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**FINAL**

Office of River Protection  
Tri-Party Agreement  
Report  
June<sup>1</sup> 2017



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<sup>1</sup> The narrative descriptions of progress in this report cover the period from May 01–31, 2017.  
Earned Value Management System data and descriptions cover the period of April 01–30, 2017.

**Tri-Party Agreement (TPA) Milestone Review**

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**Administrative Items/Milestone Status**

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>Completion Date</b>	<b>Status</b>
<b>Fiscal Year 2015</b>				
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
<b>Fiscal Year 2016</b>				
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
<b>Fiscal Year 2017</b>				
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

Milestone	Title	Due Date	Completion Date	Status
M-045-62	Submit to Ecology the draft Tier 3 closure plans to implement corrective measures.	To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan		On Schedule
M-045-83	Complete the Closure of WMA-C	To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan		On Schedule
M-045-56M	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2017		On Schedule
M-062-01AI	Submit Semi-Annual Project Compliance Report	07/31/2017		On Schedule
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
<b>Fiscal Year 2018</b>				
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

Milestone	Title	Due Date	Completion Date	Status
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

CD-1/-2 critical decision-1/-2

CMS corrective measures study

CR change request

DOE U.S. Department of Energy

Ecology WA State Department of Ecology

HFFACO Hanford Federal Facility Agreement and Consent Order

IQRPE independent qualified registered professional engineer

RCRA *Resource Conservation and Recovery Act*

RFI RCRA Facility Investigation.

SST single-shell tank.

WTP Waste Treatment and Immobilization Plant.

WMA waste management area.

WMA-C C Farm waste management area.

## **System Plan**

***One System Division Director:*** Jon Peschong

***Federal Program Manager:*** Kaylin Burnett

### **Significant Past Accomplishments:**

- Completed System Plan 8 analysis and distributed initial draft document for review by ORP, Ecology, and WRPS.

### **Significant Planned Actions in the Next Six Months:**

- Continue negotiations of the M-062-45 milestones with intent to utilize information from System Plan 8 negotiations.
- Resolve and incorporate review comments by July 17th.

### **Issues:**

- None.

## Acquisition of New Facilities

**Tank Farms Assistant Manager:** Glyn Trenchard

**Deputy Federal Project Director:** Janet Diediker

- M-047-07**      **Submit CD-1 for Secondary Liquid Waste Treatment and Change Request (CR) for CD-2 to Ecology**  
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-090-13**      **Submit Critical Decision-1 for Interim Hanford Storage Project and TPA Change Request for CD-2 to Ecology**  
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:

- None.

## 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 decision by the Interagency Management Integration Team.

## 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) 2016 through fourth quarter of FY 2017 is depicted in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2016	EC-04	AP-104	AP-103	Completed April 15, 2016 WVR = 258 kgal
FY 2016	EC-05	AP-104	AP-104	Completed April 21, 2016 WVR = 46 kgal
FY 2017	EC-06	AY-101	AP-104	242-A Evaporator campaign EC-06 has been postponed until replacement of failed radiation monitoring systems RC-1, RC-2, and RC-3 are completed. This is expected mid-year of calendar year 2017.
FY 2017	EC-07	AW-106	AP-104	242-A Evaporator campaign EC-07 will follow EC-06, after the 106-AW pump is replaced.
FY 2018	EC-08	AP 106/107 Blend	AP-103	Will require blending of waste in 102-AW, 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:

- None

### Significant Planned Actions in the Next Six Months:

- Future campaign and outage scheduling
- Continue integrity assessment on 242-A Evaporator components
- Replace P-B-2 associated pressure relief valves

- Replace radiation monitoring systems RC-1, RC-2, and RC-3
- Replace and extend the vessel vent stack. Equivalent or better material will be used. The new vent stack will be approximately 50 feet taller.

**Issues:**

- None.

## 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 is 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)
<b>Total Volume (as of May 30, 2017)</b>	~ 6.39 Mgal	~ 0 Mgal <sup>2</sup>	~ 7.42 Mgal

<b>Waste Received</b>			
AZ-301 Tanker Shipments	-	-	-
MWT-31 and 34 Leachate	~ 70,000 gal	-	-
Other (e.g., 325 Building Totes and SWL Lysimeter Leachate)	~ 2,600 gal	-	-
242-A Evaporator Campaigns	-	-	-
Basin 43 Heel to Basin 42	~ 540,000 gal	-	-

.gal           gallon.  
Mgal          million gallons.  
MWT         mixed waste trench  
SWL         solid waste landfill.

### Significant Past Accomplishments:

- Total FY 2017 volume processed (as of May 30, 2017): ~ 3,508,000 gallons.
- Completed emptying of LERF Basin 43.
- Initiated LERF Basin 43 cover replacement work activities.

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<sup>2</sup> Basin 43 was placed out-of-service on May 08, 2017

**Significant Planned Actions in the Next Six Months:**

- Continue maintenance outage at the ETF to clean out plant.
- Continue LERF Basin 43 cover replacement fieldwork.
- Initiate LERF Basin 42 waste processing through the ETF.

**Issues:**

- The Thin Film Dryer hopper knocker failed and will require significant vessel repair work over the next month.

## Tank System Update

**Tank Farms Assistant Manager:** Glyn Trenchard

**Federal Program Manager:** Dusty Stewart

### Significant Past Accomplishments

Double-Shell Tank (DST) Integrity:

- RPP-ASMT-61313, “Tank Integrity Expert Panel Corrosion Subgroup August 2016 Meeting Outcomes” was issued documenting expert panel review of the FY 2016 corrosion testing and providing guidance for FY 2017 activities.

Single-Shell Tank (SST) Integrity:

- None.

### Independent Qualified Registered Professional Engineer Activities

Planned Actions:

- Preparation of the independent qualified registered professional engineer (IQRPE) report for the 242-A Evaporator is ongoing. A video probe inspection of the steam side of the E-A-1 reboiler was successfully completed and video was provided to the IQRPE. Meier Architecture Engineering (Meier) completed a tour/walkdown of readily accessible areas of the facility. Remaining fieldwork includes the E-A-1 reboiler fluorescein dye 24-hour leak test and C-A-1 vapor-liquid separator 24-hour static leak test. These tests are scheduled for completion prior to introducing Evaporator Campaign EC-06 hot feed to the facility.
- Work continues on RPP-RPT-61349, the ETF integrity program plan. The plan is expected to be released in May to support the FY 2019 IQRPE integrity assessment. Ultrasonic thickness scanning of ETF tanks is scheduled to begin in June.
- Initial planning continues for the IQRPE report for the 219-S facility at the 222-S Laboratory. An internal draft of the Integrity Assessment Plan was distributed for initial review.
- The Integrity Assessment plan for the 2018 SST IQRPE report was completed by WRPS and distributed for review by ORP. It will be the basis for a statement of work later this FY.

### Significant Planned Actions in the Next Six Months:

DST Integrity:

- Continuing bi-weekly inspections of AY-102 waste accumulation site.
- Continuing bi-monthly comprehensive inspection of 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 (complete)
  - 241-AN-107 (complete)
  - 241-AP-101
  - 241-AP-107
  - 241-AW-105 (RPP-RPT-42147, Rev. 5 issued)
  - 241-AY-101 (complete, report in external clearance process)
  - 241-AZ-101 (complete, report in external clearance process)
  - 241-AZ-102 (complete, report in external clearance process)
- Work planning and execution for FY 2017 ultrasonic testing inspections has begun. The following tanks will be inspected in FY 2017:
  - 241-AN-106 (field work complete; report in review)
  - 241-AY-101 (field preparations underway)
  - 241-AZ-101

#### SST Integrity:

- The FY 2016 SST Visual Inspection Report (RPP-RPT-59272) is undergoing the process for public release.
- Work planning for FY 2017 in-tank video inspections has already begun. The following tanks will be inspected in FY 2017 (note SX-113 was deleted and S-104 was added):
 

– 241-BX-102	– 241-T-106
– 241-BX-107 (complete)	– 241-T-109
– 241-BY-109 (complete)	– 241-TX-105
– 241-S-104 (complete)	– 241-TX-106
– 241-SX-110	– 241-TX-109
– 241-T-104	– 241-U-107.
- Intrusion mitigation (M-045-56):
  - The POR-006 exhauster remains out of service at T-111. Parts were ordered to repair the malfunctioning instrument cabinet heater. Data collection and reporting software are still not working. The total volume of water evaporated from T-111 since mid-July 2015 was very roughly estimated at 7,100 gal.
  - The exhauster will continue operation as resource availability permits, but the evaporation is no longer being tracked. Periodic video inspections may be

conducted to visually observe changes to the liquid pool in the tank if the exhauster is able to operate for a sufficiently long period.

- RPP-RPT-59273 Rev. 0, *Evaporation of Water from Single-Shell Tank 241-T-111 with 500 CFM Portable Exhauster POR06*, was cleared for public release on April 13, 2017.

**Issues:**

## DST Integrity:

- During removal of the nondestructive examination (NDE) magnetic crawler from the tank AZ-101 annulus, 300,000 disintegrations per minute of radiological contamination were found on its surfaces. The preliminary determination is that the source of contamination has been traced to an encasement, enclosing an out-of-service sidefill line. Planning is underway to confirm the source. There is no evidence that the primary tank leaked.
- .

## SST Integrity:

- None.



## **Single-Shell Tank Integrity Assurance**

***Tank Farms Assistant Manager:*** Glyn Trenchard

***Federal Program Manager:*** Dusty Stewart

**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:**

- None.

### **Significant Planned Actions in the Next Six Months:**

- The Integrity Assessment Plan is being drafted for 2018 SST IQRPE report and will be the basis for a Statement of Work (SOW) later this FY.

### **Issues:**

- None.

## In-Tank Characterization and Summary

**Tank Farms Assistant Manager:** Glyn Trenchard

**Federal Program Manager:** Dusty Stewart

### Accomplishments:

For the period from May 01 through May 31, the following reports were completed or issued:

- Completed RPP-RPT-48459, *Derivation of Best-Basis Inventory for Tank 241-C-111 as of April 4, 2017*, Rev 4.
- Completed RPP-RPT-44630, *Derivation of Best-Basis Inventory for Tank 241-AY-102 as of April 1, 2017*, Rev 13.
- Completed RPP-RPT-60053, *Derivation of Best-Basis Inventory for Tank 241-TX-113 as of April 1, 2017*, Rev 0.
- Completed RPP-RPT-45746, *Derivation of Best-Basis Inventory for Tank 241-AN-102 as of April 1, 2017*, Rev 6.
- Completed RPP-RPT-60044, *Derivation of Best-Basis Inventory for Tank 241-B-106 as of April 1, 2017*, Rev 0.
- Completed RPP-RPT-58456, *Derivation of Best-Basis Inventory for Tank 241-AP-103 as of April 1, 2017*, Rev 4.
- Completed RPP-RPT-43979, *Derivation of Best-Basis Inventory for Tank 241-AY-101 as of April 1, 2017*, Rev 17.
- Completed RPP-RPT-46686, *Derivation of Best-Basis Inventory for Tank 241-AW-106 as of April 1, 2017*, Rev 7.
- Completed RPP-PLAN-61454, *Sampling and Analysis Plan for Tank 241-AY-102 Waste Solids after Retrieval Using the Extended Reach Sluicing System (ERSS)*, Rev. 0.
- Completed RPP-PLAN-58022, *Sampling and Analysis Plan for 242-A Evaporator Cooling Water and Steam Condensate*, Rev. 3.
- Completed RPP-RPT-59714, *Tank 241-C-111 Residual Waste Inventory Estimates for Component Closure Risk Assessment*, Rev. 1.
- Completed RPP-CALC-61074, *Tank 241-AY-101 FY17 Q3 Supernatant Process Knowledge Vector*, Rev. 1.
- Completed RPP-CALC-60595, *Tank 241-AW-102 FY17 Q3 Process Knowledge Vector Concentration Calculation*, Rev. 3.
- Completed RPP-CALC-60804, *242-A Evaporator Campaign EC-06 Process Control Plan Calculations*, Rev. 1.
- Completed RPP-RPT-59355, *242-A Evaporator Campaign EC-03 Post-Run Report*, Rev. 1.

- Completed RPP-TE-58365, *241-AZ-101A Leak Detection Pit pH Exceeds 9*, Rev 0.
- Completed RPP-RPT-40789, *Waste Tank Summary Report Preparation Guide*, Rev. 2.

**Planned Action within the Next Six Months:**

Tank sampling:

- Tank 241-AW-104 grab sampling is planned for June 2017.
- Tank 241-AY-102 solids grab sampling is planned for July 2017.
- Tank 241-AP-107 grab sampling is planned for July 2017.
- Tank 241-AN-107 grab sampling is planned for August 2017.
- Tank 241-C-105 grab sampling is planned for September 2017.

**Best-Basis Inventory updates:**

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

- 241-AN-102
- 241-AY-102
- 241-AP-103
- 241-B-106
- 241-AW-106
- 241-C-111
- 241-AY-101
- 241-TX-113

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

- 241-A-103
- 241-AN-101
- 241-AN-106
- 241-AP-102
- 241-AW-102
- 241-C-105
- 241-S-105

## 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-045-82**      **Submit to Ecology for review, in accordance with HFFACO Action Section 9.2.2, the draft Tier 2 closure plan for WMA C. The Tier 2 plan shall include a proposed TPA milestone change control form identifying all Tier 3 submittal dates for WMA C and proposed target dates to initiate Tier 3 closure activities. Target dates will be converted to enforceable schedules through permit modification to incorporate Tier 3 closure plans**  
Due: May 15, 2017  
Status: Complete (May 15, 2017).
- M-045-82A**      **Submit to Ecology for review, in accordance with HFFACO Action Section 9.2.2, the draft Tier 3 closure plans for the C-200 tanks (C-201, C-202, C-203, and C-204) including schedules.**  
Due: May 15, 2017  
Status: Complete (May 15, 2017).
- 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: On schedule. An annual meeting is held between ORP and Ecology to discuss the prior FY accomplishments and the next FY proposed interim measures to be scheduled in July 2017.
- 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 be addressed with the negotiations supporting M-062-45.

**Significant Past Accomplishments:**

- Working with Ecology on review of the WMA-C Performance Assessment.
- Submitted RPP-RPT-58339, *Phase 2 RCRA Facility Investigation Report for Waste Management Area C*, and RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*, to complete HFFACO Milestone M-045-61 A.
- Submitted the draft Tier 2 Closure Plan for WMA-C, and a draft Tier 3 Closure Plan for the C-200 Series Tanks to Ecology for review to complete HFFACO Milestones M-045-82 and M-045-82A (via letter 17-TF-0046 REISSUE, dated 17 May 2017)

**Significant Planned Activities in the Next Six Months:**

- Continue data collection for T Farm and TY Farm interim surface barrier monitoring and develop the annual interim barrier monitoring report for FY 2016.
- Begin resolution of Ecology's comments on the RCRA Tier 1 Closure Plan.
- Begin discussions on locations for barriers 3 and 4.

**Issues:**

- Developing path forward for resolving Ecology's comments on the RCRA Tier 1 Closure Plan was elevated to ORP and Nuclear Waste Program managers in March 2017.

## 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 have begun.

### Significant Past Accomplishments:

- Refer to Consent Decree monthly report for ongoing retrieval activities.

### Significant Planned Activities in the Next Six Months:

- The C-111 RDR is expected to be ready in September 2017.
- Refer to Consent Decree monthly report for ongoing retrieval activities.

### Issues:

- Refer to Consent Decree monthly report for ongoing retrieval issues.

## Tank Waste Retrieval Work Plan Status

*Tank Farms Assistant Manager:* Glyn Trenchard

*Federal Program Manager:* Jeff Rambo

### Significant Accomplishments:

- None.

### Significant Planned Activities in the Next Six Months:

- Finalize AX Tank Farm tank retrieval work plans.

### Issues:

- None.

## Tank Operations Contract Overview

### Project Performance:

The earned value performance reporting reflects the format, work breakdown structure reporting levels, and variance thresholds as agreed to with the Tank Operations Contractor for monthly performance reporting. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

**April-17**

#### Selected WBS: 5 - River Protection Project

	BCWS	BCWP	ACWP	SPI	CPI	BAC	EAC	VAC
CM	60,228	56,852	57,746	0.94	0.98			
FYTD	342,718	325,528	319,955	0.95	1.02	613,339		
CTD	3,798,667	3,760,663	3,728,818	0.99	1.01	4,769,205	4,793,746	(24,540)

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 planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. 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 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 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 fiscal year or contract-to-date report



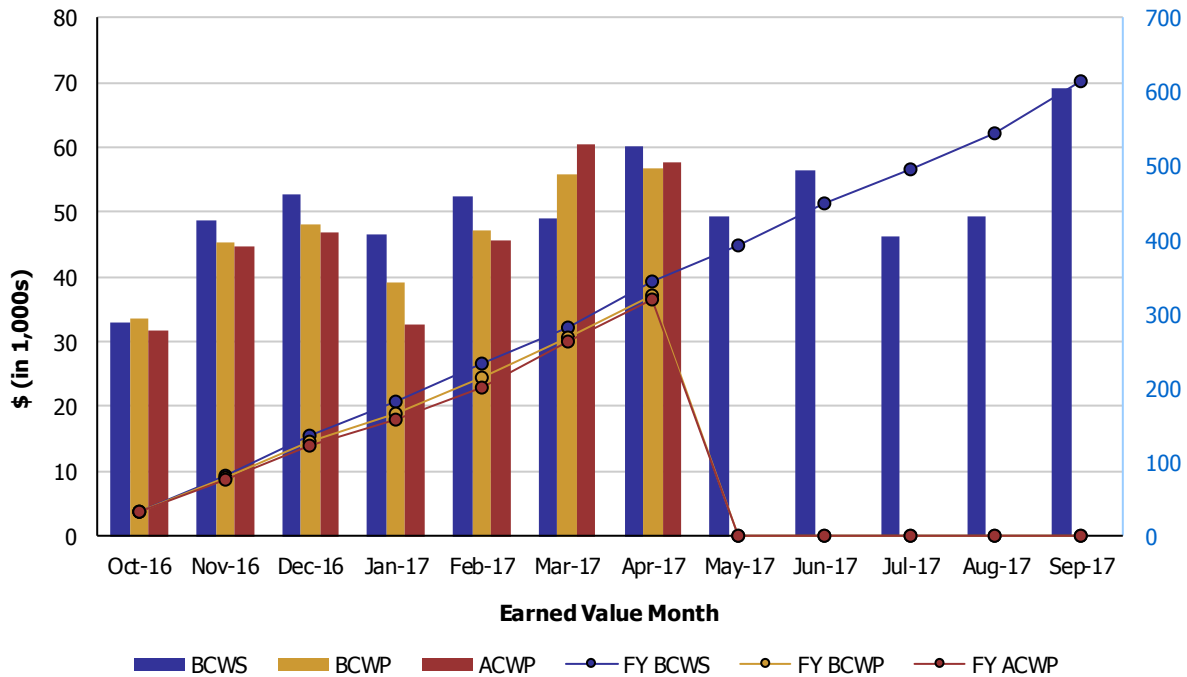
provides a better indicator of the overall project completion status, and can give a reasonable projection of how the project will finish, based on the progress-to-date.

Earned Value Data: Fiscal Year 2017

April-17

**Tank Farms ORP-0014**  
**Selected WBS: 5 - River Protection Project**

EVMS Monthly and Fiscal Year Values



Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2016	\$33,051	\$33,502	\$31,798	1.01	1.05	\$33,051	\$33,502	\$31,798	1.01	1.05
Nov 2016	\$48,628	\$45,387	\$44,614	0.93	1.02	\$81,679	\$78,889	\$76,412	0.97	1.03
Dec 2016	\$52,841	\$47,972	\$46,833	0.91	1.02	\$134,520	\$126,860	\$123,245	0.94	1.03
Jan 2017	\$46,477	\$39,027	\$32,764	0.84	1.19	\$180,997	\$165,887	\$156,009	0.92	1.06
Feb 2017	\$52,366	\$47,088	\$45,690	0.90	1.03	\$233,363	\$212,975	\$201,699	0.91	1.06
Mar 2017	\$49,127	\$55,701	\$60,510	1.13	0.92	\$282,490	\$268,676	\$262,209	0.95	1.02
Apr 2017	\$60,228	\$56,852	\$57,746	0.94	0.98	\$342,718	\$325,528	\$319,955	0.95	1.02
May 2017	\$49,274	\$0	\$0	0.00	0.00	\$391,991	\$0	\$0	0.00	0.00
Jun 2017	\$56,516	\$0	\$0	0.00	0.00	\$448,508	\$0	\$0	0.00	0.00
Jul 2017	\$46,389	\$0	\$0	0.00	0.00	\$494,897	\$0	\$0	0.00	0.00
Aug 2017	\$49,310	\$0	\$0	0.00	0.00	\$544,207	\$0	\$0	0.00	0.00
Sep 2017	\$69,132	\$0	\$0	0.00	0.00	\$613,339	\$0	\$0	0.00	0.00

CTD	\$3,798,667	\$3,760,663	\$3,728,818	0.99	1.01
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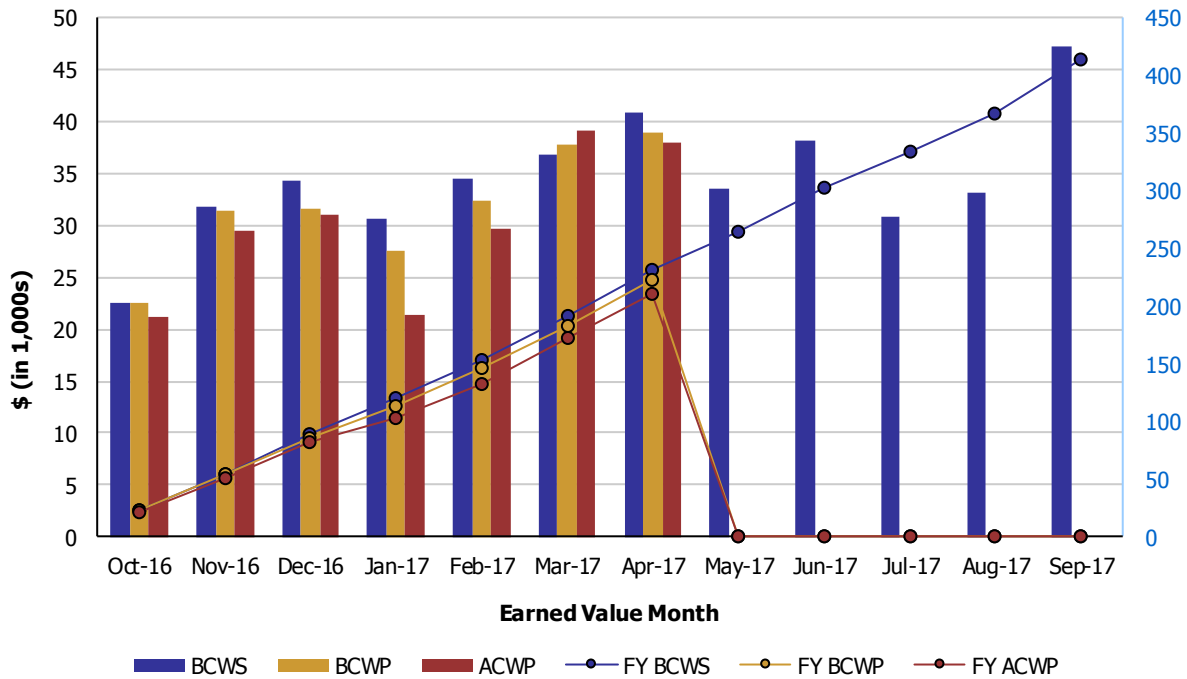
ACWP	actual cost of work performed	CTD	contract to date
BCWP	budgeted cost of work performed	EVMS	Earned Value Management System
BCWS	budgeted cost of work scheduled	FY	fiscal year
CPI	cost performance index	SPI	schedule performance index

Earned Value Data: Fiscal Year 2017

April-17

**Tank Farms ORP-0014**  
**Selected WBS: 5.1 - Base Operations**

EVMS Monthly and Fiscal Year Values



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	\$54,043	\$50,743	0.99	1.07
Dec 2016	\$34,394	\$31,547	\$31,032	0.92	1.02	\$88,786	\$85,590	\$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	\$145,469	\$132,733	0.95	1.10
Mar 2017	\$36,780	\$37,769	\$39,127	1.03	0.97	\$190,698	\$183,238	\$171,861	0.96	1.07
Apr 2017	\$40,813	\$38,964	\$38,001	0.95	1.03	\$231,511	\$222,202	\$209,861	0.96	1.06
May 2017	\$33,474	\$0	\$0	0.00	0.00	\$264,986	\$0	\$0	0.00	0.00
Jun 2017	\$38,121	\$0	\$0	0.00	0.00	\$303,107	\$0	\$0	0.00	0.00
Jul 2017	\$30,862	\$0	\$0	0.00	0.00	\$333,969	\$0	\$0	0.00	0.00
Aug 2017	\$33,067	\$0	\$0	0.00	0.00	\$367,035	\$0	\$0	0.00	0.00
Sep 2017	\$47,309	\$0	\$0	0.00	0.00	\$414,344	\$0	\$0	0.00	0.00

CTD	\$2,530,189	\$2,514,524	\$2,477,287	0.99	1.02
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ACWP	actual cost of work performed	CTD	contract to date
BCWP	budgeted cost of work performed	EVMS	Earned Value Management System
BCWS	budgeted cost of work scheduled	FY	fiscal year
CPI	cost performance index	SPI	schedule performance index

**Federal Project Director:** Ellen Mattlin

**Base Operations and Tank Farm Projects (5.01)**

The April 2017 variances below do not impact or delay TPA milestones.

The **unfavorable** schedule variance (SV) of (\$1,849K) is primarily due to the following:

- Schedule delay of the AW-106 Pump Replacement due to field work constraints imposed by a beryllium stop work order that was issued in April 2017. The issue has been resolved and the replacement of AW-106 pump and jumpers is to be completed in the coming period.
- Design & fabrication activities for replacing AZ-102 and AP-102 pumps has been delayed due to project priority and available resources. Pump replacement activities have been re-sequenced to support future evaporator campaigns and adjacent projects.
- Procurement delays of the tank farm safety showers upgrades as a result of design modifications.

The **favorable** cost variance (CV) of \$963K is primarily due to the following:

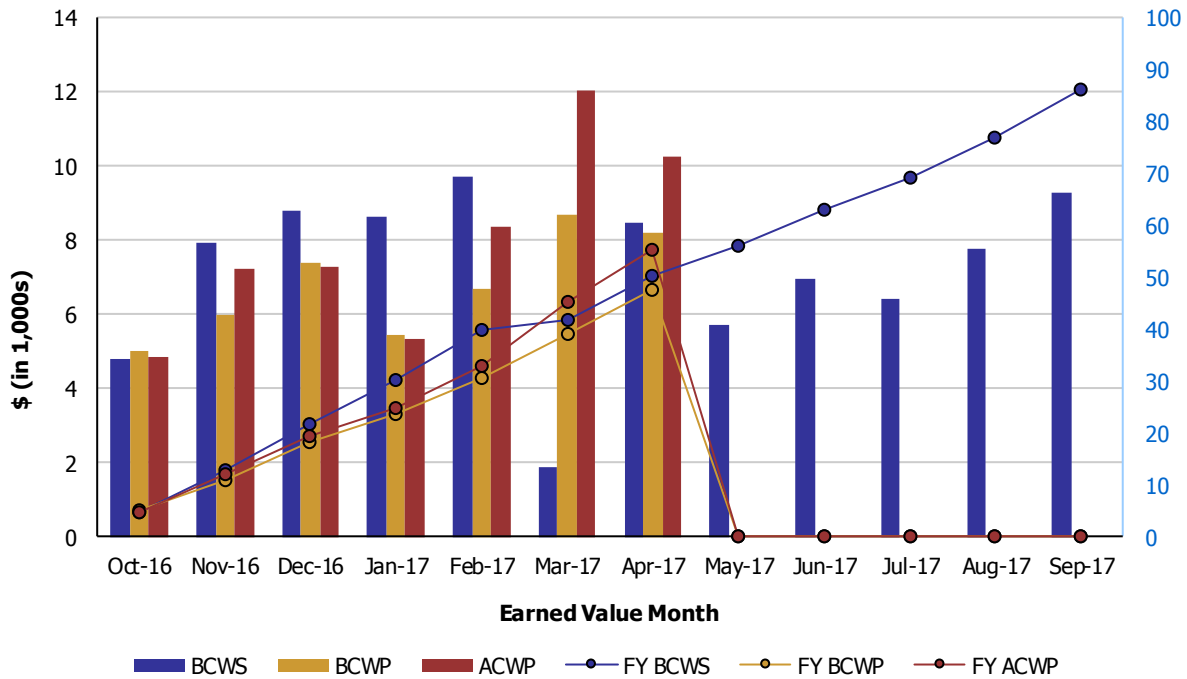
- Fewer than planned waste management shipments have been necessary.
- Labor efficiencies have been realized in the stair replacement effort, resulting in less actual labor hours than planned.

Earned Value Data: Fiscal Year 2017

April-17

**Tank Farms ORP-0014**  
**Selected WBS: 5.2 - Retrieve and Close SSTs**

EVMS Monthly and Fiscal Year Values



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	\$5,690	\$0	\$0	0.00	0.00	\$55,944	\$0	\$0	0.00	0.00
Jun 2017	\$6,954	\$0	\$0	0.00	0.00	\$62,898	\$0	\$0	0.00	0.00
Jul 2017	\$6,416	\$0	\$0	0.00	0.00	\$69,314	\$0	\$0	0.00	0.00
Aug 2017	\$7,745	\$0	\$0	0.00	0.00	\$77,059	\$0	\$0	0.00	0.00
Sep 2017	\$9,285	\$0	\$0	0.00	0.00	\$86,344	\$0	\$0	0.00	0.00
CTD	\$759,422	\$745,433	\$776,024	0.98	0.96					

ACWP actual cost of work performed  
 BCWP budgeted cost of work performed  
 BCWS budgeted cost of work scheduled  
 CPI cost performance index

CTD contract to date  
 EVMS Earned Value Management System  
 FY fiscal year  
 SPI schedule performance index

*Federal Program Manager:* Jeff Rambo

**Retrieve and Close Single-Shell Tanks (5.02)**

The April 2017 variances below do not impact or delay TPA milestones.

The **unfavorable** schedule variance (SV) of (\$263K) is due to:

- Delays in the delivery of several equipment procurements.

The **unfavorable** cost variance (CV) of (\$2,064K) is due to:

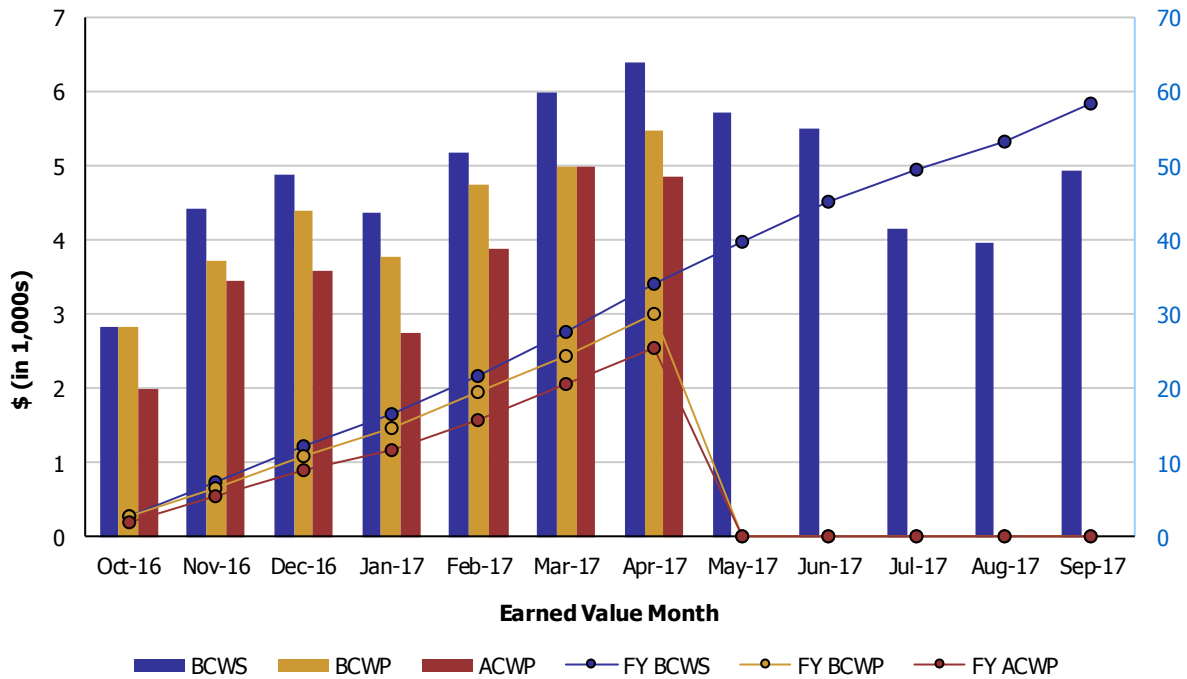
- Beryllium and vapor mitigation has resulted in additional planning, labor, engineering and construction support.
- Additional costs have been realized due to construction overtime work (weekend) to recover schedule.
- Equipment procurements and subcontracts actuals have been higher than the estimate.

Earned Value Data: Fiscal Year 2017

April-17

**Tank Farms ORP-0014**  
**Selected WBS: 5.3 - WFD/Treatment Png/DST Retrieval/Closure**

EVMS Monthly and Fiscal Year Values



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	\$9,025	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	\$15,655	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	\$0	\$0	0.00	0.00	\$39,776	\$0	\$0	0.00	0.00
Jun 2017	\$5,506	\$0	\$0	0.00	0.00	\$45,282	\$0	\$0	0.00	0.00
Jul 2017	\$4,160	\$0	\$0	0.00	0.00	\$49,441	\$0	\$0	0.00	0.00
Aug 2017	\$3,960	\$0	\$0	0.00	0.00	\$53,401	\$0	\$0	0.00	0.00
Sep 2017	\$4,929	\$0	\$0	0.00	0.00	\$58,330	\$0	\$0	0.00	0.00

CTD	\$406,449	\$400,961	\$370,367	0.99	1.08
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ACWP	actual cost of work performed	CTD	contract to date
BCWP	budgeted cost of work performed	EVMS	Earned Value Management System
BCWS	budgeted cost of work scheduled	FY	fiscal year
CPI	cost performance index	SPI	schedule performance index

**Federal Program Manager:** Kaylin Burnett

**Waste Feed Delivery/Treatment (5.03)**

The April 2017 variances below have no impacts on the TPA milestones.

The **unfavorable** schedule variance (SV) of (\$918K) is primarily due to:

- Prolonged procurement strategy discussions and late agreement with procurement on the path forward for a subcontract resulted in a five-month delay to the initiation of AP-105 Tank Farm Upgrades design. Additionally, many of the research and development projects with laboratories and commercial vendors experienced minor schedule slips in the period. None of these activities had substantial enough impacts to extend beyond each individual project.

The **favorable** cost variance (CV) of \$615K is primarily due to:

- Resource usage efficiencies identified above in the Technology Maturation & Analysis and the One System Program Management accounts.
- The current period accrual entry for the Savannah River National Laboratory (SRNL) subcontract excluded prior period cost incurred and accrued in March 2017, but not yet invoiced, resulting in a net cost current period understatement. The accrual will be appropriately adjusted for May reporting to reflect actual to date cost data.

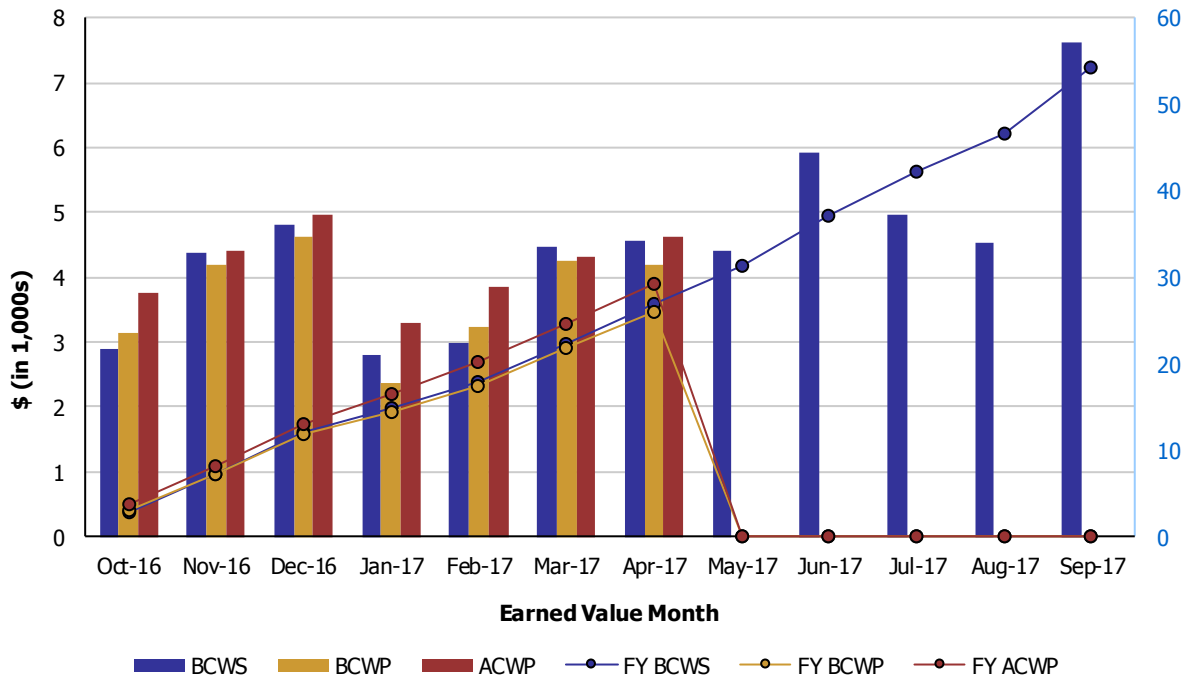


Earned Value Data: Fiscal Year 2017

April-17

**Tank Farms ORP-0014**  
**Selected WBS: 5.5 - Treat Waste**

EVMS Monthly and Fiscal Year Values



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	0.96	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	\$13,120	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	\$4,397	\$0	\$0	0.00	0.00	\$31,285	\$0	\$0	0.00	0.00
Jun 2017	\$5,936	\$0	\$0	0.00	0.00	\$37,221	\$0	\$0	0.00	0.00
Jul 2017	\$4,951	\$0	\$0	0.00	0.00	\$42,172	\$0	\$0	0.00	0.00
Aug 2017	\$4,540	\$0	\$0	0.00	0.00	\$46,712	\$0	\$0	0.00	0.00
Sep 2017	\$7,610	\$0	\$0	0.00	0.00	\$54,322	\$0	\$0	0.00	0.00

CTD	\$82,497	\$79,634	\$85,980	0.97	0.93
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ACWP	actual cost of work performed	CTD	contract to date
BCWP	budgeted cost of work performed	EVMS	Earned Value Management System
BCWS	budgeted cost of work scheduled	FY	fiscal year
CPI	cost performance index	SPI	schedule performance index

**Deputy Federal Project Director:** Janet Diediker

**Treat Waste (5.5)**

The April 2017 variances below have no impacts on TPA milestones.

The **unfavorable** schedule variance (SV) of (\$346K) is due to:

- There have been delays in Preliminary Design resulting from Pipe Engineering activities including Modeling, Studies, and Calculations. The 90 percent design modeling activities have been impacted by delays in publishing Revision 1 of the Piping & Instrumentation Diagrams. The modeling effort has been progressing, with the updates to the Piping & Instrumentation Diagrams being incorporated into the model, however the activity cannot be completed until the model is verified against the published Piping & Instrumentation Diagrams, which is one of the last steps in the modeling effort.
- There were delays in Long Lead Procurements Design activities including Cross Flow Filter (CFF) Design vendor delays in development of the 60 percent design calculations resulting from the need to resolve a software issue and longer than planned duration to determine methodology details.

The **unfavorable** cost variance (CV) of (\$419K) is due to:

- Additional labor effort was required in Preliminary Design due to the extended effort for development and finalization of deliverables in preparation for submittal in the 60% Part B Design Review Package.
- More resources than originally planned have been retained for Design Project Support to increase the quality and completeness of the preliminary design as the project progresses towards construction. In addition, the personnel performing the work are senior level individuals and were assigned to the project based on their experience and knowledge. These resources have not taken paid time off in accordance with the allowance used to calculate the annual realized hours.