
FINAL

Office of River Protection
Tri-Party Agreement
Report
September¹ 2017



¹ The narrative descriptions of progress in this report cover the period from August 01 – 31, 2017. Earned Value Management System data and descriptions cover the period of July 01 – 31, 2017.

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Acronyms and Abbreviations

CD-3A	Critical Decision 3A
CV	cost variance
DST	double-shell tank
Ecology	Washington State Department of Ecology
ETF	Effluent Treatment Facility
FY	fiscal year
IQRPE	independent qualified registered professional engineer
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
WRPS	Washington River Protection Solutions LLC

Administrative Items/Milestone Status

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2015				
M-062-45-T01	Complete Negotiations 6-Mo After Last Issuance of System Plan	04/30/2015		In Abeyance
M-062-45-ZZ	Negotiate a One Time Supplemental Treatment Selection	04/30/2015		In Abeyance
M-062-45-ZZ-A	Convert the M-062-31-T01 Through M-062-34-T01 to Interim Milestones	04/30/2015		In Abeyance
Fiscal Year 2016				
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016		In Abeyance
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016		In Abeyance
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016		In Abeyance
Fiscal Year 2017				
M-045-82	Submit to Ecology the draft Tier 2 closure plan for WMA-C	05/15/2017	05/15/2017	Complete
M-045-82A	Submit to Ecology the draft Tier 3 closure plans for the C-200 tanks	05/15/2017	05/15/2017	Complete
M-045-62	Submit to Ecology the draft Tier 3 closure plans to implement corrective measures	TBD ¹		On Schedule

Milestone	Title	Due Date	Completion Date	Status
M-045-83	Complete the Closure of WMA-C	TBD ¹		On Schedule
M-045-56M	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2017	07/11/2017	Complete
M-062-01AI	Submit Semi-Annual Project Compliance Report	07/31/2017	07/31/2017	Complete
M-045-91E2	Provide SST Farms Dome Deflection Surveys Every Two Years	09/30/2017		On Schedule
M-045-92S	DOE and Ecology Will Agree on Locations for Barriers 3 And 4	09/30/2017		On Schedule
Fiscal Year 2018				
M-062-40F	Submit System Plan	10/31/2017		On Schedule
M-062-32-T01	Start Construction of Supplemental Vitrification Treatment Facility and/or WTP Enhancements	04/20/2018		In Abeyance
M-045-92O	Barrier 3 Design/Monitoring Plan Submitted to Ecology	06/30/2018		On Schedule
M-045-56N	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2018		On Schedule
M-045-91I	Provide IQRPE Certification of SSTs Structural Integrity	09/30/2018		On Schedule
M-045-92T	Barrier 3 Design/Monitoring Plan Approved by Ecology	09/30/2018		On Schedule

¹To 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:

- Washington River Protection Services LLC (WRPS) transmitted the Draft *River Protection Project System Plan, Rev. 8* (System Plan 8) document to the U.S. Department of Energy, Office of River Protection (ORP) on August 9, 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.
- ORP will transmit the System Plan 8 document to the Washington Department of Ecology (Ecology) on or before October 31, 2017.

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

Significant Past Accomplishments:

- Submitted Critical Decision 3A (CD-3A) to U.S. Department of Energy Headquarters, Completed July 31, 2017
- Conducted on-site visit with CD-3A Independent Cost Estimate Review Team, Completed August 4, 2017.

Significant Planned Actions in the Next Six Months:

- Complete incorporation of vented ion exchange control strategy into design media (in lieu of Gas Removal System)
- Obtain CD-3A approval from U.S. Department of Energy Headquarters
- Award site preparation construction contract
- Issue request for proposals for full facility construction.

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 depicted in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2017	EC-06	AY-101	AP-104	242-A Evaporator campaign EC-06 was completed on July 15, 2017. WVR = 210 kgal
FY 2017	EC-07	AW-106	AP-104	The 242-A Evaporator campaign EC-07 initiated on August 25, 2017.
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. This cannot occur until campaign EC-07 is completed.

FY = fiscal year.

kgal = thousand gallons.

WVR = waste volume reduction.

Significant Past Accomplishments:

- Completed 242-A Evaporator campaign EC-06
- Completed reboiler dye penetrant field sampling activities in support of integrity assessment
- Completed testing of the new slurry pump variable frequency drive
- Completed prerequisite activities for the EC-07 evaporator campaign and initiated the campaign.

Significant Planned Actions in the Next Six Months:

- Establish the future campaign and outage scheduling
- Replace the PB-2 slurry pump
- Replace control room air conditioning units
- 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 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 Aug. 30, 2017)	~ 7.22 Mgal	~ 0 Mgal ²	~ 7.31 Mgal

Waste Received			
AZ-301 Tanker Shipments	-	-	-
MWT-31 and 34 Leachate	~ 28,000 gal	-	-
Other (e.g., 325 Building Totes)	-	-	-
242-A Evaporator Campaigns	~ 223,000 gal	-	-

gal = gallon.

Mgal = million gallons.

MWT = mixed waste trench.

Significant Past Accomplishments:

- Total FY 2017 volume processed (as of August 30, 2017): approximately 3,549,000 gallons.
- Continued processing of remaining concentrate waste from the previous Liquid Effluent Retention Facility Basin 43 operations through the thin film dryer.

Significant Planned Actions in the Next Six Months:

- Continue maintenance outage at the Effluent Treatment Facility (ETF)
- Initiate Liquid Effluent Retention Facility Basin 42 waste processing through the ETF.

² Basin 43 was placed out-of-service on May 8, 2017.

Issues:

- The heat exchanger for the primary air compressor is leaking into the air side of the heat exchanger and requires replacement. ETF is operating on a portable air compressor.

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:

- The corrosion testing subgroup of the Tank Integrity Expert Panel met at DNV-GL laboratories on August 23 and 24, 2017. The subgroup discussed corrosion testing from FY 2017 and developed plans for FY 2018 corrosion testing. After the subgroup finalizes its comments, WRPS will prepare a report.

Single-Shell Tank (SST) Integrity:

WRPS awarded the independent qualified registered professional engineer (IQRPE) subcontract for the SST Integrity Assessment project, as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering.

Significant Planned Actions in the Next Six Months:

DST Integrity:

- 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 AY-101 annulus.
- FY 2017 enhanced annulus visual inspections are in progress. The following tanks will be inspected in FY 2017:
 - 241-AN-102 (completed, report in external clearance process)
 - 241-AN-107 (completed, report in external clearance process)
 - 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).
- **Work planning and execution for FY 2017 ultrasonic testing inspections is ongoing. The following tanks will be inspected 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 (field work ongoing to examine secondary liner annulus floor).
 - 241-AZ-101 (field work halted due to annulus contamination event – delayed until FY 2018).
 - 241-AY-101 (delayed to early FY 2018).

SST Integrity:

- **Work planning for FY 2017 in-tank video inspections is in process. The following tanks are planned for inspection in FY 2017:**
 - 41-A-104
 - 241-A-105
 - 241-BX-102
 - 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-TX-106
 - 241-TX-109
 - 241-U-107.
- 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

- Preparation of the IQRPE report for the 242-A Evaporator is ongoing. The E-A-1 reboiler fluorescein dye 24-hour leak test was completed.
- Work continues on RPP-RPT-61349, *Effluent Treatment Facility Integrity Program Plan*. The plan will support the FY 2019 IQRPE 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 IQRPE report for the 219-S facility at the 222-S Laboratory. The RPP-PLAN-61634, *219-S Integrity Assessment Plan*, is complete. WRPS is reviewing and awaiting approvals for a statement of work for an IQRPE.
- The RPP-PLAN-61510, *Single-Shell Tank Structural Integrity Assessment Plan*, for the 2018 SST IQRPE report was released. Evaluation of proposals was completed and an IQRPE was selected to perform the assessment.

Issues:

DST Integrity:

- None.

SST Integrity:

- Report RPP-RPT-55202, *Dome Survey for Hanford Single Shell Tanks*, Rev. 2, which satisfies Milestone M-045-91E2 and is due September 30, 2017, is complete (internal access only) but will not be released until external clearance is completed. The report was submitted for clearance on August 15, 2017, and is progressing through the process.

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.

Significant Planned Actions in the Next Six Months:

- IQRPE to initiate 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 August 1 through August 31, the following reports were completed (internal access only) or released (external access):

- Released RPP-RPT-54017, *Derivation of Best-Basis Inventory for Tank 241-AP-102 as of July 1, 2017*, Rev. 5.
- Released RPP-RPT-48639, *Derivation of Best-Basis Inventory for Tank 241-AP-104 as of August 1, 2017*, Rev. 15.
- Released RPP-RPT-44637, *Derivation of Best-Basis Inventory for Tank 241-AZ-101 as of August 1, 2017*, Rev. 11.
- Released RPP-RPT-46792, *Derivation of Best-Basis Inventory for Tank 241-AW-102 as of August 1, 2017*, Rev. 12.
- Released RPP-RPT-60250, *Derivation of Best-Basis Inventory for Tank 241-S-109 as of July 1, 2017*, Rev. 0.
- Released RPP-RPT-60184, *Derivation of Best-Basis Inventory for Tank 241-SX-104 as of August 1, 2017*, Rev. 0.
- Released RPP-RPT-58547, *Derivation of Best-Basis Inventory for Tank 241-T-111 as of July 1, 2017*, Rev. 1.
- Completed RPP-PLAN-61635, *Tank 241-AP-107 Grab Sampling for Large Volume Testing at Pacific Northwest National Laboratory (PNNL)*, Rev. 0.
- Released RPP-CALC-61538, *242-A Evaporator Campaign EC-07 Process Control Plan Calculations*, Rev. 0.
- Completed RPP-CALC-60672, *Tank 241-AP-104 FY17 Q4 Supernatant and Saltcake Process Knowledge Vectors Concentration Calculation*, Rev. 3.
- Released HNF-EP-0182, *Waste Tank Summary Report for Month Ending July 31, 2017*, Rev. 355.
- Released RPP-RPT-60196, *Tank 241-AY-102 Monthly Monitoring Report May 2017*, Rev. 0.
- Completed RPP-RPT-60261, *Final Report for Tank 241-AW-104 Grab Sampling 2017*, Rev. 0.
- Completed 241-AN-107 liquid grab sampling on August 11, 2017. The laboratory received four samples.

- Completed 241-C-105 in-process liquid grab sampling on August 17, 2017. The laboratory received two samples.
- Completed 242-A Evaporator slurry sampling on August 28, 2017. The laboratory received two samples.

Significant Planned Actions in the Next Six Months:

Tank sampling:

- Tank 241-SY-102 liquid grab sampling is planned for September 2017.
- Tank 241-C-105 in-process grab sampling is planned for September 2017.
- Tank 241-C-105 in-process grab sampling is planned for October 2017.
- Tank 241-AY-102 solids grab sampling is planned for October 2017.
- Tank 241-C-105 in-process grab sampling is planned for November 2017.

Best-Basis Inventory updates:

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

- 241-AP-102
- 241-AP-104
- 241-AW-102
- 241-AZ-101
- 241-S-109
- 241-SX-104
- 241-T-111.

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

- 241-B-108
- 241-S-101
- 241-S-103
- 241-T-112.

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-045-56M** **Complete Implementation of Agreed to Interim Measures**
Due: July 28, 2017.
Status: Complete. The annual meeting between ORP and Ecology to discuss the prior FY accomplishments and the next FY proposed interim measures was held on July 11. Action items from the meeting are being tracked by WRPS.
- M-045-92S** **DOE and Ecology agree on locations for Barriers 3 and 4**
Due: September 30, 2017.
Status: On schedule.
- 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.

Significant Planned Activities in the Next Six Months:

- Begin actual construction field activities for the SX Tank Farm interim surface barriers
- 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 (CMS) report for Waste Management Area C
- Complete discussions on locations for interim barriers 3 and 4.

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 will meet with Ecology 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.
- CMS 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 (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 (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:

- Report RPP-RPT-60173, *Retrieval Data Report for Single-Shell Tank 241-C-111*, was completed and submitted to Ecology via letter 17-TPD-0018, “The U.S. Department of Energy Office of River Protection Submits the Retrieval Data Report for Tank 241-C-111,” on August 11, 2017.
- 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 2017

July-17

Tank Farms ORP-0014										
5.0 - River Protection Project										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	50,657	51,650	51,639	993	10	1.02	1.00			
FYTD	502,010	489,360	487,177	(12,649)	2,183	0.97	1.00	639,472	644,377	(4,906)
CTD	3,957,959	3,924,495	3,896,040	(33,464)	28,455	0.99	1.01	4,815,789	4,801,971	13,818

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.

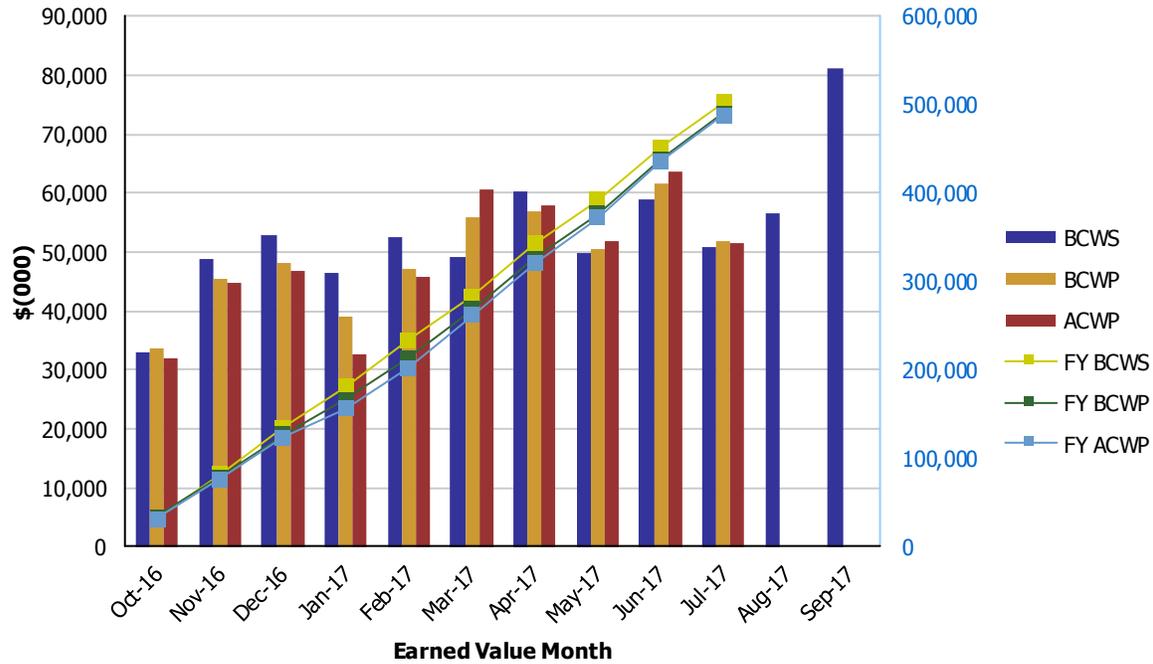
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

July-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	\$56,451									
Sep 2017	\$81,011									

CTD	\$3,957,959	\$3,924,495	\$3,896,040	0.99	1.01
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- ACWP = actual cost of work performed.
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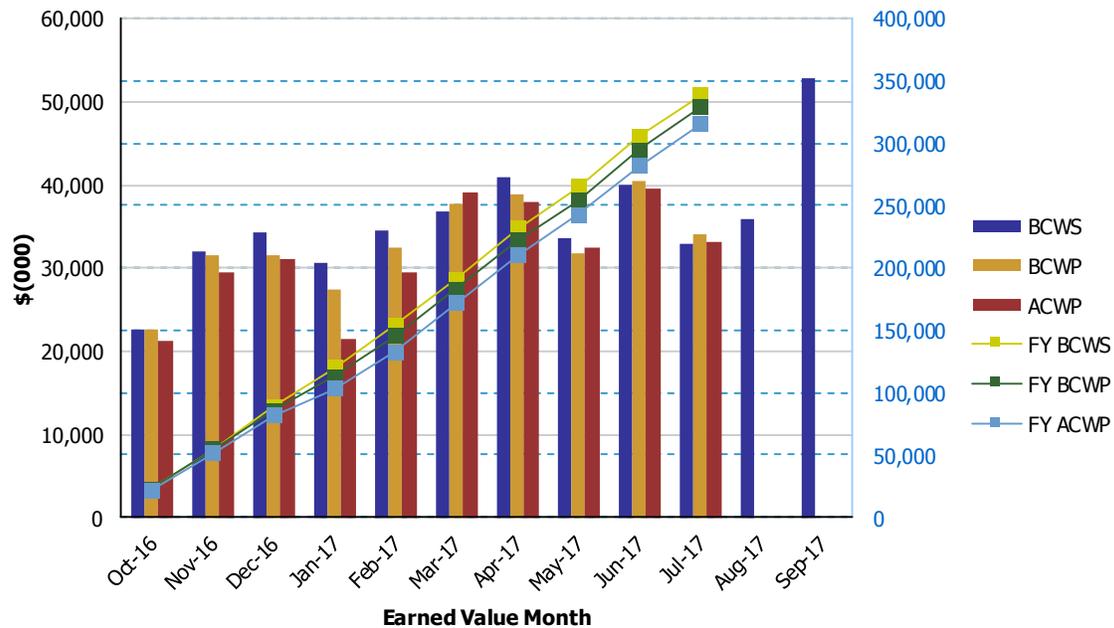
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

July-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									
Sep 2017	\$52,801									
CTD	\$2,636,488	\$2,621,005	\$2,582,404	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 July 2017 variances below do not impact TPA milestones.

The **favorable** SV of \$1,263,000 is primarily due to:

- Schedule Recovery: Completed Tank AW-106 pump installation activities in July, rather than the original plan of May. Final installation activities were delayed due to the 242-A Evaporator campaign (EC-06).
- Replacement of ETF basin cover completed ahead of schedule due to necessary resources being available sooner than originally planned.

The **favorable** CV of \$1,058,000 is primarily due to:

- Cost avoidance. The “Replacement of AW-106 Transfer Pump” project anticipated the fabrication and procurement of the Tank AW-106 new transfer pump; however, a spare transfer pump from storage that met requirements was available, resulting in a cost underrun.

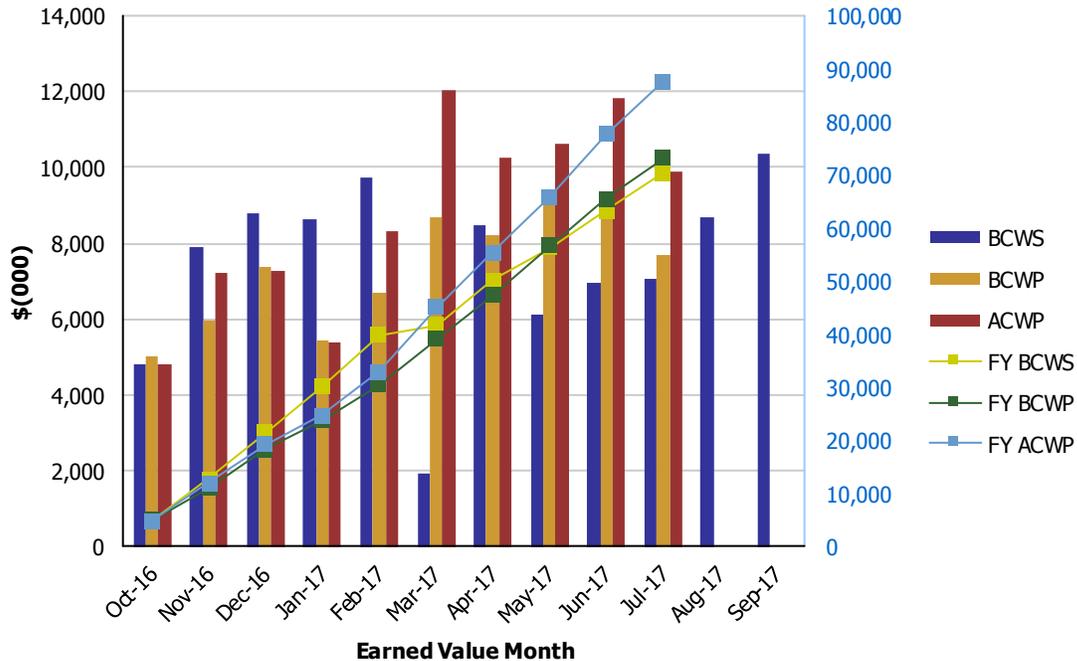
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

July-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	\$8,673									
Sep 2017	\$10,391									

CTD	\$779,556	\$771,226	\$808,344	0.99	0.95
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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.

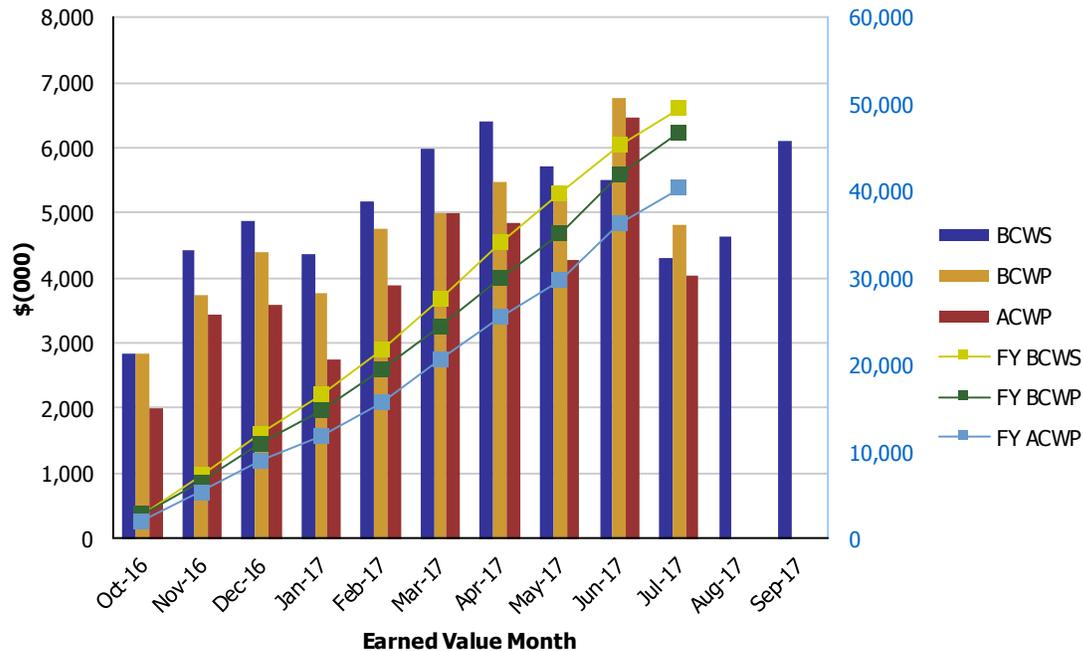
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

July-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									
Sep 2017	\$6,097									

CTD	\$421,959	\$417,793	\$385,154	0.99	1.08
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 SPI = schedule performance index.

One System Division Director: Jon Peschong

Federal Program Manager: Kaylin Burnett

Waste Feed Delivery/Treatment (5.03)

The July 2017 variances below do not impact TPA milestones.

The favorable SV of \$531,000 is primarily due to:

- Performance recovered from earlier periods for the Alternative Retrieval - Effectiveness Testing project. This project consisted of the completion of the vendor startup testing, test preparation, and the facility procurement. This project scope originally planned to complete in early June. The current period favorable variance offsets the unfavorable variances reported in prior periods.
- Performance recovered from earlier periods in the AP-107 Tank Upgrades project. The design was to occur throughout FY 2016 and into early FY 2017. The project continued working on the integrated design effort and recovered significant portions of the original 90 percent and final design efforts planned in previous periods.
- Performance recovered from earlier periods in the AP-105 Tank upgrades project. The design was to be completed by April 2017. The project was able to award a contract direction letter to subcontractor to begin the overall design effort. A significant portion of the 30 percent design effort was completed in the current period.

The favorable CV of \$784,000 is primarily due to:

- Efficiencies in the work performed by Pacific Northwest National Laboratory. These efficiencies are a result of the following: less resources were required to prepare for the Nondestructive Examination Effectiveness Testing Project and reduced cost to host the vendors onsite for the technology screening phase of the DST Non-Visual Testing Project.
- Labor costs were underspent in July FY 2017 primarily due to labor vacancies.
- Comments received for the final review of System Plan 8 were significantly less than planned, which required less subcontractor time for incorporation.

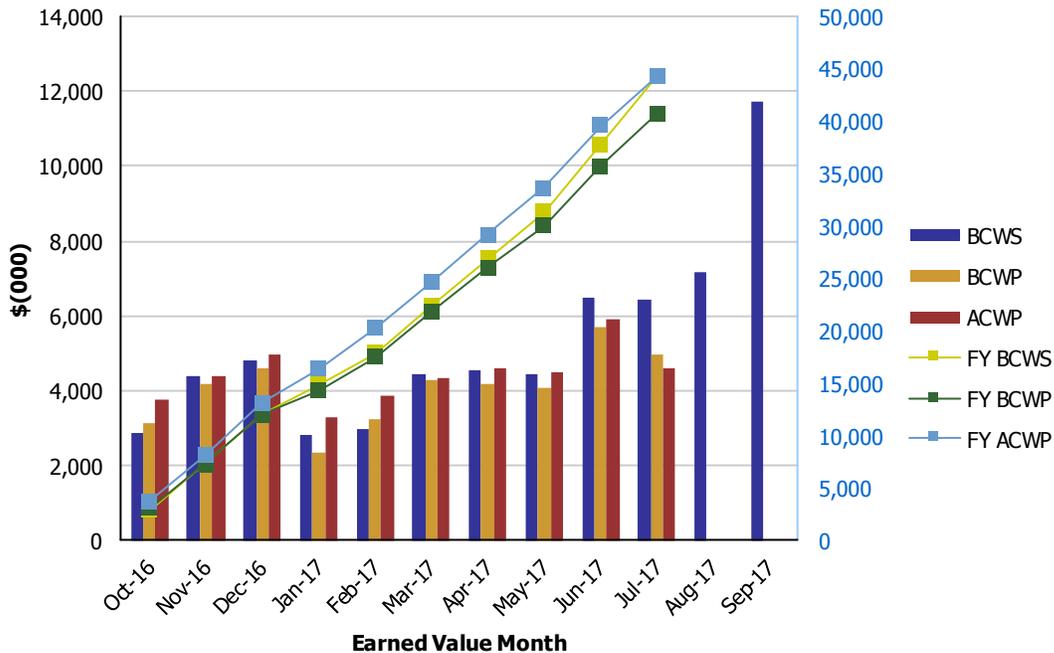
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2017

July-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	\$7,168									
Sep 2017	\$11,722									

CTD	\$99,846	\$94,362	\$100,976	0.95	0.93
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Tank Farms Assistant Manager: Glyn Trenchard

Deputy Federal Project Director: Janet Diediker

Treat Waste (5.5)

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

The **unfavorable** SV of (\$1,460,000) is primarily due to:

- Integrated scaled testing results indicated that a change to the current flammable gas mitigation strategy is necessary. As a result, a vented ion exchange system will replace the gas removal system. Activities impacted by the design change are on hold until the development of a revised execution strategy is complete.

The **favorable** CV of \$376,000 is primarily due to:

- The level of design project management and support required in the current period was less than planned for project management, project controls, computer-aided design and drafting, and quality assurance.
- Pacific Northwest National Laboratory cross-flow filter testing, gas generation testing, gas retention and release testing, and integrated engineering scale data analysis testing was completed for less than planned. Pacific Northwest National Laboratory applied lessons learned during the initial phases of testing to leverage cost efficiencies on the remaining testing work.