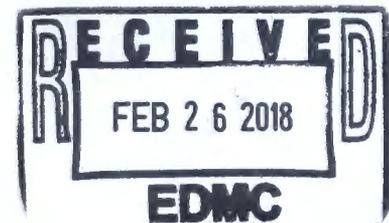


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FINAL
Office of River Protection
Tri-Party Agreement
Report
February¹ 2018



¹ The narrative descriptions of progress in this report cover the period from January 1–31, 2018. Earned Value Management System data and descriptions cover the period of December 1–31 2017.

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Acronyms and Abbreviations

CV	cost variance
Ecology	Washington State Department of Ecology
FY	fiscal year
IQRPE	independent qualified registered professional engineer
LAWPS	Low-Activity Waste Pretreatment System
LERF	Liquid Effluent Retention Facility
ORP	U.S. Department of Energy, Office of River Protection
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	tank-side cesium removal
WMA	waste management area
WMA-C	C Tank Farm waste management area
WRPS	Washington River Protection Solutions LLC
WTP	Waste Treatment and Immobilization Plant

Administrative Items/Milestone Status

Milestone	Title	Due Date	TPA Project Manager	Status/ Completion Date
Prior Years				
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	Pfaff, Stephen H	In Abeyance
M-062-45-ZZ	Negotiate a One Time Supplemental Treatment Selection	04/30/2015	Pfaff, Stephen H	In Abeyance
M-062-45-ZZ-A	Convert the M-062-31-T01 Through M-062-34-T01 to Interim Milestones	04/30/2015	Pfaff, Stephen H	In Abeyance
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016	Diediker, Janet A	In Abeyance
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016	Diediker, Janet A	In Abeyance
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	Pfaff, Stephen H	In Abeyance
M-045-62	Submit to Ecology the draft Tier 3 closure plans to implement corrective measures	TBD ¹	Bovier, Jan B	On Schedule
M-045-83	Complete the Closure of WMA-C	TBD ¹	Bovier, Jan B	On Schedule
Fiscal Year 2018				
M-062-40F	Submit System Plan	10/31/2017	Burnett, Kaylin W	Completed 10/31/2017
M-062-32-T01	Start Construction of Supplemental Vitrification Treatment Facility and/or WTP Enhancements	04/20/2018	Pfaff, Stephen H	In Abeyance

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

¹ To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

CD-1/-2 = critical decision-1/-2.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

IQRPE = independent qualified registered professional engineer.

RCRA = Resource Conservation and Recovery Act.

SST = single-shell tank.

TBD = to be determined.

TPA = Tri-Party Agreement.

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

Ecology Project Manager: Dan McDonald, Jeff Lyon

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- Continue negotiations of the M-062-45 milestone and related milestones with intent to utilize information from the *River Protection Project System Plan*, Rev. 8.

Issues

- None.

Acquisition of New Facilities

Tank Farms Assistant Manager: Glyn Trenchard
Deputy Federal Project Director: Janet Diediker
Ecology Project Manager: Dan McDonald, Jeff Lyon

- 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

Ecology Project Manager: Dan McDonald

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.

Direct Feed Low-Activity Waste Projects

Tank Farms Assistant Manager: Glyn Trenchard
LAWPS Federal Manager: Steve Pfaff
TSCR Federal Manager: Sahid Smith
Ecology Project Manager: Dan McDonald, Jeff Lyon

Significant Past Accomplishments

Low-Activity Waste Pretreatment System:

- Washington River Protection Solutions LLC (WRPS) continued work activities/proposal development for the optimized Low-Activity Waste Pretreatment System (LAWPS) facility, using a nonelutable ion exchange media.

Tank-Side Cesium Removal:

- On January 4, 2018, WRPS submitted a proposal to the U.S. Department of Energy, Office of River Protection (ORP) for tank-side cesium removal (TSCR) demonstration capability. A technical evaluation of the proposal is underway at ORP.
- On January 17, 2018, WRPS submitted a proposal to ORP for the design and fabrication of the TSCR. A technical evaluation of the proposal is underway at ORP.

Significant Planned Actions in the Next Six Months

Low-Activity Waste Pretreatment System:

- WRPS to continue design development of the optimized LAWPS facility with a nonelutable ion exchange media
- WRPS to submit contract change proposal for the optimized LAWPS facility with nonelutable ion exchange media

Tank-Side Cesium Removal:

- WRPS to complete the engineering procurement specification for the TSCR capability
- WRPS to receive subcontractor proposals for the design and fabrication of TSCR.

Issues

Low-Activity Waste Pretreatment System:

- None

Tank-Side Cesium Removal:

- None

242-A Evaporator Status

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Paul Hernandez

Ecology Project Manager: Jeff Lyon

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

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
2018	EC-08	Blend of AP-106 AP-107	AP-103	222-S Laboratory analysis is underway and on target to allow an April 2018 campaign.
2018	EC-09	Blend of AP-106 AP-108	AP-104	242-A Evaporator campaign EC-09 will require blending of waste in Tank AW-106, sampling, and sample analysis prior to campaign start. In addition, the waste will need to be transferred from Tank AW-106 to Tank AW-102 (242-A Evaporator feed tank) after EC-08 completes.

Significant Past Accomplishments

- Continued sample analysis at 222-S Laboratory in support of EC-0
- Continued replacement of control room air conditioning units
- Initiated effluent sampling station installation.

Significant Planned Actions in the Next Six Months

- Establish the future campaign and outage scheduling
- Replace outdated fire alarm control panel
- Continue efforts to clear the 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 have been successful and additional efforts are planned in the future.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Richard Valle

Ecology Project Manager: Stephanie Schleif

The Liquid Effluent Retention Facility (LERF) liquid levels, inventory, and received waste are shown in the table below. Volumes in this table are estimated. Tanker shipment volumes are estimated by multiplying the number of shipments by the capacity of the tanker being used.

	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
Total Volume (as of Jan. 29, 2018)	~ 2.88 Mgal	~ 4.10 Mgal	~ 7.52 Mgal

Waste Received			
AZ-301 Tanker Shipments	~6,500 gal	-	-
MWT-31 and 34 Leachate	~ 21,000 gal	-	-
Other (e.g., Totes, Modutank, SWLL)	~ 11,800 gal	-	-
242-A Evaporator Campaigns	-	-	-

gal = gallon.

Mgal = million gallons.

MWT = mixed waste trench.

SWLL = solid waste landfill lysimeter

Significant Past Accomplishments

- Total FY 2018 volume processed (as of January 29, 2018): approximately 600,000 gallons
- Completed repairs to the thin film dryer boiler electrical system
- Completed repairs to the UV/OX (UV-1) system on the main treatment train
- Initiated waste processing from Basin 43 through the main treatment train and secondary treatment train.

Significant Planned Actions in the Next Six Months

- Enter plant cleanout/outage before initiating LERF Basin 44 waste processing
- Begin design and procurement/fabrication for second cover replacement project at LERF Basin 42.

Issues

- The inter-basin transfer from LERF Basin 42 to LERF Basin 43 was halted due to investigation of increased leachate level at LERF Basin 43. Additional response actions were implemented to continue pumping the leachate, monitor the leachate sump in-leakage rate, and maintain equipment as needed. In speaking with the vendor who installed the leachate collection system, it is anticipated the leachate rate will not stabilize for at least a month following the pumping of the excess leachate. At that time, improved estimates may be determined and the path-forward established. Leachate pumping rates in January continued to decrease.

Tank System Update

Tank Farms Assistant Manager: Glyn Trenchard
Federal Program Manager: Dusty Stewart
Ecology Project Manager: Cheryl Whalen, Jeff Lyon

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

Significant Past Accomplishments

Double-Shell Tank Integrity:

- Corrosion testing contracts with DNV-GL Laboratory are in place, and ORP has received a test plan for FY 2018. Emphasis this year is on new specification development to accommodate direct-feed low-activity waste returns and secondary liner testing.
- Tank AY-101 enhanced annulus visual inspections were performed. Videos are currently being reviewed by WRPS Engineering.

Single-Shell Tank Integrity:

- WRPS awarded the contract for the single-shell tank (SST) integrity assessment project as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering. The integrity assessment activities are underway.
- Completed in-tank video inspections for tanks TX-105, TX-106, TX-109, TX-118, SX-101, SX-103, SX-105, SX-113, and U-103. Videos are currently being reviewed by WRPS Engineering.

Significant Planned Actions in the Next Six Months:

Double-Shell Tank Integrity:

- Enhanced annulus visual inspections are planned for these tanks in FY 2018:

– 241-AP-102	– 241-AP-108
– 241-AP-103	– 241-AW-101
– 241-AP-104	– 241-AW-102
– 241-AP-105	– 241-AW-104.
– 241-AP-106	
- Ultrasonic testing inspections are planned for these tanks in FY 2018:
 - 241-AY-101 (ongoing)
 - 241-AZ-101
 - 241-AP-107.

- Continuing bi-weekly inspections of Tank AY-102 waste accumulation site.
- Continuing bi-monthly comprehensive inspection of Tank AY-102 annulus.
- Continuing annual comprehensive inspection of Tank AY-101 annulus.
- Secondary liners:
 - Perform laboratory testing of secondary liners for corrosion from moisture in the soil and for use of corrosion inhibitors. Both are methods that could be used to protect the secondary liner.
 - Model potential water ingress routes into the annulus systems: ongoing.
 - Perform a visual inspection of the Tank 241-AP-102 annulus floor; scheduled for FY 2018.
 - Perform another ultrasonic test scan of the area in question and additional areas in all four quadrants of the Tank 241-AP-102 annulus: scheduled for FY 2019.²
 - Investigate and develop nondestructive examination methods, in particular long-range, guided wave ultrasonic testing to support more comprehensive examination capability for double-shell tank bottoms. Field testing could begin as early as FY 2019.³

Single-Shell Tank Integrity:

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

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

- | | |
|--------------------------|--------------------------|
| • 241-B-104 | • 241-SX-113 (completed) |
| • 241-B-105 | • 241-TX-105 (completed) |
| • 241-S-107 | • 241-TX-106 (completed) |
| • 241-SX-101 (completed) | • 241-TX-109 (completed) |
| • 241-SX-103 (completed) | • 241-TX-118 (completed) |
| • 241-SX-105 (completed) | • 241-U-103 (completed). |

Independent Qualified Registered Professional Engineer Activities

- The independent qualified registered professional engineer (IQRPE) submitted the final, certified Rev. 0 version of RPP-RPT-60098, *242-A Evaporator System Integrity Assessment Report*, to WRPS on December 20, 2017, and it has been released. The IQRPE states the 242-A Evaporator meets the requirements of WAC 173-303-640(2),

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

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

“Tank systems,” and can be certified as fit for use. The report presents no findings; reasonable recommendations are made for improvement.

- Work continues on RPP-PLAN-61349, *Effluent Treatment Facility Integrity Program Plan*. The plan will support the FY 2019 IQRPE Effluent Treatment Facility integrity assessment.
- WRPS awarded the contract for the 219-S integrity assessment project to Meier Architecture Engineering. Planning is underway for conducting visual, ultrasonic, and leak tests in the facility. RPP-PLAN-61634, *219-S Integrity Assessment Plan*, has been released and will serve as a guide for conducting these inspections.
- WRPS awarded the contract for the SST integrity assessment project as described in M-045-91I (assessment of structural integrity) to Meier Architecture Engineering. The integrity assessment activities are underway.

Issues:

Double-Shell Tank Integrity:

- Contracts for Savannah River National Laboratory have not yet been placed for FY 2018 corrosion testing.

Single-Shell Tank Integrity:

- None.

Single-Shell Tank Integrity Assurance

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Dusty Stewart

Ecology Project Manager: Jeff Lyon

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

- Document 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.
- A technical meeting was held on January 10, 2018, to familiarize the IQRPE with the results from the SST structural analysis done by Pacific Northwest National Laboratory during SST integrity project activities. The Pacific Northwest National Laboratory subject matter expert delivered a comprehensive presentation on this subject to the Meier Architecture Engineering subject matter experts, Washington State Department of Ecology (Ecology), ORP, and WRPS.

Significant Planned Actions in the Next Six Months

- Support IQRPE with continued development of the SST integrity assessment.

Issues:

- None.

In-Tank Characterization and Summary

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Dusty Stewart

Ecology Project Manager: Jeff Lyon

Significant Past Accomplishments

For the period from January 1 through January 31, 2018, the following reports were completed (internal access only) or released (external access):

- Released RPP-RPT-60574, *Derivation of Best-Basis Inventory for Tank 241-U-112 as of January 1, 2018, Rev. 0*
- Released RPP-RPT-55192, *Derivation of Best-Basis Inventory for Tank 241-AW-103 as of October 1, 2017, Rev. 2*
- Released RPP-RPT-60611, *Derivation of Best-Basis Inventory for Tank 241-U-108 as of January 1, 2018, Rev. 0*
- Released RPP-RPT-60606, *Derivation of Best-Basis Inventory for Tank 241-TX-118 as of January 1, 2018, Rev. 0*
- Released HNF-EP-0182, *Waste Tank Summary Report for Month December 31, 2017, Rev. 360*
- Completed RPP-RPT-60261, *Final Report for Tank 241-AW-104 Grab Sampling 2017, Rev. 1.*

Significant Planned Actions in the Next Six Months

Tank sampling:

- Tank 241-AW-106 liquid grab sampling is planned for March 2018.
- Tank 241-AW-105 liquid grab sampling is planned for March 2018.
- Tank 241-C-105 post-retrieval solids grab sampling is planned for April 2018.
- Tank 241-A-104 solids grab sampling is planned for May 2018.
- Tank 241-A-105 solids grab sampling is planned for June 2018.

Best-Basis Inventory Updates

Best-basis inventory updates for the following tanks were completed in January 2018:

- 241-AW-103
- 241-TX-118
- 241-U-108
- 241-U-112.

Best-basis inventory updates for the following tanks are currently planned to be completed in February 2018:

- 241-AN-107
- 241-AP-102
- 241-AP-106
- 241-AX-101
- 241-AY-102
- 241-SY-103

Data Quality Objectives Updates

- None.

Issues

- None.

Single-Shell Tank Closure Program

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Jan Bovier

Ecology Project Manager: Jeff Lyon

- M-045-59** **Control surface water infiltration pathways as needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST Waste Management Areas (WMA) (pending the Corrective Measures Study report, Milestone M-45-58, and implementation of other interim corrective measures)**
Due: To be determined.
Status: To be determined.
- M-045-62** **Submit to Ecology for review, in accordance with HFFACO Action Section 9.2.2, the draft Tier 3 closure plan to implement corrective measures identified in the approved Phase 2 Corrective Measures Implementation Work Plan (CMIP) for WMA-C**
Due: To be established in accordance with the date identified in the M-45-82 Tier 2 closure plan.
Status: On Schedule.
- M-045-83** **Complete the Closure of WMA-C by completing all closure activities specified in the Tier 2 closure plan not including activities specifically described in the Tier 2 closure plan as requiring integration with closure of other WMAs**
Due: To be established in accordance with the date identified in the M-45-82 Tier 2 closure plan.
Status: On Schedule.
- M-045-84** **Initiate Negotiations to Establish HFFACO Interim Milestones for Closure of 2nd SST WMA**
Due: April 3, 2017.
Status: Complete (March 14, 2017). Negotiations initiated on March 14, 2017.
Note: Decision on location of next waste management area (WMA) to be closed needs to be finalized.

- M-045-92O** **Barrier 3 Design and Monitoring Plan submitted to Ecology**
Due: June 30, 2018.
Status: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft Tri-Party Agreement (TPA) Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and construction of barriers 3 and 4. This change control form would refine and detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.
- M-045-92T** **Barrier 3 Design and Monitoring Plan approved by Ecology**
Due: September 30, 2018.
Status: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft TPA Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and construction of barriers 3 and 4. This change control form would refine and detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.
- 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: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft TPA Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and construction of barriers 3 and 4. This change control form would refine and

detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.

M-045-92U**Barrier 4 Design and Monitoring Plan approved by Ecology**

Due: September 30, 2019.

Status: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft TPA Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and construction of barriers 3 and 4. This change control form would refine and detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.

M-045-92P**Complete construction of Barrier 3**

Due: October 31, 2019.

Status: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft TPA Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and construction of barriers 3 and 4. This change control form would refine and detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.

M-045-92R**Complete construction of Barrier 4**

Due: October 31, 2020.

Status: At Risk. A joint decision between ORP and Ecology regarding the size of the barrier needs to be made to allow the design to progress. ORP sent draft TPA Change Control Form M-45-17-03 to Ecology via email on December 14, 2017. This change control form proposes to modify milestone M-045-92 to incorporate an expansion of barrier design and construction of barriers 1 and 2 in SX Tank Farm; proposes to establish dates for agreement of the surface area to be covered by barrier 3 in TX Tank Farm and barrier 4 in U Tank Farm; and proposes to modify the schedule dates for design and

construction of barriers 3 and 4. This change control form would refine and detail the interim surface barrier work to be performed under M-045-92 in order to allow the work to progress in an orderly and timely fashion. Some of the interim dates will need to be adjusted and the entire package will need to be negotiated with Ecology.

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

- Began construction of the evapotranspiration basin and associated piping for the SX Tank Farm interim surface barriers. Ecology toured the construction site on December 19, 2017.
- ORP and Ecology agreed to locations for interim barrier 3 (TX Tank Farm) and interim barrier 4 (U Tank Farm) (Milestone M-045-92S), and ORP submitted the proposed change control form (M-45-17-03) for related activities.
- Ecology approved the SX Tank Farm expansion barrier design for construction on January 18, 2018, based on Ecology's review of the 60 percent and 90 percent designs.

Significant Planned Activities in the Next Six Months

- Begin resolution of Ecology's comments on the *Resource Conservation and Recovery Act* tier 1, 2, and 3 closure plans.
- Begin resolution of Ecology's comments on the *Resource Conservation and Recovery Act* Facility Investigation report and Corrective Measures Study report for C Tank Farm WMA (WMA-C).

Issues

- DOE/ORP-2014-02, *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, Rev. 1 dated July 23, 2014. ORP received Ecology letter 15-NWP-149, "Department of Ecology's Response Comments Regarding Review of the *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, DOE/ORP-2014-02," dated August 3, 2015. Ecology provided partial comments on the document, ORP met with Ecology in November 2017 to discuss path forward. Awaiting final Ecology comments.

- ORP and Ecology need to agree on the area to be covered by an interim surface barrier at TX Tank Farm to support M-045-92O. ORP provided a draft TPA Change Package via email to Ecology on December 14, 2017.
- Document 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.
- Document RPP-RPT-58339, *Phase 2 RCRA Facility Investigation Report for Waste Management Area C*. Submitted to Ecology on December 29, 2016. Awaiting Ecology comments.
- Document RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*, to complete milestone M-045-61A. Submitted to Ecology on December 29, 2016. Awaiting Ecology comments.
- Document RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*. Submitted to Ecology on May 15, 2017. Ecology requested a continuing extension on September 12, 2017, to provide comments by October 16, 2017. Ecology subsequently extended their response comments due date to November 22, 2017, and then to January 16, 2018 (M-045-82). Awaiting Ecology comments.
- Document RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Action Plan for 241-C-200 Series Tanks*. Submitted to Ecology on May 15, 2017. Ecology requested a continuing extension on September 12, 2017, to provide comments by October 16, 2017. Ecology subsequently extended their response comments due date to November 22, 2017, and then to January 16, 2018 (M-045-82A). Awaiting Ecology comments.

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Jeff Rambo

Ecology Project Manager: Jeff Lyon

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

M-045-70 **Complete waste retrieval from all remaining SSTs**
Due: December 31, 2040.
Status: At risk. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45. Negotiations began on September 8, 2016.

Significant Past Accomplishments

- Refer to the Consent Decree monthly report for retrieval accomplishments.

Significant Planned Activities in the Next Six Months

- Refer to the Consent Decree monthly report for planned activities.

Issues

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

Tank Operations Contract Overview

December-17										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	51,860	49,124	53,170	(2,736)	(4,046)	0.95	0.92			
FYTD	156,727	149,260	149,199	(7,467)	61	0.95	1.00	682,414		
CTD	4,249,518	4,217,923	4,193,002	(31,595)	24,921	0.99	1.01	4,775,205	4,791,364	(16,160)

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.

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 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.

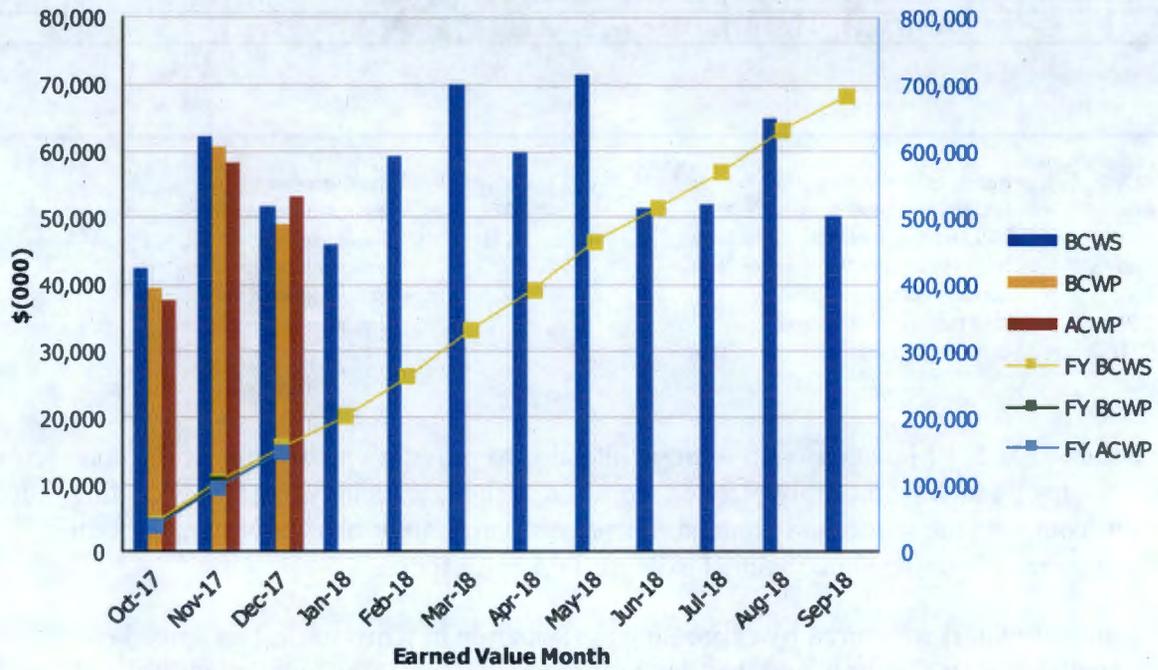
The SV and CV are reported for each monthly period, FY-to-date, as well as for the contract-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the FY or contract-to-date report provides a better indicator of the overall project completion status and can give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

Earned Value Data: Fiscal Year 2018

December-17

Tank Farms ORP-0014

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2017	\$42,505	\$39,501	\$37,634	0.93	1.05	\$42,505	\$39,501	\$37,634	0.93	1.05
Nov 2017	\$62,362	\$60,635	\$58,396	0.97	1.04	\$104,867	\$100,136	\$96,029	0.95	1.04
Dec 2017	\$51,860	\$49,124	\$53,170	0.95	0.92	\$156,727	\$149,260	\$149,199	0.95	1.00
Jan 2018	\$46,110					\$202,838				
Feb 2018	\$59,218					\$262,056				
Mar 2018	\$70,151					\$332,207				
Apr 2018	\$59,883					\$392,090				
May 2018	\$71,635					\$463,725				
Jun 2018	\$51,411					\$515,136				
Jul 2018	\$51,910					\$567,046				
Aug 2018	\$65,044					\$632,090				
Sep 2018	\$50,325					\$682,414				
CTD	\$4,249,518	\$4,217,923	\$4,193,002	0.99	1.01					

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

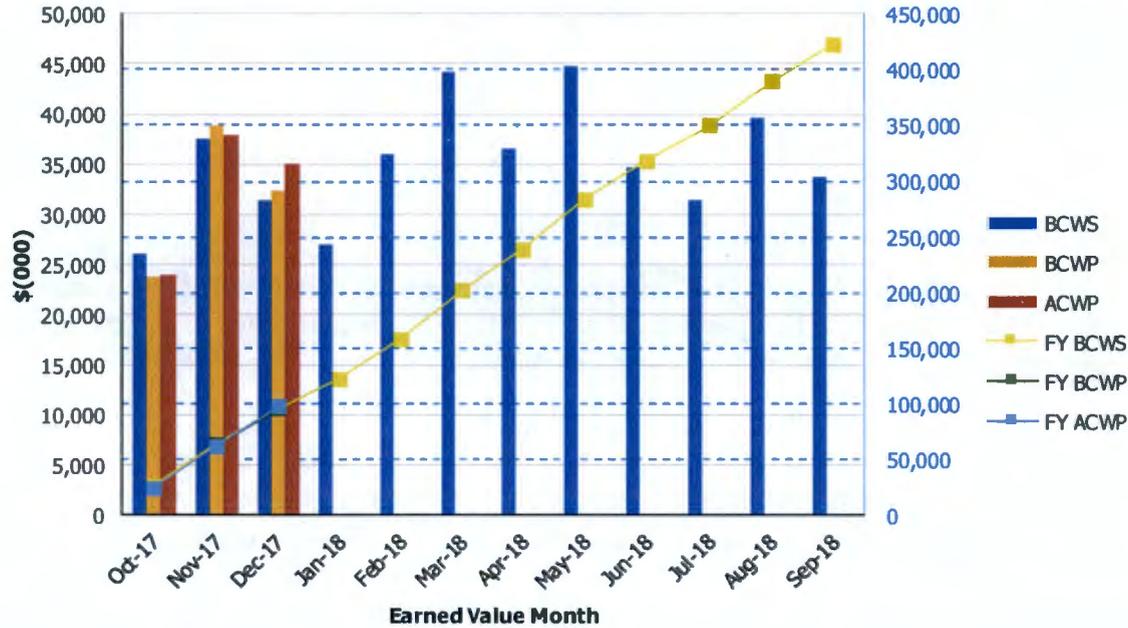
CM = current month.
 CTD = contract to date.
 FY = fiscal year.
 SPI = schedule performance index.

Earned Value Data: Fiscal Year 2018

December-17

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2017	\$25,995	\$23,854	\$24,021	0.92	0.99	\$25,995	\$23,854	\$24,021	0.92	0.99
Nov 2017	\$37,542	\$38,850	\$37,961	1.03	1.02	\$63,537	\$62,704	\$61,982	0.99	1.01
Dec 2017	\$31,376	\$32,304	\$35,027	1.03	0.92	\$94,913	\$95,008	\$97,009	1.00	0.98
Jan 2018	\$26,979					\$121,892				
Feb 2018	\$35,917					\$157,808				
Mar 2018	\$44,193					\$202,001				
Apr 2018	\$36,508					\$238,509				
May 2018	\$44,760					\$283,268				
Jun 2018	\$34,636					\$317,905				
Jul 2018	\$31,346					\$349,251				
Aug 2018	\$39,546					\$388,797				
Sep 2018	\$33,724					\$422,522				
CTD	\$2,820,117	\$2,801,754	\$2,771,394	0.99	1.01					

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

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

Tank Farms Assistant Manager: Glyn Trenchard

Federal Project Director: Ellen Mattlin

5.01 – Base Operations

The December 2017 variances below do not impact TPA milestones.

The **favorable** SV of \$928,000 is primarily due to:

- Early performance of the SST visual inspections: Due to early planning support and efficiencies in planning similar packages, the project was able to execute seven visual inspections ahead of schedule (7 of 12 FY 2018 videos completed).
- Double-Shell Tank AP-106 grab sample completed earlier than planned. This grab sample was planned to complete in January 2018, but was performed ahead of schedule in December 2017 as resources became available.

The **unfavorable** CV of (\$2,722,000) is primarily due to:

- Increased use of labor and material associated with troubleshooting plant issues and necessary facility repairs required to support restart of Effluent Treatment Facility operations.
- An increase in the number of critical spare connector parts were received earlier than expected. The jumper connector parts are intended to be on hand for future double-shell tank pump and jumper replacements.

Earned Value Data: Fiscal Year 2018

December-17

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2017	\$8,053	\$7,119	\$7,127	0.88	1.00	\$8,053	\$7,119	\$7,127	0.88	1.00
Nov 2017	\$13,058	\$11,996	\$10,119	0.92	1.19	\$21,111	\$19,115	\$17,245	0.91	1.11
Dec 2017	\$9,964	\$8,572	\$10,318	0.86	0.83	\$31,075	\$27,686	\$27,563	0.89	1.00
Jan 2018	\$9,972					\$41,048				
Feb 2018	\$11,518					\$52,566				
Mar 2018	\$13,264					\$65,830				
Apr 2018	\$14,185					\$80,015				
May 2018	\$15,566					\$95,581				
Jun 2018	\$9,734					\$105,315				
Jul 2018	\$11,902					\$117,217				
Aug 2018	\$16,257					\$133,474				
Sep 2018	\$11,820					\$145,295				
CTD	\$834,647	\$832,349	\$866,115	1.00	0.96					

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

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

Tank Farms Assistant Manager: Glyn Trenchard

Federal Program Manager: Jeff Rambo

5.02 – Retrieve and Close Single-Shell Tanks

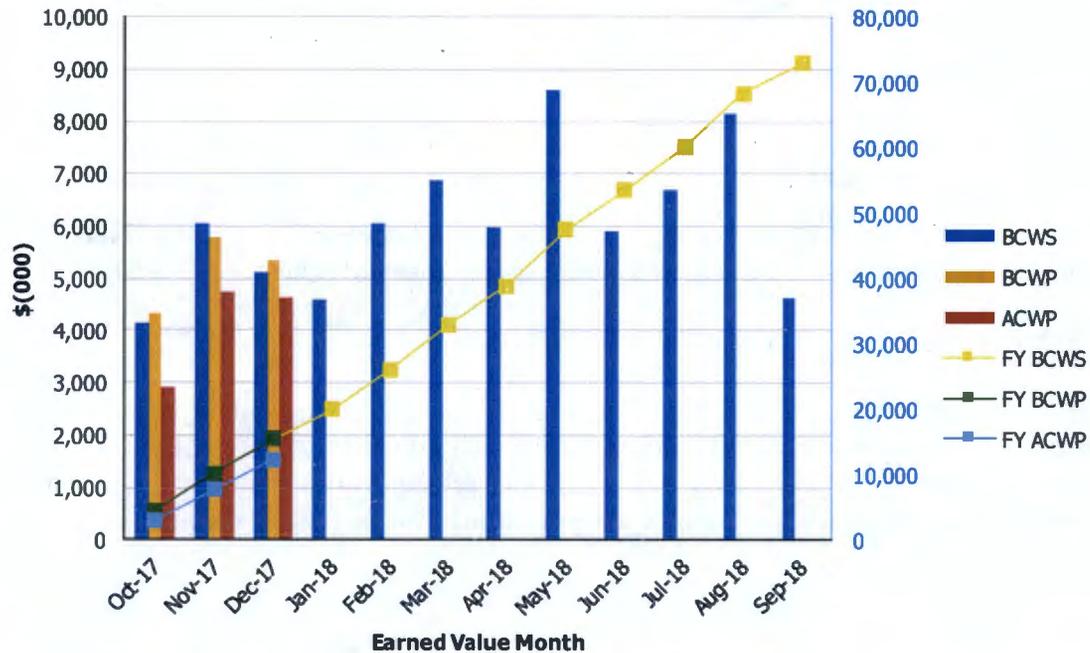
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2018

December-17

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2017	\$4,163	\$4,326	\$2,909	1.04	1.49	\$4,163	\$4,326	\$2,909	1.04	1.49
Nov 2017	\$6,068	\$5,798	\$4,754	0.96	1.22	\$10,231	\$10,124	\$7,663	0.99	1.32
Dec 2017	\$5,132	\$5,334	\$4,651	1.04	1.15	\$15,363	\$15,458	\$12,314	1.01	1.26
Jan 2018	\$4,583					\$19,946				
Feb 2018	\$6,073					\$26,019				
Mar 2018	\$6,884					\$32,902				
Apr 2018	\$5,971					\$38,874				
May 2018	\$8,620					\$47,494				
Jun 2018	\$5,904					\$53,397				
Jul 2018	\$6,702					\$60,099				
Aug 2018	\$8,137					\$68,236				
Sep 2018	\$4,629					\$72,865				
CTD	\$448,119	\$445,777	\$409,125	0.99	1.09					

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

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

One System Division Director: Jon Peschong

Federal Program Manager: Kaylin Burnett

5.03 – Waste Feed Delivery/Treatment

The December 2017 variances below do not impact TPA milestones.

The favorable SV of \$202,100 is primarily due to three projects.

- The first two, the AP-107 Tank Farm upgrades project and the AP-105 Tank Farm upgrades project had schedule recoveries for work previously behind-schedule.
- The third, the immobilized low-activity waste transporter project completed the immobilized low-activity waste transporter trailer ahead of schedule.

The favorable CV of \$683,100 is primarily due to the following:

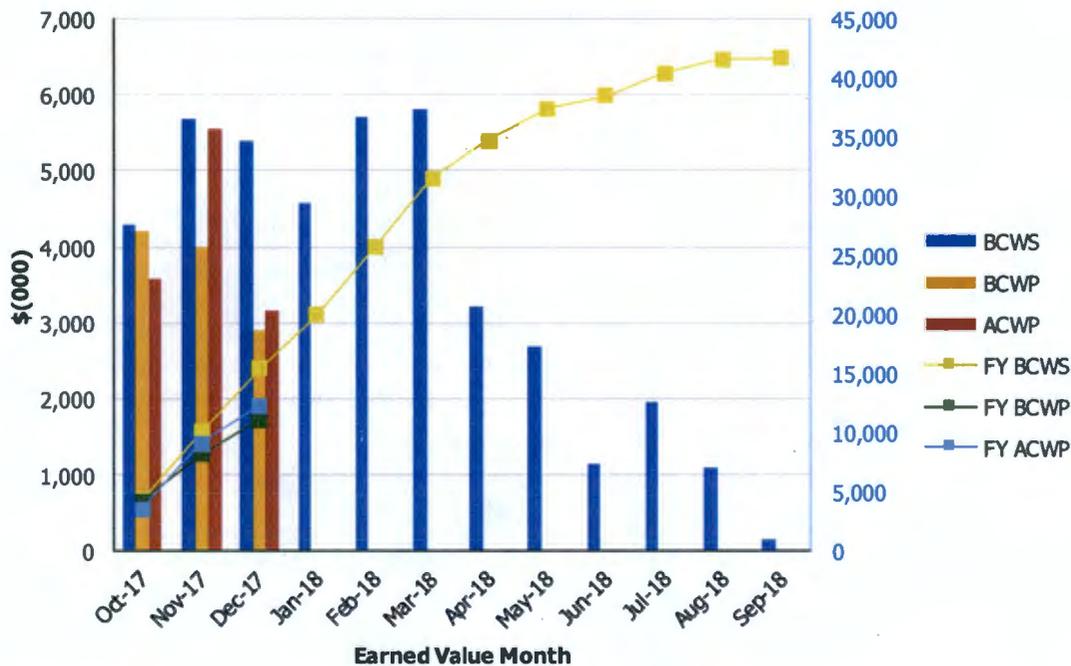
- The Waste Feed Delivery Technical Baseline Project experienced delayed work in predictive maintenance due to a delay in receiving materials. Additionally, resource efficiencies in the AP-107 Tank Farm upgrades project and subcontracted work on the construction of a gravel parking lot were performed for less than expected.

Earned Value Data: Fiscal Year 2018

December-17

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2017	\$4,294	\$4,202	\$3,576	0.98	1.17	\$4,294	\$4,202	\$3,576	0.98	1.17
Nov 2017	\$5,693	\$3,992	\$5,562	0.70	0.72	\$9,988	\$8,193	\$9,139	0.82	0.90
Dec 2017	\$5,389	\$2,914	\$3,174	0.54	0.92	\$15,377	\$11,108	\$12,313	0.72	0.90
Jan 2018	\$4,576					\$19,953				
Feb 2018	\$5,711					\$25,663				
Mar 2018	\$5,811					\$31,474				
Apr 2018	\$3,219					\$34,693				
May 2018	\$2,689					\$37,382				
Jun 2018	\$1,137					\$38,519				
Jul 2018	\$1,959					\$40,478				
Aug 2018	\$1,104					\$41,582				
Sep 2018	\$151					\$41,734				
CTD	\$126,525	\$117,934	\$127,207	0.93	0.93					

ACWP = actual cost of work performed.	CM = current month.
BCWP = budgeted cost of work performed.	CTD = contract to date.
BCWS = budgeted cost of work scheduled.	FY = fiscal year.
CPI = cost performance index.	SPI = schedule performance index.

Tank Farms Assistant Manager: Glyn Trenchard

Deputy Federal Project Director: Janet Diediker

5.05 – Treat Waste

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

The **unfavorable** SV of (\$2,474,491) is primarily due to:

- The schedule variance resulted primarily from U.S. Department of Energy direction to WRPS to cease certain aspects of the current LAWPS design strategy and submit a contract change proposal for an optimized LAWPS design strategy.

The **unfavorable** CV of (\$260,064) is primarily due to:

- The LAWPS existing design team working to place the design documentation under configuration control and initiate the new design plan and providing assistance in the preparation of the new contract change proposal.