Tank SX-112 Extent of Condition report.
- Provide FY 2021 Proposal ERRATA estimate for National Laboratory bounding analysis in support of SX Tank Farm spalling extent of condition evaluations.
- Perform TFC-ENG-CHEM-P-57 on Tank 241-B-109 (in progress).

Issues

- Tank 241-SX-112 was inspected visually in late February 2020. The concrete dome was inspected fully, and there were three spots of spalled concrete in the dome. While there have been past inspection 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 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. On August 17, 2020, a laser scan of Tank 241-SX-112 was performed to assist with analysis of dome spalling. Tank 241-SX-112 analysis is ongoing.
- Tank 241-SX-109 was inspected visually in late July 2020. 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 was noted on the waste surface, and, comparing to past visual inspections, suggests that the spalling occurred post-1996. In September 2020, a laser scan of Tank 241-SX-109 was also performed to assist with analysis of dome spalling. Tank 241-SX-109 analysis is ongoing.
- Tank 241-SX-108 was inspected visually in early August 2020. Minor spalled concrete was identified on the tank dome.
- Tank 241-SX-111 was inspected visually in mid-August 2020. Spalled/Cracked concrete was identified in various location on the tank dome. Concrete was noted on the waste surface and, when comparing to past visual inspections, suggests that the spalling

occurred post-1087. 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-B-109 was visually inspected on February 5, 2021 to support the ongoing Tank 241-B-109 leak assessment. Visual inspection images with interstitial-liquid level data were reviewed by the leak assessment team. Elicitation forms to determine the probability that Tank 241-B-109 has a leak are being completed. A request has been made to obtain new drywell logging data around Tank 241-B-109 to aide in the final leak assessment decision.
- 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 IQRPE recommended the next DST system integrity assessment report be completed in 10 years.

SST System:

- Completed M-045-9II Milestone report RPP-IQRPE-50028, *Single-Shell Tank System Structural Integrity Assessment Report*, in 2018.
- The IQRPE recommended the next SST structural integrity assessment be completed in 16 years. Ecology transmitted letter 19-NWP-009, “*Single-Shell Tank Structural Integrity Assessment, RPP-IQRPE-50028*,” on January 16, 2019. The letter noted Ecology’s agreement with the IQRPE’s 16-year recommendation.

242-A Evaporator:

- Completed RPP-RPT-60098, *242-A Evaporator System Integrity Assessment Report*, Rev. 0, in 2018.
- The IQRPE recommended the next 242-A Evaporator system integrity assessment be completed in 15 years. Ecology transmitted letter 18-NWP-114, “Department of Ecology’s (Ecology’s) Comments on the *242-A Evaporator System Integrity Assessment Report, RPP-RPT-60098, Revision 0*,” on July 19, 2018. The letter noted Ecology’s disagreement with the IQRPE’s 15-year recommendation. The Hanford Sitewide permit, Rev. 8C, currently provides for 242-A Evaporator system integrity assessments at a frequency of 10 years. ORP will continue to comply with the permit condition.

ETF:

- Completed RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*, in 2019.
- The IQRPE recommended the next ETF integrity assessment be completed in 10 years.

219-S Tank System:

- Completed RPP-IQRPE-50029, *219-S Integrity Assessment Report*, in February 2020.
- The IQRPE recommended the next 219-S Tank system integrity assessment be completed in 20 years.

In-Tank Characterization and Summary

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

Reports Completed or Released

For February 2021, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-RPT-44643, *Derivation of Best-Basis Inventory for Tank 241-SY-102 as of February 1, 2021*, Rev. 8.
 - RPP-RPT-43992, *Derivation of Best-Basis Inventory for Tank 241-AN-106 as of February 1, 2021*, Rev. 23.
 - RPP-RPT-44740, *Derivation of Best-Basis Inventory for Tank 241-AX-102 as of January 1, 2021*, Rev. 6.
 - RPP-RPT-62947, *Final Analytical Report for Tank 241-AP-102 Grab Sampling and Analysis Plan in Support of 241-AP-106 Repurposing 2020-02*, Rev. 0A.
 - RPP-RPT-61247, *Final Report for AZ-301 Liquid Grab Samples Taken August 2018*, Rev. 2.
- Released:
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending December 31, 2020*, Rev. 396.

Tank Sampling

Significant Past Accomplishments

For February 2021, the following tank sampling was conducted:

- Tank 241-AN-106 liquid grab sampling was completed February 25, 2021, 15 samples were received at the 222-S Laboratory.
- Tank 241-AP-107 liquid grab sampling was completed February 9, 2021, 20 samples were received at the 222-S Laboratory.
- Completed Tank 241-AN-106 core sampling.
- Completed Tank 241-AP-107 pre-qualification testing grab sampling.

Significant Planned Actions in the Next Six Months

- Tank 241-AP-101 grab sampling is planned for March 2021.
- Catch Tank C-301 grab sampling is planned for April 2021.

- Tank 241-AX-104 grab sampling is planned for April 2021.
- Tank 241-AN-101 core sampling is planned for April 2021.
- Tank 241-AN-101 grab sampling is planned for June 2021.
- Tank 241-AZ-102 grab sampling is planned for June 2021.
- Tank 241-AP-106 grab sampling is planned for August 2021.
- Tank 241-AZ-102A grab sampling is planned for September 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.
- 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.

Best-Basis Inventory Updates

Significant Past Accomplishments

- Best-basis inventory updates for the following tanks were completed in February 2021:
 - Tank 241-AN-106.
 - Tank 241-AX-102.
 - Tank 241-SY-102.

Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in March 2021:
 - Tank 241-AN-101.
 - Tank 241-AP-106.

- Tank 241-AX-104.
- Tank 241-AZ-102.
- Tank 241-BX-103.
- Tank 241-T-111.
- Tank 241-TY-103.
- Tank 241-U-109.

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 Closure Program

Tank Farms Assistant Manager: Delmar Noyes

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 (WMAs) (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 CMIP¹⁶ for WMA-C¹⁷**
 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 HFFACO¹⁸ 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

¹⁶ CMIP denotes corrective measures implementation work plan.

¹⁷ WMA-C denotes C Tank Farm waste management area.

¹⁸ HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

- M-045-92Z** **Submit to Ecology Design for Barrier 4 in 241-U Farm**
 Due: October 31, 2021
 Status: On schedule
- M-045-92AA** **Barrier 4 in 241-U Farm Design Approved by Ecology**
 Due: January 31, 2022
 Status: On schedule
- M-045-85** **Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs**
 Due: January 31, 2022
 Status: On schedule
- M-045-98** **Submit to Ecology as a Primary Document an RFI/CMS¹⁹ work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6**
 Due: September 30, 2022
 Status: On schedule
- M-045-102** **Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX PA**
 Due: September 30, 2022
 Status: On schedule
- M-045-92AB** **Complete Construction of Barrier 4 in 241-U Farm**
 Due: October 31, 2023
 Status: On schedule
- M-045-103** **Submit to Ecology a PMR²⁰ with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule**
 Due: September 30, 2026
 Status: On schedule
- M-045-104** **Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX**
 Due: September 30, 2028
 Status: On schedule
- M-045-00** **Complete Closure of All SST Farms**
 Due: January 31, 2043
 Status: At risk. Decision document 2016-005 signed August 22, 2016, requires this milestone to be addressed with the negotiations supporting M-062-45 Milestone.

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

²⁰ PMR denotes Permit Modification Request.

Significant Past Accomplishments

- Submitted RPP-RPT-62684, *FY 2019 Annual Interim Surface Barrier Monitoring Report*, Rev. 0, to Ecology via letter 20-TF-0095, “The U.S. Department of Energy, Office of 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.
- Responded to Ecology comments on RPP-RPT-62684 via letter 21-TF-000239, “Response to 20-NWP-199 from the Washington State Department of Ecology,” dated January 20, 2021. Ecology comments had been received via letter 20-NWP-199, “Department of Ecology’s (Ecology) Review Comment Record on the United States Department of Energy – Office of River Protection’s FY2019 Annual Interim Surface Barrier Monitoring Report, RPP-RPT-62684, Revision 0,” dated December 23, 2020.
- 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 a data quality objective meeting for defining the WMA A/AX boundary with Ecology and EPA, September 1, 2020. Held two follow-up meetings for defining the WMA A/AX boundary with Ecology on September 16 and November 3, 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.
- Completed the storm water drainage system and stabilization of the Waste Isolation Division site for the TX Evapotranspiration Basin on November 17, 2020.
- Completed hydro seed application for the TX Evapotranspiration Basin on November 18, 2020.
- Issued limited notice to proceed to construction subcontractor for TX Tank Farm Barrier construction on December 15, 2020.

- Began hiring and personnel training for TX Tank Farm Barrier construction on January 4, 2021.
- Continued hiring and personnel training for TX Tank Farm Barrier construction.
- Began installation of the change and break trailers for TX Tank Farm Barrier construction on January 20, 2021.
- Continued installation of the change and break trailers for TX Tank Farm Barrier construction.
- Report RPP-RPT-61684, *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, Rev. 00B, was delivered to Ecology on October 10, 2019, to complete the M-045-92AC Milestone. Submitted RPP-RPT-61684 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”). On December 1, 2020, DOE submitted to Ecology the updated document via letter 20-TF-0106, “Reissue – 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. 2.” In the Ecology letter dated December 21, 2020 (20-NWP-202, “Extension of the Department of Ecology’s [Ecology] Comment Review Period for the *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, Revision 2”), Ecology extended their comment review period to February 15, 2020. Ecology approved the document via letter 21-NWP-021, “Approval of *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, RPP-RPT-61684, Revision 2,” on February 3, 2021.

Significant Planned Activities in the Next Six Months

- Resolve Ecology’s comments on RPP-RPT-59389, RPP-RPT-59390, and RPP-RPT-58858.
- Release updated TPA Appendix I Performance Assessment documents, incorporating Ecology comments as appropriate for WMA-C.
- Complete direct push activities for WMA A/AX Focus Area 2.

- Complete TX Tank Farm Barrier change and break trailer installations and construction mobilization.
- Complete balance of TX Tank Farm Barrier construction personnel hiring and training.
- Complete TX Tank Farm Barrier subgrade modifications.
- Complete TX Tank Farm Barrier protective structure installation and initiate barrier placement.

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 Tank Farm A 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. DOE sent letter 21-TF-000513, "Waste Management Area A-AX Boundary," to Ecology on February 18, 2021, which identified the path forward for the WMA A/AX Boundary.
- The content of the WMA Integration Study was 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, "Submit to Ecology as a Primary Document, a Waste Management Area Integration Study for WMA A/AX, as described in HFFACO Appendix I.2.1.1." 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 that could result if all of the elements were included 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*; 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 plans to develop the CMIP to submit to Ecology and has followed this path since RPP-RPT-59379 was approved in June 2018. DOE understands that the CMIP is the vehicle that Ecology will use to meet its TPA/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 CERCLA²¹ 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.
- 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.

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

- 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: Delmar Noyes
Technical Lead: Becky Blackwell
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 2021

January-2021

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$48,724	\$55,965	\$59,102	\$7,241	(\$3,138)	1.15	0.95			
FYTD	\$169,037	\$209,291	\$210,285	\$40,254	(\$995)	1.24	1.00	\$700,391		
CTD	\$6,488,851	\$6,416,187	\$6,346,513	(\$72,664)	\$69,674	0.99	1.01	\$7,020,206	\$6,958,709	\$61,496

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.

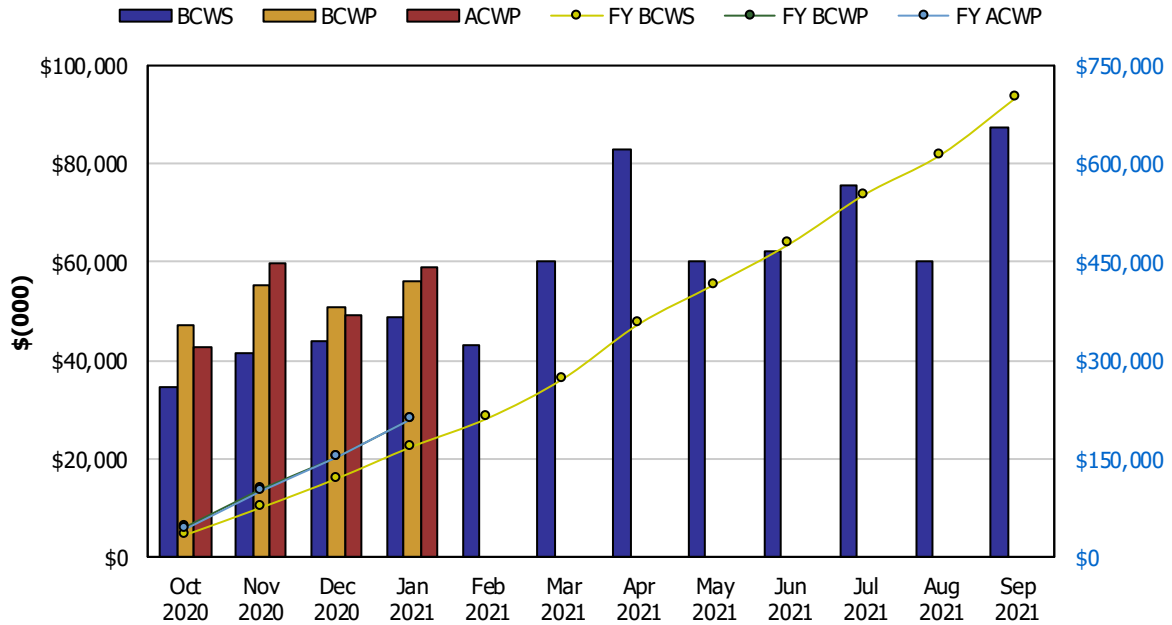
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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 2021

January-2021

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 2020	\$34,722	\$47,321	\$42,535	1.36	1.11	\$34,722	\$47,321	\$42,535	1.36	1.11
Nov 2020	\$41,528	\$55,244	\$59,604	1.33	0.93	\$76,250	\$102,565	\$102,139	1.35	1.00
Dec 2020	\$44,063	\$50,761	\$49,044	1.15	1.04	\$120,313	\$153,326	\$151,183	1.27	1.01
Jan 2021	\$48,724	\$55,964	\$59,102	1.15	0.95	\$169,037	\$209,291	\$210,285	1.24	1.00
Feb 2021	\$43,160					\$212,196				
Mar 2021	\$60,161					\$272,357				
Apr 2021	\$83,067					\$355,424				
May 2021	\$60,101					\$415,525				
Jun 2021	\$62,164					\$477,689				
Jul 2021	\$75,492					\$553,181				
Aug 2021	\$59,954					\$613,135				
Sep 2021	\$87,256					\$700,391				

CTD	\$6,488,851	\$6,416,187	\$6,346,513	0.99	1.01
-----	-------------	-------------	-------------	------	------

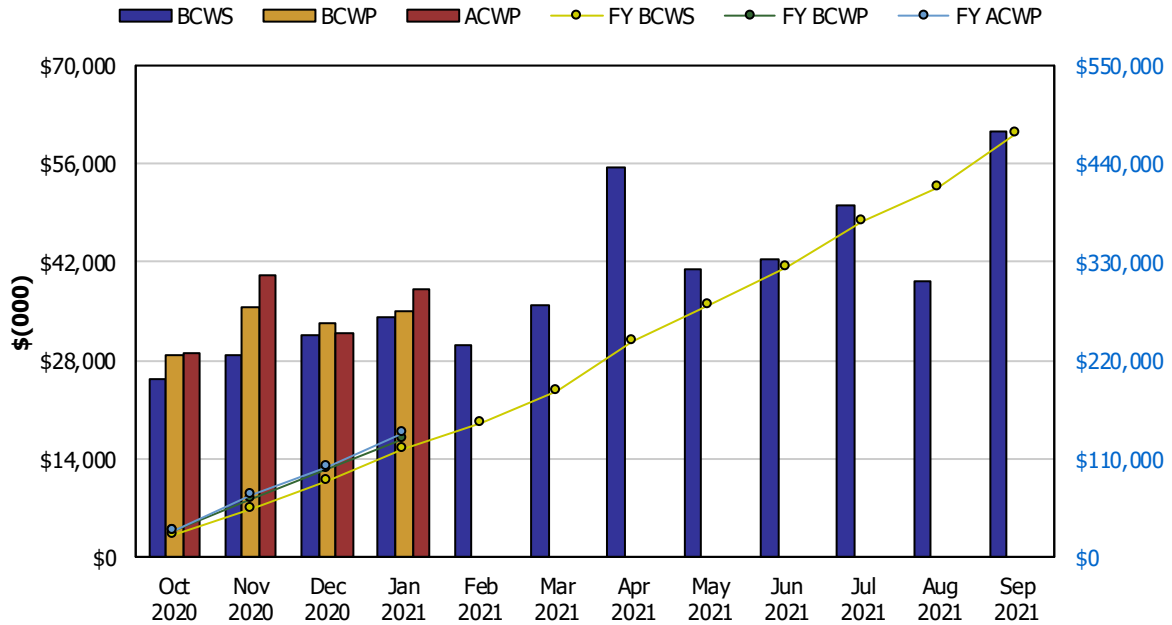
- ACWP = actual cost of work performed
- BCWP = budgeted cost of work performed
- BCWS = budgeted cost of work scheduled
- CPI = cost performance index
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

Earned Value Data: Fiscal Year 2021

January-2021

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 2020	\$25,298	\$28,696	\$29,098	1.13	0.99	\$25,298	\$28,696	\$29,098	1.13	0.99
Nov 2020	\$28,824	\$35,687	\$40,259	1.24	0.89	\$54,123	\$64,383	\$69,358	1.19	0.93
Dec 2020	\$31,608	\$33,430	\$31,814	1.06	1.05	\$85,730	\$97,813	\$101,172	1.14	0.97
Jan 2021	\$34,177	\$35,141	\$38,270	1.03	0.92	\$119,907	\$132,954	\$139,442	1.11	0.95
Feb 2021	\$30,232					\$150,140				
Mar 2021	\$35,783					\$185,923				
Apr 2021	\$55,404					\$241,327				
May 2021	\$40,897					\$282,223				
Jun 2021	\$42,260					\$324,483				
Jul 2021	\$50,031					\$374,514				
Aug 2021	\$39,362					\$413,877				
Sep 2021	\$60,499					\$474,375				

CTD	\$4,305,686	\$4,269,060	\$4,194,314	0.99	1.02
-----	-------------	-------------	-------------	------	------

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

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

5.01 – Base Operations

The January 2021 variances below do not impact TPA milestones.

The current month **favorable** SV of \$963,925 was primarily due to:

- Schedule recovery of LERF Processing Campaigns. The facility processed liquid in the current reporting period that was scheduled for a previous period.
- Schedule recovery associated with the AW-02E pump and jumper replacement. Specifically the removal of the AW-02E jumper. Field crews were able to successfully remove equipment in the AW-02E pit that was previously scheduled to be completed in FY 2020.
- Schedule recovery related to the 242-A Transfer Line Replacement. Specifically the installation of the AW-B, 242-A, and AW-02E wall nozzles. Field crews were able to complete pit work that was previously scheduled to be completed in FY 2020.
- Schedule recovery related to the installation of the SY Exhauster. Specifically the seal pot leak detector, mounting transmitters, installing terminal and junction boxes, and conduit installation. Carryover scope scheduled to be completed in FY 2020 was completed in January 2021.

The current month **unfavorable** CV of (\$3,129,055) was primarily due to:

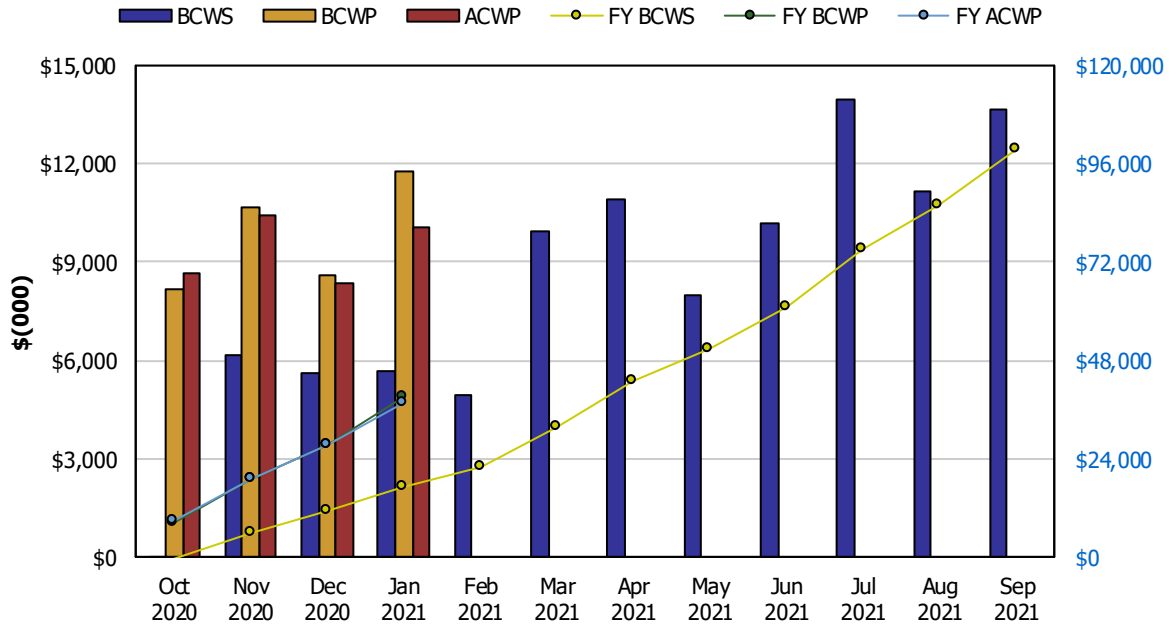
- A negative CV for the Multi-Craft Maintenance Facility (MCMF) due to a Realized Risk. The MCMF building location required additional work, increasing the actual cost from the original plan. During the design phase of the MCMF, a Geotechnical Survey was conducted and the results indicated the site had a layer of organics unable to structurally support the new building. The site required removal of this organic layer, which resulted in further excavation of the building footprint. A minimum of 3 feet below structure footings was excavated and approximately 37,000 cubic yards of engineered fill was added to the site. In addition, the MCMF's location requires a storm water collection and drainage system that was not assumed in the original estimate, as well as paving requirements to reduce any erosion of the base perimeter of the building site.
- A partial offset to the negative CV due to the LERF Processing Campaigns, which gained efficient facility processing of 800,000 gallons in the current period (positive CV). Volume processed over the shorter time period with less resources significantly exceeded original planned expectations.

Earned Value Data: Fiscal Year 2021

January-2021

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 2020	(\$362)	\$8,176	\$8,653	-22.56	0.94	(\$362)	\$8,176	\$8,653	-22.56	0.94
Nov 2020	\$6,177	\$10,692	\$10,435	1.73	1.02	\$5,815	\$18,867	\$19,088	3.24	0.99
Dec 2020	\$5,605	\$8,581	\$8,335	1.53	1.03	\$11,419	\$27,448	\$27,423	2.40	1.00
Jan 2021	\$5,647	\$11,788	\$10,078	2.09	1.17	\$17,066	\$39,236	\$37,501	2.30	1.05
Feb 2021	\$4,925					\$21,991				
Mar 2021	\$9,958					\$31,949				
Apr 2021	\$10,895					\$42,844				
May 2021	\$7,972					\$50,816				
Jun 2021	\$10,157					\$60,973				
Jul 2021	\$13,948					\$74,921				
Aug 2021	\$11,130					\$86,051				
Sep 2021	\$13,660					\$99,711				

CTD	\$1,234,877	\$1,215,443	\$1,268,762	0.98	0.96
-----	-------------	-------------	-------------	------	------

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

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

5.02 – Retrieve and Close Single-Shell Tanks

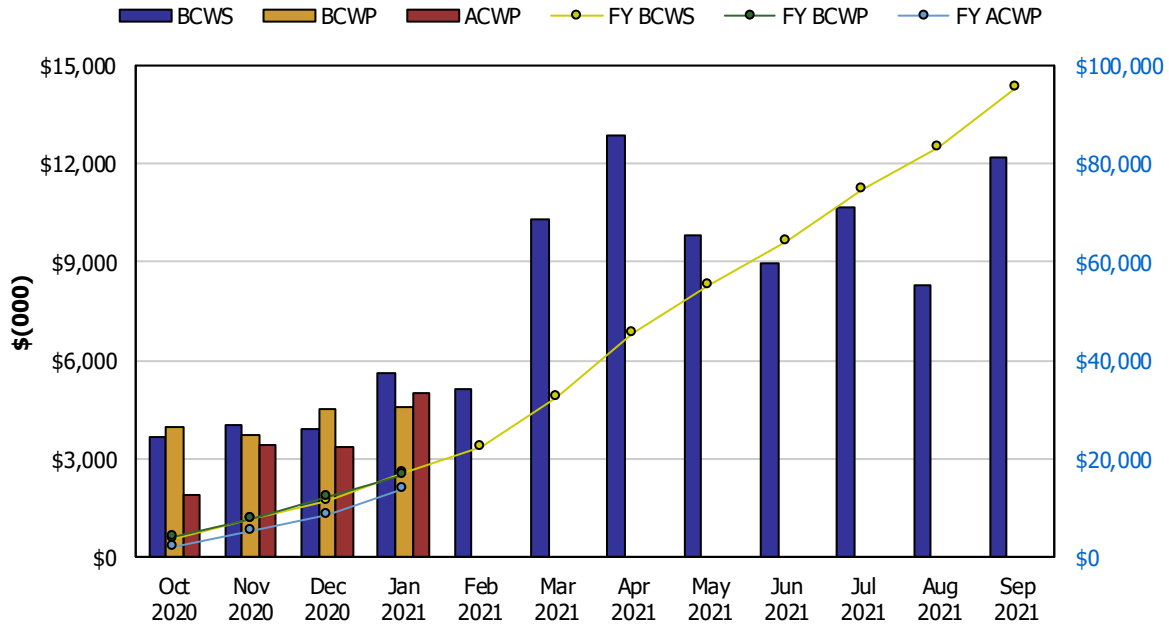
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2021

January-2021

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 2020	\$3,681	\$3,941	\$1,894	1.07	2.08	\$3,681	\$3,941	\$1,894	1.07	2.08
Nov 2020	\$4,020	\$3,738	\$3,418	0.93	1.09	\$7,701	\$7,679	\$5,312	1.00	1.45
Dec 2020	\$3,905	\$4,496	\$3,380	1.15	1.33	\$11,606	\$12,175	\$8,692	1.05	1.40
Jan 2021	\$5,597	\$4,594	\$4,988	0.82	0.92	\$17,202	\$16,769	\$13,680	0.97	1.23
Feb 2021	\$5,099					\$22,301				
Mar 2021	\$10,275					\$32,576				
Apr 2021	\$12,891					\$45,467				
May 2021	\$9,790					\$55,257				
Jun 2021	\$8,972					\$64,229				
Jul 2021	\$10,661					\$74,890				
Aug 2021	\$8,303					\$83,194				
Sep 2021	\$12,181					\$95,375				

CTD	\$672,076	\$661,022	\$610,519	0.98	1.08
-----	-----------	-----------	-----------	------	------

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

Tank Farms Assistant Manager: Delmar Noyes
Federal Program Manager: Brian Harkins

5.03 – Waste Feed Delivery/Treatment

The January 2021 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$1,002,544) was primarily due to:

- Supporting the WTP Transition. The current month unfavorable SV is primarily due to the award of the melter assembly facility upgrade contract being issued later than planned, due to the requirement for more in-depth cost evaluations of the proposal following the receipt of only one bid for this competitive procurement.

The current month **unfavorable** CV of (\$393,572) was primarily due to:

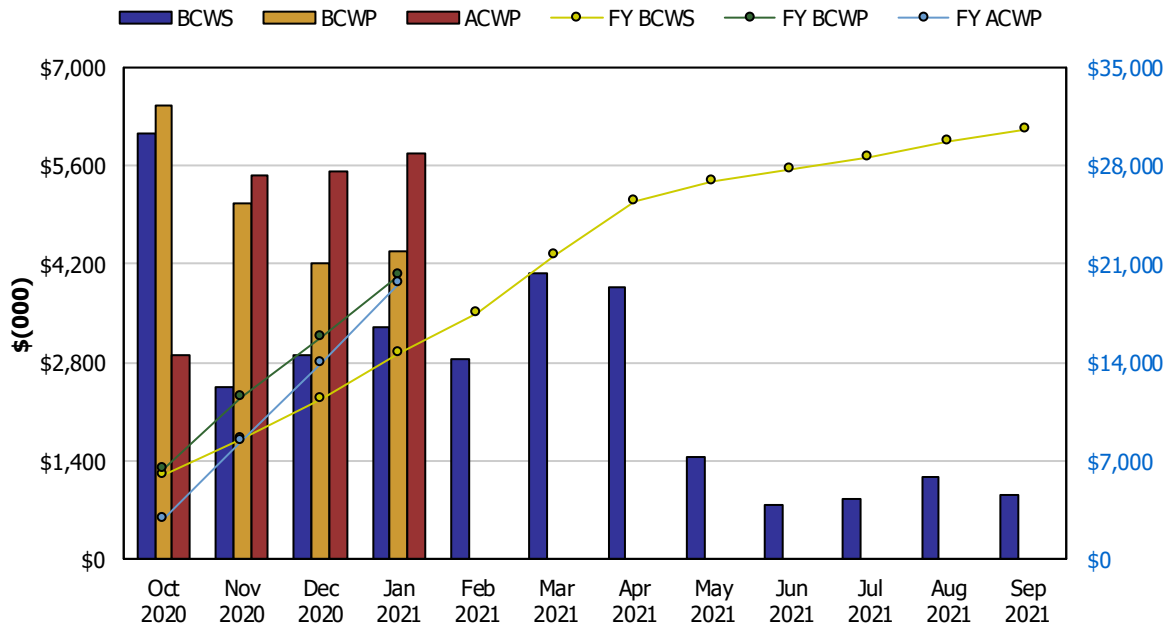
- Supporting the Liquid Secondary Waste Stream Tech Mat (DFLAW). The negative CV is primarily attributed to an under accrual for the Acetonitrile Destruction subcontract support. The under accrual estimate was based on monthly information provided by the vendor. The vendor submitted an invoice for significantly more than the amount that had been accrued.

Earned Value Data: Fiscal Year 2021

January-2021

**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 2020	\$6,053	\$6,465	\$2,900	1.07	2.23	\$6,053	\$6,465	\$2,900	1.07	2.23
Nov 2020	\$2,441	\$5,073	\$5,471	2.08	0.93	\$8,494	\$11,538	\$8,371	1.36	1.38
Dec 2020	\$2,890	\$4,207	\$5,511	1.46	0.76	\$11,384	\$15,745	\$13,882	1.38	1.13
Jan 2021	\$3,313	\$4,391	\$5,762	1.33	0.76	\$14,697	\$20,136	\$19,645	1.37	1.03
Feb 2021	\$2,851					\$17,548				
Mar 2021	\$4,079					\$21,628				
Apr 2021	\$3,875					\$25,503				
May 2021	\$1,443					\$26,945				
Jun 2021	\$774					\$27,720				
Jul 2021	\$852					\$28,572				
Aug 2021	\$1,158					\$29,730				
Sep 2021	\$917					\$30,646				

CTD	\$252,621	\$247,134	\$251,343	0.98	0.98
-----	-----------	-----------	-----------	------	------

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

Tank Farms Assistant Manager: Delmar Noyes
Federal Program Manager: Brian Harkins

5.05 – Treat Waste

The January 2021 variances below do not impact TPA milestones.

The current month **favorable** SV of \$1,077,300 was primarily due to:

- Schedule recovery relating to the completion of the TSCR System spare filter assemblies; which was planned to complete in September 2020, but had been delayed by issues during fabrication.
- Schedule recovery relating to progress on multiple LAW feed fabrication and construction scopes, previously delayed due to COVID-19.
- Schedule recovery due to completion of the TSCR test equipment procurement and the TSCR system hookup.

The current month **unfavorable** CV of (\$1,371,900) was primarily due to:

- Multiple changes that were formally incorporated into the construction subcontract this period as a result of schedule acceleration/recovery, field issues, design modifications, and incorporation of COVID-19 controls.
- Subcontract milestone payments that were misaligned with the Tank Operations Contract performance earned.

Table 1 Administrative Record Metadata

Milestone Number or Facility Identification	Title
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA
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-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92AA	Barrier 4 Design Approved by Ecology
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
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-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document
M-045-98	Submit to Ecology a RFI/CMS Work Plan for WMA A/AX as a Primary Document
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-062-45	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones

Milestone Number or Facility Identification	Title
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types
M-062-52-T01	Submit to Ecology, a Secondary Solid Waste Disposition Work Plan as a Primary Document
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste
M-062-53A	Achieve Substantial Completion of EMF Construction
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

DFLAW = direct-feed low-activity waste

DOE = U.S. Department of Energy

Ecology = Washington State Department of Ecology

EMF = Effluent Management Facility

HFFACO = *Hanford Federal Facility Agreement and Consent Order*

PMR = Permit Modification Request

RCRA = *Resource Conservation and Recovery Act*

SST = single-shell tank

TSCR = tank-side cesium removal

WMA = waste management area

WTP = Waste Treatment and Immobilization Plant