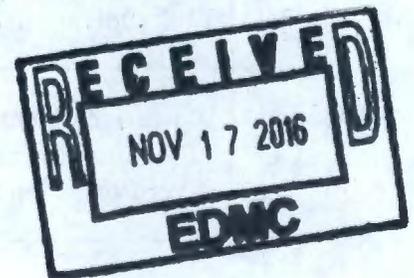


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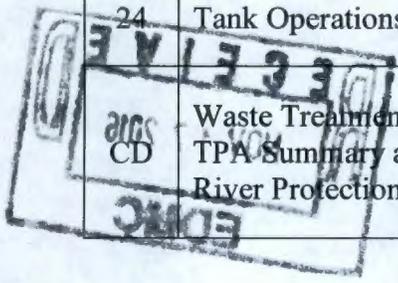
**Tri-Party Agreement
Monthly Report
November¹ 2016**



¹ The narrative descriptions of progress in this report cover the period from October 1–31, 2016. Earned Value Management System data and descriptions cover the period of September 1–30, 2016.

Tri-Party Agreement (TPA) Milestone Review

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	Waste Treatment and Immobilization Plant (WTP) Overall TPA Summary and Milestone Status; see the Office of River Protection Consent Decree Monthly Report	J. Grindstaff D. McDonald



Acronyms and Abbreviations

CV	cost variance
DOE	U.S. Department of Energy
DST	double-shell tank
Ecology	Washington State Department of Ecology
ERSS	extended reach sluicing system
FY	fiscal year
HAMTC	Hanford Atomic Metals Trades Council
IQRPE	independent qualified registered professional engineer
MARS-V	Mobile Arm Retrieval System-Vacuum
ORP	U.S. Department of Energy, Office of River Protection
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
SCBA	self-contained breathing apparatus
SST	single-shell tank
SV	schedule variance
System Plan 8	<i>River Protection Project System Plan, Rev. 8</i>
TPA	<i>Hanford Federal Facility Agreement and Consent Order Tri-Party Agreement</i>
WMA-C	C Farm waste management area
WRPS	Washington River Protection Solution LLC
WTP	Waste Treatment and Immobilization Plant

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
M-045-82	Submit Comp. Permit Modification Request for Tiers 1,2,3	09/30/2015		In Dispute
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-062-40E	Select a Minimum of Three Scenarios	10/31/2016	10/06/2016	Completed
M-045-61A	Submit to Ecology a primary doc. Phase 2 CMS, and rev. 0 update to the RFI Report for WMA C	12/31/2016		On Schedule
M-045-62	Phase 2 Corrective Measures Implementation Work Plan For WMA-C	6 mo. after CMS appr. (M-045-61A)		On Schedule
M-045-84	Initiate Negotiations to Establish HFFACO Interim Milestones for Closure of 2nd SST WMA	04/03/2017		On schedule.
M-062-01AH	Submit Semi-Annual Project Compliance Report	01/31/2017		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

Milestone	Title	Due Date	Completion Date	Status
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

CD-1/-2	=	critical decision-1/-2.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
CMS	=	corrective measures study.	RFI	=	RCRA Facility Investigation.
CR	=	change request.	SST	=	single-shell tank.
DOE	=	U.S. Department of Energy.	WTP	=	Waste Treatment and Immobilization Plant.
Ecology	=	Washington State Department of Ecology.	WMA	=	waste management area.
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order.</i>	WMA-C	=	C Farm waste management area.
IQRPE	=	independent qualified registered professional engineer			

System Plan

Significant Past Accomplishments:

- The *River Protection Project System Plan, Rev. 8* (System Plan 8) scenario selection discussions, to support M-062-40E, between the U.S. Department of Energy (DOE), Office of River Protection (ORP) and the Washington State Department of Ecology (Ecology), are complete.
- The System Plan 8 scenario selection document was transmitted to Ecology for concurrence by letter 16-WSC-0050, "Request for Concurrence on Selected Scenarios for the River Protection Project System Plan, Revision 8," dated September 27, 2016.
- Ecology's concurrence on scenario selection was received on October 11, 2016, thereby satisfying the requirement to provide scenarios one year prior to submittal of the System Plan identified in M-062-40.

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 in negotiations. Finalize detailed assumptions for baseline case, provide contractor direction to proceed by December 1, 2016.
- Begin modeling of first scenario by December 8, 2016.

Issues:

- None.

Acquisition of New Facilities

- 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-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-090-00** **Acquire/Modify Facilities for Storage of Immobilized High-Level Waste (IHLW)**
Due: December 31, 2019
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.
- 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: 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:

None.

Significant Planned Actions in the Next Six Months:

None.

Issues:

None.

Supplemental Treatment and Part B Permit Applications

- 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 per decision at the Internal Agency Management Integration Team meeting.

242-A Evaporator Status

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 2016	EC-06	AY-101	AP-104	242-A Evaporator campaign EC-06 has been postponed until after calendar year 2016, or until the Court rules on the requests for preliminary injunction filed by the State of Washington, Hanford Challenge, and Local 598 in FY 2017.
FY 2017	EC-07	AW-106	AP-104	Dependent on injunction resolution
FY 2017	EC-08	AP and AN Blends	AP-103 AP-104	Dependent on injunction resolution

FY = fiscal year.
kgal = thousand gallons.
WVR = waste volume reduction.

Significant Past Accomplishments:

- Part A Unit Group Workshop for 242-A Evaporator completed in October 2016.

Significant Planned Actions in the Next Six Months:

- Reboiler laser mapping
- Future campaign and outage scheduling
- Begin integrity assessment on 242-A Evaporator components
- Replace P-B-2 pump and associated pressure relief valves.

Issues:

- Potential impacts from preliminary injunction.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

The Liquid Effluent Retention Facility 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)
Volume (as of 10/31/2016)	~ 5.44 Mgal	~ 3.44 Mgal	~ 7.09 Mgal
AZ-301 Tanker Shipments	-	-	-
MWT-31 and 34 Leachate	-	-	~ 21,000 gal
Other (325 Building Totes)	-	-	-
242-A Campaigns	-	-	-

ERDF = Environmental Restoration Disposal Facility.
gal = gallon.
Mgal = million gallons.
MWBT = mixed waste trench.

Significant Past Accomplishments:

- Total FY 2017 volume processed (as of 10/31/2016): 0 gallons.
- Part A unit group workshop for Liquid Effluent Retention Facility/Effluent Treatment Facility held on October 27, 2016.
- The revised draft Addendum H, "Closure Plan," which addresses actions for Load-In Station Tanks 109 and 117, submitted to Ecology on October 31, 2016.

Significant Planned Actions in the Next Six Months:

- Facility maintenance activities (replace vapor compressor and degas heat exchanger, repair fine filter assembly, and conduct four tank visual inspections).
- The class 2 permit modification covering the Effluent Treatment Facility container storage areas, updates to Addendum H "Closure Plan" and Addendum D, "Groundwater Monitoring Plan," will be submitted to Ecology.
- The FY 2016 Tritium Report will be submitted to Ecology by November 30, 2016, in accordance with the ST4500 State Approved Land Disposal Site permit.

Issues:

None.

Tank System Update

Significant Past Accomplishments

Double-Shell Tank (DST) Integrity:

- Enhanced annulus video inspections:
All FY 2016 DST videos have been completed.
 - RPP-RPT-31599, *Double-Shell Tank Integrity Inspection Report for 241-AN Tank Farm*
 - RPP-RPT-39149, *Double-Shell Tank Integrity Inspection Report for 241-SY Tank Farm*
 - RPP-RPT-42147, *Double-Shell Tank Integrity Inspection Report for 241 AW Tank Farm*
- FY 2016 ultrasonic testing inspections complete:
 - 241-AN-105 (RPP-RPT-59548, *Ultrasonic Inspection Results for Double-Shell Tank 241-AN-105 - FY 2016*)
 - 241-AW-103 (RPP-RPT-59709, *Ultrasonic Inspection Results for Double-Shell Tank 241-AW-103 - FY 2016*)

Single-Shell Tanks (SST) Integrity:

- Completed in-tank video inspections of SSTs from FY 2016:
 - 241-B-101
 - 241-B-201
 - 241-S-105
 - 241-T-107
 - 241-T-110
 - 241-TX-103
 - 241-TX-111
 - 241-TX-113
 - 241-TX-116.

Independent Qualified Registered Professional Engineer Activities

- Washington River Protection Solutions LLC (WRPS) revised DST independent qualified registered professional engineer (IQRPE) integrity assessment report (RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*) per WAC 173-303-640(2), "Tank systems" and report transmitted to ORP via letter WRPS-1603683, "Contract Number DE-AC27-08RV14800 – Washington River Protection Solutions LLC Submittal of 2016 Double-Shell Tank System Integrity Assessment Report Revision 1."

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 quarterly comprehensive inspection of AY-101 annulus.
- Work planning for FY 2017 enhanced annulus visual inspections has already begun. The following tanks will be inspected in FY 2017:
 - 241-AN-102
 - 241-AN-107
 - 241-AP-101
 - 241-AP-107
 - 241-AW-105
 - 241-AY-101
 - 241-AZ-101
 - 241-AZ-102
- Work planning for FY 2017 ultrasonic testing inspections has already begun. The following tanks will be inspected in FY 2017:
 - 241-AN-106
 - 241-AY-101
 - 241-AZ-101.

SST Integrity:

- Complete remaining SST in-tank video inspections from FY 2016:
 - 241-BY-105
 - 241-U-102
 - 241-U-105
 - 241-U-107 (no free riser; replaced with 241-S-105).
- Work planning for FY 2017 in-tank video inspections has already begun. The following tanks will be inspected in FY 2017:

- 241-BX-102	- 241-T-104
- 241-BX-107	- 241-T-106
- 241-BY-109	- 241-T-109
- 241-SX-110	- 241-TX-105
- 241-SX-113	- 241-TX-106
- 241-TX-109	
- 241-U-107.	
- Intrusion mitigation (M-045-56):
 - Complete exhauster repairs and continue evaporation of 241-T-111. A report will be issued when evaporation is considered complete.

Issues:

DST Integrity:

- None to report.

SST Integrity:

- The 241-T-111 POR06 exhauster has been out of service since August 10, 2016, due to a failed heater. A replacement heater was received in early October and repairs began on October 27, 2016. The timeline for completing repairs is uncertain, but once repairs are finished, the exhauster will be restarted and evaporation of the tank will continue until considered complete.

Single-Shell Tank Integrity Assurance

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:

- Continue planning for the SST integrity assessment by an IQRPE (M-045-91I).

Issues:

None.

In-Tank Characterization and Summary

Accomplishments:

For the period from October 1 through October 31, 2016, the following reports were completed or issued:

- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending August 31, 2016*, Rev. 344.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending September 30, 2016*, Rev. 345.
- Completed RPP-PLAN-60977, *Sampling and Analysis Plan for Waste Materials in Tank 241-AY-102 Annulus*, Rev. 1.
- Completed RPP-PLAN-61150, *Sampling and Analysis Plan for Catch Tank 241-UX-302A Liquid*, Rev. 0.
- Completed RPP-RPT-59488, *Data Quality Objectives for Sampling Materials in Tank 241-AY-102 Annulus*, Rev. 1.
- Completed RPP-RPT-59494, *Integrated DFLAW Feed Qualification Data Quality Objectives*, Rev. 0.
- Completed RPP-RPT-59683, *Tank 241-AY-102 Monthly Monitoring Report August 2016*, Rev. 0.
- RPP-RPT-59621, *Final Report for Tank 241-AP-102 Grab Samples in Support of Corrosion Evaluation during Retrieval in 2016*, Rev. 0.
- Completed 241-UX-302A October 20, 2016. Eleven samples were received at the laboratory.

Planned Action within the Next Six Months:

Tank sampling:

- Tank 241-AY-102 annulus solids grab sampling is planned for November 2016.
- Tank 241-AW-104 grab sampling is planned to begin February 2017.
- Tank 241-AP-105 grab sampling is planned to begin February 2017.
- Tank 241-AP-107 core sampling is planned to begin March 2017.
- Tank 241-AP-107 grab sampling is planned to begin March 2017.

Best-Basis Inventory updates:

Best-basis inventory updates for the following tanks currently are planned to be completed in November 2016:

- | | | |
|--------------|--------------|--------------|
| • 241-AN-103 | • 241-AN-106 | • 241-AW-105 |
| • 241-AN-104 | • 241-AP-102 | • 241-AZ-101 |
| • 241-AN-105 | • 241-AW-101 | • 241-C-111 |

Data Quality Objectives:

RPP-8532, *Double-Shell Tanks Chemistry Control Data Quality Objectives*, Rev. 15, is in-process to identify additional analyses for corrosion mitigation and to simplify quality control parameters is planned to be completed in November 2016.

Issues:

None.

Single-Shell Tank Closure Program

- 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.
- 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. The last annual meeting was held July 20, 2016 (M-045-56L), and the meeting minutes are in the Administrative Record.
- 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-045-61A** **Submit to Ecology for review and approval as an Agreement primary document, a Phase 2 Corrective Measures Study, and Revision 0 update to the RFI Report for WMA-C.**
Due: December 31, 2016
Status: On schedule.
- M-045-62** **Submit to Ecology for review and approval as an agreement primary document, a Phase 2 Corrective Measures Implementation Work Plan for WMA-C**
Due: Six months after the approval of the corrective measures study submitted under milestone M-045-61A.
Status: On schedule.
- M-045-82** **Submit complete permit modification requests for Tiers 1, 2, and 3 of the SST System**
Due: September 30, 2015
Status: In dispute. A tentative agreement to end the dispute on M-045-82 is in negotiation between Ecology and ORP, and the dispute has been extended at the project manager level until November 30, 2016.

- M-045-83** **Complete the closure of WMA-C**
Due: June 30, 2019
Status: To be missed. The tentative agreement to end the dispute on M-045-82 currently in negotiation between Ecology and ORP will also revise M-045-83 after submittal of the M-45-82 Tier II package.
- M-045-84** **Initiate negotiations to establish HFFACO interim milestones for closure of second SST WMA**
Due: April 3, 2017
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-045-92** **(N, O, P, Q, R) Complete Installation of Four (4) Additional Interim Barriers**
Due: October 31, 2020
Status: On schedule.

October Accomplishments:

- Completed the draft TPA Action Plan, Appendix I, Section 2.5, C Farm waste management area (WMA-C) performance assessment.

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.
- Complete Rev. 0 of the *Phase 2 RCRA Facility Investigation Report and Corrective Measures Study for WMA C* and submit to Ecology for review.
- Resolve the dispute on M-045-82.
- Begin resolution of Ecology's comments on the *Resource Conservation and Recovery Act of 1976 (RCRA) Tier 1 Closure Plan*.

Issues:

- Resolving the dispute on M-045-82
- Developing path forward for resolving Ecology's comments on the RCRA Tier 1 Closure Plan.

Single-Shell Tank Retrieval Program

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

Significant Past Accomplishments:

- Removed and disposed 19 hose-in-hose transfer lines from C Farm to Environmental Restoration Disposal Facility
- Submitted the C-102 Retrieval Data Report to Ecology, completing TPA milestone M-45-86b
- Completed C-105 proof of concept for in-tank equipment (Mobile Arm Retrieval System-Vacuum [MARS-V] modification)
- Completed C-105 MARS-V disassembly to support modifications for installation of the slurry pump
- Removed C-105 C pit upper and lower cover blocks
- Received two of three extended reach sluicer systems (ERSS) for installation in Tank C- 105
- Submitted C-111 Retrieval Completion Certification report to Ecology
- Completed an additional AX Farm pit clean out (AX-02C), five of eight pit clean outs completed
- Completed AX Farm air and water service building exterior construction
- Completed POR126 and POR127 ventilation installation and initial testing
- Received AX-102 and AX-104 ERSS and slurry pumps
- Completed AX Farm ingress and egress change trailers
- Completed A Farm ventilation design.

Significant Planned Activities in the Next Three Months:

- Negotiate contract proposal for installing and performing the third retrieval technology at Tank C-105
- Complete Tank C-105 modified sluicing system design
- Clean and prepare C-105 A and C pits for ERSS installation

- Receive spare C-105 ERSS
- Complete AX Farm air and water service building major utilities installation
- Complete AX Farm ventilation installation and readiness/turnover at portable exhausters POR126 and POR127
- Complete the three remaining AX-104 pit cleanouts.

Issues:

- On July 11, 2016, the Hanford Atomic Metal Trades Council (HAMTC), a labor organization composed of various unions working at Hanford, issued a “stop work” requiring mandatory use of supplied air within the perimeter fence lines of both single- and double-shell tank farms. This letter also included six other demands HAMTC expected WRPS to implement immediately. On August 31, 2016, WRPS and HAMTC signed a Memorandum of Agreement which documents HAMTC’s agreement to lift the stop work, based upon WRPS’s agreement to remain on supplied air until chemical cartridge testing is complete and reviewed by a third party selected by HAMTC. On July 21, 2016, the Washington State Attorney General and Citizens (Local Union 598 and Hanford Challenge) filed motions for preliminary injunction in federal court (Case 4:15-cv-05086-TOR) seeking, among other things, that all work inside the perimeter fences of any tank farm be performed while wearing *mandatory* supplied air. A hearing on the preliminary injunction motions was held on October 12, 2016 and the parties are awaiting a decision from the court. The stop work agreement and interim measures associated with the motions for preliminary injunction has slowed and/or delayed field work at the AX and C farms. For example, the AX-102 and AX-104 retrieval construction (removal of legacy/long length equipment) is affected by not being able to operate the tank-specific ventilation system. DOE and WRPS continue to evaluate near-term and long-term impacts of these actions though at this time we have not determined the effect, if any, on Consent Decree milestones. Due to the prior technical challenges related to completing retrievals at Tank 241-C-102 and Tank 241-C-111, and the current modifications to Tank 241-C-105, funding will be needed to complete Tank 241-AX-102 and Tank 241-AX-104 tank retrieval system(s) installation through FY 2018 with retrieval operations starting in FY 2019 to meet milestone D-16B-03 by December 31, 2020.
- ORP submitted letter 16-TF-0102, “Status Update Related to Tank Farm Vapors,” on September 15, 2016, to make certain Ecology is aware of several recent events regarding the Hanford tank farms retrieval activities, to pass along relevant information, and provide updates on the status of ongoing processes related to those vapor events and their mitigation. Ecology acknowledged receipt of this letter on October 17, 2016 and requested a copy of the WRPS response to ORP’s September 8, 2016 request for additional information. ORP and WRPS are continuing to assess these events for potential impacts to Consent Decree milestone.

Tank Waste Retrieval Work Plan Status

Tank	TWRWP	Expected Revisions	Retrieval Technology		
			First	Second	Third
AX-101	RPP-RPT-58932, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-102	RPP-RPT-58933, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-103	RPP-RPT-58934, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-104	RPP-RPT-58935, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
C-101	RPP-22520, Rev. 8	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	-
C-102	RPP-22393, Rev. 7	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	-
C-104	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0018	-
C-105	RPP-22520, Rev. 8	Complete	MARS-V	MARS-V-High Pressure Water Spray	Chemical Dissolution Process with ERSS
C-107	RPP-22393, Rev. 7	Complete	MARS-S	MARS-S -High Pressure Water Spray	Water Dissolution
C-108	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0025	-

Tank	TWRWP	Expected Revisions	Retrieval Technology		
			First	Second	Third
C-109	RPP-21895, Rev. 5	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0037	-
C-110	RPP-33116, Rev. 3	Complete	Modified Sluicing	Mechanical Waste Conditioning with an In-Tank Vehicle	High Pressure Water
C-111	RPP-37739, Rev. 2	Complete	Modified Sluicing	High pressure water using the ERSS	Chemical Dissolution Process with ERSS
C-112	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process	-

ERSS = extended reach sluicing system.
MARS = Mobile Arm Retrieval System.
S = sluicing.
TWRWP = Tank Waste Retrieval Work Plan.
V = vacuum.

Significant Accomplishments:

- AX Farm tank waste retrieval work plan drafts were reviewed by Ecology and are going through final revision at ORP.
- Modification to RPP-22520, 241-C-101 and 241-C-105 Tanks Waste Retrieval Work Plan to include a third technology for Tank C-105 retrieval was approved by Ecology and is in the process of being revised.

Significant Planned Activities in the Next Three Months:

- Finalize AX 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.

September-16										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	67,821	66,357	66,338	(1,464)	19	0.98	1.00			
FYTD	604,814	603,882	584,186	(932)	19,696	1.00	1.03	604,814		
CTD	3,455,949	3,435,135	3,408,863	(20,814)	26,272	0.99	1.01	4,767,290	4,753,340	13,949

ACWP = actual cost of work performed.
 BAC = budget at completion.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CM = current month.
 CPI = cost performance index.
 CTD = contract to date.

CV = cost variance.
 EAC = estimate at completion.
 FYTD = fiscal year to date.
 SPI = schedule performance index.
 SV = schedule variance.
 VAC = variance at completion.

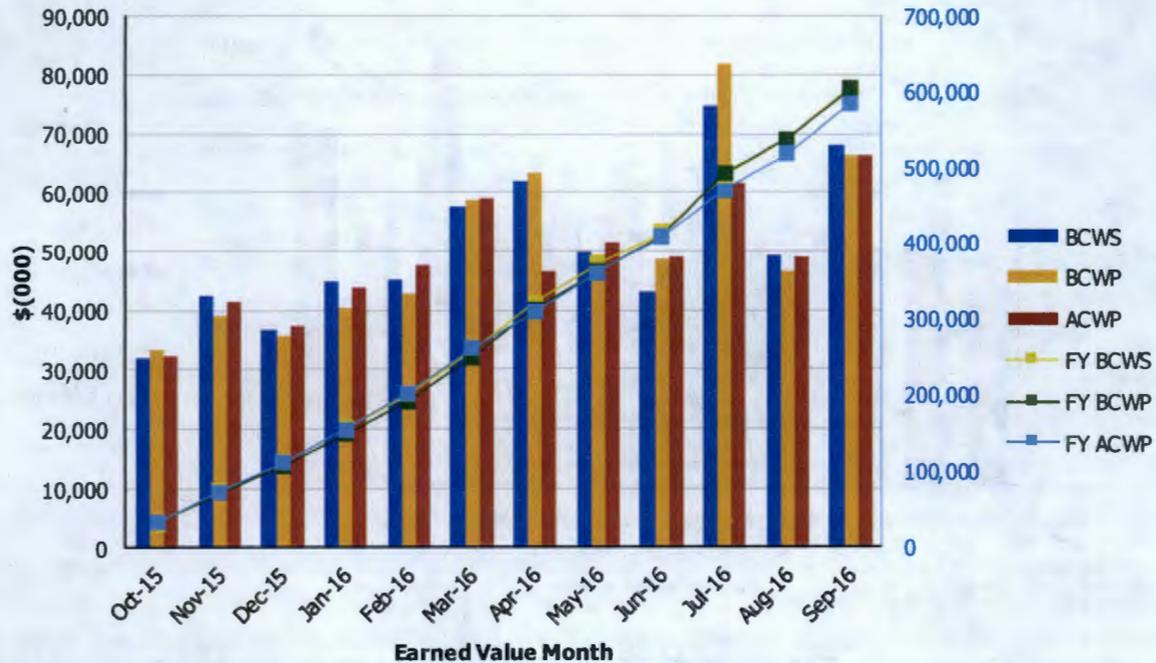
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2016

September-16

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 2015	\$31,981	\$33,377	\$32,188	1.04	1.04	\$31,981	\$33,377	\$32,188	1.04	1.04
Nov 2015	\$42,365	\$38,998	\$41,461	0.92	0.94	\$74,345	\$72,376	\$73,649	0.97	0.98
Dec 2015	\$36,744	\$35,614	\$37,416	0.97	0.95	\$111,089	\$107,990	\$111,065	0.97	0.97
Jan 2016	\$44,587	\$40,183	\$43,604	0.90	0.92	\$155,677	\$148,173	\$154,669	0.95	0.96
Feb 2016	\$45,043	\$42,790	\$47,389	0.95	0.90	\$200,720	\$190,963	\$202,058	0.95	0.95
Mar 2016	\$57,499	\$58,407	\$59,030	1.02	0.99	\$258,219	\$249,370	\$261,088	0.97	0.96
Apr 2016	\$62,027	\$63,159	\$46,446	1.02	1.36	\$320,246	\$312,529	\$307,534	0.98	1.02
May 2016	\$49,955	\$48,483	\$51,355	0.97	0.94	\$370,200	\$361,012	\$358,889	0.98	1.01
Jun 2016	\$43,107	\$48,460	\$48,778	1.12	0.99	\$413,307	\$409,472	\$407,667	0.99	1.00
Jul 2016	\$74,661	\$81,738	\$61,464	1.09	1.33	\$487,968	\$491,210	\$469,131	1.01	1.05
Aug 2016	\$49,025	\$46,315	\$48,716	0.94	0.95	\$536,993	\$537,526	\$517,848	1.00	1.04
Sep 2016	\$67,821	\$66,357	\$66,338	0.98	1.00	\$604,814	\$603,882	\$584,186	1.00	1.03

CTD	\$3,455,949	\$3,435,135	\$3,408,863	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.

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

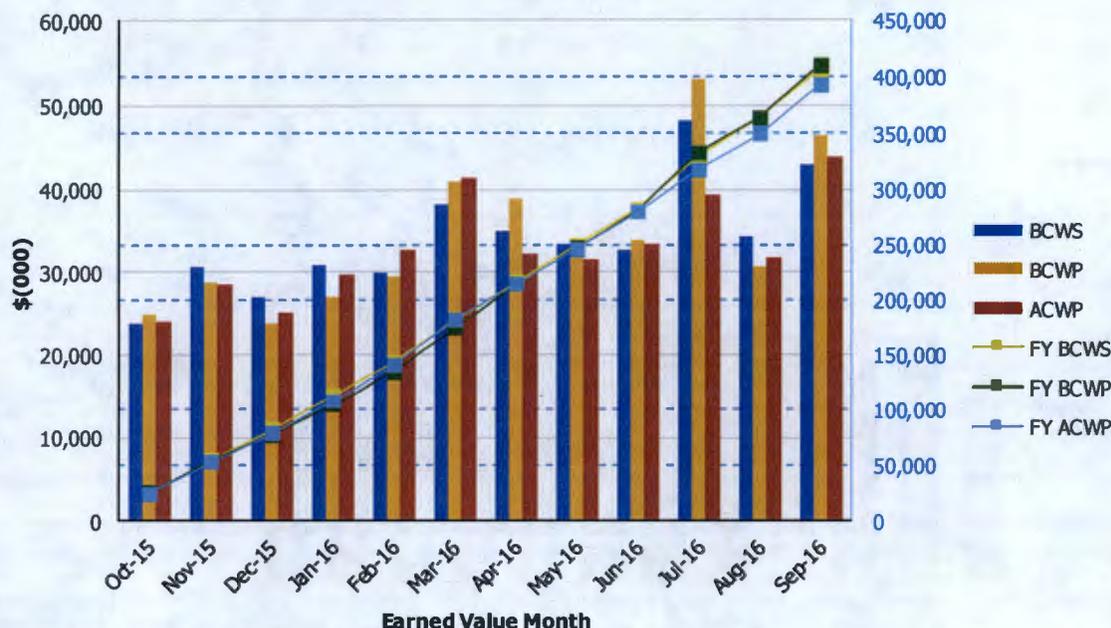
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2016

September-16

**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 2015	\$23,768	\$24,839	\$24,025	1.05	1.03	\$23,768	\$24,839	\$24,025	1.05	1.03
Nov 2015	\$30,658	\$28,752	\$28,562	0.94	1.01	\$54,426	\$53,592	\$52,587	0.98	1.02
Dec 2015	\$26,911	\$23,637	\$25,173	0.88	0.94	\$81,336	\$77,229	\$77,760	0.95	0.99
Jan 2016	\$30,829	\$26,913	\$29,740	0.87	0.90	\$112,165	\$104,142	\$107,500	0.93	0.97
Feb 2016	\$29,963	\$29,524	\$32,689	0.99	0.90	\$142,128	\$133,666	\$140,189	0.94	0.95
Mar 2016	\$38,167	\$40,891	\$41,434	1.07	0.99	\$180,295	\$174,557	\$181,623	0.97	0.96
Apr 2016	\$34,996	\$38,877	\$32,157	1.11	1.21	\$215,291	\$213,434	\$213,780	0.99	1.00
May 2016	\$33,412	\$32,736	\$31,529	0.98	1.04	\$248,703	\$246,170	\$245,308	0.99	1.00
Jun 2016	\$32,672	\$33,750	\$33,375	1.03	1.01	\$281,375	\$279,919	\$278,683	0.99	1.00
Jul 2016	\$48,297	\$53,025	\$39,334	1.10	1.35	\$329,673	\$332,944	\$318,017	1.01	1.05
Aug 2016	\$34,214	\$30,648	\$31,709	0.90	0.97	\$363,887	\$363,592	\$349,726	1.00	1.04
Sep 2016	\$42,908	\$46,518	\$43,870	1.08	1.06	\$406,795	\$410,110	\$393,597	1.01	1.04
CTD	\$2,298,678	\$2,292,323	\$2,267,425	1.00	1.01					

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

Base Operations and Tank Farm Projects (5.01)

The September variances below do not directly impact or delay TPA milestones.

The current month **favorable** Schedule Variance (SV) of \$3,609K is primarily due to:

- The New Vapor Detection Technology Pilot Scale Project achieved schedule recovery during the current month. Scope includes final design support, software, field implementation, testing, and the Vapor Abatement Study. This schedule recovery maintains completion for the key milestone for the pilot scale report write up of October 2016.
- Nineteen DST in-pit heaters were received during the current period; receipt of these heaters was planned in a prior period but delayed due to design modification (i.e., nozzle distance and bulk pit temperature calculation regeneration)

The current month **favorable** Cost Variance (CV) of \$2,647K is primarily due to:

- The New Vapor Detection Technology Pilot Scale Project incurred less cost than anticipated as a result of converting planned field installation and testing resources from plant forces direct labor to a construction forces subcontract. In addition, testing was completed in one month, rather than the three months that had been planned.

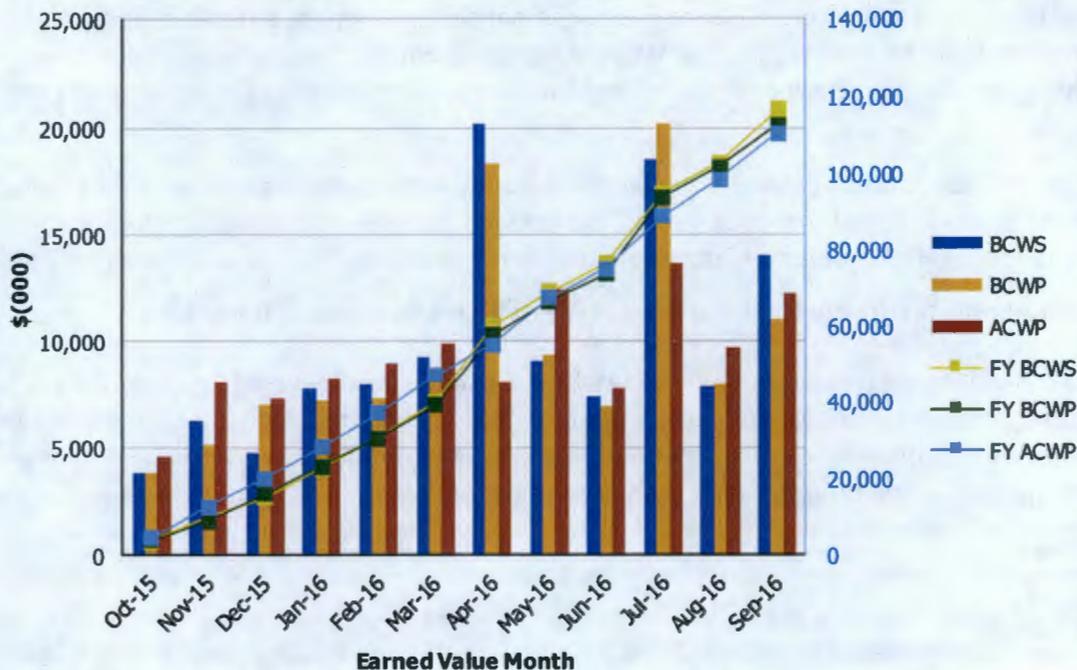
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2016

September-16

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 2015	\$3,770	\$3,814	\$4,560	1.01	0.84	\$3,770	\$3,814	\$4,560	1.01	0.84
Nov 2015	\$6,282	\$5,131	\$8,006	0.82	0.64	\$10,052	\$8,946	\$12,566	0.89	0.71
Dec 2015	\$4,769	\$6,970	\$7,255	1.46	0.96	\$14,821	\$15,915	\$19,821	1.07	0.80
Jan 2016	\$7,702	\$7,214	\$8,233	0.94	0.88	\$22,522	\$23,130	\$28,053	1.03	0.82
Feb 2016	\$7,948	\$7,288	\$8,959	0.92	0.81	\$30,470	\$30,417	\$37,012	1.00	0.82
Mar 2016	\$9,249	\$8,693	\$9,857	0.94	0.88	\$39,719	\$39,111	\$46,869	0.98	0.83
Apr 2016	\$20,237	\$18,288	\$8,046	0.90	2.27	\$59,956	\$57,399	\$54,916	0.96	1.05
May 2016	\$9,013	\$9,299	\$12,417	1.03	0.75	\$68,970	\$66,698	\$67,333	0.97	0.99
Jun 2016	\$7,387	\$6,885	\$7,713	0.93	0.89	\$76,357	\$73,584	\$75,045	0.96	0.98
Jul 2016	\$18,511	\$20,234	\$13,683	1.09	1.48	\$94,867	\$93,817	\$88,728	0.99	1.06
Aug 2016	\$7,831	\$7,971	\$9,736	1.02	0.82	\$102,698	\$101,788	\$98,464	0.99	1.03
Sep 2016	\$13,992	\$11,034	\$12,237	0.79	0.90	\$116,690	\$112,823	\$110,701	0.97	1.02
CTD	\$709,167	\$698,049	\$720,674	0.98	0.97					

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

Retrieve and Close Single-Shell Tanks (5.02)

The September variances have a minimal impact on TPA milestones for tank retrieval.

The current month **unfavorable** schedule variance (SV) of (\$2,958K) is due to:

- AX-102/104 in-tank equipment removal has been delayed due to postponement of operation of the POR126 exhauster, because active ventilation is required to remove long length in-tank equipment. In addition, AX Farm procurements, including hose-in-hose transfer lines, diversion boxes, splitter boxes, and shield plates have been replanned because field installation has been delayed due to the stop-work agreement, interim measures associated with motions for preliminary injunction and project funding challenges.

The current month **unfavorable** cost variance (CV) of (\$1,203K) is due to:

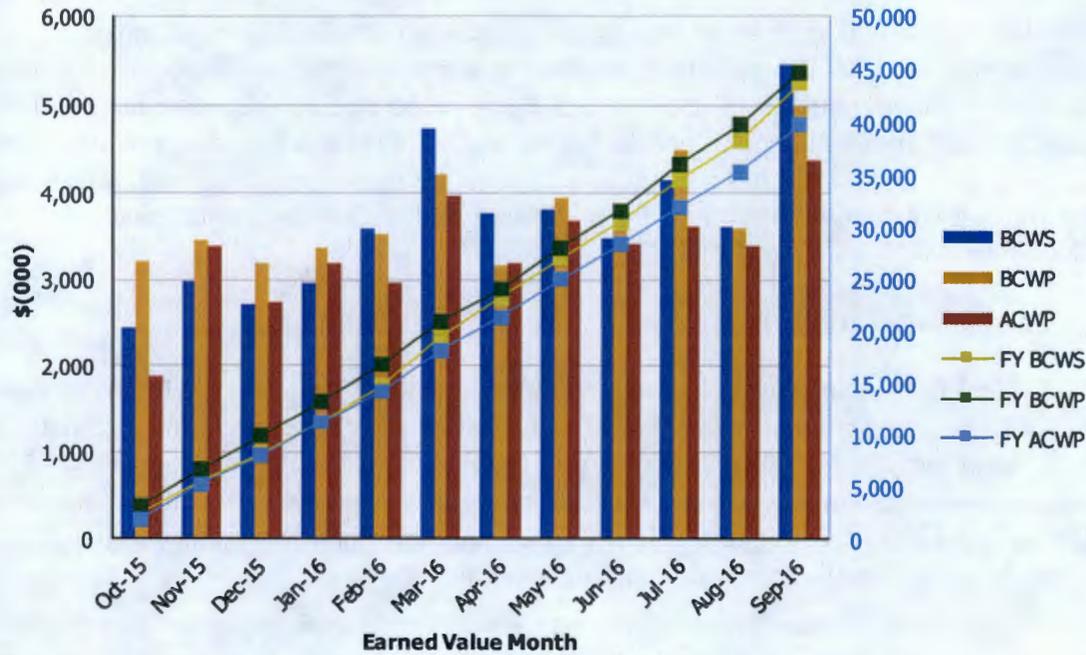
- Additional field support was required to complete POR127 testing (AX Farm) as a result of additional instrumentation recalibration and minor repairs required due to extensive equipment testing. In addition, AX Farm pit clean out activities were impacted by increased standby time as a result of health physicist technician and industrial hygienist technician staff supporting min-safe activities in double-shell farms and decreased labor efficiency due to self-contained breathing apparatus usage.

Earned Value Data: Fiscal Year 2016

September-16

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 2015	\$2,434	\$3,210	\$1,876	1.32	1.71	\$2,434	\$3,210	\$1,876	1.32	1.71
Nov 2015	\$2,987	\$3,446	\$3,379	1.15	1.02	\$5,421	\$6,656	\$5,255	1.23	1.27
Dec 2015	\$2,714	\$3,193	\$2,743	1.18	1.16	\$8,134	\$9,849	\$7,998	1.21	1.23
Jan 2016	\$2,966	\$3,366	\$3,180	1.13	1.06	\$11,101	\$13,215	\$11,178	1.19	1.18
Feb 2016	\$3,583	\$3,518	\$2,966	0.98	1.19	\$14,683	\$16,733	\$14,144	1.14	1.18
Mar 2016	\$4,740	\$4,210	\$3,979	0.89	1.06	\$19,424	\$20,943	\$18,124	1.08	1.16
Apr 2016	\$3,777	\$3,155	\$3,183	0.84	0.99	\$23,200	\$24,098	\$21,307	1.04	1.13
May 2016	\$3,824	\$3,954	\$3,678	1.03	1.08	\$27,025	\$28,052	\$24,984	1.04	1.12
Jun 2016	\$3,467	\$3,623	\$3,416	1.04	1.06	\$30,492	\$31,675	\$28,401	1.04	1.12
Jul 2016	\$4,142	\$4,486	\$3,611	1.08	1.24	\$34,634	\$36,161	\$32,012	1.04	1.13
Aug 2016	\$3,617	\$3,596	\$3,397	0.99	1.06	\$38,251	\$39,757	\$35,408	1.04	1.12
Sep 2016	\$5,462	\$4,986	\$4,364	0.91	1.14	\$43,713	\$44,743	\$39,772	1.02	1.12

CTD	\$375,224	\$373,848	\$346,845	1.00	1.08
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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.
- CTD = contract to date
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index

Waste Feed Delivery/Treatment (5.03)

The September variances below have no impacts on the TPA milestones.

The current month **unfavorable** SV of (\$476K) is primarily due to:

- Initiation of AP-107 Tank Farm upgrades design has been delayed due to prolonged procurement strategy discussions on the path forward for subcontracting.
- Various reporting delays in laboratory products.

The current month **favorable** CV of \$622K is primarily due to:

- The resource usage efficiencies within One System Program Support.
- A charge code error that has been corrected.

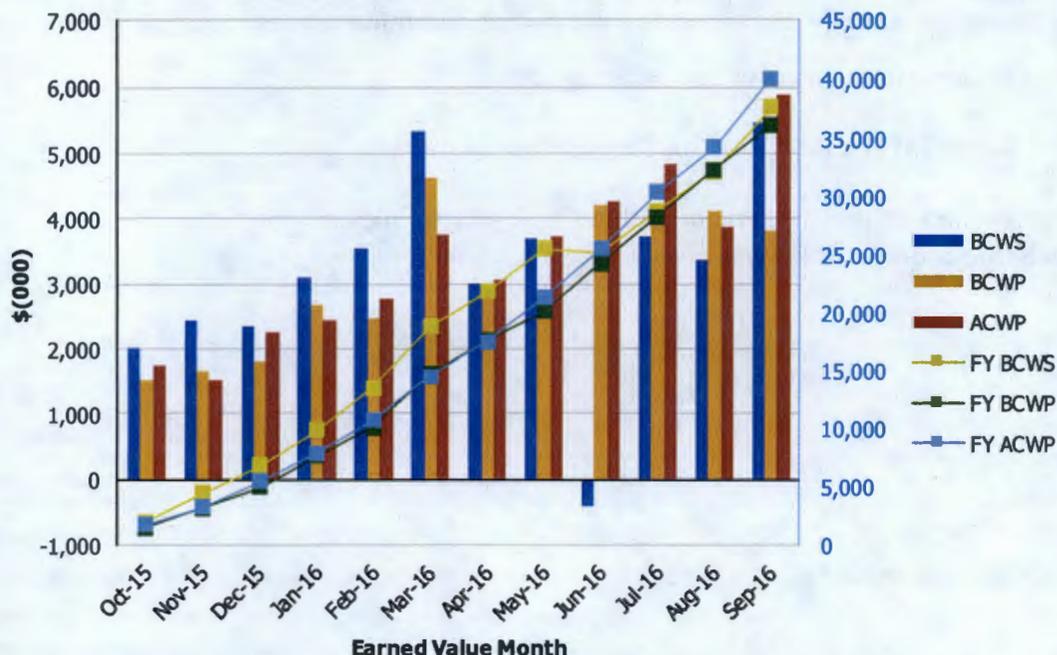
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2016

September-16

**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 2015	\$2,008	\$1,513	\$1,735	0.75	0.87	\$2,008	\$1,513	\$1,735	0.75	0.87
Nov 2015	\$2,439	\$1,669	\$1,517	0.68	1.10	\$4,447	\$3,182	\$3,252	0.72	0.98
Dec 2015	\$2,351	\$1,814	\$2,245	0.77	0.81	\$6,798	\$4,996	\$5,497	0.73	0.91
Jan 2016	\$3,090	\$2,691	\$2,451	0.87	1.10	\$9,888	\$7,687	\$7,948	0.78	0.97
Feb 2016	\$3,550	\$2,460	\$2,775	0.69	0.89	\$13,438	\$10,147	\$10,723	0.76	0.95
Mar 2016	\$5,343	\$4,613	\$3,760	0.86	1.23	\$18,781	\$14,760	\$14,482	0.79	1.02
Apr 2016	\$3,018	\$2,838	\$3,060	0.94	0.93	\$21,799	\$17,598	\$17,542	0.81	1.00
May 2016	\$3,705	\$2,495	\$3,732	0.67	0.67	\$25,503	\$20,092	\$21,274	0.79	0.94
Jun 2016	(\$420)	\$4,202	\$4,274	-10.01	0.98	\$25,084	\$24,294	\$25,548	0.97	0.95
Jul 2016	\$3,710	\$3,993	\$4,836	1.08	0.83	\$28,794	\$28,287	\$30,385	0.98	0.93
Aug 2016	\$3,364	\$4,100	\$3,874	1.22	1.06	\$32,158	\$32,387	\$34,259	1.01	0.95
Sep 2016	\$5,460	\$3,820	\$5,867	0.70	0.65	\$37,618	\$36,207	\$40,126	0.96	0.90

CTD	\$55,609	\$53,634	\$56,748	0.96	0.95
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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.
- CTD = contract to date
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index

Treat Waste (5.5)

The September variances below have no impacts on TPA milestones.

The current month **unfavorable** SV of (\$1,640K) is due to:

- Delays in testing of the Low-Activity Waste Pretreatment System ion exchange column and 1/9 scale integrated test due to modification to the column designs resulting from ineffective acrylic seals and intrusion of resin past the screen due to gaps around the bolts that secure the screen. Following the modifications, the initial testing was further delayed by the need for reassembly and additional leak testing. In addition, delays in awarding the subcontract amendment for long-lead equipment and spare parts procurement contributed to the current month unfavorable variance.

The current month **unfavorable** CV of (\$2,047K) is due to:

- Modeling, drawings, and calculations required more effort than originally estimated to align with the design evolution including greater detail for 60 percent modeling efforts and a higher level of design maturity to support long-lead procurement packages and design proposal drawings. The personnel performing the work are senior level individuals and were assigned to the project based on their experience and knowledge and have worked more hours than planned, including standard 50-hour weeks for the design agent staff. Additional resources have been retained as the project progresses through preliminary design towards construction, including project engineering and senior engineering management support.