

Office of River Protection



Monthly Reporting Period

August 1–August 31, 2019¹

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 July 2019.

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Acronyms and Abbreviations

CD	critical decision
CV	cost variance
DOE	U.S. Department of Energy
DST	double-shell tank
Ecology	Washington State Department of Ecology
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
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
WRPS	Washington River Protection Solutions LLC
WMA	waste management area

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	R. Bang	In Dispute
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	R. Bang	In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	R. Bang	In Dispute
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	R. Bang	In Dispute
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	R. Bang	In Dispute
Fiscal Year 2019				
M-062-01AL	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2019	B.R. Trimberger	Complete
M-062-01AM	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2019	B.R. Trimberger	Complete
M-045-56O	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2019	R.A. Lobos	Complete
M-045-91E3	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2019	D.M. Stewart	On Schedule
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD ¹	R.A. Lobos	On Schedule

Milestone	Title	Due Date	DOE PM	Status
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD ¹	R.A. Lobos	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD ¹	R.A. Lobos	On Schedule
Fiscal Year 2020				
M-062-40G	Select a Minimum of 3 Scenarios	10/31/2019	K.W. Burnett	On Schedule
M-045-92V	Complete Construction of Barriers 1 (North) and 2 (South) and Expansion Barrier in 241-SX Farm	10/31/2019	R.A. Lobos	On Schedule
M-045-92W	Submit to Ecology Design for Barrier 3 in 241-TX Farm	10/31/2019	R.A. Lobos	On Schedule
M-045-92AC	Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers	10/31/2019	R.A. Lobos	On Schedule
M-045-92X	Barrier 3 in 241-TX Farm Design Approved by Ecology	01/31/2020	R.A. Lobos	On Schedule
M-062-01AN	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2020	B.R. Trimberger	On Schedule
M-045-93	Submit Report for Description, Analysis and Technology for Removing Drainable Liquids from SSTs	06/30/2020	J.J. Rambo	On Schedule
M-062-01AO	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2020	B.R. Trimberger	On Schedule

Milestone	Title	Due Date	DOE PM	Status
M-045-56P	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2020	R.A. Lobos	On Schedule
M-045-99	Submit to Ecology the Preliminary Performance Assessment/Closure Analysis	09/30/2020	V.A. Turner	On Schedule

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

CD-1/-2 = critical decision-1/-2.

CMIP = corrective measures implementation work plan.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

Mod = modification.

PM = project manager.

RCRA = *Resource Conservation and Recovery Act*.

SST = single-shell tank.

TBD = to be determined.

WTP = Waste Treatment and Immobilization Plant.

WMA-C = C Tank Farm waste management area.

System Plan

Responsible Assistant Manager: TBD
Federal Program Manager: Kaylin Burnett
Ecology Project Manager: Dan McDonald, Jeff Lyon

Significant Past Accomplishments

Negotiations following the *River Protection System Plan* (System Plan), Rev. 7 consistent with milestone M-062-45, were delayed due to ongoing litigation until after issuance of System Plan, Rev. 8. Those negotiations were concluded by the Washington State Department of Ecology (Ecology) with transmittal of five change packages. The U.S. Department of Energy (DOE) concurred with three of the five packages and agreed to dispute resolution for the other two. Simultaneous exchanges were being made between the DOE Office of Environmental Management's EM-1 and the director of Ecology related to "holistic negotiations" being needed.

The Hanford Senior Executive Committee met on August 28, 2019. At the meeting, Ecology outlined a proposal to identify a holistic path forward for Hanford's tank waste mission, and proposed a series of steps to initiate holistic negotiations. Ecology asked DOE to confirm, within 2 weeks of the meeting, its willingness to proceed with the proposed approach. If the parties agree to negotiate, the dispute process would be suspended during the negotiations as to matters within their scope.

Significant Planned Actions in the Next Six Months

- Resolve dispute regarding milestone M-062-45 and associated milestones through ongoing negotiations.
- Ecology and the DOE Office of River Protection (ORP) will continue discussions to develop scenarios for System Plan, Rev. 9, due October 31, 2019.

Issues

- None.

Acquisition of New Facilities

Tank Farms Assistant Manager: Rob Hastings
Deputy Federal Project Director: Janet Diediker
Ecology Project Manager: Dan McDonald, Jeff Lyon

- M-047-07 CD-1 for Secondary Liquid Waste Treatment and CR² for CD-2 to Ecology**
 Due: Deleted.
 Note: Change Control Form M-47-19-01 signed July 25, 2019, deleted this milestone from the Tri-Party Agreement (TPA). Milestones created by Change Control Form M-62-19-02 supersede this milestone.
- M-090-14 Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW**
 Due: March 31, 2021.
 Status: On Schedule.
 Note: Change Control Form M-90-19-01 signed July 25, 2019, added this milestone to the TPA.
- M-090-13 CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY³**
 Due: September 30, 2025.
 Status: On Schedule.
 Note: Change Control Form M-90-19-01 signed July 25, 2019, modified the due date for this milestone.
- M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW⁴ from the WTP⁵ 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

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

² Tri-Party Agreement change request.

³ ECY denotes Washington State Department of Ecology.

⁴ IHLW denotes immobilized high-level waste.

⁵ WTP denotes Waste Treatment and Immobilization Plant.

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

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

Supplemental Treatment and Part B Permit Applications

Tank Farms Assistant Manager: Rob Hastings
Federal Project Director: 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 DOE have ended negotiations related to the M-062-45 Milestone and have initiated dispute. Therefore, the status of the milestones below has changed to “In Dispute.”

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 RCRA⁶ 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.

⁶ RCRA denotes *Resource Conservation and Recovery Act*.

Status: At risk.

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

Due: December 31, 2047.

Status: At risk.

Significant Past Accomplishments

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

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

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

⁷ HLW denotes high-level waste.

⁸ LAW denotes low-activity waste.

Low-Activity Waste Pretreatment System

Tank Farms Assistant Manager: Rob Hastings
LAWPS Federal Manager: Steve Pfaff
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.
Note: Change Control Form M-62-19-02 signed July 25, 2019, added this milestone to the TPA.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

Issues

- None.

Tank-Side Cesium Removal System

Tank Farms Assistant Manager: Rob Hastings
Federal Project Manager: Sahid Smith
Ecology Project Manager: Dan McDonald

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

Significant Past Accomplishments

- The following Tank-Side Cesium Removal (TSCR) technology testing was completed in July 2019:
 - Tall column.
 - Gas generation with ion exchange media.
 - Ion exchange media drying.
- TSCR spent ion exchange column storage pad 90-percent design review was completed in August 2019.
- The waste feed delivery final design was released in August 2019.

Significant Planned Actions in the Next Six Months

- The TSCR system and tank farm upgrades final designs and TSCR spent ion exchange column storage pad 90-percent design is projected to be released in September 2019.
- The following TSCR technology testing is projected to be completed in September 2019:
 - Batch contact.
- TSCR system fabrication is projected to be completed in 2019.
- TSCR system factory acceptance testing is projected to also begin in 2019.

Issues

- Since April 2018, DOE and Ecology have been engaged in discussions on the potential regulatory significance of the TSCR emissions. Ecology has expressed a concern about permitting a system that sends air emissions or ventilation to a double-shell tank (DST) or single-shell tank (SST). Based on recent discussions, and to address Ecology's concerns, ORP is developing and evaluating potential options for sampling and monitoring TSCR emissions vented to the AP Tank Farm.
- On December 3, 2018, Ecology sent ORP and the DOE Richland Operations Office letter 18-NWP-177, "Hanford Site Ambient Air Boundary Concerns," regarding the Hanford Site ambient air boundary. Ecology expressed its concern that the ambient air boundary appears to have changed as a result of increased public access to parts of the Hanford Site. DOE, Ecology, and the Washington State Department of Health have met several

times to attempt to develop a shared understanding of existing conditions and a path forward.

242-A Evaporator Status

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Paul Hernandez
Ecology Project Manager: Jeff Lyon

The 242-A Evaporator campaign strategy for fiscal year (FY) 2019 is in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
2019	EC-10	102-AW	102-AW	A cold run followed by a short hot run was completed on June 27, 2019, at the 242-A Evaporator. This run occurred while design of new transfer lines from 242-A Evaporator to 241-AW Tank Farm continued. This run helped to maintain 242-A Evaporator staff proficiency, cycled idle equipment, and allowed for new equipment testing.

Significant Past Accomplishments

- Initiated annual electrical preventive maintenance activities
- Awarded fabrication contract for PB-1 spare pump.

Significant Planned Actions in the Next Six Months

- Procure new PB-1 and PB-2 replacement pumps
- Prepare 242-A Evaporator air instrument dryer upgrade design
- Prepare 60-percent design for 242-A Evaporator transfer line replacement
- Replace the sock filter assembly on the filtered raw water system.

Issues

- None.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Richard Valle
Ecology Project Manager: John Temple⁹
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.
Note: Change Control Form M-62-19-02 signed July 25, 2019, added this milestone to the TPA.
- 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.
Note: Change Control Form M-62-19-02 signed July 25, 2019, added this milestone to the TPA.
- M-062-51** **Achieve Substantial Completion of LERF/ETF Construction Upgrades Necessary for LAW Hot Commissioning**
Due: April 15, 2023.
Status: On Schedule.
Note: Change Control Form M-62-19-02 signed July 25, 2019, added this milestone to the TPA.

Significant Past Accomplishments

- Total fiscal year (FY) 2019 processing volume: 3.25 million gallons.
- Continued waste processing of Liquid Effluent Retention Facility (LERF) Basin 42 effluent through the Effluent Treatment Facility (ETF).
- Completed fieldwork to recoat the interior protective epoxy coating of the ETF Verification Tank B. Each of the three verification tanks will be repaired over the next 3 years (one per fiscal year).
- Began mobilization and fieldwork to replace the LERF leachate pumps and level detection system at LERF Basin 42.
- Began mobilization and fieldwork to upgrade peroxide decomposer vessel media and columns.

⁹ Stephanie Schleif's transition project manager effective starting August 1, 2019.

Significant Planned Actions in the Next Six Months

- Initiate ETF cleanout activities at the completion of LERF Basin 42 processing
- Begin fieldwork to upgrade facility stairs and ladders to improve personnel safety and ergonomics
- Receive and replace peroxide decomposer vessel procurements (e.g., new stainless steel tanks, catalytic media) to support the system upgrade project in FY 2019
- Begin fieldwork to support upgrading the ETF rough filter and hoist to reduce processing down-time and worker exposure.

Issues

- Work has paused on the LERF Basin 44 cover replacement project while nuclear safety evaluations are performed by Washington River Protection Solutions LLC (WRPS). Evaluations are due to visual indication of solid material in the basin and sample results from that material.

LERF Volume Tracking

LERF liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated. Tanker shipment volumes are estimated by multiplying the number of shipments by the capacity of the tanker being used.

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	-	-
Mixed Waste Trench 31 and 34	+ 101,000	-	-
Other (SWLL, 325 RPS)	-	+ 1,200	-
Processing Campaign(s)	- 1,520,000	-	-
Total Volume	3,940,000	6,440,000	680,000

Data Date: September 1, 2019

Values shown in gallons.

RPS = retention process sewer.

SWLL = solid waste landfill lysimeter.

Tank System Update

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Dustin Stewart
Ecology Project Manager: Jeff Lyon, Nina Menard

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

Double-Shell Tank Integrity

Significant Past Accomplishments

- The annual comprehensive inspection of Tank AY-101 annulus was completed in January 2019. Engineering is reviewing the inspections. The previous annulus visual inspection was completed in January 2018.
- Ultrasonic testing inspections were completed for the following tanks in FY 2019:
 - 241-AP-107
 - 241-AP-108
 - 241-AN-102
 - 241-AP-106
 - 241-AP-102 (annulus floor ultrasonic testing only; air slot inspection)
- Completed enhanced annulus visual inspection in FY 2019:
 - 241-AN-101
 - 241-AN-102
 - 241-AN-103
 - 241-AN-104
 - 241-AN-105
 - 241-AN-106
 - 241-AN-107
 - 241-AZ-101
 - 241-AZ-102.

Significant Planned Actions in the Next Six Months

- Procure an annulus floor cleaning technology in FY 2019 to clean the annulus floor of Tank AY-101. Vendor testing occurred on August 30, 2019, in Williamson, New York prior to the system being shipped to Richland, Washington.
- Procure a design of a primary tank bottom volumetric inspection system to be deployed into the annulus of DSTs and used to characterize regions of the primary tank bottom.
- Procure and install a retractable corrosion monitoring probe in Tank AY-101. Probe fabrication is complete and final testing of the probe prior to installation was completed August 29, 2019, at HiLine Engineering.

Issues

- None.

Single-Shell Tank Integrity**Significant Past Accomplishments**

- Visual inspections were completed for the following tanks in FY 2019:
 - 241-B-102
 - 241-B-103
 - 241-B-110
 - 241-B-111
 - 241-B-112
 - 241-BX-104
 - 241-SX-114
 - 241-SX-115
 - 241-T-103
 - 241-T-108
 - 241-T-202
 - 241-U-101
 - 241-U-106
 - 241-U-109.
 - 241-TY-106.
- Released and transmitted RPP-RPT-55202, *Dome Survey Report for Hanford Single-Shell Tanks*, Rev. 3, to Ecology in August satisfying TPA milestone M-045-91E3.

Significant Planned Actions in the Next Six Months

- Perform TFC-ENG-CHEM-D-42, *Tank Leak Assessment Process*, on the following tanks in FY 2019:
 - 241-T-101 (completed)
 - 41-T-103 (ongoing).

Issue

- None.

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.
- 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 on a frequency of 10 years, and ORP will continue to comply with the permit condition.
- ETF:
 - WRPS and ORP personnel provided additional comments on Rev. B draft report RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*. The IQRPE continued to address comments and finalize the report. When the IQRPE report is finished, that is all comments addressed, WRPS will give ORP the report.
- 219-S Tank System:
 - WRPS awarded the contract for the 219-S integrity assessment project to Meier Architecture Engineering.
 - As part of the 219-S assessment, the 24-hour static leak test was successfully performed on tanks 101 and 104 on September 13, 2018, and September 5, 2018, respectively. Tank 102 was successfully leak tested on May 7, 2019, completing the leak testing work needed for the assessment.
 - Visual inspections of the sample gallery and 2B hood 16 were completed on July 17, 2019. Both areas inspected appeared to be clean with little sign of corrosion or degradation.
 - Work package 350279, for the internal and external visual inspections of the tanks and associated piping, has been drafted and is under review.

In-Tank Characterization and Summary

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Dustin Stewart
Ecology Project Manager: Jeff Lyon

Reports Completed or Released

For August 2019, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-RPT-55192, *Derivation of Best-Basis Inventory for Tank 241-AW-103 as of July 1, 2019*, Rev. 3
 - RPP-RPT-59906, *Derivation of Best-Basis Inventory for Tank 241-U-103 as of July 1, 2019*, Rev. 1
 - RPP-RPT-59031, *Derivation of Best-Basis Inventory for Tank 241-B-101 as of July 1, 2019*, Rev. 1
 - RPP-RPT-60606, *Derivation of Best-Basis Inventory for Tank 241-TX-118 as of July 1, 2019*, Rev. 1
 - RPP-26781, *Tank Operations Contractor Sampling Projections for FY2020 through FY2024*, Rev. 15
 - RPP-49049, *Data Quality Objectives for Waste Transfer and Component Closure of the 244-CR Vault*, Rev 1
- Released:
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending July 31, 2019*, Rev. 379.

Tank Sampling

Significant Past Accomplishments

For August 2019, the following tank sampling was conducted:

- Tank 241-AY-101 core sampling was performed from August 8, 2019, through August 14, 2019. Nine core samples were received at the laboratory.

Significant Planned Actions in the Next Six Months

Future tank sampling is scheduled to be performed as identified below:

- Tank 241-C-301 catch tank grab sampling is planned for October 2019.
- Tank 241-A-104 sampling is planned for September 2019.
(Note: Uses the off riser sampling system.)
- Tank 241-AP-106 repurposing grab sampling is planned for the first quarter of FY 2020.

Issues

- None.

Best-Basis Inventory Updates**Significant Past Accomplishments**

- Best-basis inventory updates for the following tanks were completed in August 2019:
 - 241-AW-103
 - 241-B-101
 - 241-TX-118
 - 241-U-103.

Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in September 2019:
 - 241-AN-106
 - 241-AW-102
 - 241-AX-102
 - 241-AZ-102
 - 241-B-104
 - 241-BX-102
 - 241-TX-109
 - 241-U-106
 - 241-U-103.

Issues

- None.

Single-Shell Tank Closure Program

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Rod Lobos/Vanessa Turner¹⁰
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-C¹¹**
 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-045-92V Complete Construction of Barriers 1 (South) and 2 (North) and Expansion Barrier in 241-SX Farm**
 Due: October 31, 2019.
 Status: Completed in May 2019.
 Note: This includes the construction of the SX Tank Farm expansion barrier as well.
- M-045-92W Submit to Ecology Design for Barrier 3 in 241-TX Farm**
 Due: October 31, 2019.
 Status: On Schedule.
- M-045-92AC Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers**
 Due: October 31, 2019.
 Status: On Schedule.
- M-045-92X Barrier 3 in 241-TX Farm Design Approved by Ecology**
 Due: January 31, 2020.

¹⁰ Vanessa Turner is identified as the program manager where applicable

¹¹ WMA-C denotes C Tank Farm waste management area.

- Status: On Schedule.
- M-045-99** **Submit to Ecology the Preliminary Performance Assessment/Closure Analysis**
Due: September 30, 2020.
Status: On Schedule.
PM: V.A. Turner
Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.
- M-045-92AD** **Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**
Due: October 31, 2020.
Status: On Schedule.
- 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**
Due: September 30, 2021.
Status: On Schedule.
PM: V.A. Turner
Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.
- 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/Maintenance and Performance Monitoring Plan 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/CMS 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.
PM: V.A. Turner.

Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.

M-045-102 Submit to Ecology a Performance Assessment (PA) Maintenance Plan for WMA A/AX PA

Due: September 30, 2022.
 Status: On Schedule.
 PM: V.A. Turner.
 Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.

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 PMR with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule

Due: September 30, 2026.
 Status: On Schedule.
 PM: V.A. Turner.
 Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.

M-045-104 Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX

Due: September 30, 2028.
 Status: On Schedule.
 PM: V.A. Turner.
 Note: Change Control Form M-45-19-04 signed July 25, 2019, added this milestone to the TPA.

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. See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

Significant Past Accomplishments

- 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.

- DOE/ORP-2014-02, *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, with supplemental information DOE/ORP-2014-02-SUPP-1 was approved via letter 19-NWP-090, “Transmittal of Supplemental Information to the *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, DOE/ORP-2014-02-SUPP1, Revision 0,” by Ecology on June 12, 2019.

Significant Planned Activities in the Next Six Months

- Resolve Ecology’s comments on RPP-RPT-59389, RPP-RPT-59390, and RPP-RPT-58858
- Submit design for Barrier 3 in 241-TX Tank Farm to Ecology
- Submit the maintenance and performance monitoring plan for interim barriers to Ecology.

Issues

- Interagency Management Integration Team decisions for the four WMA-C baseline risk assessment issues have been stalled since the February 21, 2019, meeting.
- ORP formally initiated the TPA dispute resolution process with Ecology over Ecology’s “Denial of Request for Waiver for TPA Waste Retrieval Criteria for SST 241-C-106” (C-106). This dispute was extended at the TPA Interagency Management Integration Team level until June 12, 2019. A Director’s Determination by the Director of Ecology was made on June 26, 2019 (19-NWP-101, “Director’s Determination on United States Department of Energy Request for a Waiver of Single-Shell Tank Retrieval Criteria”). ORP appealed the Director of Ecology’s determination to the Pollution Control Hearings Board on July 26, 2019. The parties will submit a “Joint Proposed Legal Issue List” by September 13, 2019, and the Presiding Officer will issue an amended prehearing order with the issues to be decided in the appeal as well as the litigation timeline. The parties are encouraged to participate in mediation services offered by the Pollution Control Hearings Board, so the next step will be to request a mediator and possible dates to discuss the possibility of settlement before the hearing.

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Rob Hastings

Federal Program Manager: Jeff Rambo

Ecology Project Manager: Jeff Lyon

M-045-93 Submit Report for Description, Analysis and Technology for Removing Drainable Liquids from SSTs

Due: June 30, 2020.

Status: On Schedule.

Note: Change Control Form M-45-19-01 signed July 11, 2019, added this milestone to the TPA.

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. See the "System Plan" section above for updates related to the M-062-45 Milestone negotiations.

Significant Past Accomplishments

- Refer to the Consent Decree monthly report for retrieval accomplishments.

Significant Planned Activities in the Next Six Months

- Refer to the Consent Decree monthly report for planned activities.

Issues

- Refer to the Consent Decree monthly report for retrieval issues.

Tank Operations Contract Overview

Earned Value Data: Fiscal Year 2019

July-19

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$56,578	\$56,472	\$59,703	(\$106)	(\$3,231)	1.00	0.95			
FYTD	\$560,561	\$532,742	\$534,998	(\$27,819)	(\$2,256)	0.95	1.00	\$737,232		
CTD	\$5,344,287	\$5,287,164	\$5,254,280	(\$57,123)	\$32,883	0.99	1.01	\$5,520,958	\$5,497,161	\$23,797

ACWP actual cost of work performed.

BAC budget at completion.

BCWP budgeted cost of work performed.

BCWS budgeted cost of work scheduled.

CM current month.

CPI cost performance index.

CTD contract to date.

CV cost variance.

EAC estimate at completion.

FYTD fiscal year to date.

SPI schedule performance index.

SV schedule variance.

VAC variance at completion.

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.

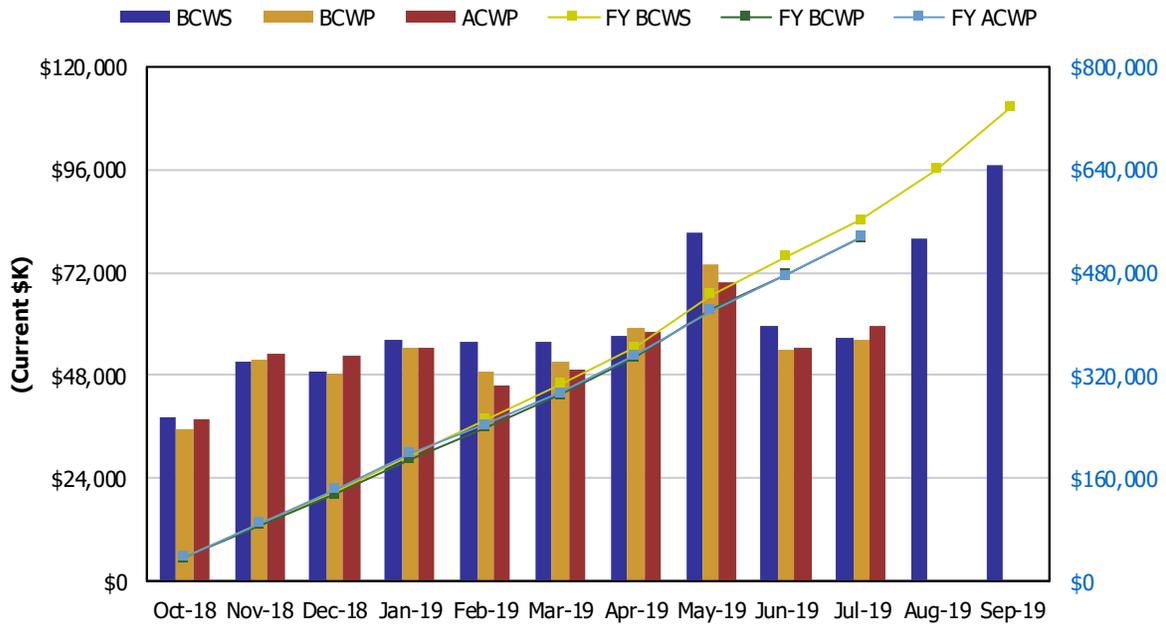
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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 fiscal year 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 2019

July-19

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 2018	\$38,412	\$35,485	\$37,730	0.92	0.94	\$38,412	\$35,485	\$37,730	0.92	0.94
Nov 2018	\$51,217	\$51,557	\$52,805	1.01	0.98	\$89,629	\$87,042	\$90,536	0.97	0.96
Dec 2018	\$48,948	\$48,478	\$52,703	0.99	0.92	\$138,577	\$135,520	\$143,239	0.98	0.95
Jan 2019	\$56,114	\$54,183	\$54,445	0.97	1.00	\$194,691	\$189,703	\$197,684	0.97	0.96
Feb 2019	\$55,780	\$48,760	\$45,820	0.87	1.06	\$250,471	\$238,463	\$243,503	0.95	0.98
Mar 2019	\$55,648	\$51,235	\$49,340	0.92	1.04	\$306,120	\$289,697	\$292,843	0.95	0.99
Apr 2019	\$57,293	\$58,896	\$58,059	1.03	1.01	\$363,412	\$348,593	\$350,903	0.96	0.99
May 2019	\$81,214	\$73,728	\$69,793	0.91	1.06	\$444,626	\$422,321	\$420,695	0.95	1.00
Jun 2019	\$59,357	\$53,949	\$54,599	0.91	0.99	\$503,983	\$476,270	\$475,294	0.95	1.00
Jul 2019	\$56,578	\$56,472	\$59,703	1.00	0.95	\$560,561	\$532,742	\$534,998	0.95	1.00
Aug 2019	\$79,844					\$640,404				
Sep 2019	\$96,828					\$737,232				

CTD	\$5,344,287	\$5,287,164	\$5,254,280	0.99	1.01
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ACWP actual cost of work performed.
 BCWP budgeted cost of work performed.
 BCWS budgeted cost of work scheduled.
 CPI cost performance index.

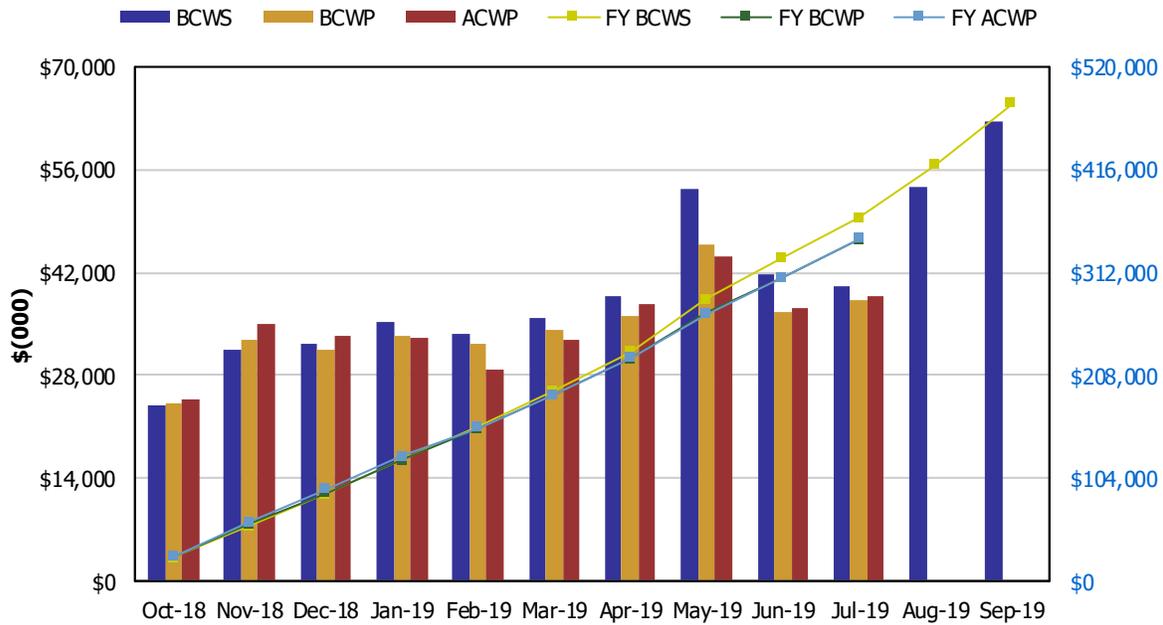
CM current month.
 CTD contract to date.
 FY fiscal year.
 SPI schedule performance index.

Earned Value Data: Fiscal Year 2019

July-19

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 2018	\$23,815	\$24,288	\$24,807	1.02	0.98	\$23,815	\$24,288	\$24,807	1.02	0.98
Nov 2018	\$31,462	\$32,868	\$34,951	1.04	0.94	\$55,276	\$57,155	\$59,758	1.03	0.96
Dec 2018	\$32,379	\$31,352	\$33,247	0.97	0.94	\$87,655	\$88,507	\$93,005	1.01	0.95
Jan 2019	\$35,182	\$33,427	\$33,218	0.95	1.01	\$122,837	\$121,934	\$126,224	0.99	0.97
Feb 2019	\$33,669	\$32,157	\$28,838	0.96	1.12	\$156,506	\$154,092	\$155,062	0.98	0.99
Mar 2019	\$35,881	\$34,287	\$32,784	0.96	1.05	\$192,387	\$188,379	\$187,845	0.98	1.00
Apr 2019	\$38,897	\$36,077	\$37,624	0.93	0.96	\$231,284	\$224,456	\$225,469	0.97	1.00
May 2019	\$53,231	\$45,760	\$44,092	0.86	1.04	\$284,515	\$270,216	\$269,562	0.95	1.00
Jun 2019	\$41,610	\$36,524	\$37,259	0.88	0.98	\$326,125	\$306,740	\$306,820	0.94	1.00
Jul 2019	\$40,195	\$38,223	\$38,670	0.95	0.99	\$366,320	\$344,963	\$345,490	0.94	1.00
Aug 2019	\$53,552					\$419,872				
Sep 2019	\$62,424					\$482,296				

CTD	\$3,542,974	\$3,507,580	\$3,461,017	0.99	1.01
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- ACWP actual cost of work performed.
- BCWP budgeted cost of work performed.
- BCWS budgeted cost of work scheduled.
- CPI cost performance index.
- CM current month.
- CTD contract to date.
- FY fiscal year.
- SPI schedule performance index.

Tank Farms Assistant Manager: Rob Hastings
Federal Project Director: Ricky Bang

5.01 – Base Operations

The July 2019 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$1,972,120) was primarily due to:

- The LERF Basin 44 cover replacement project experienced further delays due to piping repairs and the need for additional analytical sample data to assess radiological levels in the basin. The additional time to complete this work delayed cover removal, which was the predominant driver for work scheduled in July.

The current month **unfavorable** CV of (\$446,482) was primarily due to:

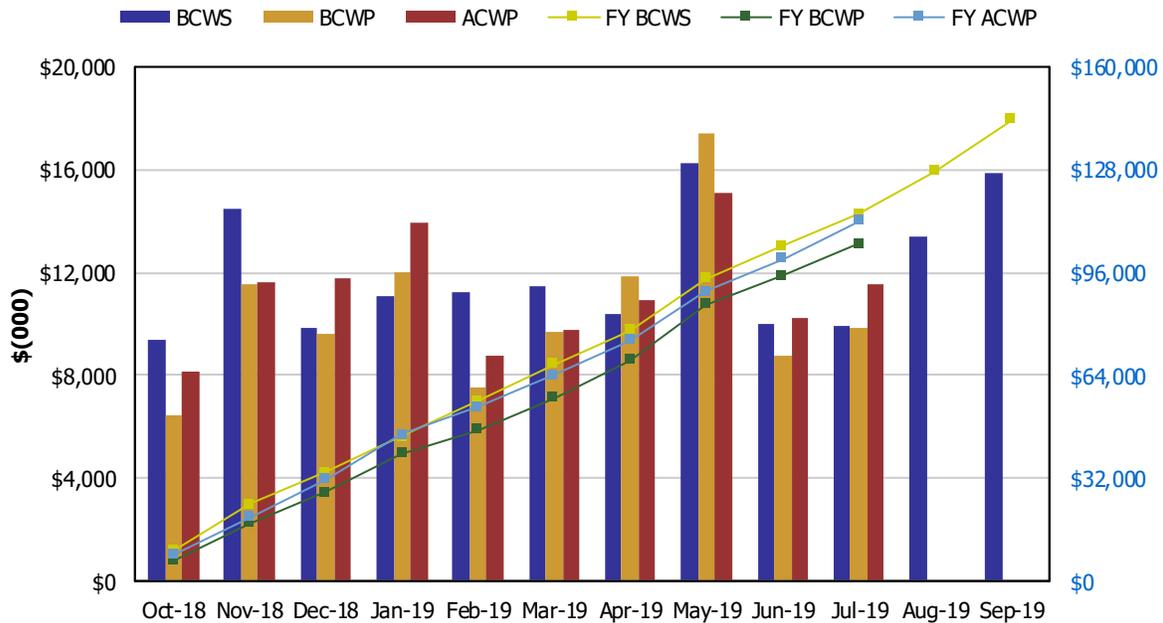
- Unplanned investigative work and activities following the collection of a liquid sample for the LERF Basin 44 cover replacement project. Additional analytical sample data was needed to assess radiological levels in the basin.

Earned Value Data: Fiscal Year 2019

July-19

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 2018	\$9,402	\$6,448	\$8,124	0.69	0.79	\$9,402	\$6,448	\$8,124	0.69	0.79
Nov 2018	\$14,501	\$11,516	\$11,634	0.79	0.99	\$23,902	\$17,964	\$19,757	0.75	0.91
Dec 2018	\$9,824	\$9,620	\$11,762	0.98	0.82	\$33,726	\$27,585	\$31,519	0.82	0.88
Jan 2019	\$11,060	\$12,034	\$13,959	1.09	0.86	\$44,786	\$39,618	\$45,479	0.88	0.87
Feb 2019	\$11,259	\$7,545	\$8,742	0.67	0.86	\$56,046	\$47,163	\$54,221	0.84	0.87
Mar 2019	\$11,437	\$9,672	\$9,801	0.85	0.99	\$67,483	\$56,836	\$64,022	0.84	0.89
Apr 2019	\$10,391	\$11,841	\$10,948	1.14	1.08	\$77,874	\$68,677	\$74,969	0.88	0.92
May 2019	\$16,243	\$17,411	\$15,108	1.07	1.15	\$94,117	\$86,088	\$90,077	0.91	0.96
Jun 2019	\$9,975	\$8,740	\$10,257	0.88	0.85	\$104,092	\$94,828	\$100,335	0.91	0.95
Jul 2019	\$9,931	\$9,859	\$11,507	0.99	0.86	\$114,023	\$104,687	\$111,841	0.92	0.94
Aug 2019	\$13,359					\$127,381				
Sep 2019	\$15,898					\$143,279				

CTD	\$1,054,762	\$1,035,417	\$1,090,339	0.98	0.95
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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: Jeff Rambo

5.02 – Retrieve and Close Single-Shell Tanks

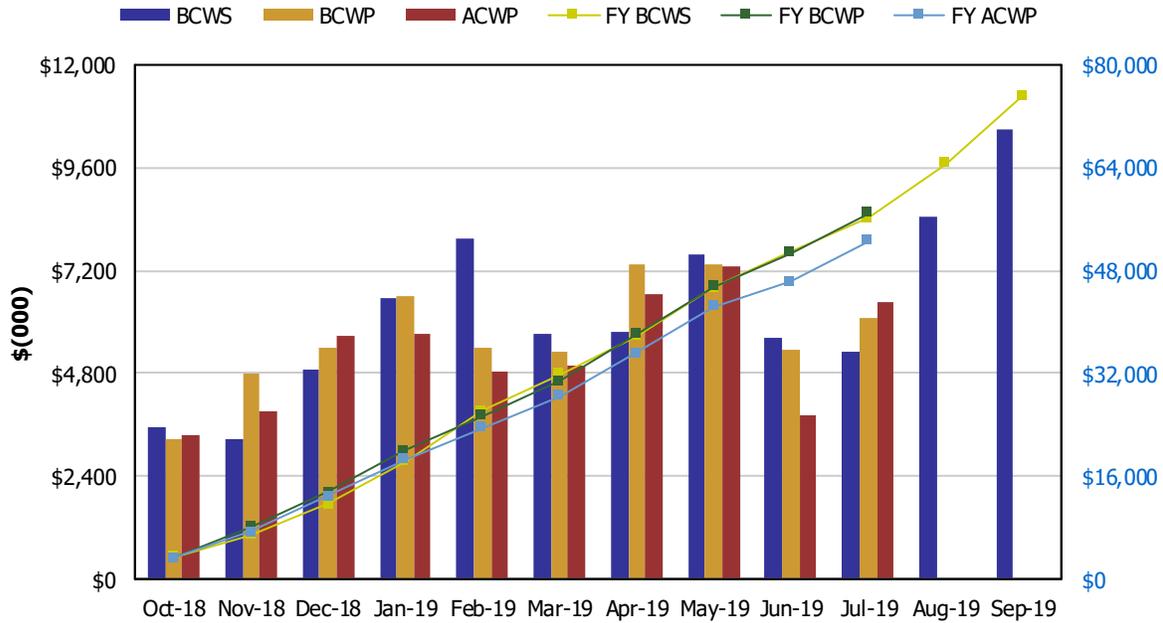
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2019

July-19

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 2018	\$3,529	\$3,267	\$3,336	0.93	0.98	\$3,529	\$3,267	\$3,336	0.93	0.98
Nov 2018	\$3,269	\$4,771	\$3,923	1.46	1.22	\$6,798	\$8,039	\$7,259	1.18	1.11
Dec 2018	\$4,868	\$5,392	\$5,695	1.11	0.95	\$11,666	\$13,431	\$12,954	1.15	1.04
Jan 2019	\$6,572	\$6,604	\$5,699	1.00	1.16	\$18,238	\$20,035	\$18,653	1.10	1.07
Feb 2019	\$7,962	\$5,389	\$4,829	0.68	1.12	\$26,200	\$25,425	\$23,482	0.97	1.08
Mar 2019	\$5,716	\$5,326	\$4,994	0.93	1.07	\$31,917	\$30,750	\$28,476	0.96	1.08
Apr 2019	\$5,766	\$7,335	\$6,627	1.27	1.11	\$37,683	\$38,086	\$35,102	1.01	1.08
May 2019	\$7,556	\$7,329	\$7,272	0.97	1.01	\$45,239	\$45,415	\$42,374	1.00	1.07
Jun 2019	\$5,635	\$5,332	\$3,807	0.95	1.40	\$50,874	\$50,747	\$46,181	1.00	1.10
Jul 2019	\$5,293	\$6,068	\$6,448	1.15	0.94	\$56,167	\$56,816	\$52,629	1.01	1.08
Aug 2019	\$8,454					\$64,621				
Sep 2019	\$10,478					\$75,099				

CTD	\$555,752	\$552,764	\$507,405	0.99	1.09
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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 July 2019 variances below do not impact TPA milestones.

The current month **favorable** SV of \$775,264 was primarily due to:

- Schedule recovery of the AP Tank Farm infrastructure upgrades. At the same time, schedule was recovered with the completion of the previously delayed design and fabrication of the AP Tank Farm change trailer.

The current month **unfavorable** CV of (\$379,487) was primarily due to:

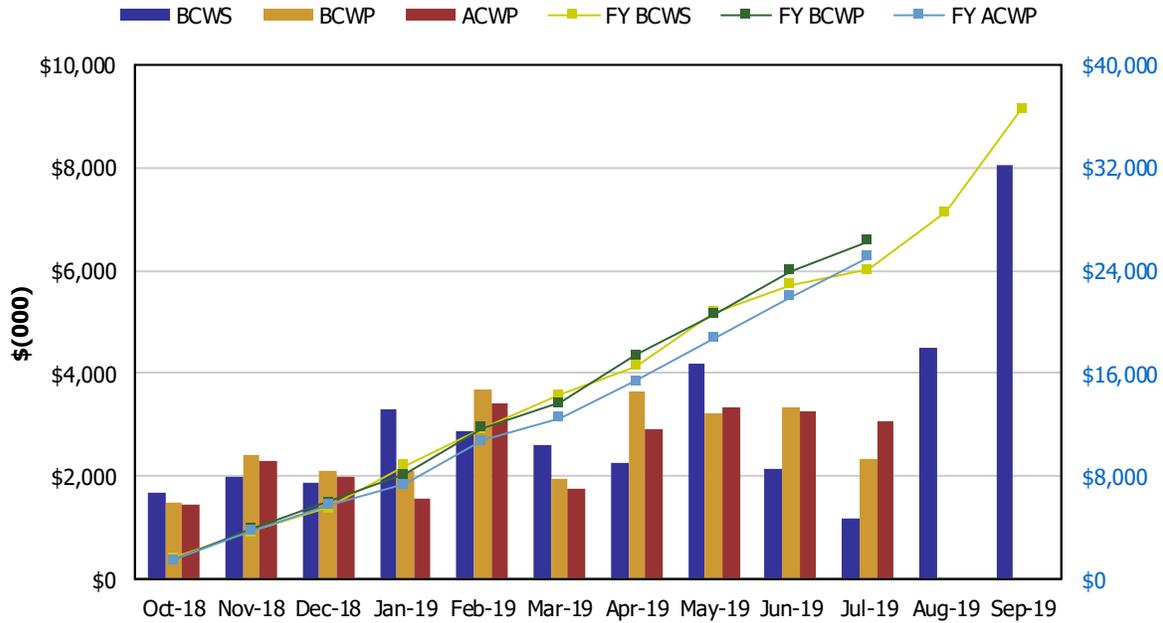
- Additional subcontractor usage for solid secondary waste stream technology maturation for high-efficiency particulate air (or HEPA) filter waste form development and encapsulation grout testing.

Earned Value Data: Fiscal Year 2019

July-19

**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 2018	\$1,666	\$1,482	\$1,464	0.89	1.01	\$1,666	\$1,482	\$1,464	0.89	1.01
Nov 2018	\$1,986	\$2,402	\$2,297	1.21	1.05	\$3,652	\$3,884	\$3,761	1.06	1.03
Dec 2018	\$1,877	\$2,114	\$2,001	1.13	1.06	\$5,529	\$5,997	\$5,762	1.08	1.04
Jan 2019	\$3,301	\$2,118	\$1,568	0.64	1.35	\$8,830	\$8,115	\$7,330	0.92	1.11
Feb 2019	\$2,890	\$3,668	\$3,411	1.27	1.08	\$11,720	\$11,783	\$10,741	1.01	1.10
Mar 2019	\$2,614	\$1,950	\$1,761	0.75	1.11	\$14,333	\$13,733	\$12,502	0.96	1.10
Apr 2019	\$2,239	\$3,642	\$2,895	1.63	1.26	\$16,572	\$17,374	\$15,397	1.05	1.13
May 2019	\$4,183	\$3,228	\$3,321	0.77	0.97	\$20,755	\$20,603	\$18,718	0.99	1.10
Jun 2019	\$2,137	\$3,352	\$3,276	1.57	1.02	\$22,892	\$23,954	\$21,994	1.05	1.09
Jul 2019	\$1,158	\$2,321	\$3,079	2.00	0.75	\$24,051	\$26,276	\$25,073	1.09	1.05
Aug 2019	\$4,479					\$28,530				
Sep 2019	\$8,028					\$36,558				

CTD	\$170,690	\$171,292	\$176,389	1.00	0.97
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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
Deputy Federal Project Director: Sahid Smith

5.05 – Treat Waste

The July 2019 variances below do not impact TPA milestones.

The **favorable** SV of \$1,163,000 was primarily due to:

- Accelerated approval of Critical Decision (CD) 3B, “Long Lead Procurements,” for the Low-Activity Waste Pretreatment System TSCR Demonstration Project. The scope of CD-3B includes the procurement, fabrication, and delivery of major equipment items with long-lead delivery times. Items being fabricated with CD-3B approval within this control account include pipe-in-pipe transfer lines, pumps, valves, jumpers, and other various long-lead items necessary to support direct-feed low-activity waste. CD-3B approval was pursued prior to approval of CD-3, “Approve Start of Construction/Execution,” in order to mitigate the schedule impacts of long-lead items critical to the project’s schedule. CD-3B approval was originally planned to complete in the beginning of August. Early CD-3B approval was received from DOE during May due to expedited efforts of both ORP and WRPS with CD-3B package development. Early approval of CD-3B has allowed long-lead procurements and fabrication to start prior to originally planned dates. Material receipt for the pipe-in-pipe transfer lines was originally planned to complete in September, but this completed during the current month due to acceleration of CD-3B approval.

The **unfavorable** CV of (\$758,000) was primarily due to:

- A current period single point adjustment following receipt of Contract Modification 530 on June 19, 2019, from ORP. Budgeted Cost for Work Scheduled was reduced for the low-activity waste feed 30 percent and 60 percent design activities (completed in past fiscal months), which the project performed more efficiently than planned. This Budgeted Cost for Work Scheduled reduction also resulted in a current period single point adjustment to the Budgeted Cost for Work Performed for this scope.
-