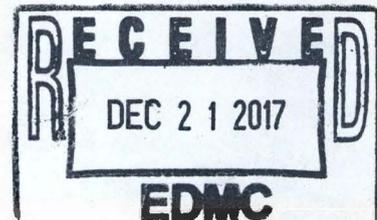
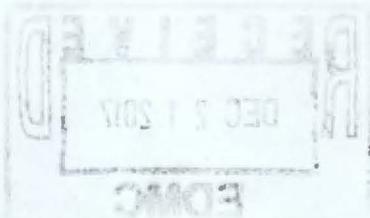

FINAL
Office of River Protection
Tri-Party Agreement
Report
December¹ 2017



¹ The narrative descriptions of progress in this report cover the period from November 1-30, 2017. Earned Value Management System data and descriptions cover the period of October 1-31 2017.

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Acronyms and Abbreviations

CR	change request
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
IQRPE	independent qualified registered professional engineer
LAWPS	Low-Activity Waste Pretreatment System
LERF	Liquid Effluent Retention Facility
ORP	U.S. Department of Energy, Office of River Protection
RCRA	<i>Resource Conservation and Recovery Act</i>
SST	single-shell tank
SV	schedule variance
System Plan 8	<i>River Protection Project System Plan, Rev. 8</i>
TPA	Tri-Party Agreement
WMA-C	C Tank Farm waste management area
WRPS	Washington River Protection Solutions LLC
WTP	Waste Treatment and Immobilization Plant

Administrative Items/Milestone Status

Milestone	Title	Due Date	TPA Project Manager	Status/ Completion Date
Prior Years				
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	Pfaff, Stephen H	In Abeyance
M-062-45-ZZ	Negotiate a One Time Supplemental Treatment Selection	04/30/2015	Pfaff, Stephen H	In Abeyance
M-062-45-ZZ-A	Convert the M-062-31-T01 Through M-062-34-T01 to Interim Milestones	04/30/2015	Pfaff, Stephen H	In Abeyance
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016	Diediker, Janet A	In Abeyance
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016	Diediker, Janet A	In Abeyance
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	Pfaff, Stephen H	In Abeyance
M-045-62	Submit to Ecology the draft Tier 3 closure plans to implement corrective measures	TBD ¹	Bovier, Jan B	On Schedule
M-045-83	Complete the Closure of WMA-C	TBD ¹	Bovier, Jan B	On Schedule
Fiscal Year 2018				
M-062-40F	Submit System Plan	10/31/2017	Burnett, Kaylin W	Completed 10/31/2017

Milestone	Title	Due Date	TPA Project Manager	Status/ Completion Date
M-062-32-T01	Start Construction of Supplemental Vitrification Treatment Facility and/or WTP Enhancements	04/20/2018	Pfaff, Stephen H	In Abeyance
M-045-92O	Barrier 3 Design/Monitoring Plan Submitted to Ecology	06/30/2018	Bovier, Jan B	On Schedule
M-045-56N	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2018	Bovier, Jan B	On Schedule
M-045-91I	Provide IQRPE Certification of SSTs Structural Integrity	09/30/2018	Stewart, Dustin M	On Schedule
M-045-92T	Barrier 3 Design/Monitoring Plan Approved by Ecology	09/30/2018	Bovier, Jan B	On Schedule
Fiscal Year 2019				
M-045-92N	Complete Construction of Barriers 1 and 2 in 241-SX Farm	10/31/2018	Bovier, Jan B	On Schedule
M-045-92Q	Barrier 4 Design/Monitoring Plan Submitted to Ecology	06/30/2019	Bovier, Jan B	On Schedule
M-045-56O	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2019	Bovier, Jan B	On Schedule
M-045-91E3	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2019	Johnson, Jeremy M	On Schedule
M-045-92U	Barrier 4 Design/Monitoring Plan Approved by Ecology	09/30/2019	Bovier, Jan B	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.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

IQRPE = independent qualified registered professional engineer.

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

One System Division Director: Jon Peschong

Federal Program Manager: Kaylin Burnett

Significant Past Accomplishments

- The U.S. Department of Energy (DOE), Office of River Protection (ORP) provided ORP-11242, *River Protection System Plan, Rev. 8 (System Plan 8)* document to the Washington Department of Ecology (Ecology) on October 31, 2017.

Significant Planned Actions in the Next Six Months

- Continue negotiations of the M-062-45 and related milestones with intent to utilize information from System Plan 8.

Issues

- None.

Acquisition of New Facilities

Tank Farms Assistant Manager: Glyn Trenchard

Deputy Federal Project Director: Janet Diediker

- M-047-07** **CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology**
Due: March 31, 2016.
Status: In Abeyance. Decision document 2016-005, *Hanford Federal Facility Agreement and Consent Order Integrity Management Integration Team (IAMIT) Decision / Determination / Action Agreement*, signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-090-13** **CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY**
Due: March 31, 2016.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-090-00** **Acquire/Modify Facilities for Storage of Immobilized High-Level Waste (IHLW)**
Due: December 31, 2019.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-047-00** **Complete Work Necessary to Provide Facilities for Management of Secondary Waste from the Waste Treatment and Immobilization Plant (WTP)**
Due: December 31, 2022.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

Issues

- Negotiations on the items identified in the M-062-45 milestone began on September 8, 2016, in accordance with a decision by the Interagency Management Integration Team.

Supplemental Treatment and Part B Permit Applications

Tank Farms Assistant Manager: Glyn Trenchard

Federal Project Director: Steve Pfaff

- M-062-45-T01** **Every six years, within six months after last revision of the System Plan, negotiate tank waste retrieval sequencing**
Due: April 30, 2015.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-062-45-ZZ** **(designation for M-062-45 item 3), Negotiate a one-time supplemental treatment selection**
Due: April 30, 2015.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-062-45-ZZ-A** **Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones**
Due: April 30, 2015.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-062-31-T01** **Complete final design and submit Resource Conservation and Recovery Act Part B permit modification request**
Due: April 30, 2016.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-062-32-T01** **Start construction of supplemental vitrification treatment facility and/or WTP enhancements**
Due: April 30, 2018.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.
- M-062-33-T01** **Complete construction of supplemental vitrification treatment facility and/or WTP enhancements**
Due: April 30, 2021.
Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.

M-062-45-XX **No later than December 31, 2021, the DOE and Ecology shall complete negotiations to establish a mechanism that will apply to resolve future disputes regarding the determinations in M-062-45, paragraphs 4 and 5**
Due: December 31, 2021.

Status: On schedule.

M-062-34-T01 **Complete hot commissioning of supplemental vitrification treatment facility and/or WTP enhancements**

Due: December 30, 2022.

Status: In Abeyance. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.

M-062-21 **Annually submit data that demonstrates operation of the WTP**

Due: February 28, 2023.

Status: At risk.

M-062-00 **Complete Pretreatment Processing and Vitrification of High-Level Waste and LAW Tank Wastes**

Due: December 31, 2047.

Status: At risk.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

Issues

- Negotiations on the items identified in the M-062-45 milestone began on September 8, 2016, in accordance with a decision by the Interagency Management Integration Team.

Low-Activity Waste Pretreatment System

Tank Farms Assistant Manager: Glyn Trenchard

Federal Project Director: Steve Pfaff

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

Significant Past Accomplishments

- ORP received letter WRPS-1704226, “WRPS Submittal of the Design Description and Total Project Cost Estimate to Implement an Optimized Low-Activity Waste Pretreatment System Design Strategy,” dated November 15, 2017.
- ORP issued letter 17-TF-0096, “Contract No. DE-AC27-08RV14800 – U.S. Department of Energy, Office of River Protection, Direction to Suspend Selected Low-Activity Waste Pretreatment System Design and Testing Activities,” dated November 16, 2017. This letter requested a contract change proposal for a simplified Low-Activity Waste Pretreatment System (LAWPS) facility design description and total project cost estimate that still meets mission objectives and directed Washington River Protection Solutions LLC (WRPS) to suspend certain LAWPS design and testing activities.
- WRPS initiated work activities/proposal development for tank-side cesium removal and the optimized LAWPS facility, both using a nonelutable ion exchange media. In addition, AP Tank Farm upgrades are required to support both tank-side cesium removal and LAWPS.
- In follow-up to his letter of September 20, 2017, Principal Deputy Assistant Secretary for the DOE Office of Environmental Management, James Owendoff met with Maia Bellon, Director of Ecology, on November 9, 2017, to discuss potential initiatives to accelerate cleanup of the Hanford Site. Several of these potential initiatives were discussed at that meeting, including but not limited to, use of tank-side cesium removal to supply feed to the Low-Activity Waste facility, coupled with a redesign of the LAWPS. Director Bellon responded by letter dated November 17, 2017, indicating Ecology’s willingness to participate in further discussions. DOE provided a response to Ecology on December 1, 2017; this letter will be addressed in a future report.

Significant Planned Actions in the Next Six Months

- WRPS to continue design development of the optimized LAWPS facility with a nonelutable ion exchange media.
- WRPS to submit proposal for the optimized LAWPS facility with nonelutable ion exchange media.
- WRPS to submit proposal for a technology demonstration of a tank-side cesium removal capability.

Issues

- None.

242-A Evaporator Status

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Paul Hernandez

The 242-A Evaporator campaign strategy for fiscal year (FY) 2018 is in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
2018	EC-08	Blend of AP-106 AP-107	AP-103	242-A Evaporator campaign EC-08 will require blending of waste in Tank AW-102, sampling, and sample analysis prior to campaign start. The Tank AP-106 portion of waste was transferred to Tank AW-102 during November 2017. Tank AW-102 grab samples were taken and shipped to the 222-S Lab for analysis.
2018	EC-09	Blend of AP-106 AP-108	AP-104	242-A Evaporator campaign EC-09 will require blending of waste in Tank AW-106, sampling, and sample analysis prior to campaign start. In addition, the waste will need to be transferred from Tank AW-106 to Tank AW-102 after EC-08 completes.

kgal = thousand gallons.

WVR = waste volume reduction.

Significant Past Accomplishments

- Completed staging waste in Tank AW-102 for EC-08 campaign
- Initiated sampling from Tank AW-102 to allow sample analysis to begin prior to the EC-08 campaign
- Completed required annual electrical preventive maintenance activities
- Continued replacement of control room air conditioning units.

Significant Planned Actions in the Next Six Months

- Establish the future campaign and outage scheduling
- Install new effluent sampling station
- Replace outdated fire alarm control panel
- Clear flammable gas air purge line.

Issues

- The flammable gas purge air line for the safety instrumented system began to plug slightly during and following the EC-06 Evaporator campaign. Efforts to unplug the line are ongoing.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Richard Valle

The Liquid Effluent Retention Facility (LERF) liquid levels, inventory, and received waste are shown in the table below. Volumes in this 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 Nov. 30, 2017)	~ 2.76 Mgal	~ 4.36 Mgal	~ 7.36 Mgal

Waste Received			
AZ-301 Tanker Shipments	~ 6,500 gal	-	-
MWT-31 and 34 Leachate	~ 21,000 gal	-	~ 7,000 gal
Other (e.g. Totes, Modutank, SWLL)	~ 36,000 gal	-	~ 45,000 gal
242-A Evaporator Campaigns	-	-	-

gal = gallon.
Mgal = million gallons.
MWT = mixed waste trench.
SWLL = solid waste landfill liner.

Significant Past Accomplishments

- Total FY 2018 volume processed (as of November 30, 2017): approximately 190,000 gallons
- Completed replacement of the LERF Basin 44 transfer pump
- Began the inter-basin transfer of the contents from LERF Basin 42 into LERF Basin 43 to allow for cover replacement project fieldwork in spring 2018
- Began required tank inspections (Concentrate Tank-B, Secondary Waste Receiving Tank-B, and Surge Tank).

Significant Planned Actions in the Next Six Months

- Initiate LERF Basin 44 waste processing through the Effluent Treatment Facility (ETF)
- Begin second LERF basin cover replacement project (project support and design).

Issues

- An electrical event occurred at the thin film dryer boiler shutting down dryer operations. Evaluation and repairs to the system are ongoing.

Tank System Update

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Dusty Stewart

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

Significant Past Accomplishments

Double-Shell Tank (DST) Integrity:

- WRPS is in the process of placing contracts for FY 2018 corrosion testing. Emphasis this year is on new specification development to accommodate direct-feed low-activity waste returns and secondary liner testing.
- The Tank AP-106 level rise test confirming primary tank leak-tightness between the existing 422-inch maximum operating level and 458-inch was satisfactorily completed, gaining 96.8 kgal of additional storage space.

Significant Planned Actions in the Next Six Months:

- Enhanced annulus visual inspections are planned for these tanks in FY 2018:
 - 241-AP-102
 - 241-AP-103
 - 241-AP-104
 - 241-AP-105
 - 241-AP-106
 - 241-AP-108
 - 241-AW-101
 - 241-AW-102
 - 241-AW-104.
- Ultrasonic testing inspections are planned for these tanks in FY 2018:
 - 241-AY-101
 - 241-AZ-101
 - 241-AP-107.
- Continuing bi-weekly inspections of Tank AY-102 waste accumulation site.
- Continuing bi-monthly comprehensive inspection of Tank AY-102 annulus.
- Continuing annual comprehensive inspection of Tank AY-101 annulus.
- Enhanced annulus visual inspections are in progress at Tank AY-101. Planning is underway to resume inspection of Tank AZ-101 secondary liner.

- Secondary Liner
 - Perform laboratory testing of secondary liner 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.
 - Model potential water ingress routes into the annulus system: ongoing.
 - Perform a visual inspection of the Tank 241-AP-102 annulus floor; scheduled for 2018.
 - 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 2019.²
 - Investigate and develop nondestructive examination methods, in particular long-range, guided wave ultrasonic testing to support more comprehensive tank bottom examination capability. Field testing could be as early as FY 2019.³

Single-Shell Tank (SST) Integrity:

Significant Past Accomplishments:

- WRPS awarded the contract for the single-shell tank (SST) integrity assessment project as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering. The integrity assessment activities are underway.

Significant Planned Actions in the Next Six Months:

Work planning for FY 2018 in-tank video inspections is in process, and is expected to involve 12 tanks.

- The following in-tank video inspections are planned for FY 2018:

– 241-B-104	– 241-TX-105
– 241-B-105	– 241-TX-106
– 241-S-107	– 241-TX-109
– 241-SX-101	– 241-TX-118
– 241-SX-103	– 241-U-103
– 241-SX-105	
– 241-SX-113.	

Independent Qualified Registered Professional Engineer Activities

- WRPS completed review of the independent qualified registered professional engineer's (IQRPE) final draft of the 242-A Evaporator integrity assessment and submitted review comments to the IQRPE.
- Work continues on RPP-PLAN-61349, *Effluent Treatment Facility Integrity Program Plan*. The plan will support the FY 2019 IQRPE ETF integrity assessment.

² Will not occur in the next six months, included for information only.

³ Will not occur in the next six months, included for information only.

- Ultrasonic thickness scanning of ETF tanks is complete and Pacific Northwest National Laboratory has completed statistical analysis of the data.
- The contract for the IQRPE integrity assessment of the 219-S facility at the 222-S Laboratory was awarded to Meier Architecture Engineering. The RPP-PLAN-61634, *219-S Integrity Assessment Plan*, will guide the assessment. An initial kickoff with Meier was held on November 15, 2017.
- WRPS awarded the contract for the SST integrity assessment project as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering. The integrity assessment activities are underway.

Issues:

Double-Shell Tank Integrity:

- None.

Single-Shell Tank Integrity:

- None.

Single-Shell Tank Integrity Assurance

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Dusty Stewart

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

M-045-91I **Provide to Ecology an Independent, Qualified, Registered Professional Engineer (IQRPE) certification of single-shell tanks (SST) structural integrity for the remainder of the mission, or for such time as the IQRPE believes he/she can reasonably certify.**

Due: September 30, 2018.

Status: On schedule.

Significant Past Accomplishments

- The RPP-PLAN-61510, *Single-Shell Tank Structural Integrity Assessment Plan*, for the 2018 SST IQRPE report was released. WRPS awarded the contract for the SST integrity assessment project as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering. The integrity assessment kickoff meetings were completed on September 11, 2017.

Significant Planned Actions in the Next Six Months

- IQRPE to continue development of the SST integrity assessment.

Issues:

- None.

In-Tank Characterization and Summary

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Dusty Stewart

Significant Past Accomplishments

For the period from November 1 through November 30, the following reports were completed (internal access only) or released (external access):

- Released RPP-RPT-44049, *Derivation of Best-Basis Inventory for Tank 241-AZ-102 as of October 1, 2017*, Rev. 11.
- Released RPP-RPT-55192, *Derivation of Best-Basis Inventory for Tank 241-AW-103 as of October 1, 2017*, Rev. 1.
- Released RPP-RPT-60487, *Derivation of Best-Basis Inventory for Tank 241-SX-108 as of October 1, 2017*, Rev. 0.
- Released RPP-RPT-59838, *Derivation of Best-Basis Inventory for Tank 241-BY-109 as of November 1, 2017*, Rev. 1.
- Released RPP-RPT-60474, *Derivation of Best-Basis Inventory for Tank 241-S-104 as of November 1, 2017*, Rev. 0.
- Released RPP-RPT-59887, *Derivation of Best-Basis Inventory for Tank 241-BX-107 as of November 1, 2017*, Rev. 1.
- Released RPP-RPT-60434, *Derivation of Best-Basis Inventory for Tank 241-SX-105 as of November 1, 2017*, Rev. 0.
- Released RPP-RPT-60473, *Derivation of Best-Basis Inventory for Tank 241-S-110 as of November 1, 2017*, Rev. 0.
- Released RPP-RPT-51224, *Derivation of Best-Basis Inventory for Tank 241-TX-101 as of November 1, 2017*, Rev. 1.
- Released RPP-RPT-51225, *Derivation of Best-Basis Inventory for Tank 241-TX-105 as of November 1, 2017*, Rev. 1.
- Completed RPP-PLAN-61763, *Tank 241-AW-102 Grab Sampling and Analysis Plan in Support of Evaporator Campaign EC-08*, Rev. 0.
- Completed RPP-RPT-60210, *Data Quality Objectives to Support Best-Basis Inventory (BBI)*, Rev. 0.
- Released HNF-EP-0182, *Waste Tank Summary Report for Month October 31, 2017*, Rev. 358. Available for public review.
- Released RPP-RPT-60387, *Tank 241-AY-102 Monthly Monitoring Report August 2017*, Rev. 0.

- Released RPP-RPT-60435, *Tank 241-AY-102 Monthly Monitoring Report September 2017*, Rev. 0.
- Completed 241-C-105 in-process liquid grab sampling November 2, 2017. Two samples were received at the laboratory.
- Completed 241-AP-107 liquid grab sampling November 8, 2017. Eight samples were received at the laboratory.
- Completed 241-AW-102 liquid grab sampling on November 30, 2017. Fourteen samples were received at the laboratory.

Significant Planned Actions in the Next Six Months

Tank sampling:

- Tank 241-AP-106 solids grab sampling is planned for January 2018.
- Tank 241-AY-102 solids grab sampling is planned for February 2018.
- Tank 241-AW-106 liquid grab sampling is planned for March 2018.
- Tank 241-AW-105 liquid grab sampling is planned for March 2018.
- Tank 241-A-104 solids grab sampling is planned for May 2018.
- Tank 241-A-105 solids grab sampling is planned for June 2018.

Best-Basis Inventory Updates

Best-basis inventory updates for the following tanks were completed in November 2017:

- 241-AW-103
- 241-AZ-101
- 241-AZ-102
- 241-BX-107
- 241-BY-109
- 241-S-104.
- 241-S-110
- 241-SX-105
- 241-SX-108
- 241-TX-101
- 241-TX-105

Best-basis inventory updates for the following tanks are currently planned to be completed in December 2017:

- 241-AP-107
- 241-AW-102
- 241-AW-106
- 241-SX-103.
- 241-TX-109
- 241-U-107
- 241-U-110

Data Quality Objectives Updates

- Completed RPP-RPT-60210, *Data Quality Objectives to Support Best-Basis Inventory (BBI)*, Rev. 0.

Issues

- None.

Single-Shell Tank Closure Program

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Jan Bovier

- M-045-59** **Control surface water infiltration pathways as 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, Milestone M-45-58, and implementation of other interim corrective measures)**
Due: To be determined.
Status: To be determined.
- M-045-62** **Submit to Ecology for review, in accordance with HFFACO Action Section 9.2.2, the draft Tier 3 closure plan to implement corrective measures identified in the approved Phase 2 Corrective Measures Implementation Work Plan (CMIP) for WMA-C.**
Due: To be established in accordance with the date identified in the M-45-82 Tier 2 closure plan.
Status: On schedule.
- M-045-83** **Complete the Closure of WMA-C - by completing all closure activities specified in the Tier 2 closure plan, not including activities specifically described in the Tier 2 closure plan as requiring integration with closure of other WMAs**
Due: To be established in accordance with the date identified in the M-45-82 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: Complete (March 14, 2017). Negotiations initiated on March 14, 2017.
Note: Decision on location of next WMA to be closed needs to be finalized.
- M-045-92O** **Barrier 3 Design and Monitoring Plan submitted to Ecology**
Due: June 30, 2018.
Status: On schedule.
- M-045-92T** **Barrier 3 Design and Monitoring Plan approved by Ecology**
Due: September 30, 2018.
Status: On schedule.
- M-045-92N** **Complete construction of Barriers 1 and 2 in SX Farm**
Due: October 31, 2018.
Status: On schedule.

- M-045-92Q** **Barrier 4 Design and Monitoring Plan submitted to Ecology**
Due: June 30, 2019.
Status: On schedule.
- M-045-92U** **Barrier 4 Design and Monitoring Plan approved by Ecology**
Due: September 30, 2019.
Status: On schedule.
- M-045-92P** **Complete construction of Barrier 3**
Due: October 31, 2019.
Status: On schedule.
- M-045-92R** **Complete construction of Barrier 4**
Due: October 31, 2020.
Status: On schedule.
- M-045-85** **Initiate negotiations to establish HFFACO interim milestones for closure of remaining SST WMAs**
Due: January 31, 2022.
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. Negotiations began on September 8, 2016.

Significant Past Accomplishments

- Working on the resolution of Ecology's review comments on the Waste Management Area C performance assessment.
- Began construction of the evapotranspiration basin and associated piping for the SX Tank Farm interim surface barriers. Ecology toured the construction site on November 7, 2017.
- Agreed to locations for interim barrier 3 (TX Tank Farm) and interim barrier 4 (U Tank Farm) (Milestone M-045-92S).
- In follow-up to his letter of September 20, 2017, Principal Deputy Assistant Secretary for the DOE Office of Environmental Management James Owendoff met with Maia Bellon, Director of Ecology, on November 9, 2017, to discuss potential initiatives to accelerate cleanup of the Hanford Site. Several of these potential initiatives were discussed at that meeting, including but not limited to, closure of C Tank Farm. Director Bellon responded by letter dated November 17, 2017, indicating Ecology's willingness to participate in further discussions. DOE provided a response to Ecology on December 1, 2017; this letter will be addressed in a future report.

Significant Planned Activities in the Next Six Months

- Begin resolution of Ecology's comments on the *Resource Conservation and Recovery Act (RCRA)* Tier 1, 2, and 3 closure plans.
- Begin resolution of Ecology's comments on the RCRA Facility Investigation report and Corrective Measures Study report for Waste Management Area C.

Issues

- DOE/ORP-2014-02, *Clean Closure Practicability Demonstration for the Single-Shell Tanks*, was submitted to Ecology by letter 14-ECD-0030, "Transmittal of Clean Closure Practicability Demonstration for the Single-Shell Tanks DOE/ORP-2014-02," dated July 23, 2014. ORP received Ecology letter 15-NWP-149, "Department of Ecology's Response Comment Regarding Review of the Clean Closure Practicability Demonstration for the Single-Shell Tanks DOE/ORP-2014-02," dated August 3, 2015. ORP met with Ecology in November 2017 to discuss path forward.
- An agreement of the area to be covered by an interim surface barrier at TX Tank Farm is needed to support M-045-92O. Negotiations to reach this agreement should begin in mid-December.
- RCRA Tier 1 Closure Plan RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*. Submitted to Ecology September 30, 2015. Received partial comments on April 11, 2016. Awaiting final Ecology comments.
- RCRA Facility Investigation RPP-RPT-58339, *Phase 2 RCRA Facility Investigation Report for Waste Management Area C*. Submitted to Ecology February 13, 2017. Awaiting Ecology comments.
- Corrective Measures Study RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*, to complete milestone M-045-61A. Submitted to Ecology on February 13, 2017. Awaiting Ecology comments.
- RCRA Tier 2 Closure Plan RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*. Submitted to Ecology on May 15, 2017. Ecology requested a continuing extension on September 12, 2017, to provide comments by October 16, 2017. Ecology subsequently requested an extension until November 22, 2017 (M-045-82).
- RCRA Tier 3 Closure Plan RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Action Plan for 241-C-200 Series Tanks*. Submitted to Ecology on May 15, 2017. Ecology requested a continuing extension on September 12, 2017, to provide comments by October 16, 2017. Ecology subsequently requested an extension until November 22, 2017 (M-045-82A).

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Jeff Rambo

M-045-86 **Submit retrieval data report (RDR) to Ecology for 19 tanks retrieved**
Due: To be determined (12 months after retrieval certification).
Status: Ongoing, retrieval data report submitted when completed.

M-045-70 **Complete waste retrieval from all remaining 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. 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

October-17										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	42,505	39,501	37,634	(3,005)	1,867	0.93	1.05			
FYTD	42,505	39,501	37,634	(3,005)	1,867	0.93	1.05	684,075		
CTD	4,092,790	4,068,663	4,043,803	(24,127)	24,860	0.99	1.01	4,776,865	4,792,872	(16,006)

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 \$10K of work was planned to-date, \$8K was reported as being performed (earned), at an actual cost of \$9K. This work would be reported as being \$2K behind schedule [a negative or unfavorable SV: $\$8K - \$10K = (\$2K)$], and has cost \$1K more [a negative or unfavorable CV: $\$8K - \$9K = (\$1K)$] than was planned for completing that work scope. Likewise, a favorable or positive CV would be reported if it cost less to complete the work than the performed dollar value of the work.

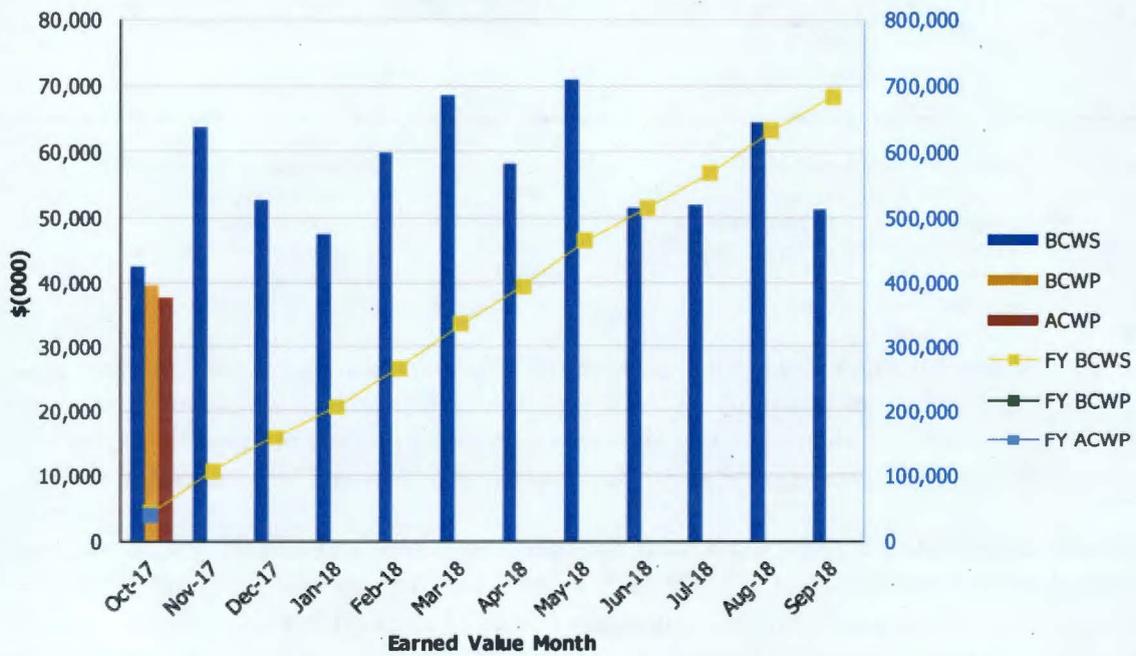
The SV and CV are reported for each monthly period, fiscal year to-date, as well as for the contract-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the FY or contract-to-date report provides a better indicator of the overall project completion status and can give a reasonable projection of how the project will finish, based on the progress-to-date.

Earned Value Data: Fiscal Year 2018

October-17

Tank Farms ORP-0014

EVMS Monthly and Fiscal Year Values



Earned Value 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	\$63,895					\$106,400				
Dec 2017	\$52,774					\$159,174				
Jan 2018	\$47,571					\$206,745				
Feb 2018	\$60,060					\$266,805				
Mar 2018	\$68,561					\$335,366				
Apr 2018	\$58,345					\$393,712				
May 2018	\$70,962					\$464,674				
Jun 2018	\$51,605					\$516,279				
Jul 2018	\$51,935					\$568,214				
Aug 2018	\$64,564					\$632,778				
Sep 2018	\$51,298					\$684,075				
CTD	\$4,135,295	\$4,108,164	\$4,081,436	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.

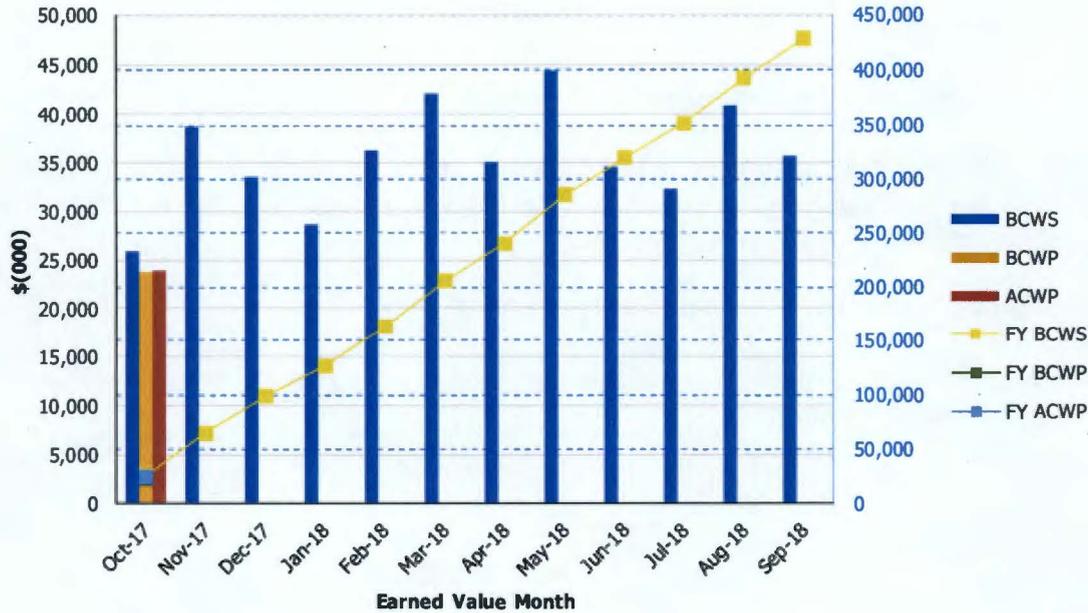
CM = current month.
 CTD = contract to date.
 FY = fiscal year.
 SPI = schedule performance index.

Earned Value Data: Fiscal Year 2018

October-17

**Tank Farms ORP-0014
Base Operations 5.01**

EVMS Monthly and Fiscal Year Values



Earned Value 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	\$38,784					\$64,779				
Dec 2017	\$33,498					\$98,277				
Jan 2018	\$28,648					\$126,925				
Feb 2018	\$36,376					\$163,301				
Mar 2018	\$42,162					\$205,463				
Apr 2018	\$35,036					\$240,499				
May 2018	\$44,478					\$284,977				
Jun 2018	\$34,575					\$319,552				
Jul 2018	\$32,297					\$351,850				
Aug 2018	\$40,855					\$392,705				
Sep 2018	\$35,696					\$428,401				

CTD	\$2,751,199	\$2,730,599	\$2,698,406	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: Glyn Trenchard

Federal Project Director: Ellen Mattlin

Base Operations and Tank Farm Projects (5.01)

The October 2017 variances below do not impact TPA milestones.

The **unfavorable** SV of (\$2,141,000) is primarily due to:

- Delayed receipt of fence-line boundary vapor monitoring equipment. The procurement process and contract award to the vendor was delayed one month to allow further time to finalize specifications for the equipment.

The **unfavorable** CV of (\$167,000) is primarily due to:

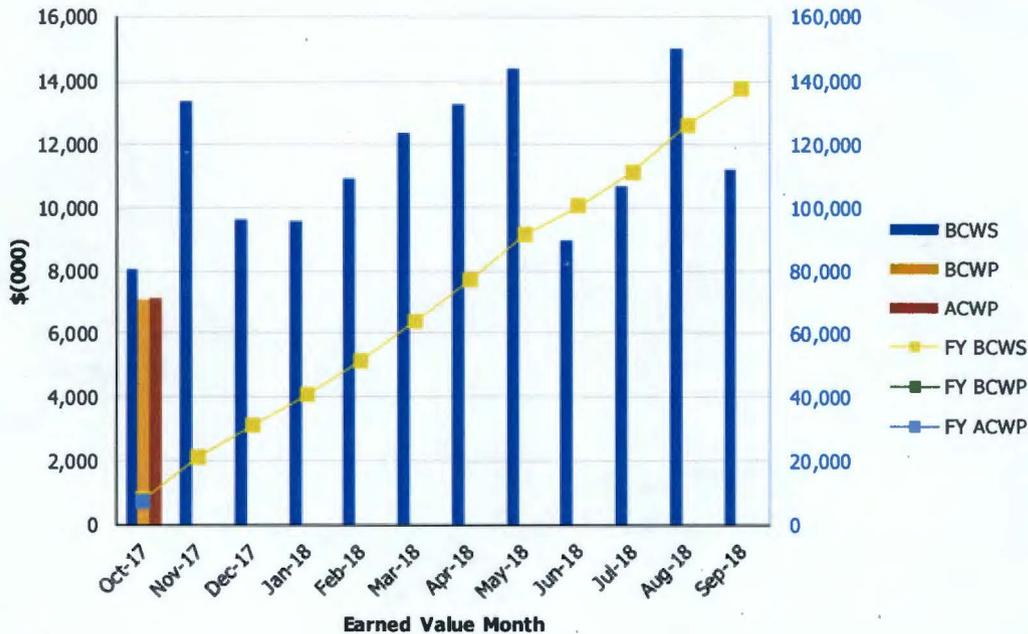
- More labor than anticipated was necessary to complete the removal/repair/installation of the LERF Basin 44 pump.

Earned Value Data: Fiscal Year 2018

October-17

Tank Farms ORP-0014
Retrieve and Close SST's 5.02

EVMS Monthly and Fiscal Year Values



Earned Value 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	\$13,359					\$21,412				
Dec 2017	\$9,626					\$31,038				
Jan 2018	\$9,610					\$40,648				
Feb 2018	\$10,918					\$51,566				
Mar 2018	\$12,350					\$63,916				
Apr 2018	\$13,268					\$77,184				
May 2018	\$14,396					\$91,580				
Jun 2018	\$8,985					\$100,565				
Jul 2018	\$10,719					\$111,284				
Aug 2018	\$14,997					\$126,281				
Sep 2018	\$11,241					\$137,522				
CTD	\$811,625	\$811,782	\$845,678	1.00	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: Glyn Trenchard

Federal Program Manager: Jeff Rambo

Retrieve and Close Single-Shell Tanks (5.02)

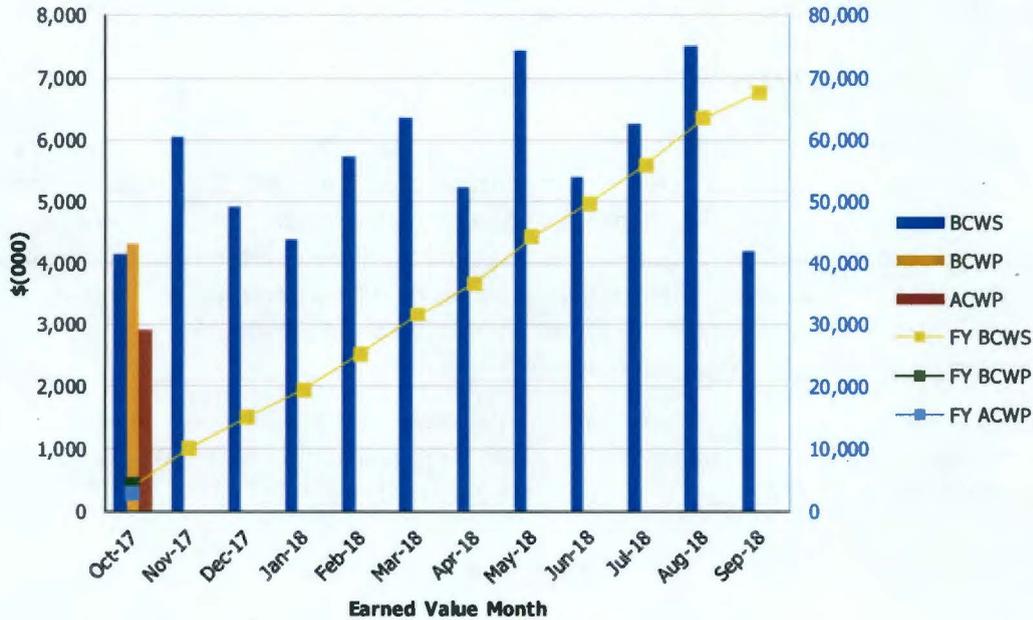
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2018

October-17

Tank Farms ORP-0014
Waste Feed Delivery/Treatment/Double-Shell Tank Retrieval Closure 5.03

EVMS Monthly and Fiscal Year Values



Earned Value 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	\$6,059					\$10,222				
Dec 2017	\$4,932					\$15,154				
Jan 2018	\$4,394					\$19,548				
Feb 2018	\$5,741					\$25,289				
Mar 2018	\$6,356					\$31,645				
Apr 2018	\$5,234					\$36,879				
May 2018	\$7,447					\$44,326				
Jun 2018	\$5,397					\$49,723				
Jul 2018	\$6,275					\$55,998				
Aug 2018	\$7,518					\$63,516				
Sep 2018	\$4,209					\$67,725				
CTD	\$436,919	\$434,645	\$399,720	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: Jon Peschong

Federal Program Manager: Kaylin Burnett

Waste Feed Delivery/Treatment (5.03)

The October 2017 variances below do not impact TPA milestones.

The **favorable** SV of \$164,000 is primarily due to:

- While conducting the Tank AP-105 sample run through the Radioactive Waste Test Platform, issues were encountered resulting in required cell unit filter repairs. These repairs delayed the completion of the hot cell testing by approximately 2 months. As a result, the completion of the Tank AP-105 sample analysis and feed characterization analysis were also delayed. The delayed work scope was completed in October. The reported favorable variance offsets the unfavorable variances reported in the prior periods when the work was planned, but could not be performed.
- The direct-feed low-activity waste feed qualification maturation Tank AP-107 sample was taken during October, but was planned to be performed in November. The work was performed ahead of schedule resulting in the favorable variance.

The **favorable** CV of \$1,417,000 is primarily due to the following:

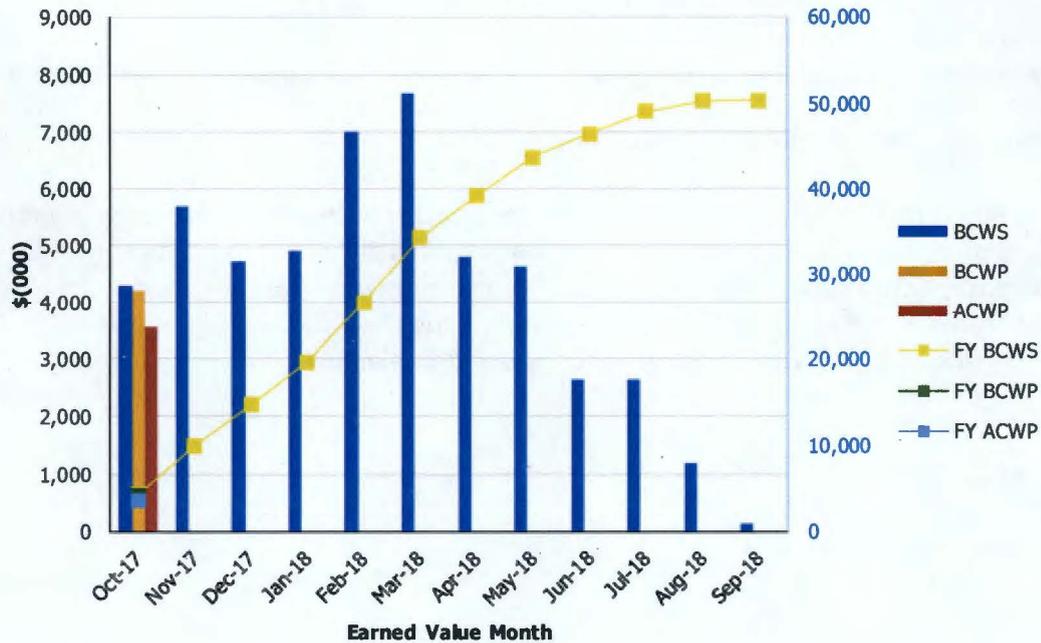
- Project Flowsheet software licenses were renewed in October but costs will not be incurred until November, creating a positive cost variance in the month of October.
- Resource efficiencies were realized in four projects:
 - The Tank AP-107 sample was planned and estimated based on the standard tank sample template, but increased due to the sample size, 3 gallons, which is significantly larger than the standard sample size. There was some contingency included in the estimate for anticipated issues because of the sample size. However, these contingencies were not realized. The sample was taken with no issues and performed over a significantly decreased duration than estimated, resulting in experienced efficiencies.
 - Schedule improvements to the AP-107 Tank Farm Upgrades Project for the subcontract work to construct a gravel parking lot resulted in a favorable cost variance.
 - Less Project Management Support was required than planned for field work support.
 - Immobilized Low-Activity Waste Transporter Project for the Package Specific Safety Document work scope required fewer resources than anticipated.

Earned Value Data: Fiscal Year 2018

October-17

**Tank Farms ORP-0014
Treat Waste 5.5**

EVMS Monthly and Fiscal Year Values



Earned Value 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					\$9,988				
Dec 2017	\$4,717					\$14,705				
Jan 2018	\$4,919					\$19,624				
Feb 2018	\$7,025					\$26,649				
Mar 2018	\$7,694					\$34,343				
Apr 2018	\$4,807					\$39,150				
May 2018	\$4,641					\$43,791				
Jun 2018	\$2,648					\$46,439				
Jul 2018	\$2,643					\$49,082				
Aug 2018	\$1,194					\$50,277				
Sep 2018	\$151					\$50,428				
CTD	\$115,443	\$111,027	\$118,470	0.96	0.94					

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: Glyn Trenchard

Deputy Federal Project Director: Janet Diediker

Treat Waste (5.5)

The October 2017 variances below do not impact the TPA milestones.

The **unfavorable** SV is below the reporting threshold and does not require a variance narrative.

The **favorable** CV of (\$625,000) is primarily due to:

- Labor hour efficiencies were realized by the contractor because less than planned process engineering oversight was required. Additionally, the Instrumentation and Controls Engineering updates and Mechanical and Piping design drawings and model changes incorporated lessons learned from past updates, which facilitated the progress of deliverables with fewer engineering labor hours than planned.