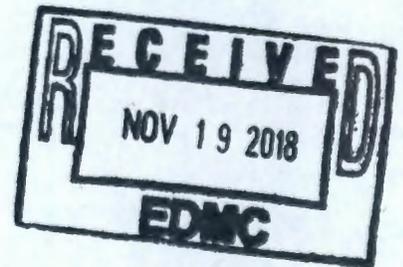
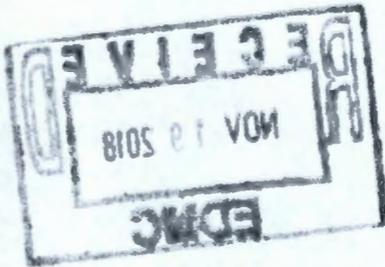


Office of River Protection
Tri-Party Agreement Report
November¹ 2018



¹ The narrative descriptions of progress in this report cover the period from October 1–31, 2018. 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 of September 1–30, 2018.

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Acronyms and Abbreviations

CV	cost variance
Ecology	Washington State Department of Ecology
ETF	Effluent Treatment Facility
FY	fiscal year
IQRPE	independent qualified registered professional engineer
LAWPS	Low-Activity Waste Pretreatment System
ORP	U.S. Department of Energy, Office of River Protection
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	tank-side cesium removal
WMA	waste management area
WRPS	Washington River Protection Solutions LLC
RCRA	Resource Conservation and Recovery Act

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	On Schedule

Milestone	Title	Due Date	DOE PM	Status
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
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

Milestone	Title	Due Date	DOE PM	Status
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
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.

CMIP = corrective measures implementation work plan.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

IQRPE = independent qualified registered professional engineer.

Mod = modification.

PM = project manager.

RCRA = *Resource Conservation and Recovery Act.*

SST = single-shell tank.

TBD = to be determined.

TPA = Tri-Party Agreement.

WTP = Waste Treatment and Immobilization Plant.

WMA-C = C Tank Farm waste management area.

System Plan

One System Division Director: Joni Grindstaff
Federal Program Manager: Kaylin Burnett
Ecology Project Manager: Dan McDonald, Jeff Lyon

Significant Past Accomplishments

- The U.S. Department of Energy, 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. The Department of Energy 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 a 90 day extension of the negotiations, extending the negotiations until February 15, 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.

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 (LAMIT) Decision / Determination / Action Agreement*, signed August 22, 2016, requires this milestone be addressed 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 updates related to the M-062-45 milestones on page 6.

Significant Planned Actions in the Next Six Months

- See updates related to the M-062-45 milestones on page 6.

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 all 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 this milestone be addressed 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 Resource Conservation and Recovery Act (RCRA) 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.

M-062-00 Complete Pretreatment Processing and Vitrification of High-Level Waste (HLW) and Low-Activity Waste (LAW) Tank Wastes

Due: December 31, 2047.

Status: At risk.

Significant Past Accomplishments

- See updates related to the M-062-45 milestones on page 6.

Significant Planned Actions in the Next Six Months

- See updates related to the M-062-45 milestones on page 6.

Issues

- None.

Tank-Side Cesium Removal

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

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) 30 percent design reviews were completed September 25.

Significant Planned Actions in the Next Six Months

- The TSCR 60 percent design review is projected to begin in January 2019.

Issues

- None.

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 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 while efforts to install new slurry transfer lines from 242-A to 242-AW Tank Farm progress. This along with drill and simulator efforts will ensure the 242-A staff remains proficient and the 242-A performs mission work to maintain readiness. This work effort is scheduled June 2019.

Significant Past Accomplishments

- Relocated spare PB-1 pump from the load-out room.
- Installed tent assembly to allow rebuild of PB-1 recirculation pump.

Significant Planned Actions in the Next Six Months

- Establish the future campaign and outage scheduling
- Procure parts to rebuild spare PB-1 pump
- Begin rebuilding spare PB-1 pump
- Procure new PB-1 replacement pump

Issues

- PB-1 recirculation pump failed. Corrective actions are in progress to procure a new PB-1 pump and to rebuild the spare PB-1 pump, for future evaporator campaigns.
- The slurry transfer line encasement for SL-167 from 242-A Evaporator to AW valve pit has not yet passed the encasement leak check due this year. Corrective actions are being pursued by the Tank Farms Operations Contractor.

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 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 Oct. 31, 2018)	~ 0 Mgal ¹	~ 5.62 Mgal	~ 7.35Mgal

Waste Received			
AZ-301 Condensate	-	~ 5,000 gal	-
MWT-31 and 34 Leachate	-	~ 21,000 gal	-
Other	-	-	-

¹ Basin 42 was placed out-of-service on June 1, 2018.

gal = gallon.
Mgal = million gallons

MWT = mixed waste trench.

Significant Past Accomplishments

- Total FY 2019 volume processed (as of October 31, 2018): 0 gallons.
- Completed camera visual inspection field work for the 1st Reverse Osmosis Feed Tank (60F-TK-1).

Significant Planned Actions in the Next Six Months

- Perform remaining camera visual inspections in support of the Effluent Treatment Facility (ETF) integrity assessment project
- Perform annual RCRA tank inspections
- Return Basin 42 back in service, and perform the Basin 44 to Basin 42 transfer in support of the Basin 44 cover replacement project.
- Continue plant cleanout and corrective maintenance outage.

- The following activities, projects, and/or upgrades are planned to be performed in FY 2019 ⁵:
 - IQRPE Integrity Assessment of ETF
 - LERF Basin Cover 44 replacement
 - LERF Basin Leachate System upgrade
 - ETF Brine Stabilization design and permitting
 - ETF Air Compressor upgrade
 - ETF Stairs and Ladder upgrades
 - ETF Life Cycle Study report
 - ETF Chiller procurement
 - ETF Dilute Caustic Tank procurement
 - ETF RO Pumps and Valves redesign
 - ETF Verification Tank recoating
 - ETF Peroxide Decomposer Vessel upgrade
 - TEDF Pump Station #2 Generator upgrade
 - ETF Vapor Compressor procurement
 - Load-In Drain System upgrade
 - 310/311-PL Transfer Line upgrade

Issues

- None.

⁵ May not occur in the next 6 months, included for information only.

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).

Field Activities

Significant Past Accomplishments

- Waste disturbing activities:
 - None
- Major field activities:
 - Completed three encasement checks
 - Completed Tank AZ-102 and Tank AW-103 pump and jumper replacements
 - Completed pit heater installation in 10 pits
 - Completed wireless instrumentation in AP Tank Farm and AN Tank Farm (9 pits)
 - Completed safety-significant airflow instrumentation installation in AW Tank Farm and AY/AZ Tank Farm.
 - Removed AP-02A jumper and re-built the connector head.
 - Conducted mock-up training with pump removal tools for AP-02D pump removal

Significant Planned Actions in the Next Six Months

- Waste disturbing activities:
 - None
- Major field activities:
 - Fabricate new and replace AP-02A jumper
 - Remove AP-02D pump
 - Install in-pit heater at AP-02A and AY-01A
 - Install cross-site transfer line permanent power to 6241V
 - Conduct operational acceptance testing of AW Tank Farm and AY/AZ Tank Farm safety-significant airflow installations
 - Conduct startup and turnover of tank farm wireless installations in AN Tank Farm and AP Tank Farm
 - Conduct testing and readiness safety-significant airflow instrumentation.

—

Issues

- None

Double-Shell Tank Integrity

Significant Past Accomplishments

- Completed the enhanced annulus visual inspections for FY 2018. Engineering is currently reviewing the inspection videos and the reports will be updated with results.
- Enhanced annulus visual inspections were completed for the following tanks in FY 2018:

– 241-AP-102	(completed)	– 241-AP-108	(completed)
– 241-AP-103	(completed)	– 241-AW-101	(completed)
– 241-AP-104	(completed)	– 241-AW-102	(completed)
– 241-AP-105	(completed)	– 241-AW-104	(completed).
– 241-AP-106	(completed)		
- Ultrasonic testing inspections were completed for the following tanks in FY 2018:

– 241-AY-101	(completed)
– 241-AZ-101	(completed)
– 241-AZ-102	(completed).

Significant Planned Actions in the Next Six Months

- Continue annual comprehensive inspection of Tank AY-101 annulus. In January 2018, an enhanced annulus visual inspection was done. The next comprehensive inspection of Tank AY-101 is scheduled for 2019
- Ultrasonic testing inspections planned for FY 2019:

– 241-AP-107	(ongoing)
– 241-AP-108	
– 241-AN-102	
- Enhanced annulus visual inspections planned for FY 2019:

– 241-AN-101	– 241-AN-105
– 241-AN-102	– 241-AN-106
– 241-AN-103	– 241-AN-107
– 241-AN-104	– 241-AZ-101

– 241-AZ-102

- Procure/design annulus floor cleaning technology in FY 2019

Issues

- None.

Secondary Liner Integrity

- Perform laboratory testing of secondary liners for corrosion from moisture in the soil and for use of corrosion inhibitors. Both are methods that could be used to protect the secondary liner.
- Completed modeling potential water ingress routes into the annulus systems.
- Completed a visual inspection of the Tank 241-AP-102 annulus floor.
- Perform another ultrasonic test scan of the area in question and additional areas in all four quadrants of the Tank 241-AP-102 annulus; scheduled for FY 2019.⁶
- Investigate and develop nondestructive examination methods, in particular long-range, guided wave ultrasonic testing to support more comprehensive examination capability for double-shell tank bottoms. Field testing could begin as early as FY 2019.⁷

Issues

- None.

Single-Shell Tank Integrity

Significant Past Accomplishments

- The single-shell tank (SST) IQRPE integrity assessment report (RPP-IQRPE-50028) as described in M-045-91I (assessment of structural integrity) was transmitted to ORP on September 20 and forwarded to Ecology on September 26. This is a significant achievement and completes the current series of Tri-Party Agreement (TPA) targets and milestones for the Single-Shell Tank Integrity Project identified in 2011 in change package M-45-10-01. All 20 targets and milestones identified in the change package were completed ahead of schedule. The IQRPE recognized that Single-Shell Tank Integrity Project actions greatly advance the understanding of the SST integrity and support the conclusion that the 149 SSTs are structurally fit for use. The IQRPE recommended the next SST structural integrity assessment be completed in 16 years (2034).
- Completed the CHEM-D-42 leak assessment for Tank S-104, as part of the ongoing evaluation of assumed leaking tanks. The leak assessment team concluded the tank had not leaked and the decades old contamination plume near Tank S-104 was attributed to an

⁶ May not occur in the next 6 months, included for information only.

⁷ May not occur in the next 6 months, included for information only.

overflow of a spare inlet nozzle. The Executive Safety Review Board was briefed and concurred with the findings of the leak assessment team. The leak assessment document was released on October 2, 2018 as RPP-ASMT-62316, *Leak Assessment Report for Tank 241-S-104*, following review with Ecology.

- Completed in-tank video inspections in FY 2018 for tanks B-104, B-105, TX-105, TX-106, TX-109, TX-118, S-107, SX-101, SX-103, SX-105, SX-113, and U-103.
- Released RPP-RPT-60093, *Fiscal Year 2017 Visual Inspection Report for Single-Shell Tanks*, Rev. 0.

Significant Planned Actions in the Next Six Months

- Perform twelve SST visual camera inspections in FY 2019:
 - 241-B-102
 - 241-B-103
 - 241-B-110
 - 241-B-111
 - 241-B-112
 - 241-BX-104
 - 241-U-101
 - 241-U-106
 - 241-U-109
 - 241-SX-114
 - 241-T-108
 - 241-T-202
- Perform three miscellaneous underground storage tank visual camera inspections in FY 2019.
- Perform two TFC-ENG-CHEM-D-42, *Tank Leak Assessment Process*:
 - 241-T-101
 - 241-T-103

Issues

- None

Independent Qualified Registered Professional Engineer Activities

- DST
 - DSTAR (RPP-RPT-58441, Rev. 01) was completed in 2016
 - The next assessment will be in 2026
- SST
 - Completed M-045-9II report RPP-IQRPE-50028, Single-Shell Tank System Structural Integrity Assessment Report.
- Evaporator
 - 242-A Evaporator Assessment Report (RPP-RPT-60098, Rev. 0) was completed in 2018
 - The next assessment is yet to be scheduled
- ETF
 - Released RPP-RPT-60479, Ultrasonic Inspection Results for Effluent Treatment Facility – 2017, Rev. 0, for the independent qualified registered professional engineer (IQRPE).
 - The contract requisition for the Effluent Treatment Facility IQRPE assessment received the required approvals and has been assigned to WRPS Procurement Services for execution. Work will continue on document RPP-PLAN-61349, Effluent Treatment Facility Integrity Program Plan. ETF Engineering and Environmental technical input has been incorporated into the document. The document will support the FY 2019 IQRPE Effluent Treatment Facility integrity assessment.
 - RPP-RPT-61111, *ETF Tank Integrity Program Review of Tank and Vessel Information*, was released. The document is summarized and referenced in RPP-PLAN-61349.
- 219-S
 - 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. Work packages for both the internal visual inspections and ultrasonic testing of the tanks and associated piping have been drafted and are under review.

In-Tank Characterization and Summary

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

Significant Past Accomplishments

Reports completed or released

For October 2018, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-RPT-61104, *Final Analytical Report for Tank 241-AW-102 Grab Samples in Support of Test Bed Initiative Phase 2, Rev. 0*
 - HNF-SD-WM-DQO-001, *Data Quality Objectives for Tank Farm Waste Compatibility Program, Rev. 24*
- Released:
 - None.

Tank Sampling

For October 2018, the following tank sampling was conducted:

- None

Best-Basis Inventory Updates

Best-basis inventory updates for the following tanks were completed in October 2018:

- None

Significant Planned Actions in the Next Six Months

Tank Sampling

- Tank 241-A-105 solids grab sampling is planned for November 2018.
- Tank 241-AW-102 large volume grab sampling is planned for November 2018.
- Tank 241-AP-107 phase 1 large volume grab sampling is planned for November 2018.
- Tank 241-AP-107 phase 2 large volume grab sampling is planned for December 2018.
- Tank 241-AZ-102 leak detector pit grab sampling is planned for November 2018.

- Tank 241-AW-103 grab sampling is planned for January 2019.
- Tank 241-AN-107 grab sampling is planned for March 2019.
- Tank 241-AZ-101 grab sampling is planned for April 2019.

Best-Basis Inventory Updates

Best-basis inventory updates for the following tanks are currently planned to be completed in November 2018:

- 241-AN-107
- 241-AY-101
- 241-S-104
- 241-SX-113
- 241-TY-101
- 241-TY-105
- 241-U-102.

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-C

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 HFFACO 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.

M-045-92V Complete Construction of Barriers 1 (North) and 2 (South) 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. Negotiations began on September 8, 2016.

Significant Past Accomplishments

- Ecology formally approved RPP-RPT-58339, *Phase 2 RCRA Facility Investigation Report for Waste Management Area C*, and RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*, on June 11, 2018.
- Ecology provided its comments on RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*, and RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Action Plan for 241-C-200 Series Tanks*, on June 25, 2018. Ecology's comments are being evaluated by WRPS and ORP.
- 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

- Begin resolution of Ecology's comments on the *Resource Conservation and Recovery Act* tier 1, 2, and 3 closure plans
- Begin resolution of Ecology's comments on the RPP-RPT-59389 and RPP-RPT-59390 closure action plan reports

Issues

- 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 Practicality Demonstration for the Single-Shell Tanks*, DOE/ORP-2014-02," dated August 3, 2015. Ecology provided partial comments on the document, and ORP met with Ecology in November 2017 to discuss path forward. ORP is providing a revision to be included as an appendix to the report.
- Document RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*, was submitted to Ecology September 30, 2015. ORP received partial comments on April 11, 2016. ORP to initiate a meeting for mutual understanding of status.

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. Negotiations began on September 8, 2016.

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 2018

September-18

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$63,247	\$62,566	\$76,125	(\$681)	(\$13,559)	0.99	0.97			
FYTD	\$690,936	\$685,759	\$675,480	(\$5,177)	\$10,279	0.99	1.02	\$690,936		
CTD	\$4,783,726	\$4,754,422	\$4,719,283	(\$29,304)	\$35,140	0.98	1.01	\$5,421,183	\$5,389,976	\$31,207

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.

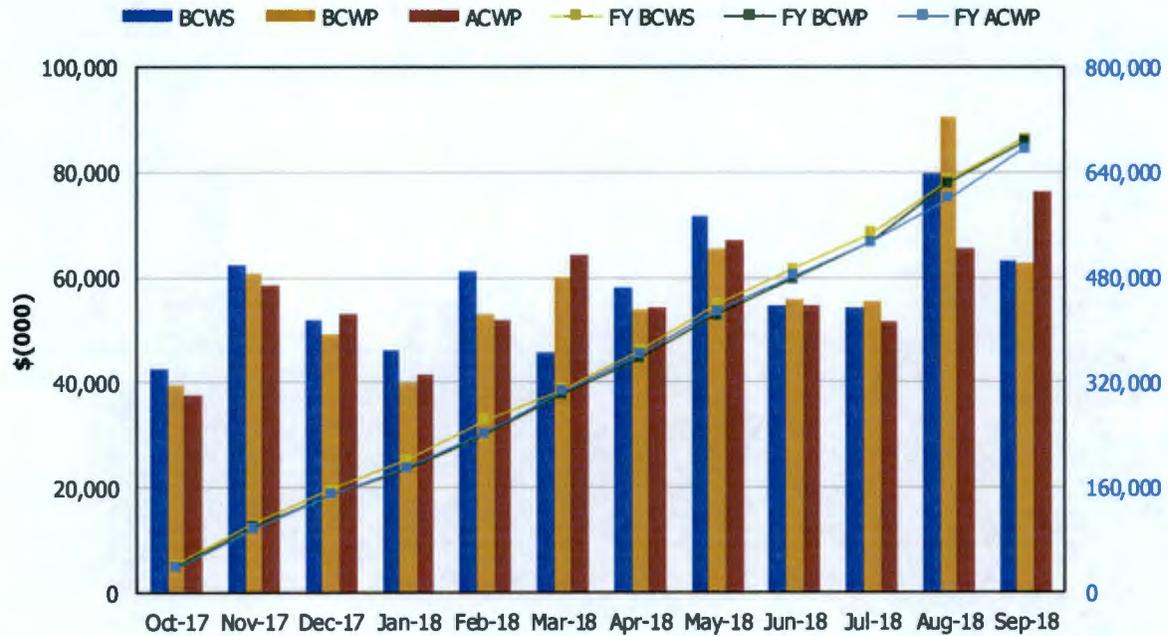
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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, 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 2018

September-18

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 2017	\$42,505	\$39,501	\$37,634	0.93	1.05	\$42,505	\$39,501	\$37,634	0.93	1.05
Nov 2017	\$62,362	\$60,635	\$58,396	0.97	1.04	\$104,867	\$100,136	\$96,029	0.95	1.04
Dec 2017	\$51,860	\$49,124	\$53,170	0.95	0.92	\$156,727	\$149,260	\$149,199	0.95	1.00
Jan 2018	\$46,168	\$39,864	\$41,402	0.86	0.96	\$202,896	\$189,124	\$190,601	0.93	0.99
Feb 2018	\$61,045	\$53,015	\$51,943	0.87	1.02	\$263,940	\$242,139	\$242,544	0.92	1.00
Mar 2018	\$45,861	\$59,989	\$64,439	1.31	0.93	\$309,802	\$302,128	\$306,983	0.98	0.98
Apr 2018	\$58,100	\$53,939	\$54,269	0.93	0.99	\$367,901	\$356,066	\$361,252	0.97	0.99
May 2018	\$71,411	\$65,560	\$66,929	0.92	0.98	\$439,312	\$421,626	\$428,181	0.96	0.98
Jun 2018	\$54,434	\$55,829	\$54,538	1.03	1.02	\$493,746	\$477,456	\$482,718	0.97	0.99
Jul 2018	\$54,121	\$55,192	\$51,392	1.02	1.07	\$547,866	\$532,648	\$534,111	0.97	1.00
Aug 2018	\$79,822	\$90,545	\$65,244	1.13	1.39	\$627,689	\$623,193	\$599,355	0.99	1.04
Sep 2018	\$63,247	\$62,566	\$76,125	0.99	0.82	\$690,936	\$685,759	\$675,480	0.99	1.02
CTD	\$4,783,726	\$4,754,422	\$4,719,283	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.

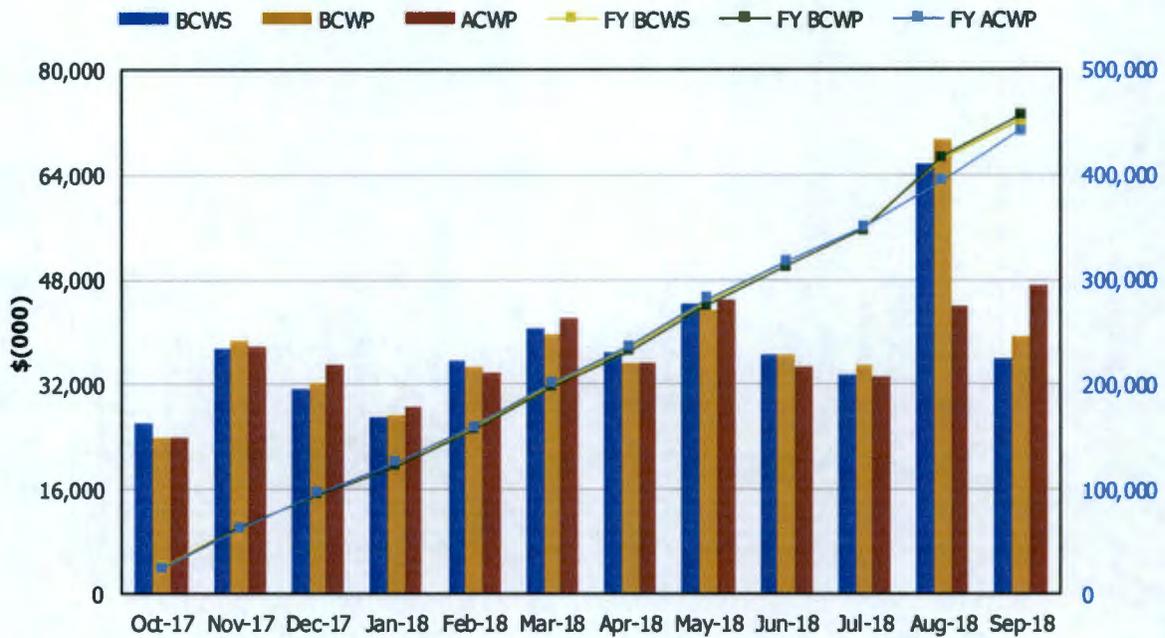
CM current month.
 CTD contract to date.
 FY fiscal year.
 SPI schedule performance index.

Earned Value Data: Fiscal Year 2018

September-18

**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 2017	\$25,995	\$23,854	\$24,021	0.92	0.99	\$25,995	\$23,854	\$24,021	0.92	0.99
Nov 2017	\$37,542	\$38,850	\$37,961	1.03	1.02	\$63,537	\$62,704	\$61,982	0.99	1.01
Dec 2017	\$31,376	\$32,304	\$35,027	1.03	0.92	\$94,913	\$95,008	\$97,009	1.00	0.98
Jan 2018	\$26,992	\$27,266	\$28,456	1.01	0.96	\$121,905	\$122,274	\$125,465	1.00	0.97
Feb 2018	\$35,800	\$34,837	\$33,927	0.97	1.03	\$157,704	\$157,111	\$159,392	1.00	0.99
Mar 2018	\$40,641	\$39,755	\$42,150	0.98	0.94	\$198,346	\$196,865	\$201,541	0.99	0.98
Apr 2018	\$36,747	\$35,279	\$35,441	0.96	1.00	\$235,093	\$232,144	\$236,982	0.99	0.98
May 2018	\$44,456	\$43,494	\$45,066	0.98	0.97	\$279,549	\$275,638	\$282,047	0.99	0.98
Jun 2018	\$36,632	\$36,623	\$34,880	1.00	1.05	\$316,181	\$312,262	\$316,927	0.99	0.99
Jul 2018	\$33,594	\$34,954	\$33,082	1.04	1.06	\$349,775	\$347,216	\$350,009	0.99	0.99
Aug 2018	\$65,564	\$69,282	\$44,135	1.06	1.57	\$415,338	\$416,499	\$394,145	1.00	1.06
Sep 2018	\$36,111	\$39,373	\$46,997	1.09	0.84	\$451,449	\$455,872	\$441,142	1.01	1.03

CTD	\$3,176,653	\$3,162,617	\$3,115,527	1.00	1.02
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ACWP actual cost of work performed.
 BCWP budgeted cost of work performed.
 BCWS budgeted cost of work scheduled.
 CPI cost performance index.

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

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

5.01 – Base Operations

The September 2018 variances below do not impact TPA milestones.

The **favorable** SV of \$3,262,300 is primarily due to.

- Schedule recovery related to removal and the installation of the Tank AW-103 transfer pump.
- Schedule recovery associated with completion of the third 1-million gallon Effluent Treatment Facility (ETF) waste volume reduction campaign in FY 2018.

The **unfavorable** CV of (\$7,624,500) is primarily due to:

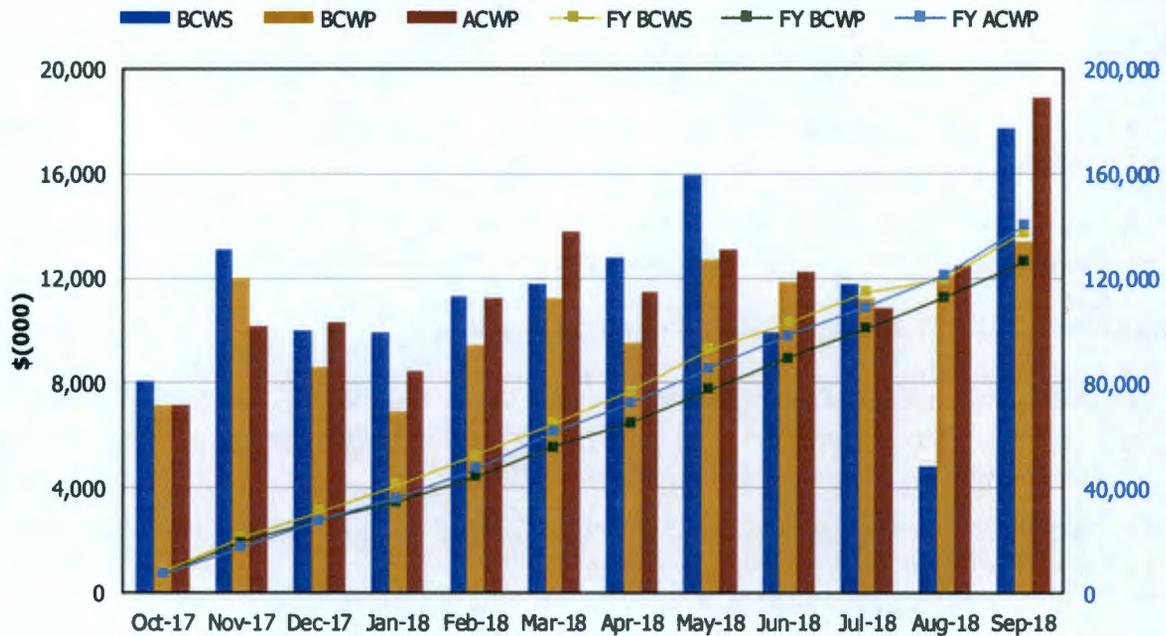
- Additional resources required to support the Vapor Monitoring & Detection System Upgrades (Stack Monitors). Challenging field conditions required more resources than were originally planned for the field installations.
- Increases in resources were required for unforeseen maintenance and testing at the ETF, specifically on the ETF polisher system.

Earned Value Data: Fiscal Year 2018

September-18

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 2017	\$8,053	\$7,119	\$7,127	0.88	1.00	\$8,053	\$7,119	\$7,127	0.88	1.00
Nov 2017	\$13,058	\$11,996	\$10,119	0.92	1.19	\$21,111	\$19,115	\$17,246	0.91	1.11
Dec 2017	\$9,964	\$8,572	\$10,318	0.86	0.83	\$31,075	\$27,686	\$27,563	0.89	1.00
Jan 2018	\$9,940	\$6,911	\$8,464	0.70	0.82	\$41,015	\$34,597	\$36,027	0.84	0.96
Feb 2018	\$11,310	\$9,456	\$11,225	0.84	0.84	\$52,326	\$44,053	\$47,252	0.84	0.93
Mar 2018	\$11,787	\$11,248	\$13,799	0.95	0.82	\$64,113	\$55,301	\$61,051	0.86	0.91
Apr 2018	\$12,763	\$9,509	\$11,495	0.75	0.83	\$76,875	\$64,810	\$72,546	0.84	0.89
May 2018	\$15,972	\$12,694	\$13,076	0.79	0.97	\$92,848	\$77,504	\$85,622	0.83	0.91
Jun 2018	\$9,930	\$11,819	\$12,233	1.19	0.97	\$102,778	\$89,323	\$97,855	0.87	0.91
Jul 2018	\$11,803	\$11,257	\$10,812	0.95	1.04	\$114,581	\$100,580	\$108,667	0.88	0.93
Aug 2018	\$4,836	\$12,075	\$12,438	2.50	0.97	\$119,416	\$112,655	\$121,105	0.94	0.93
Sep 2018	\$17,752	\$13,412	\$18,841	0.76	0.71	\$137,168	\$126,068	\$139,946	0.92	0.90
CTD	\$940,739	\$930,730	\$978,498	0.99	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

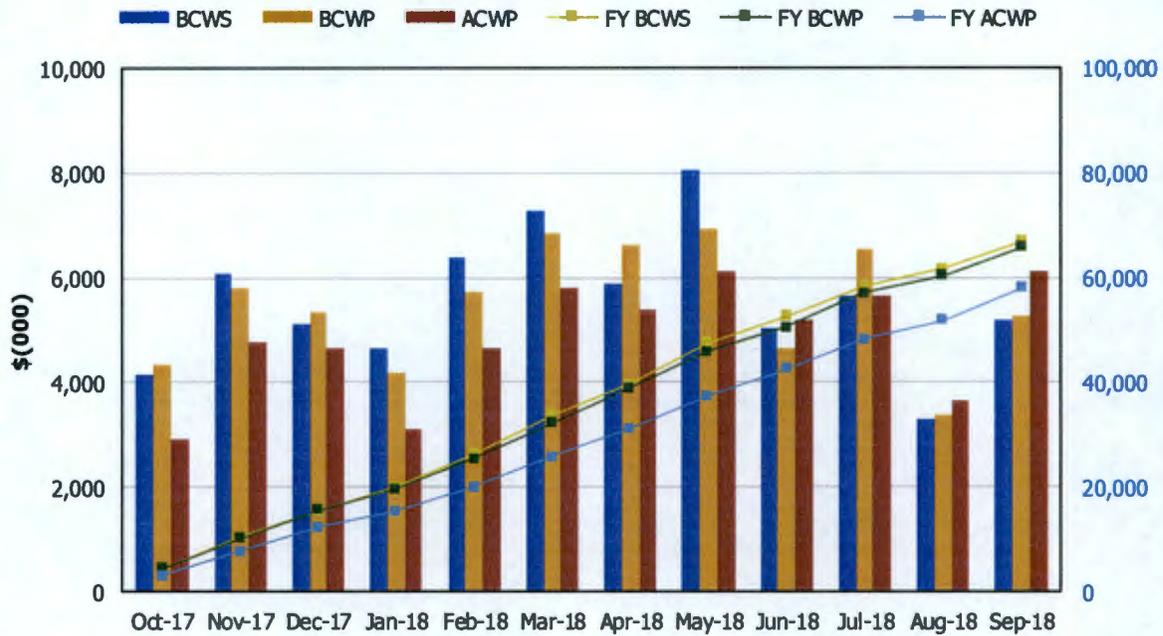
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2018

September-18

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 2017	\$4,163	\$4,326	\$2,909	1.04	1.49	\$4,163	\$4,326	\$2,909	1.04	1.49
Nov 2017	\$6,068	\$5,798	\$4,754	0.96	1.22	\$10,231	\$10,124	\$7,663	0.99	1.32
Dec 2017	\$5,132	\$5,334	\$4,651	1.04	1.15	\$15,363	\$15,458	\$12,314	1.01	1.26
Jan 2018	\$4,660	\$4,193	\$3,092	0.90	1.36	\$20,023	\$19,651	\$15,406	0.98	1.28
Feb 2018	\$6,383	\$5,712	\$4,641	0.89	1.23	\$26,406	\$25,363	\$20,047	0.96	1.27
Mar 2018	\$7,279	\$6,836	\$5,798	0.94	1.18	\$33,685	\$32,199	\$25,845	0.96	1.25
Apr 2018	\$5,875	\$6,634	\$5,394	1.13	1.23	\$39,560	\$38,833	\$31,238	0.98	1.24
May 2018	\$8,060	\$6,934	\$6,112	0.86	1.13	\$47,620	\$45,767	\$37,351	0.96	1.23
Jun 2018	\$5,047	\$4,665	\$5,173	0.92	0.90	\$52,667	\$50,433	\$42,524	0.96	1.19
Jul 2018	\$5,653	\$6,523	\$5,656	1.15	1.15	\$58,320	\$56,955	\$48,179	0.98	1.18
Aug 2018	\$3,306	\$3,393	\$3,662	1.03	0.93	\$61,626	\$60,348	\$51,841	0.98	1.16
Sep 2018	\$5,203	\$5,281	\$6,124	1.02	0.86	\$66,828	\$65,629	\$57,965	0.98	1.13
CTD	\$499,585	\$495,948	\$454,776	0.99	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.

One System Division Director: Joni Grindstaff
Federal Program Manager: Kaylin Burnett

5.03 – Waste Feed Delivery/Treatment

The September 2018 variances below do not impact TPA milestones.

The **favorable** SV of \$78,200 was primarily due to:

- The variance is below the reporting threshold.

The **unfavorable** CV of (\$843,000) was primarily due to:

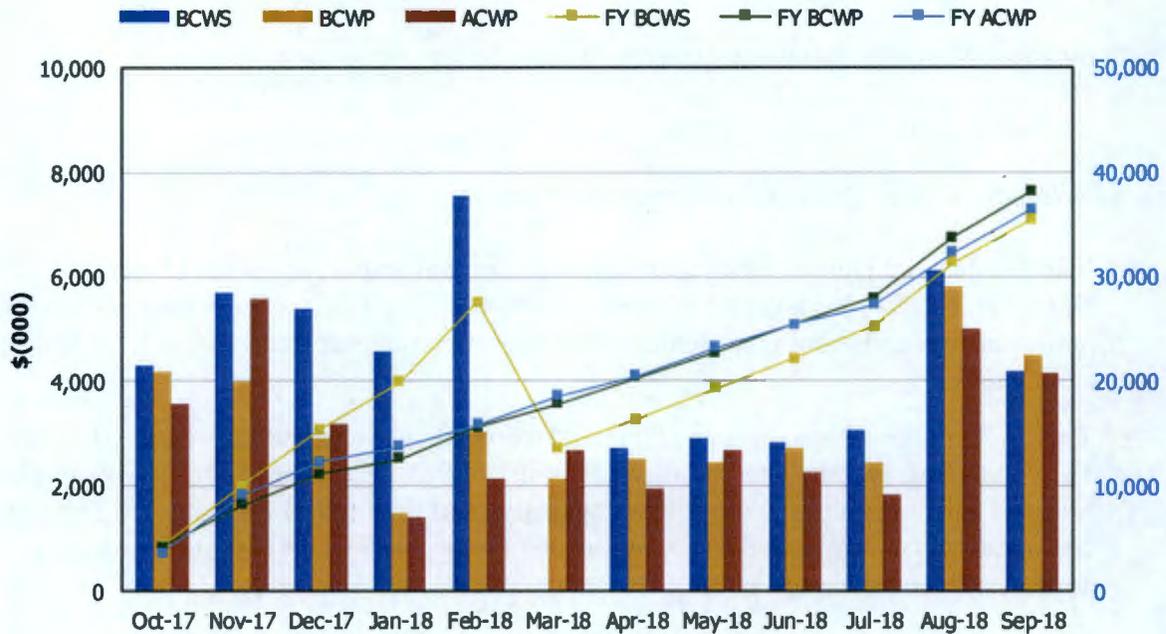
- The Waste Feed Delivery Project required additional resources for the Under Double-Shell Tank (DST) Non-Visual Inspection Effectiveness Testing to develop and review sensor design and robotic implementation options to support the non-visual inspections on the tanks.
- Pacific Northwest National Lab (PNNL) Advanced Glass/Single Pass Flow-Through (SPFT) testing and analysis samples cost more due to the complexity of glass samples, and additional resources to complete the analysis of the final SPFT samples. This cost variance does not impede the progress of remaining work, as overall, the project is forecasted to be underspent.

Earned Value Data: Fiscal Year 2018

September-18

**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 2017	\$4,294	\$4,202	\$3,576	0.98	1.17	\$4,294	\$4,202	\$3,576	0.98	1.17
Nov 2017	\$5,693	\$3,992	\$5,562	0.70	0.72	\$9,988	\$8,193	\$9,139	0.82	0.90
Dec 2017	\$5,389	\$2,914	\$3,174	0.54	0.92	\$15,377	\$11,108	\$12,313	0.72	0.90
Jan 2018	\$4,576	\$1,494	\$1,391	0.33	1.07	\$19,953	\$12,601	\$13,704	0.63	0.92
Feb 2018	\$7,552	\$3,010	\$2,150	0.40	1.40	\$27,504	\$15,612	\$15,854	0.57	0.98
Mar 2018	(\$13,846)	\$2,151	\$2,692	-0.16	0.80	\$13,658	\$17,762	\$18,546	1.30	0.96
Apr 2018	\$2,715	\$2,517	\$1,940	0.93	1.30	\$16,373	\$20,279	\$20,485	1.24	0.99
May 2018	\$2,922	\$2,437	\$2,675	0.83	0.91	\$19,295	\$22,716	\$23,160	1.18	0.98
Jun 2018	\$2,825	\$2,722	\$2,252	0.96	1.21	\$22,121	\$25,438	\$25,412	1.15	1.00
Jul 2018	\$3,071	\$2,458	\$1,838	0.80	1.34	\$25,192	\$27,896	\$27,250	1.11	1.02
Aug 2018	\$6,117	\$5,795	\$5,009	0.95	1.16	\$31,309	\$33,691	\$32,259	1.08	1.04
Sep 2018	\$4,182	\$4,500	\$4,162	1.08	1.08	\$35,491	\$38,191	\$36,421	1.08	1.05
CTD	\$146,639	\$145,017	\$151,315	0.99	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: Rob Hastings
Deputy Federal Project Director: Janet Diediker

5.05 – Treat Waste

The September 2018 variances below do not impact the TPA milestones.

The **favorable** SV of \$317,900 is due to:

- Completion of the tank side cesium removal 30 percent design. The 30 percent design was originally planned to complete in August so completion in the current period recovers the unfavorable SV from August.

The **favorable** CV of \$337,500 is due to:

- The architect engineer's (A/E) ramping down of resources in response to the letter of direction received from DOE-ORP on July 5, 2018, which suspended the LAWPS permanent facility design pending project re-evaluation beginning as early as 2021.