
Office of River Protection



Monthly Reporting Period

February 1–February 28, 2019¹

RECEIVED

MAR 27 2019

EDMC

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 2019.

Topic	Page
Acronyms and Abbreviations	2
Administrative Items/Milestone Status.....	3
System Plan.....	6
Acquisition of New Facilities	7
Supplemental Treatment and Part B Permit Applications	8
Tank-Side Cesium Removal System	10
242-A Evaporator Status.....	12
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility.....	12
Tank System Update.....	15
In-Tank Characterization and Summary.....	18
Single-Shell Tank Closure Program	20
Single-Shell Tank Retrieval Program	23
Tank Operations Contract Overview	24

RECEIVED
APR 11 2019
EDMC

Acronyms and Abbreviations

CV	cost variance
DOE	U.S. Department of Energy
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
WMA	waste management area
WRPS	Washington River Protection Solutions LLC

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	S.H. Pfaff	In Abeyance
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	S.H. Pfaff	In Abeyance
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	S.H. Pfaff	In Abeyance
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016	J.A. Diediker	In Abeyance
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016	J.A. Diediker	In Abeyance
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	S.H. Pfaff	In Abeyance
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	S.H. Pfaff	In Abeyance
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	On Schedule
M-045-56O	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2019	J.B. Bovier	On Schedule

Milestone	Title	Due Date	DOE PM	Status
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	J.B. Bovier	On Schedule
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD ¹	J.B. Bovier	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD ¹	J.B. Bovier	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	J.B. Bovier	On Schedule
M-045-92W	Submit to Ecology Design for Barrier 3 in 241-TX Farm	10/31/2019	J.B. Bovier	On Schedule
M-045-92AC	Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers	10/31/2019	J.B. Bovier	On Schedule
M-045-92X	Barrier 3 in 241-TX Farm Design Approved by Ecology	01/31/2020	J.B. Bovier	On Schedule
M-062-01AN	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2020	B.R. Trimberger	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	J.B. Bovier	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.	PM	=	project manager.
CMIP	=	corrective measures implementation work plan.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
CR	=	change request.	SST	=	single-shell tank.
DOE	=	U.S. Department of Energy.	TBD	=	to be determined.
Ecology	=	Washington State Department of Ecology.	WTP	=	Waste Treatment and Immobilization Plant.
Mod	=	modification.	WMA-C	=	C Tank Farm waste management area.

System Plan

Mission Integration Office Director: Joni Grindstaff
Federal Program Manager: Kaylin Burnett
Ecology Project Manager: Dan McDonald, Jeff Lyon

Significant Past Accomplishments

- The U.S. Department of Energy (DOE), Office of River Protection (ORP); U.S. Environmental Protection Agency; and Washington State Department of Ecology (Ecology) have been in negotiations related to M-062-45 Milestone since September 2016. The parties have agreed on multiple occasions that it was prudent to extend the completion of the negotiations. DOE and Ecology met on October 30, 2018, to discuss, amongst other things, the M-062-45 Milestone and DOE's mark-up of Ecology's proposal. DOE and Ecology agreed to meet regularly to continue these discussions and agreed to an additional extension of the negotiations until March 18, 2019.

Significant Planned Actions in the Next Six Months

- Continue negotiations of the M-062-45 Milestone and related milestones with intent to use information from the ORP-11242, *River Protection Project System Plan*, Rev. 8.
- In March, Ecology and ORP will begin 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

The current status for all projects listed below is:

- In Abeyance. Decision document 2016-005, *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (IAMIT) Decision/Determination/Action Agreement*, signed August 22, 2016, requires addressing this milestone with the negotiations supporting M-062-45 Milestone. Negotiations began on September 8, 2016.

M-047-07 CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology

Due: March 31, 2016.

M-090-13 CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY²

Due: March 31, 2016.

M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW³ from the WTP⁴ Operations

Due: December 31, 2036.

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

Due: To Be Determined.

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

- None.

² ECY denotes Washington State Department of Ecology.

³ IHLW denotes immobilized high-level waste.

⁴ WTP denotes Waste Treatment and Immobilization Plant.

Supplemental Treatment and Part B Permit Applications

Tank Farms Assistant Manager: Rob Hastings
Federal Project Director: Steve Pfaff
Ecology Project Manager: Dan McDonald

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

- In Abeyance. Decision document 2016-005, Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (IAMIT) Decision/ Determination/Action Agreement, signed August 22, 2016, requires addressing this milestone with the negotiations supporting M-062-45 Milestone. Negotiations began on September 8, 2016.

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 RCRA⁵ 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.

⁵ RCRA denotes *Resource Conservation and Recovery Act*.

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.

M-062-00 Complete Pretreatment Processing and Vitrification of HLW⁶ and LAW⁷ 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

- None.

⁶ HLW denotes high-level waste.

⁷ LAW denotes low-activity waste.

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 tank-side cesium removal (TSCR) system 60 percent design review was completed in January 2019.
- The waste feed delivery system 60 percent design review was initiated in January 2019.

Significant Planned Actions in the Next Six Months

- The tank farm infrastructure upgrades system 60 percent design review is projected to begin in March 2019.
- The TSCR spent ion exchange column storage pad 60 percent design review is projected to begin in March 2019.
- The TSCR system 90 percent design review is projected to begin in April 2019.
- The waste feed delivery system 90 percent design review is projected to begin in April 2019.
- The tank farm infrastructure upgrades system 90 percent design review is projected to begin in May 2019.
- The TSCR spent ion exchange column storage pad 90 percent design review is projected to begin in June 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- or single-shell tank. 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, the Washington State Department of Ecology (Ecology) sent the DOE Office of River Protection (ORP) and Richland Operations Office a letter (18-NWP-177) 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 will be performed at 242-A Evaporator while efforts to install new slurry transfer lines from 242-A Evaporator to 241-AW Tank Farm progress. This maintains 242-A Evaporator staff proficiency and allows for new equipment testing. This work effort is scheduled for June 2019.

Significant Past Accomplishments

- Relocated the spare PB-1 pump into the 242-A Evaporator load-out room
- Initiated efforts to rebuild spare PB-1 pump.

Significant Planned Actions in the Next Six Months

- Establish future campaign and outage scheduling
- Continue design efforts related to installation of new slurry transfer lines from 242-A Evaporator to AW Tank Farm
- Continue rebuilding spare PB-1 pump
- 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 slurry line replacement.

Issues

- Ecology provided a second set of comments on the 2016 independent, qualified, registered, professional engineer (IQRPE) Integrity Assessment Report for 242-A Evaporator. The DOE expects to provide the second round of responses to Ecology in early March 2019.
- The EC-10 campaign is scheduled for June 2019. Ecology requested additional information on testing performed for line DR 335.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Richard Valle
Ecology Project Manager: Stephanie Schleif

The Liquid Effluent Retention Facility (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.

	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
Total Volume (as of Feb. 28, 2019)	~ 7.13 Mgal	~ 6.03 Mgal	~ 0.63 Mgal

Waste Received			
AZ-301 Condensate	-	~ 2,500 gal	-
MWT-31 and 34 Leachate	-	~ 21,000 gal	-
Other	-	-	-

gal = gallon.

Mgal = million gallons.

MWT = mixed waste trench.

Significant Past Accomplishments

- Total FY 2019 volume processed (as of February 28, 2019): approximately 0 gallons.
- Completed the LERF Basin 44 to LERF Basin 42 transfer in support of the Basin 44 cover replacement project.
- Began installation of the three replacement surge pumps and their associated equipment.
- Continued commissioning of Effluent Treatment Facility (ETF) air compressor upgrade.

Significant Planned Actions in the Next Six Months

- Continue plant cleanout and corrective maintenance outage.
- Complete remaining fieldwork (i.e., three visual inspections and one leak test) for the ETF integrity assessment.
- Initiate waste processing of LERF Basin 42 effluent through ETF.
- The following activities, projects, and/or upgrades are planned to be performed in FY 2019. The intent of the list below is to show additional work the facility will experience outside of the normal operations and/or maintenance.

- IQRPE integrity assessment of ETF
- LERF Basin 44 cover replacement
 - Perform inspection of remaining LERF Basin 44 contents
- LERF leachate system upgrade
- ETF brine stabilization design and permitting⁸
 - Complete preliminary design and hold meeting with Ecology
- ETF air compressor upgrade (complete)
- ETF stairs and ladder upgrades
- ETF life-cycle study report
- ETF chiller procurement
- ETF dilute caustic tank procurement
- ETF reverse osmosis pumps and valves redesign and procurements
- ETF verification tank recoating
- ETF peroxide decomposer vessel upgrade
 - Install system bypass
- Treated Effluent Disposal Facility pump station No. 2 generator upgrade
- ETF vapor compressor procurement
- Load-in station drain system procurements⁹
- 310/311-PL transfer line upgrade⁹
- ETF ultraviolet/oxidation system design
- ETF monitor and control system design
- ETF uninterrupted power supply design
- ETF cooling tower design
- ETF evaporator drain valve upgrade
- ETF rough filter/hoist refurbishment.

Issues

- None.

⁸ Requires permit modification.

Tank System Update

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

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.

Significant Planned Actions in the Next Six Months

- Ultrasonic testing inspections planned for the following tanks in FY 2019:
 - 241-AP-102 (annulus floor only)
 - 241-AN-102.
- Enhanced annulus visual inspections planned for the following tanks 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.
- Procure/Design annulus floor cleaning technology in FY 2019 to clean the annulus floor of Tank AY-101.

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-BX-104
 - 241-B-110
 - 241-B-111
 - 241-B-112
 - 241-SX-114.

Significant Planned Actions in the Next Six Months

- Visual inspections are planned for the following tanks in FY 2019:
 - 241-SX-115
 - 241-U-101
 - 241-U-106
 - 241-U-109
 - 241-T-103
 - 241-T-108
 - 241-T-202
 - 241-TY-106.
- Perform three miscellaneous underground storage tank visual camera inspections in FY 2019. The three tanks have yet to be identified.
- Perform TFC-ENG-CHEM-D-42, *Tank Leak Assessment Process*, on the following tanks in FY 2019:
 - 241-T-101 (ongoing)
 - 241-T-103.

Issue

- None.

Independent Qualified Registered Professional Engineer Activities

- Double-Shell Tank System
 - RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*, Rev. 1, was completed in 2016.
 - The IQRPE recommended the next double-shell tank system integrity assessment report be completed in 10 years.

- Single-Shell Tank (SST) System
 - Completed M-045-9II Milestone report RPP-IQRPE-50028, *Single-Shell Tank System Structural Integrity Assessment Report*, in 2018.
 - The IQRPE recommended the next SST structural integrity assessment be completed in 16 years.
- 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.
- ETF
 - Washington River Protection Solutions LLC (WRPS) provided technical material and support needed to perform the ETF integrity assessment to the IQRPE project team. A meeting was held between WRPS and Meier Architecture Engineering personnel to discuss potential requests for additional testing or inspections to support the integrity assessment.
- 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 is next to be leak tested (forecasted for April 2019). Work packages 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 February 2019, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-PLAN-62908, *Tank 241-AW-103 Grab Sampling and Analysis Plan for Evaporator Feed Qualification*, Rev .0
 - RPP-RPT-61212, *Data Quality Objectives for the 241-AP-106 Repurposing*, Rev 0
- Released:
 - RPP-RPT-59284, *Derivation of Best-Basis Inventory for Tank 241-T-107 as of January 1, 2019*, Rev. 1
 - RPP-RPT-58186, *Derivation of Best-Basis Inventory for Tank 241-T-101 as of January 1, 2019*, Rev. 2
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending December 31, 2018*, Rev. 372.

Tank Sampling

Significant Past Accomplishments

For February 2019, the following tank sampling was conducted:

- Tank 241-A-105 solids grab sampling was completed February 1, 2019; three 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-SY-102 grab sampling is planned for February 2019.
- Tank 241-AW-103 grab sampling is planned for March 2019.
- Tank 241-AN-107 grab sampling is planned for April 2019.
- 241-AY-101 core sampling is planned for April 2019.
- Tank 241-AZ-101 grab sampling is planned for May 2019.
- Catch tank 241-C-301 closure grab sampling is planned for June 2019.
- 241-AP-106 Post-Repurposing grab sampling is planned for August 2019.

Issues

- None.

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

- Best-basis inventory updates for the following tanks were completed in February 2019:
 - 241-T-101
 - 241-T-107.

Significant Planned Actions in the Next Six Months

- Best-basis inventory updates for the following tanks are currently planned to be completed in March 2019:
 - 241-AN-101
 - 241-AN-106
 - 241-AP-102
 - 241-AP-106
 - 241-AW-102
 - 241-AW-105
 - 241-AZ-101
 - 242-AZ-102
 - 241-B-201
 - 241-BX-103
 - 241-BX-106.

Issues

- None.

Single-Shell Tank Closure Program

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Jan Bovier
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-C⁹

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-045-84 Initiate Negotiations to Establish HFFACO¹⁰ Interim Milestones for Closure of 2nd SST WMA

Due: April 3, 2017.

Status: Completed (March 14, 2017). Negotiations initiated on March 14, 2017.

Note: Decision on location of next WMA to be closed needs to be finalized.

⁹ WMA-C denotes C Tank Farm waste management area.

¹⁰ HFFACO denotes *Hanford Federal Facility Agreement and Consent Order* (HFFACO and the Tri-Party Agreement [TPA] are used interchangeably throughout this report).

M-045-92V Complete Construction of Barriers 1 (South) and 2 (North) and Expansion Barrier in 241-SX Farm

Due: October 31, 2019.

Status: On Schedule.

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.

Status: On Schedule.

M-045-92AD Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities

Due: October 31, 2020.

Status: On Schedule.

M-045-92Y Complete Construction of Barrier 3 in 241-TX Farm

Due: October 31, 2021.

Status: On Schedule.

M-045-92Z Submit to Ecology Design/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-045-92AB Complete Construction of Barrier 4 in 241-U Farm

Due: October 31, 2023.

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

Significant Past Accomplishments

- Completed construction of the SX Tank Farm Barrier 1 (south) and SX Tank Farm Barrier 2 (north).

Significant Planned Activities in the Next Six Months

- Resolve Ecology’s comments on 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*.
- Begin permitting workshops with Ecology for the SST closure plans in the Hanford Sitewide permit.
- Complete construction of the SX Tank Farm expansion barrier.

Issues

- Report DOE/ORP-2014-02, *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, Rev. 1 dated July 23, 2014. ORP received Ecology letter 15-NWP-149, “Department of Ecology’s Response Comments Regarding Review of the *Clean Closure Practicability Demonstration for the Single-Shell Tanks*, DOE/ORP-2014-02,” dated August 3, 2015. Ecology provided comments on the document and ORP met with Ecology in November 2017 to discuss a path forward. ORP expects to provide a revision to be included as an appendix to the report. The revision was submitted to Ecology via 18-ECD-0079, “Transmittal of Supplemental Information to the Clean Closure Practicability Demonstration for the Single-Shell Tanks DOE/ORP-201-4-02-SUPP-1,” dated January 24, 2019. Awaiting Ecology approval.

Single-Shell Tank Retrieval Program

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

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

Due: To Be Determined (12 months after retrieval certification).

Status: On Schedule. Sub-milestone M-045-86D; RPP-RPT-60956, *Retrieval Data Report for Single-Shell Tank 241-C-105*, Rev. 0.

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

January-19

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$56,114	\$54,183	\$54,445	(\$1,931)	(\$262)	0.97	1.00			
FYTD	\$194,691	\$189,703	\$197,684	(\$4,988)	(\$7,981)	0.97	0.96	\$700,222		
CTD	\$4,978,417	\$4,944,125	\$4,916,966	(\$34,292)	\$27,159	0.89	1.01	\$5,483,948	\$5,463,617	\$20,331

ACWP	actual cost of work performed.	CV	cost variance.
BAC	budget at completion.	EAC	estimate at completion.
BCWP	budgeted cost of work performed.	FYTD	fiscal year to date.
BCWS	budgeted cost of work scheduled.	SPI	schedule performance index.
CM	current month.	SV	schedule variance.
CPI	cost performance index.	VAC	variance at completion.
CTD	contract to date.		

The Earned Value Management System is intended to provide a status of how the contractor is progressing against its monthly planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. The earned value analysis is not intended to be a measurement of performance against existing Tri-Party Agreement (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.

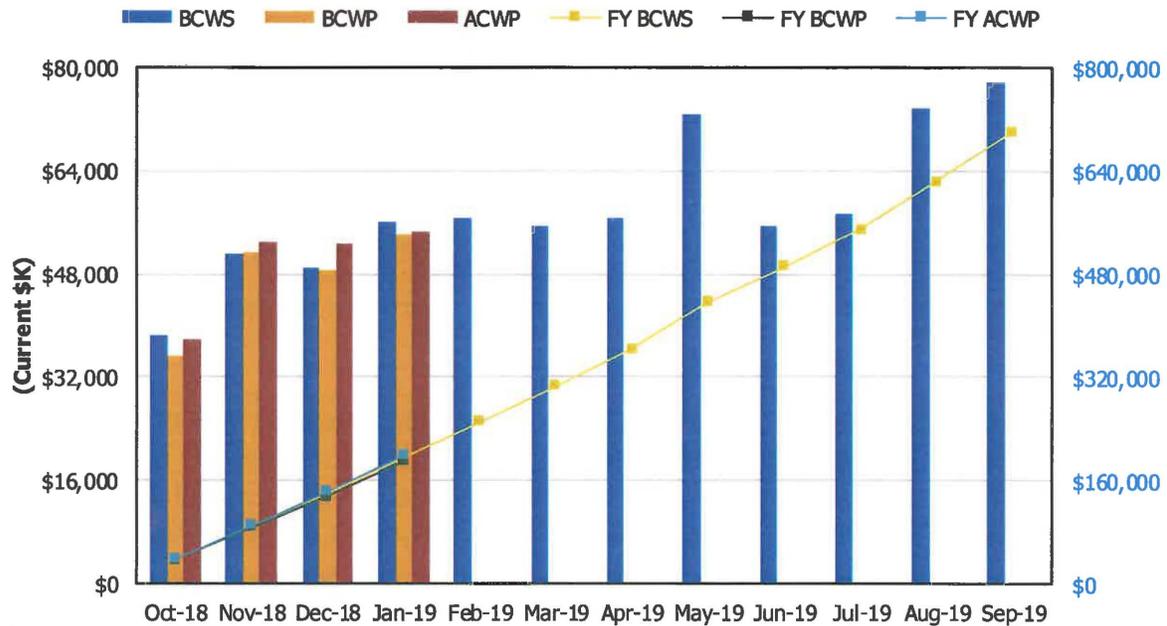
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000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

January-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	\$56,559					\$251,250				
Mar 2019	\$55,423					\$306,673				
Apr 2019	\$56,505					\$363,178				
May 2019	\$72,841					\$436,019				
Jun 2019	\$55,561					\$491,580				
Jul 2019	\$57,331					\$548,911				
Aug 2019	\$73,728					\$622,639				
Sep 2019	\$77,583					\$700,222				
CTD	\$4,978,417	\$4,944,125	\$4,916,966	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.

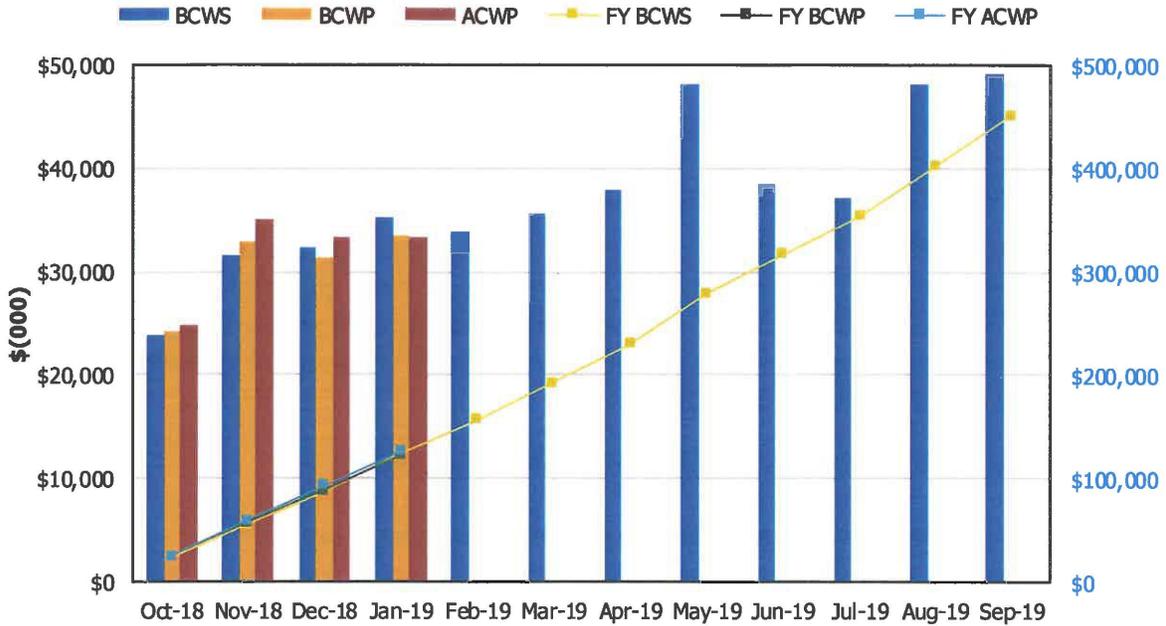
CM current month.
 CTD contract to date.
 FY fiscal year.
 SPI schedule performance index.

Earned Value Data: Fiscal Year 2019

January-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	\$33,782					\$156,619				
Mar 2019	\$35,631					\$192,249				
Apr 2019	\$37,917					\$230,167				
May 2019	\$48,194					\$278,360				
Jun 2019	\$38,445					\$316,806				
Jul 2019	\$37,203					\$354,008				
Aug 2019	\$48,137					\$402,145				
Sep 2019	\$49,058					\$451,203				
CTD	\$3,299,490	\$3,284,551	\$3,241,751	1.00	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.

Tank Farms Assistant Manager: Rob Hastings
Federal Project Director: Brian Harkins

5.01 – Base Operations

The January 2019 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$1,754,540) is primarily due to:

- The unfavorable SV is a result of resequencing performance of work this year for the ETF basin replacement scope. After the leachate systems are complete, basin cover removal will then begin, followed by the installation of the newly delivered basin cover.
- The unfavorable SV is a result of an extended facility outage period at the ETF in order to prepare for future processing. This is primarily due to significant maintenance deemed critical to prepare the facility for successful processing campaigns in coordination with the Tank Farms Projects teams proceeding with the ETF upgrades concurrently. These issues have delayed ETF processing.

The current month **favorable** CV of \$208,710 is primarily due to:

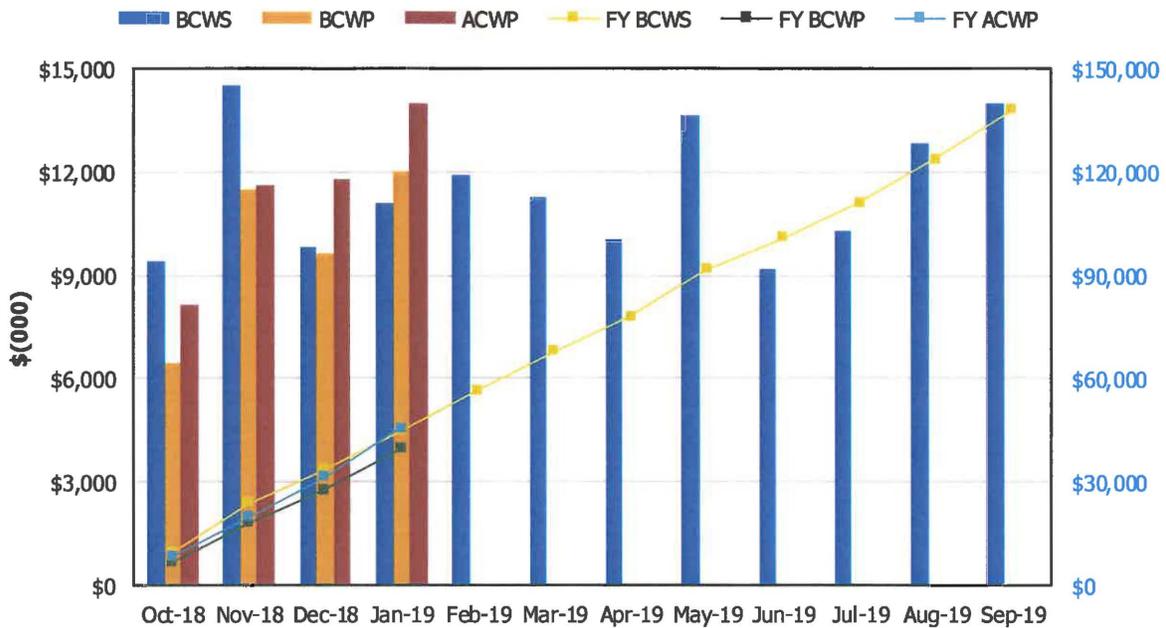
- All CVs were below the reporting threshold in the current period.

Earned Value Data: Fiscal Year 2019

January-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	\$11,872					\$56,659				
Mar 2019	\$11,244					\$67,902				
Apr 2019	\$10,050					\$77,952				
May 2019	\$13,622					\$91,575				
Jun 2019	\$9,173					\$100,748				
Jul 2019	\$10,279					\$111,027				
Aug 2019	\$12,832					\$123,859				
Sep 2019	\$13,994					\$137,852				
CTD	\$985,526	\$970,348	\$1,023,977	0.98	0.95					

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

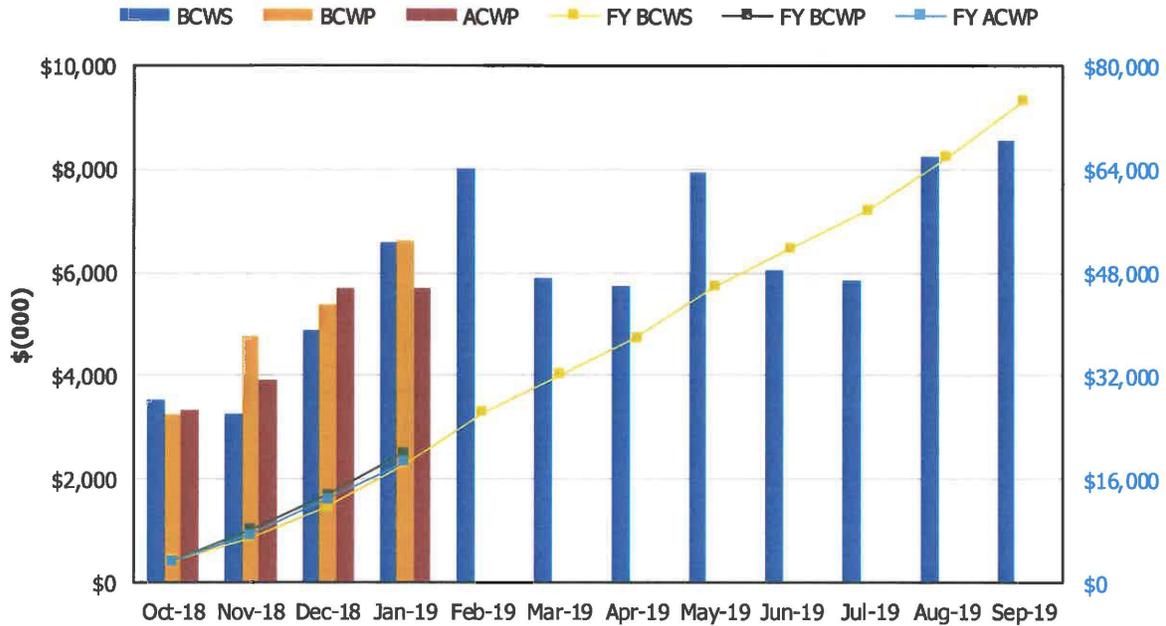
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2019

January-19

Tank Farms ORP-0014
WBS 5.3 - WFD/Treatment Pmg/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	\$8,015					\$26,253				
Mar 2019	\$5,887					\$32,140				
Apr 2019	\$5,729					\$37,868				
May 2019	\$7,914					\$45,783				
Jun 2019	\$6,034					\$51,817				
Jul 2019	\$5,860					\$57,677				
Aug 2019	\$8,224					\$65,901				
Sep 2019	\$8,561					\$74,462				
CTD	\$517,823	\$515,984	\$473,429	1.00	1.09					

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: Kaylin Burnett

5.03 – Waste Feed Delivery/Treatment

The January 2019 variances below do not impact TPA milestones.

The current month **favorable** SV of \$32,500 is due to:

- All SVs were below the reporting threshold in the current period

The current month **favorable** CV of \$905,500 is due to:

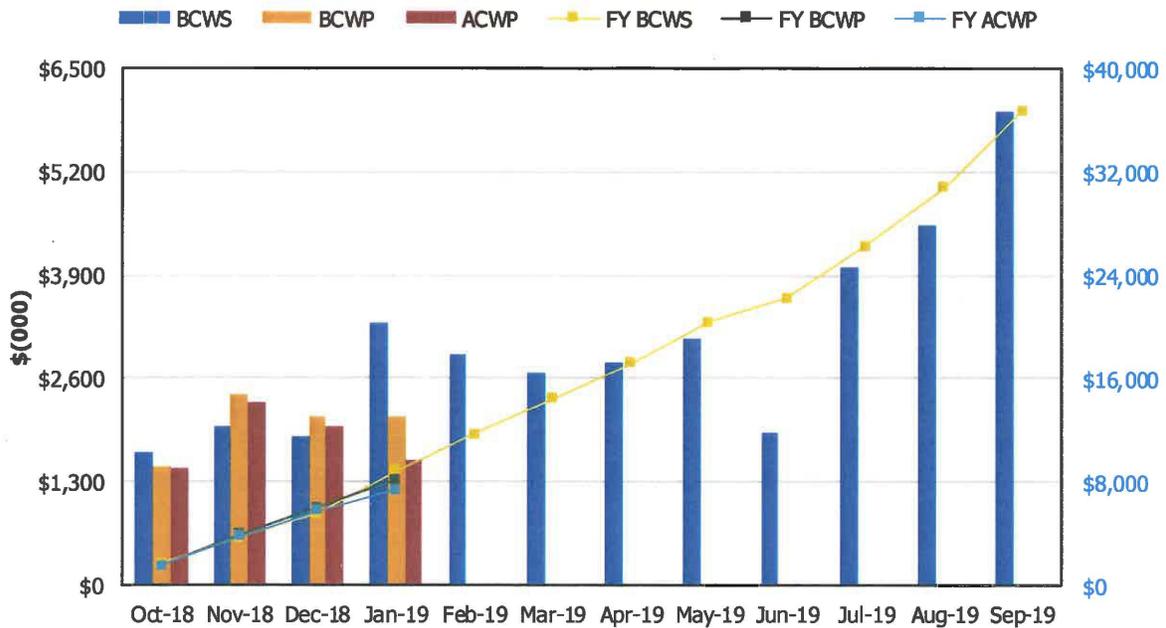
- The Atkins subcontractor (Hedgehog III Project) was able to complete the transportation drop analysis and design modifications quicker than expected in the development of the next generation sample transportation cask (Hedgehog).
- The Mechanical Waste Gathering System Project experienced efficiencies by leveraging previous experience and knowledge for machine parts.

Earned Value Data: Fiscal Year 2019

January-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					\$11,720				
Mar 2019	\$2,662					\$14,382				
Apr 2019	\$2,809					\$17,191				
May 2019	\$3,110					\$20,301				
Jun 2019	\$1,908					\$22,210				
Jul 2019	\$3,989					\$26,199				
Aug 2019	\$4,536					\$30,734				
Sep 2019	\$5,970					\$36,705				
CTD	\$155,469	\$153,132	\$158,645	0.98	0.97					

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: Janet Diediker

5.05 – Treat Waste

The January 2019 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$1,183,00) is due to:

- Delays caused by design changes resulting from the preliminary hazards analysis, which required additional time for the vendor to incorporate comments and develop the 60 percent design deliverables, which also impacted the release of long-lead equipment purchase orders.

The current month **favorable** CV of \$549,600 is due to:

- Efficiencies realized by the A/E in support of the 60 percent design package development. This is attributed to fewer project support resources necessary as compared to planning assumptions due to close coordination between the A/E and WRPS for 60 percent design comment incorporation and utilizing lessons learned from similar system design efforts.

TPA Monthly Report Metadata Sharing

Page 1/1

TPAMilestone	Due Date	Title
M-062-45-T01	4/30/2015	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-ZZ	4/30/2015	Negotiate a One-Time Supplemental Treatment Selection
M-062-45-ZZ-A	4/30/2015	Convert M-062-31-T01 Thru M-062-34-T01 to Interim Milestones
M-047-07	3/31/2016	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology
M-090-13	3/31/2016	CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY
M-062-31-T01	4/30/2016	Comp. Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment
M-062-32-T01	4/30/2018	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
M-045-91I	9/30/2018	Provide IQRPE Certification of SSTs Structural Integrity
M-062-01AL	1/31/2019	Submit Semi-Annual Project Compliance Report to Ecology
M-045-56O	7/31/2019	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-062-01AM	7/31/2019	Submit Semi-Annual Project Compliance Report to Ecology
M-045-91E3	9/30/2019	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92AC	10/31/2019	Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers
M-045-92V	10/31/2019	Complete Construction of Barriers 1 (North) and 2 (South) and Expansion Barrier in 241-SX Farm
M-045-92W	10/31/2019	Submit to Ecology Design for Barrier 3 in 241-TX Farm
M-062-40G	10/31/2019	Select a Minimum of 3 Scenarios
M-045-92X	1/31/2020	Barrier 3 in 241-TX Farm Design Approved by Ecology
M-062-33-T01	4/30/2021	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-045-15	9/30/2022	Completion of Tank A-103 SST Waste Retrieval
M-045-15A	9/30/2022	Submit a Retrieval Data Report Pursuant to Agreement Appendix I
M-045-15D	9/30/2022	Exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H
M-062-21	2/28/2023	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00

- S-2 -8 LERF
- S-2-3 Double Shell Tank System
- S-2-4 Single Shell Tank System
- T-2-6 242-A Evaporator
- T-2-8 ETF
- TS-2-8 Low Activity Waste Pretreatment System (LAWPS)

Reviewed March 2019 (no changes)

POC: ORP, TRS-ECD, R.Evans or B. Trimmerger