
FINAL

Office of River Protection
Tri-Party Agreement
Report
November¹ 2017



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

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Acronyms and Abbreviations

CD-3A	Critical Decision 3A
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
GRS	Gas Removal System
IQRPE	independent qualified registered professional engineer
LERF	Liquid Effluent Retention Facility
ORP	U.S. Department of Energy, Office of River Protection
RCRA	<i>Resource Conservation and Recovery Act</i>
SRNL	Savannah River National Laboratory
SST	single-shell tank
SV	schedule variance
System Plan 8	<i>River Protection Project System Plan, Rev. 8</i>
TBD	to be determined
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
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

Milestone	Title	Due Date	TPA Project Manager	Status/Completion Date
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	6/30/2019	Bovier, Jan B	On Schedule
M-045-56O	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	7/31/2019	Bovier, Jan B	On Schedule
M-045-91E3	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	9/30/2019	Johnson, Jeremy M	On Schedule
M-045-92U	Barrier 4 Design/Monitoring Plan Approved by Ecology	9/30/2019	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:

- ORP provided the 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 issued to WRPS via letter 17-TF-0085, “Contract No DE AC27 08RV14800 – U.S. Department of Energy, Office of River Protection Request for Design Description and Total Project Cost Estimate to Implement an Optimized Low-Activity Waste Pretreatment System Design Strategy” on October 4, 2017.
- ORP issued to WRPS via letter 17-TF-0088, “Contract No DE AC27 08RV14800 – U.S. Department of Energy, Office of River Protection Request for Proposal for a Technology Demonstration of a Tank-Side Cesium Removal Capability” on October 4, 2017.
- On August 15, 2017, Acting Assistant Secretary for Environmental Management James Owendoff met with Washington State Department of Ecology Director Maia Bellon and Ecology Nuclear Waste Program Manager Alex Smith and had a brief conversation about several potential ideas to accelerate cleanup of the Hanford Site. Following this conversation, Acting Assistant Secretary Owendoff sent a letter to Director Bellon dated September 20, 2017. The letter noted items discussed during their August 15, 2017 conversation, which for LAWPS included use of Tank Closure and Cesium Removal technology, and requested a meeting at Ecology’s earliest convenience in order to continue the conversation and hear more about Ecology’s perspective and priorities regarding Hanford cleanup activities. Director Bellon sent a reply letter dated October 16, 2017.
- ORP received WRPS letter WRPS-1704216 R1, “Contract No DE AC27 08RV14800 – Washington River Protection Solutions LLC Submits Recommendations from External Expert Review on Low-Activity Waste Pretreatment System” on October 23, 2017.

Significant Planned Actions in the Next Six Months:

- Acting Assistant Secretary Owendoff and Director Bellon are scheduled to meet on November 9, 2017 to discuss the matters noted above.
- In response to the letters ORP issued to WRPS, described above, ORP anticipates receiving updated design descriptions for an optimized Low-Activity Waste Pretreatment System (LAWPS) in late November. WRPS will submit a certified cost and technical proposal for a tank-side cesium removal capability in January 2018.

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) 2017 and early FY 2018 is in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2017	EC-06	AY-101	AP-104	Completed on July 15, 2017. WVR = 210 kgal
FY 2017	EC-07	AW-106	AP-104	Completed on September 7, 2017. WVR = 315 kgal
FY 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-107 portion of waste was transferred to Tank AW-102 during September 2017.
FY 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.

FY = fiscal year.

kgal = thousand gallons.

WVR = waste volume reduction.

Significant Past Accomplishments:

- Completed 242-A Evaporator campaign EC-07.
- Continued required annual electrical preventive maintenance activities.
- Initiated 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 Oct. 31, 2017)	~ 6.90 gal	~ 0 Mgal ¹	~ 7.36 Mgal

Waste Received			
AZ-301 Tanker Shipments	-	-	-
MWT-31 and 34 Leachate	~ 7,000 gal	-	~ 7,000 gal
Other (e.g., Totes, Modutank, etc.)	~ 22,000 gal	-	~ 45,000 gal
242-A Evaporator Campaigns	-	-	-

¹ Basin 43 was placed out-of-service on May 8, 2017. Basin 43 was placed back in service on October 23, 2017.

gal = gallon.

Mgal = million gallons.

MWT = mixed waste trench.

Significant Past Accomplishments:

- Total FY 2018 volume processed (as of October 31, 2017): ~190,000 gallons.
- Completed replacement of the LERF Basin 44 transfer pump.
- Replaced the mechanical seal on the thin film dryer and placed the thin film dryer in operation.

Significant Planned Actions in the Next Six Months:

- Process and/or move the contents from LERF Basin 42 to allow for cover replacement project fieldwork in Spring 2018.
- Perform required tank inspections (Surge Tank, Concentrate Tank-B, and Secondary Waste Receiving Tank-B).
- Initiate LERF Basin 44 waste processing through the Effluent Treatment Facility (ETF).

- Begin second LERF Basin cover replacement project (project support and design).

Issues:

- None

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 has submitted statements of work to support contracting for FY 2018 corrosion testing. Emphasis this year is on new specification development to accommodate DFLAW returns and secondary liner testing.
- Enhanced annulus visual inspections were completed on the following tanks in FY 2017:
 - 241-AN-102 (released RPP-RPT-31599, *Double-Shell Tank Integrity Inspection Report for 241-AN Tank Farm*, Rev. 8)
 - 241-AN-107 (released RPP-RPT-31599, Rev. 8)
 - 241-AP-101 (released, RPP-RPT-38738, *Double-Shell Tank Integrity Inspection Report for 241-AP Tank Farm*, Rev. 5)
 - 241-AP-107 (released, RPP-RPT-38738, Rev. 5)
 - 241-AW-105 (released, RPP-RPT-42147, *Double-Shell Tank Integrity Inspection Report for 241-AW Tank Farm*, Rev. 5)
 - 241-AY-101 (released, RPP-RPT-34311, *Double-Shell Tank Integrity Inspection Report for 241-AY Tank Farm*, Rev. 3)
 - 241-AZ-101 (released, RPP-RPT-34310, *Double-Shell Tank Integrity Inspection Report for 241-AZ Tank Farm*, Rev. 2a)
 - 241-AZ-102 (released, RPP-RPT-34310, Rev. 2a).
- Ultrasonic testing inspections were performed on the following tanks in FY 2017:
 - 241-AN-106 (released, RPP-RPT-60114, *Ultrasonic Inspection Results for Double-Shell Tank 241-AN-106 – FY 2017*, Rev. 0)
 - 241-SY-101 (floor scans of secondary liner complete)
 - 241-SY-102 (floor scans of secondary liner complete)
 - 241-SY-103 (floor scans of secondary liner complete)

Single-Shell Tank (SST) Integrity:

- 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.
- The following in-tank video inspections were completed in FY 2017:
 - 241-A-104 (complete)
 - 241-A-105 (complete)
 - 241-BX-107 (complete)
 - 241-BY-109 (complete)
 - 241-S-104 (complete)
 - 241-SX-110 (complete)
 - 241-T-104 (complete)
 - 241-T-105 (complete)
 - 241-T-106 (complete)
 - 241-T-109 (complete)

Significant Planned Actions in the Next Six Months:

- 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
 - Perform laboratory testing of secondary liner corrosion from groundwater and use of corrosion inhibitors which could be used to protect secondary liner from groundwater: ongoing
 - 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 2019²

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

- 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 fiscal year 2019.³

SST Integrity

- Work planning for FY 2018 in-tank video inspections is in process, and is expected to involve 12 tanks.
- Intrusion mitigation (M-045-56):
 - The POR-006 exhauster at Tank T-111 was restarted on July 12, 2017, and has been operating satisfactorily. The data collection and reporting software is still not working. The volume of water evaporated from Tank T-111 between mid-July 2015 and December 2016 was roughly estimated at 7,100 gallons.

Independent Qualified Registered Professional Engineer Activities

- WRPS provided the independent qualified registered professional engineer's (IQRPE) initial draft of the 242-A Evaporator Integrity Assessment, to ORP for review.
- Work continues on RPP-PLAN-61349, *Effluent Treatment Facility Integrity Program Plan*. The plan will support the FY 2019 IQRPE ETF integrity assessment.
- Ultrasonic thickness scanning of ETF tanks is in progress and initial corrosion testing on ETF materials and chemistries is underway.
- Initial planning continues for the integrity assessment for the 219-S facility at the 222-S Laboratory. The RPP-PLAN-61634, *219-S Integrity Assessment Plan*, is complete. WRPS is evaluating proposals from two vendors for the IQRPE assessment of 219-S.
- 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.

Issues:

DST Integrity:

- None.

SST Integrity:

- None.

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

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 October 1 through October 31, the following reports were completed (internal access only) or released (external access):

- Released RPP-RPT-60372, Derivation of Best-Basis Inventory for Tank 241-S-107 as of October 1, 2017, Rev. 0
- Released RPP-RPT-60380, Derivation of Best-Basis Inventory for Tank 241-U-106 as of October 1, 2017, Rev. 0
- Released RPP-RPT-60410, Derivation of Best-Basis Inventory for Tank 241-SX-101 as of October 1, 2017, Rev. 0
- Released RPP-PLAN-61679, Tank 241-AP-107 DFLAW Grab Sampling and Analysis Plan – Fiscal Year 2018, Rev. 0
- Released HNF-EP-0182, Waste Tank Summary Report for Month September 30, 2017, Rev. 357
- Completed 241-C-105 in-process liquid grab sampling performed October 12, 2017, through October 30, 2017. The laboratory received five samples
- Completed 241-AP-107 large volume liquid grab sampling on October 20, 2017. The samples were shipped to PNNL.

Significant Planned Actions in the Next Six Months:

Tank sampling:

- Tank 241-C-105 in-process liquid grab sampling is planned for November 2017.
- Tank 241-AP-107 DFLAW liquid grab sampling is planned for November 2017.
- Tank 241-C-105 in-process liquid grab sampling is planned for November 2017.
- Tank 241-AW-102 liquid grab sampling is planned for November 2017.
- Tank 241-AY-102 solids grab sampling is planned for February 2018.
- Tank 241-AW-106 liquid grab sampling is planned for March 2018.

Best-Basis Inventory updates:

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

- 241-S-107

- 241-SX-101
- 241-U-106

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

- 241-AP-107
- 241-AW-102
- 241-AW-106
- 241-AZ-101
- 241-AZ-102

Data Quality Objectives updates:

- None.

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. 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.
- Released RPP-RPT-60134, *T-TY Tank Farm Interim Surface Barrier Demonstration – Vadose Zone Monitoring FY 2016*.
- Began training and mobilization of construction forces for the SX Tank Farm interim surface barriers. The initial construction effort will address the evapotranspiration basin and water conveyance systems.
- Agreed to locations for Interim Barriers 3 (TX Tank Farm) and 4 (U Tank Farm) (Milestone M-045-92S).
- Initiated construction field activities for the SX Tank Farm interim surface barriers.
- On August 15, 2017, Acting Assistant Secretary for Environmental Management James Owendoff met with Washington State Department of Ecology Director Maia Bellon and Ecology Nuclear Waste Program Manager Alex Smith and had a brief conversation about several potential ideas to accelerate cleanup of the Hanford Site. Following this

conversation, Acting Assistant Secretary Owendoff sent a letter to Director Bellon dated September 20, 2017. The letter noted items discussed during their August 15, 2017 conversation, which for the SST Closure Program included the potential to close C Farm waste tanks using a streamlined Resource Conservation and Recovery Act process, and the potential for treating and shipping some tank waste to the Waste Isolation Pilot Plant, and requested a meeting at Ecology's earliest convenience in order to continue the conversation and hear more about Ecology's perspective and priorities regarding Hanford cleanup activities. Director Bellon sent a reply letter dated October 16, 2017.

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.
- Acting Assistant Secretary Owendoff and Director Bellon are scheduled to meet on November 9, 2017 to discuss the matters noted above.

Issues:

- Report DOE/ORP-2014-02, *Clean Closure Practicability Demonstration for the Single-Shell Tanks*, submitted to Ecology July 24, 2014. Received partial comments on August 3, 2016. ORP met with Ecology, on October 5, 2017 to discuss the Ecology approach to finishing the "practicability" decision.
- 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

September-17										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	73,602	82,701	91,937	9,099	(9,236)	1.12	0.90			
FYTD	636,841	633,528	634,939	(3,313)	(1,411)	0.99	1.00	636,841	634,939	1,902
CTD	4,092,790	4,068,663	4,043,803	(24,127)	24,860	0.99	1.01	4,778,551	4,797,172	(18,620)

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.

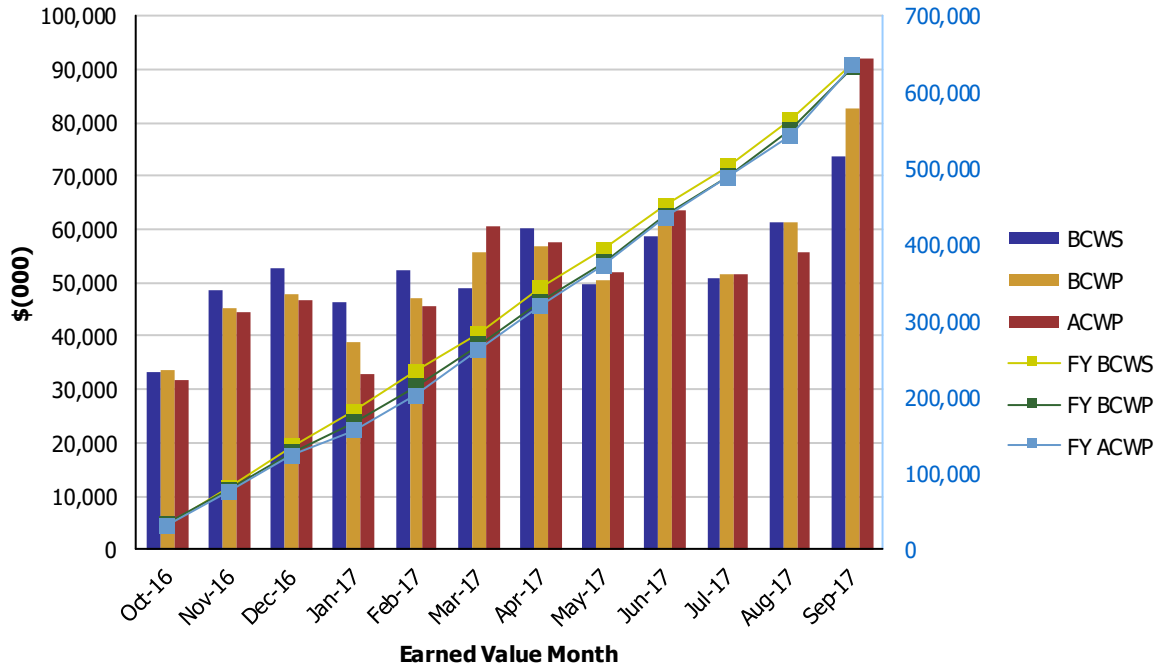
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

September-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 2016	\$33,051	\$33,501	\$31,798	1.01	1.05	\$33,051	\$33,501	\$31,798	1.01	1.05
Nov 2016	\$48,628	\$45,386	\$44,614	0.93	1.02	\$81,679	\$78,887	\$76,412	0.97	1.03
Dec 2016	\$52,841	\$47,972	\$46,833	0.91	1.02	\$134,520	\$126,859	\$123,246	0.94	1.03
Jan 2017	\$46,477	\$39,027	\$32,764	0.84	1.19	\$180,997	\$165,886	\$156,009	0.92	1.06
Feb 2017	\$52,366	\$47,088	\$45,690	0.90	1.03	\$233,363	\$212,974	\$201,699	0.91	1.06
Mar 2017	\$49,127	\$55,701	\$60,510	1.13	0.92	\$282,490	\$268,674	\$262,209	0.95	1.02
Apr 2017	\$60,228	\$56,852	\$57,746	0.94	0.98	\$342,718	\$325,526	\$319,955	0.95	1.02
May 2017	\$49,776	\$50,468	\$51,897	1.01	0.97	\$392,494	\$375,995	\$371,853	0.96	1.01
Jun 2017	\$58,859	\$61,714	\$63,685	1.05	0.97	\$451,353	\$437,709	\$435,538	0.97	1.00
Jul 2017	\$50,656	\$51,650	\$51,639	1.02	1.00	\$502,009	\$489,359	\$487,177	0.97	1.00
Aug 2017	\$61,230	\$61,467	\$55,825	1.00	1.10	\$563,239	\$550,826	\$543,002	0.98	1.01
Sep 2017	\$73,602	\$82,701	\$91,937	1.12	0.90	\$636,841	\$633,527	\$634,939	0.99	1.00

CTD	\$4,092,790	\$4,068,663	\$4,043,803	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.
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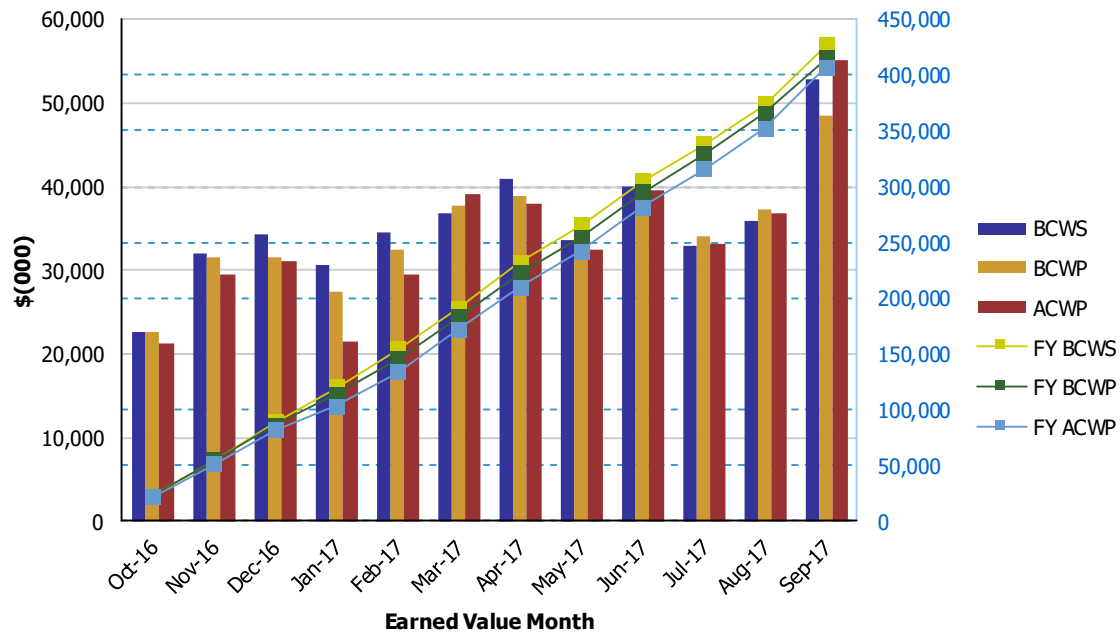
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

September-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 2016	\$22,507	\$22,546	\$21,216	1.00	1.06	\$22,507	\$22,546	\$21,216	1.00	1.06
Nov 2016	\$31,885	\$31,496	\$29,527	0.99	1.07	\$54,392	\$54,042	\$50,743	0.99	1.07
Dec 2016	\$34,394	\$31,547	\$31,032	0.92	1.02	\$88,786	\$85,589	\$81,775	0.96	1.05
Jan 2017	\$30,657	\$27,462	\$21,370	0.90	1.29	\$119,443	\$113,051	\$103,146	0.95	1.10
Feb 2017	\$34,475	\$32,418	\$29,588	0.94	1.10	\$153,918	\$145,468	\$132,734	0.95	1.10
Mar 2017	\$36,780	\$37,769	\$39,127	1.03	0.97	\$190,698	\$183,237	\$171,861	0.96	1.07
Apr 2017	\$40,813	\$38,964	\$38,001	0.95	1.03	\$231,511	\$222,201	\$209,862	0.96	1.06
May 2017	\$33,508	\$31,770	\$32,519	0.95	0.98	\$265,020	\$253,971	\$242,381	0.96	1.05
Jun 2017	\$39,894	\$40,552	\$39,497	1.02	1.03	\$304,914	\$294,522	\$281,878	0.97	1.04
Jul 2017	\$32,896	\$34,159	\$33,101	1.04	1.03	\$337,810	\$328,682	\$314,979	0.97	1.04
Aug 2017	\$35,970	\$37,247	\$36,885	1.04	1.01	\$373,780	\$365,929	\$351,864	0.98	1.04
Sep 2017	\$52,746	\$48,494	\$55,096	0.92	0.88	\$426,526	\$414,422	\$406,960	0.97	1.02
CTD	\$2,725,204	\$2,706,746	\$2,674,385	0.99	1.01					

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Tank Farms Assistant Manager: Glyn Trenchard

Federal Project Director: Vanessa Turner

Base Operations and Tank Farm Projects (5.01)

The September 2017 variances below do not impact TPA milestones.

The **unfavorable** SV of (\$4,252,000) is primarily due to:

- Three projects were completed in August 2017, one month ahead of schedule. These include Effluent Treatment Facility Basin Covers Replacement Project, Secondary Transformer Replacement Project and Spare Transfer Pumps Project. These projects were originally planned to complete during this period, September 2017, and as a result Budgeted Cost of Work Scheduled (BCWS) for this has been realized in the current month.
- Procurement of Mobile Leased Trailers was planned for September 2017, however the decision was delayed as management determines the lease versus buy scenarios.

The **unfavorable** CV of (\$6,602,000) is primarily due to:

- Increased use of subcontractor support that required to complete the Mobile Office -280 Roof Replacement Project and the Building 2750E Electrical Switchgear Replacement Project. The additional support was required due to unfavorable field conditions resulting in additional roof repairs, additional electrical wiring and replacement of damaged electrical equipment.

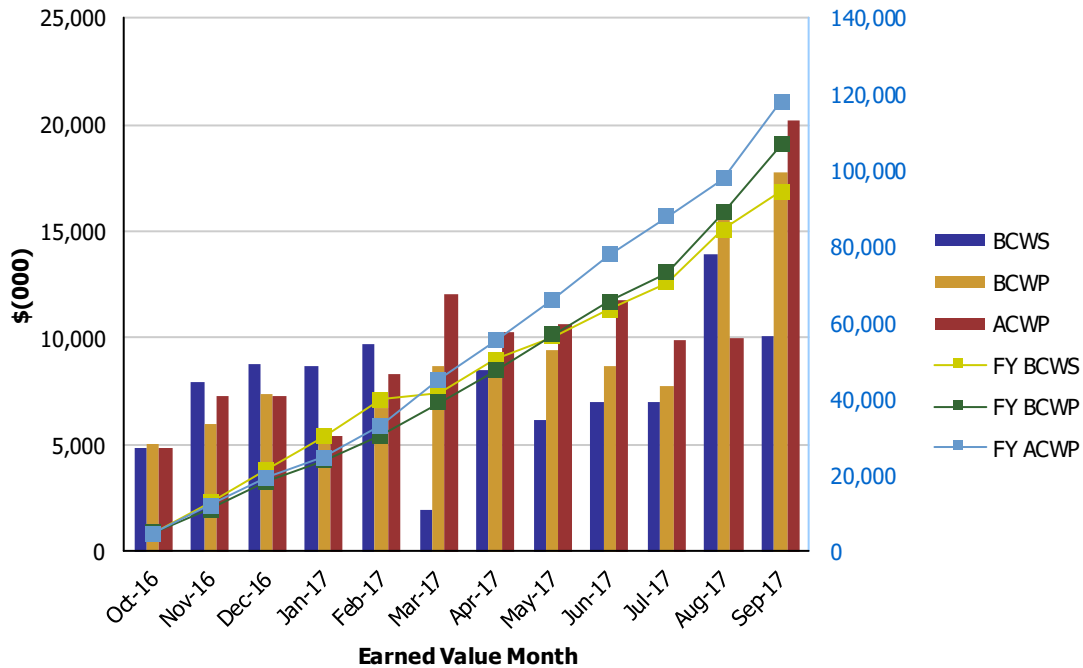
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

September-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 2016	\$4,816	\$4,996	\$4,822	1.04	1.04	\$4,816	\$4,996	\$4,822	1.04	1.04
Nov 2016	\$7,924	\$5,969	\$7,241	0.75	0.82	\$12,740	\$10,965	\$12,063	0.86	0.91
Dec 2016	\$8,772	\$7,401	\$7,262	0.84	1.02	\$21,512	\$18,365	\$19,325	0.85	0.95
Jan 2017	\$8,646	\$5,422	\$5,360	0.63	1.01	\$30,158	\$23,787	\$24,685	0.79	0.96
Feb 2017	\$9,716	\$6,707	\$8,341	0.69	0.80	\$39,874	\$30,495	\$33,026	0.76	0.92
Mar 2017	\$1,903	\$8,675	\$12,056	4.56	0.72	\$41,777	\$39,170	\$45,082	0.94	0.87
Apr 2017	\$8,477	\$8,214	\$10,268	0.97	0.80	\$50,254	\$47,384	\$55,350	0.94	0.86
May 2017	\$6,110	\$9,406	\$10,604	1.54	0.89	\$56,364	\$56,790	\$65,953	1.01	0.86
Jun 2017	\$6,982	\$8,684	\$11,807	1.24	0.74	\$63,345	\$65,474	\$77,761	1.03	0.84
Jul 2017	\$7,043	\$7,702	\$9,910	1.09	0.78	\$70,388	\$73,176	\$87,670	1.04	0.83
Aug 2017	\$13,912	\$15,660	\$10,002	1.13	1.57	\$84,301	\$88,836	\$97,672	1.05	0.91
Sep 2017	\$10,103	\$17,777	\$20,206	1.76	0.88	\$94,404	\$106,613	\$117,878	1.13	0.90

CTD	\$803,571	\$804,663	\$838,552	1.00	0.96
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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.

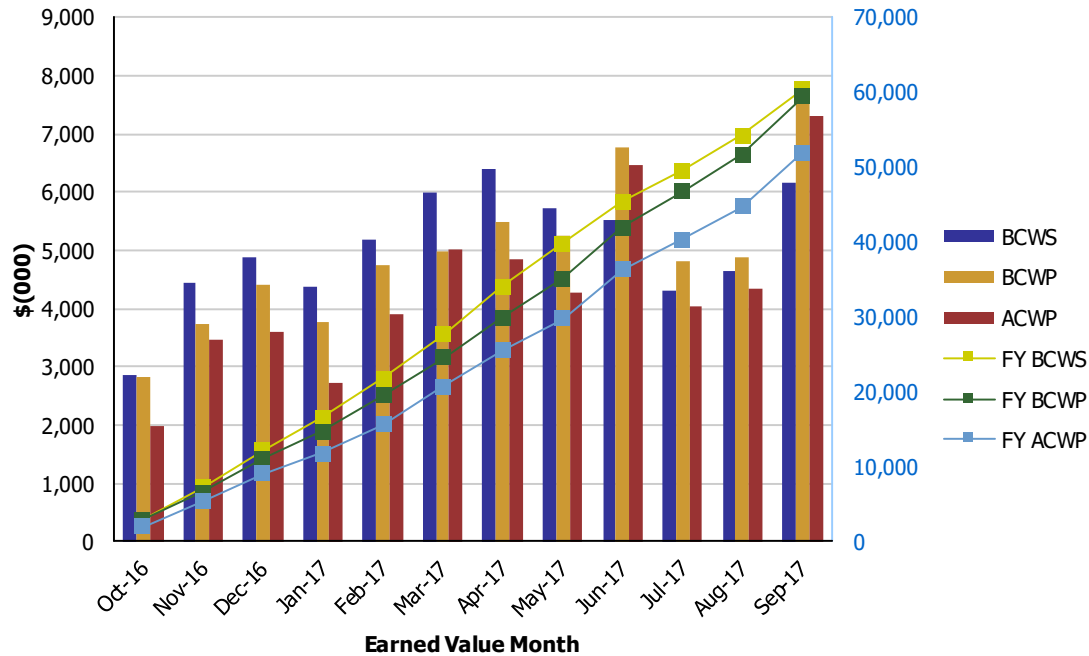
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

September-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 2016	\$2,840	\$2,829	\$1,990	1.00	1.42	\$2,840	\$2,829	\$1,990	1.00	1.42
Nov 2016	\$4,428	\$3,728	\$3,446	0.84	1.08	\$7,267	\$6,557	\$5,436	0.90	1.21
Dec 2016	\$4,878	\$4,404	\$3,589	0.90	1.23	\$12,146	\$10,961	\$9,026	0.90	1.21
Jan 2017	\$4,371	\$3,773	\$2,737	0.86	1.38	\$16,516	\$14,734	\$11,762	0.89	1.25
Feb 2017	\$5,176	\$4,743	\$3,893	0.92	1.22	\$21,692	\$19,477	\$15,656	0.90	1.24
Mar 2017	\$5,981	\$4,992	\$4,999	0.83	1.00	\$27,673	\$24,469	\$20,654	0.88	1.18
Apr 2017	\$6,391	\$5,473	\$4,858	0.86	1.13	\$34,064	\$29,942	\$25,512	0.88	1.17
May 2017	\$5,713	\$5,236	\$4,285	0.92	1.22	\$39,776	\$35,178	\$29,798	0.88	1.18
Jun 2017	\$5,506	\$6,773	\$6,463	1.23	1.05	\$45,282	\$41,950	\$36,261	0.93	1.16
Jul 2017	\$4,292	\$4,822	\$4,039	1.12	1.19	\$49,574	\$46,773	\$40,300	0.94	1.16
Aug 2017	\$4,640	\$4,863	\$4,348	1.05	1.12	\$54,214	\$51,636	\$44,648	0.95	1.16
Sep 2017	\$6,158	\$7,664	\$7,309	1.24	1.05	\$60,372	\$59,299	\$51,957	0.98	1.14
CTD	\$432,757	\$430,319	\$396,811	0.99	1.08					

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One System Division Director: Jon Peschong

Federal Program Manager: Kaylin Burnett

Waste Feed Delivery/Treatment (5.03)

The September 2017 variances below do not impact TPA milestones.

The **favorable** schedule variance (SV) of \$1,506,000 is primarily due to:

- Schedule efficiencies in three separate projects; the Alternative Retrieval - Effectiveness Evaluation and Testing project, the Single Pass Flow-Through (SPFT) project that involves glass testing performed by the Pacific Northwest National Lab (PNNL) and the AP-105 Tank Upgrades project.

The **favorable** cost variance (CV) of \$355,000 is primarily due to:

- Many small favorable variances across the projects including resource efficiencies, cost efficiencies and a clerical error from August. The Package Specific Safety Document (PSSD) work scope for the Immobilized Low-Activity Waste Transporter project required fewer resources than anticipated. The subcontract design effort for the AP-105 Tank Upgrades was awarded at a value significantly less than the originally forecasted budget. The Direct-Feed Low-Activity Waste (DFLAW) Radiological Waste Test Bed project performance and actual subcontract work performance was misaligned in August. The cost is accurately aligned for September.

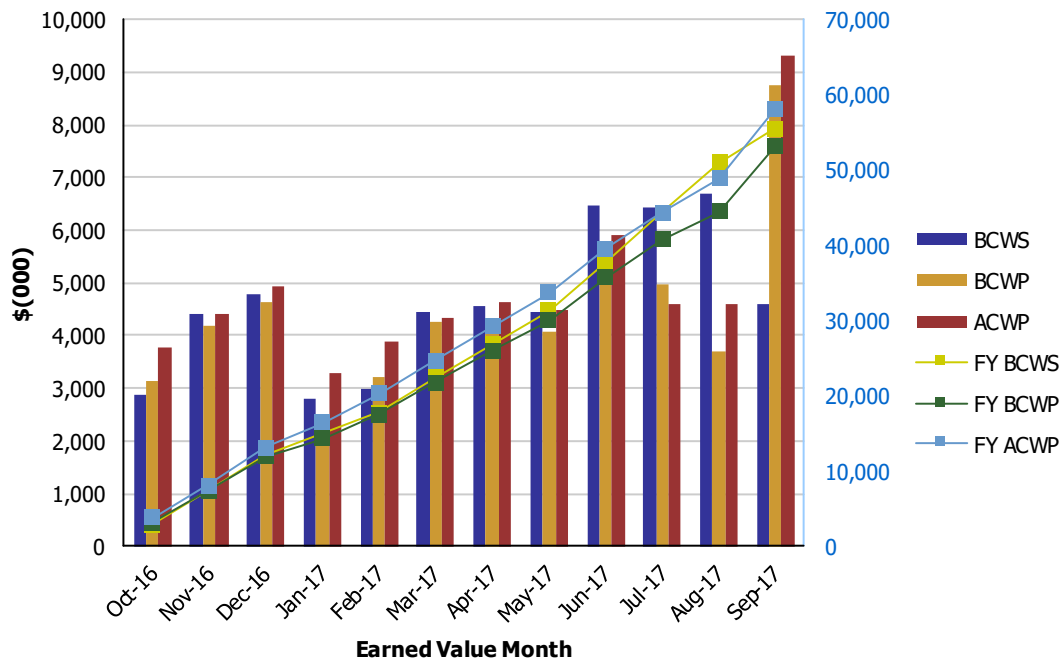
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

September-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 2016	\$2,889	\$3,131	\$3,770	1.08	0.83	\$2,889	\$3,131	\$3,770	1.08	0.83
Nov 2016	\$4,391	\$4,193	\$4,400	0.95	0.95	\$7,280	\$7,324	\$8,170	1.01	0.90
Dec 2016	\$4,796	\$4,620	\$4,950	0.96	0.93	\$12,076	\$11,944	\$13,119	0.99	0.91
Jan 2017	\$2,804	\$2,370	\$3,297	0.85	0.72	\$14,880	\$14,314	\$16,417	0.96	0.87
Feb 2017	\$2,999	\$3,220	\$3,867	1.07	0.83	\$17,879	\$17,534	\$20,284	0.98	0.86
Mar 2017	\$4,462	\$4,265	\$4,328	0.96	0.99	\$22,342	\$21,799	\$24,612	0.98	0.89
Apr 2017	\$4,547	\$4,201	\$4,620	0.92	0.91	\$26,889	\$26,000	\$29,232	0.97	0.89
May 2017	\$4,446	\$4,056	\$4,490	0.91	0.90	\$31,335	\$30,056	\$33,721	0.96	0.89
Jun 2017	\$6,477	\$5,705	\$5,917	0.88	0.96	\$37,812	\$35,762	\$39,639	0.95	0.90
Jul 2017	\$6,425	\$4,966	\$4,589	0.77	1.08	\$44,237	\$40,728	\$44,228	0.92	0.92
Aug 2017	\$6,707	\$3,697	\$4,591	0.55	0.81	\$50,945	\$44,425	\$48,819	0.87	0.91
Sep 2017	\$4,595	\$8,767	\$9,327	1.91	0.94	\$55,540	\$53,192	\$58,145	0.96	0.91

CTD	\$111,148	\$106,826	\$114,894	0.96	0.93
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- 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 September 2017 variances below do not impact the TPA milestones.

The **favorable** SV of \$4,172,000 is primarily due to:

- Integrated Scaled Testing results indicated that a change to the current flammable gas mitigation strategy was necessary. As a result, the current design is being revised to replace the Gas Removal System (GRS) with a vented ion exchange (IX) system. Activities impacted by the design change had been placed on hold until the development of a revised execution strategy is complete. As part of the revised strategy, some of the affected activities were identified for removal as they would no longer be performed and as such, their scope, schedule, and budget were removed from the current plan and this adjustment is recorded in the current period.

The **unfavorable** CV of (\$560,000) is primarily due to:

- Resource usage inefficiencies were experienced by the subcontractor (Simpson Gumpertz & Heger). Extended in-depth calculation reviews of building design changes to the Soil-Structure Interaction calculation and weather enclosure calculations have utilized more resources than originally planned.
- Additional Project Engineering and Oversight resources were required for the design efforts associated with the Build to Print work scope. More labor effort than originally planned has also been required for design support and management oversight based on the changes.