

1232132
[0079080#]

FINAL

Office of River Protection

Tri-Party Agreement
Monthly Summary Report
December 2015



Tri-Party Agreement

RECEIVED
DEC 16 2015
EDMC

62

**Office of River Protection (ORP)
Tri-Party Agreement (TPA) Milestone Review
December 2015 (Monthly Summary Report)**

Project Earned Value Management System reflects October 2015 information

Page	Topic	Leads
1	Administrative Items/Milestone Status	Bryan Trimberger/Dan McDonald/Jeff Lyon
3	System Plan	Kaylin Burnett/Jeff Lyon/Dan McDonald
4	Acquisition of New Facilities	Janet Diediker/Jeff Lyon/Dan McDonald
5	Supplemental Treatment and Part B Permit Applications	Steve Pfaff/Jeff Lyon/Dan McDonald
6	242-A Evaporator Status	Paul Hernandez/Jeff Lyon
7	Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	Richard Valle/ Stephanie Schleif
8	Tank System Update	Jeremy Johnson/Jeff Lyon
8	Single-Shell Tank Integrity Assurance	Jeremy Johnson/ Jim Alzheimer
10	In Tank Characterization and Summary	Billie Mauss/Michael Barnes
12	Tank Operations Contract Overview	ORP TPA Program Managers/Jeff Lyon
22	Single-Shell Tank Closure Program	Ryan Beach/Jeff Lyon
24	Single-Shell Tank Retrieval Program	Jeremy Johnson/ Jeff Lyon
25	Tank Waste Retrieval Work Plan Status	Jeremy Johnson /Jeff Lyon
26	Tank in Appendix H, "Status - Single Shell Waste Retrieval Criteria"	Jeremy Johnson /Jeff Lyon
26	Tank Retrievals with Individual Milestones	Jeremy Johnson/Jeff Lyon
CD	Waste Treatment and Immobilization Plant (WTP) Overall TPA Summary and Milestone Status; see the U.S. Department of Energy, Office of River Protection Consent Decree 08-5085-FVS Monthly Summary Report for WTP Facility-specific information	Joni Grindstaff/Dan McDonald

Administrative Items/Milestone Status
--

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2015				
M-062-45-T01	Comp. Neg's 6-Mo After Last Issuance of System Plan	04/30/2015		In Dispute
M-062-45-ZZ	Negotiate a One Time Supplemental Treatment Selection	04/30/2015		In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 Thru M-062-34-T01 to Interim Milestones	04/30/2015		In Dispute
M-045-92	Barrier 3 Design/Monitoring Approval From Ecology	06/30/2015		In Dispute
M-045-82	Submit Comp. Permit Modification Request for Tiers 1,2,3	09/30/2015		In Dispute
M-045-91E1	Provide SST Farms Dome Deflection Surveys Every Two Years.	09/30/2015	9/21/15	Complete
Fiscal Year 2016				
M-045-92N	Construct Barriers 1 and 2 in 241-SX Farm	10/31/2015		In Dispute
M-062-01AF	Submit Semi-Annual Project Compliance Report	01/31/2016		On Schedule
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016		To Be Missed
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016		To Be Missed
M-062-31-T01	Comp. Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016		On Schedule
M-045-92Q	Submit Barrier 4 Design/Monitoring Plan	06/30/2016		In Dispute
M-062-01AG	Submit Semi-Annual Project Compliance Report	07/31/2016		On Schedule
M-045-56L	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/31/2016		On Schedule
Fiscal Year 2017				
M-045-92P	Barrier 3 Construction Complete	10/31/2016		In Dispute
M-062-40E	Select a Minimum of Three Scenario's	10/31/2016		On Schedule
M-045-61A	Submit to Ecology a primary doc. Phase 2 CMS and Rev. O 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	Six months after CMS approval (M-045-61A)		On Schedule
M-045-84	Comp Neg's of HFFACO Interim Milestones for Closure of 2 nd SST WMA	01/31/2017		On Schedule

Milestone	Title	Due Date	Completion Date	Status
M-062-01AH	Submit Semi-Annual Project Compliance Report	01/31/2017		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

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

CMD = current measuring device.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology

HFFACO = Hanford Federal Facility Agreement and Consent Order.

RCRA = Resource Conservation and Recovery Act.

RFI = RCRA Facility Investigation.

SST = single-shell tank.

TBD = to be determined.

WTP = Waste Treatment and Immobilization Plant

WMA-C = Waste Management Area C.

System Plan

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 Dispute.

Significant Past Accomplishments:

1. On October 24, 2013, Washington State Department of Ecology (Ecology) and U.S. Department of Energy (DOE), Office of River Protection (ORP) signed the Tri-Party Agreement (TPA) Change Control Form M-62-13-02, moving out the due date for this embedded milestone from October 31, 2013 to December 15, 2013, for selection of three, or more, scenarios to be modeled in the System Plan.
2. Ecology has defined five scenarios to be analyzed in System Plan 7. Washington River Protection Solutions LLC (WRPS) has included a description of each scenario in the *Selected Scenarios for the River Protection Project System Plan, Rev. 7* document released to ORP on December 4, 2013. See joint ORP and Ecology letter 13-TPD-0070, dated December 12, 2013, for completion and description of M-062-40C scenarios.
3. Detailed assumption review was completed and has been approved by Ecology.
4. On February 11, 2014, ORP transmitted a letter (14-TPD-0003) to WRPS in response to letter WRPS-1400313 to approve the use of Ecology's Appendix B, "Key Assumptions and Success Criteria," for ORP 11242, *River Protection Project System Plan, Rev. 7*. (System Plan 7)
5. On February 13, 2014 Ecology presented the five selected scenarios to the Hanford Advisory Board Tank Waste Committee.
6. Ecology, ORP, and WRPS reviewed and provided comments for Sections 1.0 and 2.0 of System Plan 7 during the week of February 17, 2014.
7. Ecology, ORP and WRPS reviewed and provided comments for Section 3.0 of the System Plan 7 during the week of March 21, 2014.
8. Ecology, ORP and WRPS reviewed and provided comments for Appendix C, "Modeling Tools," of the System Plan 7 during the week of April 1, 2014.
9. During the week of April 28, 2014, WRPS and ORP facilitated meetings for Ecology to define detail spending assumptions for Case 5.
10. On July 29, 2014, WRPS case authors presented the results of the five cases to Ecology and ORP.
11. System Plan 7 was reviewed, all comments resolved, and comments incorporated into the document.
12. On October 31, 2014, ORP transmitted System Plan 7 to Ecology.
13. ORP received Ecology's January 14, 2015, transmitted letter 15-NWP-004, regarding Ecology's review of System Plan 7.
14. ORP met with Ecology at the Tank Farms TPA and Consent Decree (CD) monthly status meeting on February 25, 2015.

15. ORP transmitted Letter 15-WSC-0027, ORP's response to Ecology's letter 15-NWP-004 to Ecology on June 2, 2015. ORP's letter provided clarification and several attachments of additional information requested in Ecology's January 14, 2015, letter.

Significant Planned Actions in the Next Six Months:

None

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: To be missed. Created by TPA Change Control Form M-90-12-02, signed by ORP and Ecology on November 19, 2012, to "Submit to Ecology, a Conceptual Design Report Package (Critical Decision-1) for the Interim Hanford Storage Project (storage of the first two years of Hanford Site Immobilized High-Level Waste from WTP operations) and a TPA Change Request (in accordance with TPA Action Plan Section 12.0) to submit to Ecology, a Preliminary Design Report package (Critical Decision-2)."

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

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: To be missed. Created by TPA Change Control Form M-47-12-02, signed by ORP and Ecology on November 19, 2012, to "Submit to Ecology, a Conceptual Design Report package (Critical Decision-1) for the Secondary Liquid Waste Treatment Project and a TPA Change Request (in accordance with TPA Action Plan Section 12.0) to submit to Ecology, a Preliminary Design Report package (Critical Decision-2)."

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: On schedule.

Significant Past Accomplishments:

ORP and Ecology signed TPA Change Packages M-47-14-01 and M-90-14-01 on July 14, 2014 moving the due date for M-047-07 and M-090-13 to March 31, 2016.

Significant Planned Actions in the Next Six Months:

None.

Issues:

None.

Supplemental Treatment and Part B Permit Applications

M-062-45ZZ (designation for M-062-45 item 3), Negotiate a one-time supplemental treatment selection, Due: April 30, 2015, Status: In dispute.

M-062-45ZZ-A, Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones, Due: April 30, 2015, Status: In dispute.

M-062-31-T01, Complete final design and submit Resource Conservation and Recovery Act Part B permit modification request, Due: April 30, 2016, Status: On schedule.

M-062-32-T01, Start construction of supplemental vitrification treatment facility and/or WTP enhancements, Due: April 30, 2018, Status: On schedule.

M-062-33-T01, Complete construction of supplemental vitrification treatment facility and/or WTP enhancements, Due: April 30, 2021, Status: On schedule.

M-062-45XX, 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: On schedule.

M-062-21, Annually submit data that demonstrates operation of the WTP, Due: February 28, 2023, Status: On schedule.

M-062-00, Complete Pretreatment Processing and Vitrification of High-Level Waste and LAW Tank Wastes, Due: December 31, 2047, Status: On schedule.

Significant Past Accomplishments:

*Per ORP letter 14-TF-0052, signed by ORP on May 6, 2014 and provided to Ecology on May 7, 2014, ORP documented the ORP/Ecology discussions for the *One-Time Hanford Tank Waste Supplemental Treatment Technologies Report* and that ORP does not intend to submit this report. ORP received Ecology's response letter, 14-NWP-110, on May 29, 2014. ORP letter 14-TF-0088, dated and delivered to Ecology on July 31, 2014, submitted a signed TPA change package to delete the requirement of the *One-Time Hanford Tank Waste Supplemental Treatment Technologies Report* from TPA Milestone M-062-40. Ecology signed TPA Change Package M-62-14-01 deleting M-062-40ZZ on August 12, 2014.

Significant Planned Actions in the Next Six Months: None.

Issues:

On January 30, 2015, ORP provided Ecology Change Control Form M-62-14-02, which proposed adding language under TPA Milestone M-062-45 to defer negotiations required under

M-062-45. Ecology did not respond with the 14-day review period that ended February 13, 2015 which is deemed disapproval in accordance with the TPA. In letter 15-TF-0014, dated February 20, 2015, ORP initiated a dispute resolution. Ecology provided a justification for their disapproval on March 12, 2015 via letter 15-NWP-036. Ecology and ORP signed an extension of the dispute resolution period at the TPA project manager level until February 18, 2016. The extension is available in the TPA Administrative Record at <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=1509230319>

242-A Evaporator Status

(previously reported under Milestone M-48, which has been closed out)

242-A Evaporator Status:

The 242-A Evaporator campaign strategy for fiscal year (FY) 2015 through third quarter of FY 2016 depicted in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2015	EC-01	AP-103 AP-104	AP-107	Campaign and flush activities completed on June 21, 2015.
FY 2015	EC-02	AZ-102	AP-103	Completed July 21, 2015.
FY 2015	EC-03	AZ-102	AP-103	Completed September 25, 2015.
FY 2016	EC-04	AW-106	AP-103	Estimated to begin third quarter FY 2016.
FY 2016	EC-05	AP-104	AP-103	Estimated to begin third quarter FY 2016.
FY 2016	EC-06	AP-104	AP-104	Estimated to begin third quarter FY 2016.

FY = fiscal year.

Significant Planned Actions in the Next Six Months:

- Future campaign and outage scheduling
- 242-A Evaporator instrument calibrations and preventive maintenance
- 242-A Evaporator oil filled window maintenance
- Replacement of temperature elements TE-CA1-1 and -1S

Issues:

None.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Status:

The Liquid Effluent Retention Facility (LERF) liquid levels, inventory, and received waste is shown in the table below for the time period of November 1 – 30, 2015.

Note: 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 11/30/15)	~4.70 Mgal	~5.99 Mgal	~6.36 Mgal
AZ-301 Tanker Shipments	-	-	-
MWBT-31 & 34 Leachate	-	-	~7,000 gal
Perched Water Tanker Shipments	-	-	-
ERDF Leachate Transfers	-	~157,000 gal	-
Other (325 Building Totes)	-	~2,600 gal	-

ERDF Environmental Restoration Disposal Facility
Gal gallon
Mgal million gallons
MWBT mixed waste burial trench

Significant Planned Actions in the Next Six Months:

- Staff training, component and system testing, and readiness activities will be performed before restart approval can be granted.
- Pressure safety valve shall be replaced before a leak test is conducted on the system.
- Berm coating of specific areas at the ETF and LERF are to be repaired in the following months.
- Class 1 Modifications are under development for the quarter ending December 31, 2015.

Issues:

None.

Tank System Update

Significant Planned Actions in FY 2016:

Double Shell Tank (DST) Integrity

- Enhanced annulus video inspection:
 - 241-AN-101
 - 241-AN-103
 - 241-AN-104
 - 241-AN-105
 - 241-AN-106
 - 241-AW-103
 - 241-AW-106
 - 241-SY-101
 - 241-SY-102
 - 241-SY-103.
- Ultrasonic testing (UT) inspections (two risers for primary wall/welds, one riser for secondary floor):
 - 241-AN-105
 - 241-AW-103.
- Continuing bi-weekly inspections of AY-102 waste accumulation site
- Continuing bi-monthly comprehensive inspection of AY-102 annulus
- Revise and update RPP-7574, *Double-Shell Tank Integrity Project Plan*
- Release DST independent qualified registered professional engineer (IQRPE) integrity assessment report per WAC 173-303-640(2).

Single Shell Tanks (SST) Integrity

- In-Tank video inspections:
 - 241-T-107
 - 241-T-110
 - 241-TX-103
 - 241-TX-111
 - 241-TX-113
 - 241-TX-116
 - 241-B-101
 - 241-B-201
 - 241-BY-105
 - 241-U-102
 - 241-U-105
 - 241-U-107.

- Intrusions mitigation (M45-56):
 - Complete 241-T-111
 - Subsequent tank to be determined.

Current Status

- The blanket master agreement (BMA) for nondestructive examination services is being placed.

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:

Completion of M-045-91E1 on September 21, 2015 with issuance of RPP-RPT-55202, *Dome Survey Report for Hanford Single-Shell Tanks, Revision 1*. The report was discussed with Ecology on October 13, 2015, and both parties expressed interest in continuing this work but not requiring formal transmittal as a Tri-Party Agreement (TPA) milestone requirement.

Significant Planned Actions in the Next Six Months:

Begin planning for the SST integrity assessment by an independent, qualified, registered professional engineer (IQRPE) (M-045-91I).

Issues: None.

In Tank Characterization and Summary

For the period from November 1 through November 30, 2015:

Accomplishments:

- Completed RPP-RPT-58727, *Derivation of Best-Basis Inventory for Tank 241-TX-114 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-44630, *Derivation of Best-Basis Inventory for Tank 241-AY-102 as of October 28, 2015*, Rev 10.
- Completed RPP-RPT-44049, *Derivation of Best-Basis Inventory for Tank 241-AZ-102 as of October 1, 2015*, Rev 09.
- Completed RPP-RPT-59039, *Derivation of Best-Basis Inventory for Tank 241-AX-104 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-44814, *Derivation of Best-Basis Inventory for Tank 241-AN-101 as of October 1, 2015*, Rev 19.
- Completed RPP-RPT-43992, *Derivation of Best-Basis Inventory for Tank 241-AN-106 as of October 1, 2015*, Rev 14.
- Completed RPP-RPT-58701, *Derivation of Best-Basis Inventory for Tank 241-TX-111 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-58698, *Derivation of Best-Basis Inventory for Tank 241-TX-107 as of July 1, 2015*, Rev 01.
- Completed RPP-44057, *Data Quality Objectives to Support Strategic Planning*, Rev 2.
- Completed RPP-CALC-60591, *Tank 241-AZ-102 FY16 Q1 Supernatant Process Knowledge Vector Concentration Calculation*, Rev 1.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending September 30, 2015*, Rev 333.
- RPP-RPT-59026, *Final Report for Tank 241-AP-105 Grab Sampling in Support of Waste Compatibility in Fiscal Year 2015*, Rev 0, was released November 18, 2015.
- RPP-RPT-58823, *Final Report for Tank 241-SY-102 Cores 333 and Cores 334 in Support of Corrosion Mitigation, Criticality, and Strategic Planning*, Rev 1, was released November 19, 2015.
- Completed 241-AN-106 grab sampling that occurred on November 12, 2015, and November 17, 2015. Eight samples were received at the lab.

Planned Action within the Next Six Months:

Tank sampling:

- Tank 241-C-102 extended reach sluicing system (ERSS) closure sampling is planned to begin December 2015.
- Tank 241-C-111 hard heel retrieval in-process grab sampling is planned to begin December 2015.

- Tank 241-SY-101 grab sampling is planned for December 2015.
- Tank 241-AP-104 grab sampling is planned for December 2015.
- Tank 241-AN-101 grab sampling is planned for January 2016.
- Tank 241-AY-101 Evaporator campaign EC-07 grab sampling is planned for March 2016.
- Tank 241-AP-107 grab sampling is planned for April 2016.
- Tank 241-C-111 Off-Riser Sampling System (ORSS) closure sampling is planned for April 2016.
- Tank 241-AP-102 grab sampling at AY-102 50% retrieval is planned for May 2016.

Best-Basis Inventory (BBI) updates:

BBI updates for the following tanks were completed in November:

- | | |
|--------------|--------------|
| • 241-AN-101 | • 241-AZ-102 |
| • 241-AN-106 | • 241-TX-107 |
| • 241-AX-104 | • 241-TX-111 |
| • 241-AY-102 | • 241-TX-114 |

BBI updates for the following tanks currently are planned to be completed in December:

- | | |
|--------------|--------------|
| • 241-AP-103 | • 241-SY-102 |
| • 241-AP-104 | • 241-AW-102 |
| • 241-AP-107 | • 241-TX-115 |

Data Quality Objectives (DQO):

- 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 released in December.

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 (TOC) for monthly performance reporting. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

As of October 31, 2015, WRPS TOC has worked 311,700 hours or 25 days without a lost time workday injury, and has worked 311,700 hours or 25 days since the last recordable case.

October-15										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	32,139	33,377	32,188	1,238	1,189	1.04	1.04			
FYTD	32,139	33,377	32,188	1,238	1,189	1.04	1.04	549,780		
CTD	2,882,979	2,864,629	2,856,866	(18,350)	7,763	0.99	1.00	3,400,621	3,417,459	(16,838)

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 = cumulative 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.

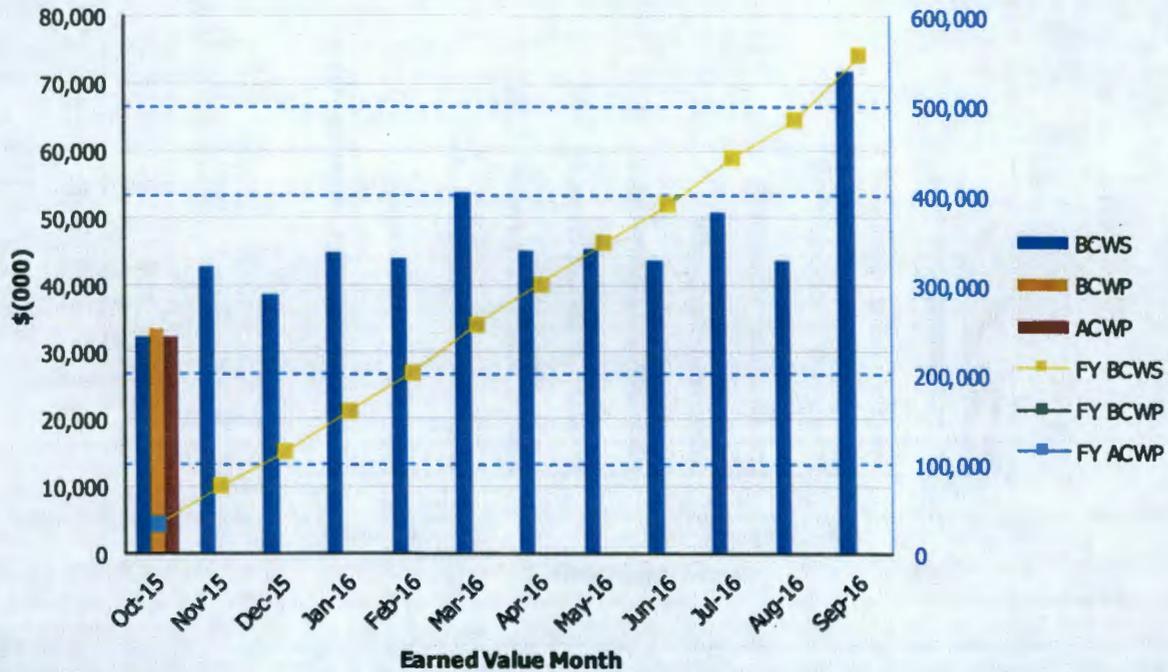
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

October-15

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	\$32,139	\$33,377	\$32,188	1.04	1.04	\$32,139	\$33,377	\$32,188	1.04	1.04
Nov 2015	\$42,662	\$0	\$0	0.00	0.00	\$74,801				
Dec 2015	\$38,530	\$0	\$0	0.00	0.00	\$113,331				
Jan 2016	\$44,742	\$0	\$0	0.00	0.00	\$158,073				
Feb 2016	\$44,004	\$0	\$0	0.00	0.00	\$202,077				
Mar 2016	\$53,701	\$0	\$0	0.00	0.00	\$255,778				
Apr 2016	\$45,258	\$0	\$0	0.00	0.00	\$301,036				
May 2016	\$45,520	\$0	\$0	0.00	0.00	\$346,557				
Jun 2016	\$43,577	\$0	\$0	0.00	0.00	\$390,133				
Jul 2016	\$50,793	\$0	\$0	0.00	0.00	\$440,926				
Aug 2016	\$43,659	\$0	\$0	0.00	0.00	\$484,585				
Sep 2016	\$71,769	\$0	\$0	0.00	0.00	\$556,355				

CTD	\$2,882,979	\$2,864,629	\$2,856,866	0.99	1.00
-----	-------------	-------------	-------------	------	------

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

EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

October-15

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	\$0	\$0	0.00	0.00	\$54,426				
Dec 2015	\$27,341	\$0	\$0	0.00	0.00	\$81,767				
Jan 2016	\$31,744	\$0	\$0	0.00	0.00	\$113,511				
Feb 2016	\$29,828	\$0	\$0	0.00	0.00	\$143,339				
Mar 2016	\$38,009	\$0	\$0	0.00	0.00	\$181,348				
Apr 2016	\$31,955	\$0	\$0	0.00	0.00	\$213,302				
May 2016	\$32,798	\$0	\$0	0.00	0.00	\$246,100				
Jun 2016	\$30,944	\$0	\$0	0.00	0.00	\$277,044				
Jul 2016	\$36,201	\$0	\$0	0.00	0.00	\$313,245				
Aug 2016	\$30,453	\$0	\$0	0.00	0.00	\$343,698				
Sep 2016	\$43,953	\$0	\$0	0.00	0.00	\$387,651				
CTD	\$1,915,652	\$1,907,052	\$1,897,854	1.00	1.00					

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

EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Base Operations and Tank Farm Projects

The current month favorable Schedule Variance (SV) of \$1,072K is due to:

- AP-102 Equipment Removal and Installations - Schedule recovery regarding electrical installation (conduit, wire pull, backfill) within AP Farm and completing AP-02A mix pump removal.
- Schedule recovery of the double shell tank transfer encasement integrity checks (AP-02A encasement check).
- 222S Lab Upgrades and Sampling, Material Procurement - Favorable schedule variance is due to accelerated arrival of GC/MS and autosampler equipment to be used in 222-S labs in support of vapor sampling.

The current month favorable Cost Variance (CV) of \$814K is due to:

- Tank AP-102 equipment removal and installations - Less direct and subcontractor resources required to complete electrical field work

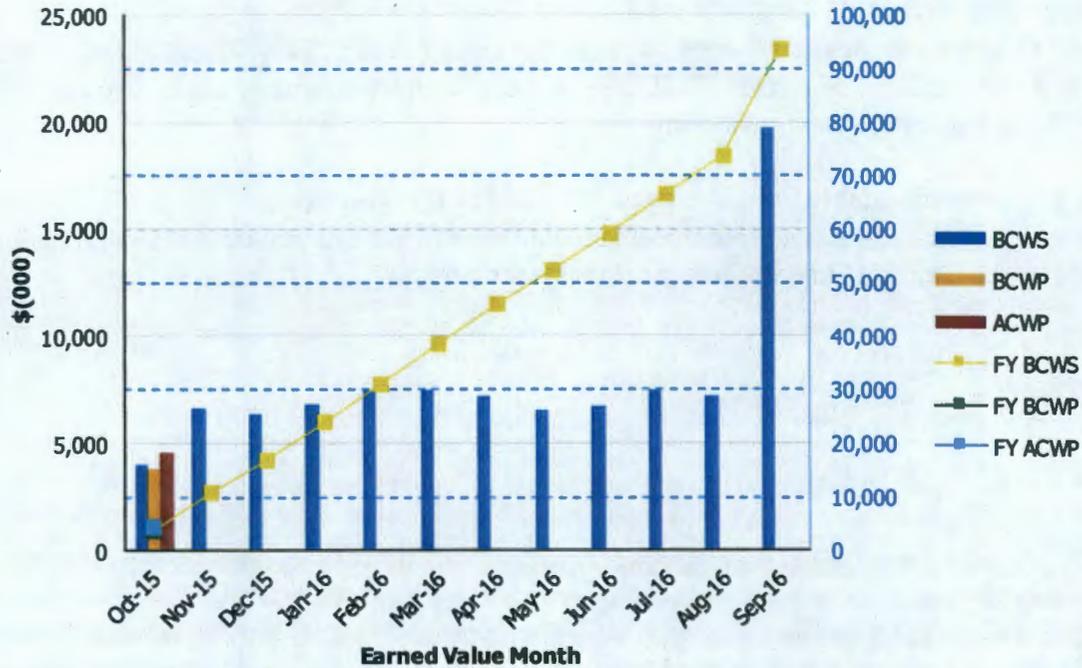
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

October-15

**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	\$3,972	\$3,814	\$4,560	0.96	0.84	\$3,972	\$3,814	\$4,560	0.96	0.84
Nov 2015	\$6,619	\$0	\$0	0.00	0.00	\$10,591				
Dec 2015	\$6,338	\$0	\$0	0.00	0.00	\$16,929				
Jan 2016	\$6,764	\$0	\$0	0.00	0.00	\$23,693				
Feb 2016	\$7,470	\$0	\$0	0.00	0.00	\$31,163				
Mar 2016	\$7,418	\$0	\$0	0.00	0.00	\$38,580				
Apr 2016	\$7,219	\$0	\$0	0.00	0.00	\$45,800				
May 2016	\$6,564	\$0	\$0	0.00	0.00	\$52,364				
Jun 2016	\$6,710	\$0	\$0	0.00	0.00	\$59,073				
Jul 2016	\$7,500	\$0	\$0	0.00	0.00	\$66,573				
Aug 2016	\$7,215	\$0	\$0	0.00	0.00	\$73,788				
Sep 2016	\$19,745	\$0	\$0	0.00	0.00	\$93,532				
CTD	\$596,450	\$589,041	\$614,532	0.99	0.96					

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

EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Retrieve and Close Single Shell Tanks

The current month unfavorable schedule variance (SV) of **(\$158K)** is within the reporting threshold.

The current month unfavorable cost variance (CV) of **(\$745K)** is due to:

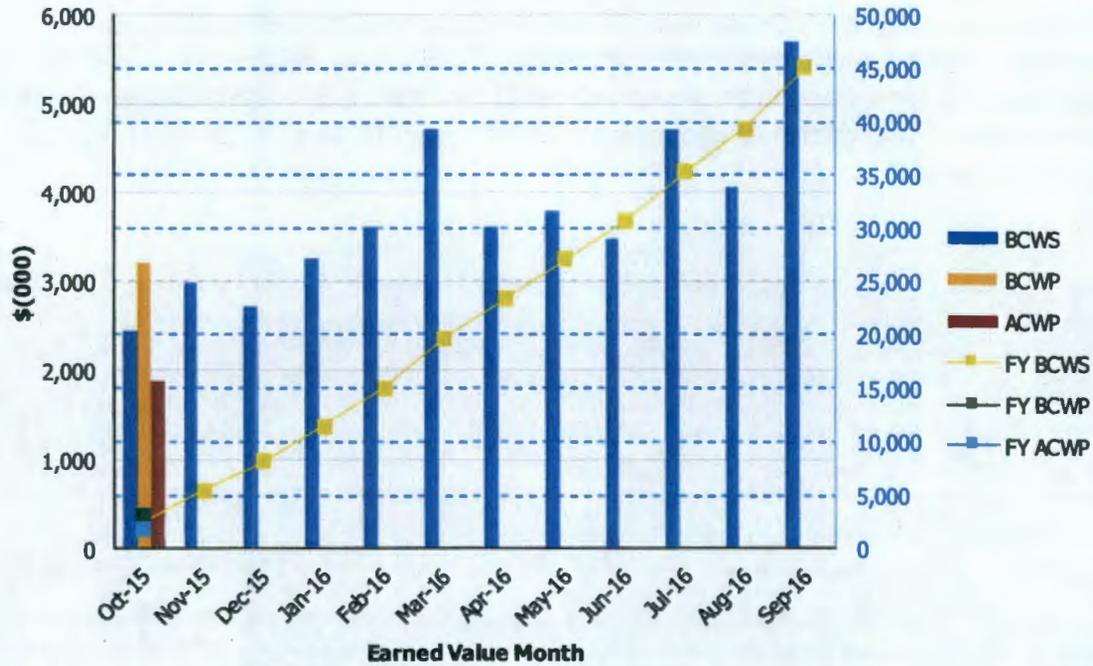
- Retrieval operations briefly resumed at Tank-241-C-111 on October 4, 2015 and an estimated 2K gallons were removed from the tank until a hydraulic leak was realized. The project team is required to maintain the retrieval crew during non-retrieval operations to monitor and maintain retrieval equipment. Performance is based on retrieval operations (gallons retrieved).

Data Set: FY 2016 Earned Value Data

October-15

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	\$0	\$0	0.00	0.00	\$5,421				
Dec 2015	\$2,714	\$0	\$0	0.00	0.00	\$8,134				
Jan 2016	\$3,241	\$0	\$0	0.00	0.00	\$11,376				
Feb 2016	\$3,602	\$0	\$0	0.00	0.00	\$14,978				
Mar 2016	\$4,702	\$0	\$0	0.00	0.00	\$19,680				
Apr 2016	\$3,618	\$0	\$0	0.00	0.00	\$23,298				
May 2016	\$3,784	\$0	\$0	0.00	0.00	\$27,082				
Jun 2016	\$3,485	\$0	\$0	0.00	0.00	\$30,566				
Jul 2016	\$4,720	\$0	\$0	0.00	0.00	\$35,286				
Aug 2016	\$4,061	\$0	\$0	0.00	0.00	\$39,347				
Sep 2016	\$5,695	\$0	\$0	0.00	0.00	\$45,042				
CTD	\$331,106	\$329,486	\$306,959	1.00	1.07					

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

EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Waste Feed Delivery/Treatment/Double-Shell Tank Retrieval Closure

The current month favorable schedule variance (SV) of \$776K is due to:

- Performance related to Technetium Removal and Low Temperature Waste Form scope. This scope was not completed as planned in FY 2015 and has been carried over into FY 2016. Technetium Removal is planned to complete in the first quarter of FY 2016 and Low Temperature Waste Form scope will continue to be performed until it is completed in the third quarter of FY 2016.
- Performance related to Secondary Waste Form Development scope, which was not completed as planned in FY 2015 and has been carried over into FY 2016. Secondary Waste Form Development will continue to be performed until it is completed in the second quarter of FY 2016.

The current month favorable cost variance (CV) of \$1,334K is due to:

- Reflects over-stated contract to date accrual from the previous month resulting in a positive cost variance this month for Technology Development.
- The Tank Waste Database Management account corrected an understated performance from September 2015, the cost for this scope was reported in September. This resulted in current month positive Cost Variance.
- Efficiencies realized as a result of SRNL's expertise in work scope as it pertains to performance of the engineering scale leach tests and the analysis of the samples within the Low Temperature Waste Form work package.

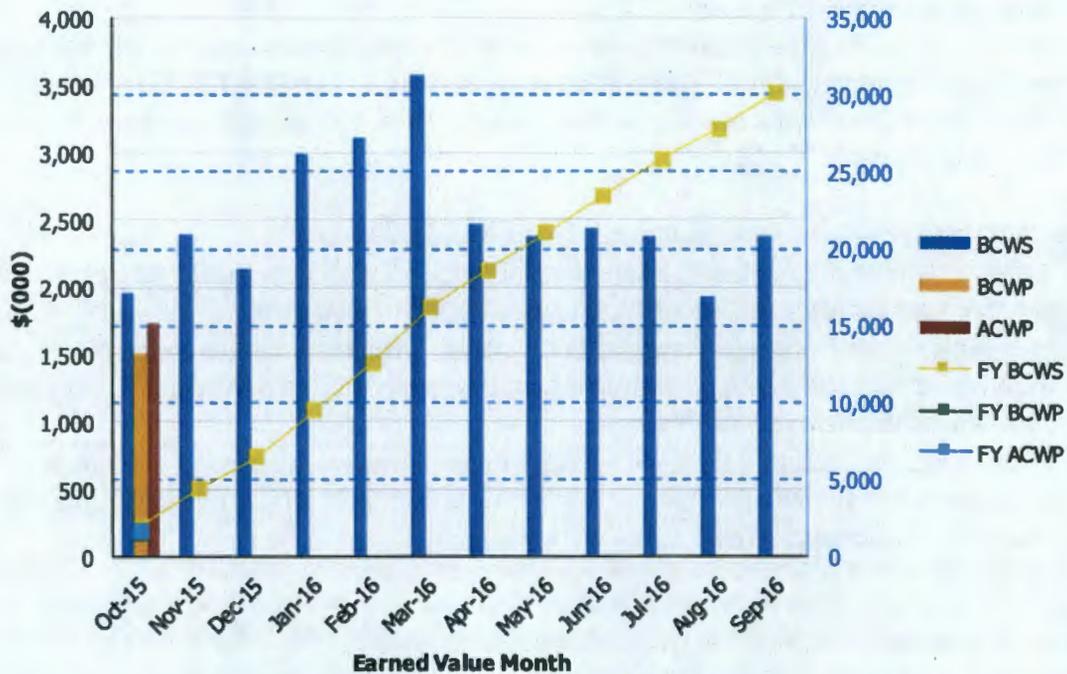
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

October-15

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	\$1,965	\$1,513	\$1,735	0.77	0.87	\$1,965	\$1,513	\$1,735	0.77	0.87
Nov 2015	\$2,399	\$0	\$0	0.00	0.00	\$4,364				
Dec 2015	\$2,137	\$0	\$0	0.00	0.00	\$6,501				
Jan 2016	\$2,993	\$0	\$0	0.00	0.00	\$9,493				
Feb 2016	\$3,104	\$0	\$0	0.00	0.00	\$12,597				
Mar 2016	\$3,573	\$0	\$0	0.00	0.00	\$16,170				
Apr 2016	\$2,466	\$0	\$0	0.00	0.00	\$18,637				
May 2016	\$2,374	\$0	\$0	0.00	0.00	\$21,011				
Jun 2016	\$2,438	\$0	\$0	0.00	0.00	\$23,449				
Jul 2016	\$2,373	\$0	\$0	0.00	0.00	\$25,822				
Aug 2016	\$1,931	\$0	\$0	0.00	0.00	\$27,753				
Sep 2016	\$2,376	\$0	\$0	0.00	0.00	\$30,129				
CTD	\$19,661	\$18,940	\$18,357	0.96	1.03					

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

EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Treat Waste

The current month unfavorable schedule variance (SV) of **(\$452K)** is due to:

- The delay in the procurement of sRF resin for the integrated test. A work around has been developed to acquire the sRF resin. In addition, the schedule variance is also attributed to the activity being planned earlier than needed.

The current month unfavorable cost variance (CV) of **(\$222K)** is due to:

- Washington River Protection Solutions over estimating Pacific Northwest National Laboratory accrual for Integrated Support Testing subcontract. Pacific Northwest National Laboratory did not submit an accrual for the work performed in October 2015, which resulted in the over-reporting of cost for the work performed during the current reporting period.

Single-Shell Tank Closure Program

M-045-00, Complete closure of all SST farms, Due: January 31, 2043, Status: On schedule.

M-045-56K, Complete Implementation of Agreed to Interim Measures, Due: July 31, 2015, Status: Complete. Annual meeting was held July 15, 2015. Meeting notes have been placed in the Administrative Record at this location:

<http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0080444H>

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: On schedule.

M-045-61A, Submit to Ecology for review and approval as an Agreement primary document, document review process, a Phase 2 Corrective Measures Study, and Revision 0 update to the RFI Report for WMA-C), Due: December 31, 2016, Status: On Schedule. The *Phase 2 RCRA Facility Investigation Report Draft A* for Waste Management Area C (WMA-C), RPP-RPT-58339, was transmitted to Ecology on December 23, 2014, via letter 14-TF-0131. This milestone was created by *Hanford Federal Facility Agreement and Consent Order (HFFACO)* change package M-45-14-03, signed October 1, 2014.

M-045-62, Submit to Ecology for review and approval as an agreement primary document a Phase 2 Corrective Measures Study Implementation Plan for WMA-C, Due: Six months after the approval of the corrective measures study (CMS) submitted under milestone M-045-61A. Status: On schedule. TPA Change Control form M-45-15-02 approved on April 14, 2015.

M-045-82, Submit complete permit mod requests for Tiers 1, 2, and 3 of the SST, Due: September 30, 2015, Status: In dispute. Please see issues.

M-045-83, Complete the closure of WMA-C, Due: June 30, 2019, Status: To be missed. Please see issues.

M-045-84, Complete negotiations of TPA interim milestones for closure of second WMA, Due: January 31, 2017, Status: On schedule.

M-045-85, Complete negotiations of TPA interim milestones for closure of remaining 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, 2017, Status: In Dispute. Please see issues.

Significant Past Accomplishments:

- Automated data collection systems for T Farm and TY Farm interim barrier monitoring continue gathering data

- Completed the annual interim barrier monitoring report for data collected in 2014, RPP-ENV-58420.
- Documentation of the Waste Management Area C (WMA-C) Phase 2 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report was completed, and RPP-RPT-58339 was transmitted to Ecology on December 23, 2014, completing M-045-61.
- Submitted TPA/RCRA Tier I Closure Plan on September 30, 2015 to Ecology
- Finalized Integrated Disposal Facility (IDF) PA data packages from workshop 2.

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 2015.
- Complete TPA/RCRA Tier 3 closure plan templates for C-200 Tanks
- Finalize/Issue for IDF PA Summary Analysis.

Issues:

- **M-045-82, Submit complete permit mod requests for Tiers 1, 2, and 3 of the SST**
Change Control Form M-45-15-03 was submitted by ORP via letter 15-TF-0065 to Ecology for approval on June 30, 2015.
Ecology disapproved M-45-15-03 via letter 15-NWP-128 on July 14, 2015
ORP initiated dispute resolution via letter 15-TF-0069 on July 16, 2015
This dispute has been extended to February 18, 2016. ORP agreed to submit an integrated closure schedule to Ecology by December 31, 2015.
- **M-045-92 (N, O, P, Q, R), Complete Installation of Four (4) Additional Interim Barriers**
(N) Construct SX ISB 1 and 2 by October 31, 2015
(O) Design ISB 3 by June 30, 2015
(P) Construct ISB 3 by October 31, 2016
(Q) Design ISB 4 by June 30, 2016
(R) Construct ISB 4 by October 31, 2017
Change control form M-45-15-01 was submitted by ORP via letter 15-TF-0027 to Ecology for approval on March 31, 2015.
Ecology disapproved M-45-15-01 via letter 15-NWP-075 on April 17, 2015.
ORP initiated dispute resolution via letter 15-TF-0042 on April 20, 2015.
This dispute has been extended to January 29, 2016, with a proposed draft settlement proposed by Ecology. Currently ORP is reviewing the proposal.

Single-Shell Tank Retrieval Program

M-045-70, Complete waste retrieval from all remaining SSTs, Due: December 31, 2040, Status: On schedule.

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

- M-045-86I: RDR for C-101 was due September 24, 2015, completed on September 24, 2015 with letter 15-TF-0099.
- M-045-86C: RDR for C-104 was due March 21, 2014, completed on February 18, 2014 with letter 14-TF-0013
- M-45-86E: RDR for C-107 was due July 28, 2015, completed on September 15, 2015 with letter 15-TF-0086.
- M-045-86F: RDR for C-108 was due May 1, 2014, completed on November 27, 2013 with letter 13-TF-0120
- M-045-86G: RDR for C-109 was due June 4, 2014, completed on March 13, 2014 with letter 14-TF-0020
- M-045-86H: RDR for C-110 was due January 29, 2015, completed on August 6, 2014 with letter 14-TF-0086.
- M-045-86K: RDR for C-112 was due September 30, 2015, completed on September 30, 2015 with letter 15-TF-0098

Significant Past Accomplishments:

- Ecology approved practicability evaluation request to forego a third retrieval technology in Tank 241-C-102.
- Retrieved approximately 45 percent of waste from Tank 241-C-105 utilizing the Mobile Arm Retrieval System – Vacuum (MARS- V) and high-pressure water.
- Completed extended reach sluicing system (ERSS) installation and operational testing for Tank 241-C-111.
- Resumed retrieval operations at Tank 241-C-111 and removed an estimated 2K gallons of waste during October, 33K gallons of waste remain.
- Completed C-101, C-107, and C-112 retrieval data reports (RDR).
- Isolated two legacy duct ventilation lines at AX Farm.

Significant Planned Activities in the Next Six Months:

- Complete C-102 retrieval completion certificate and report
- Complete C-105 second and third retrieval technologies.
- Complete C-111 ERSS complete retrieval operations (second and third technologies).
- Complete A/AX infrastructure (water and utilities) design – FY 2015 Phase 4A and Phase 5.

- Complete AX Farm tank retrieval system media for AX Farm to AX-102 retrieval system.
- Complete AX Farm field work for tower, stack extension, and platform installation.
- Complete AX Farm office trailer design (temporary facilities).
- Complete A/AX infrastructure safety instrument system (SIS) design modifications.
- Complete equipment removal/disposal at AX-101 pit and riser.
- Complete AX-2707 fencing and gate upgrades

Issues:

None

Tank Waste Retrieval Work Plan Status

Tank	TWRWP	Expected Revisions	First Retrieval Technology	Second Technology	Third Technology
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	-
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	-
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:

None.

Significant Planned Activities in the Next Six Months:

- Develop AX Farm tank waste retrieval work plans.

Issues:

None.

Tank in Appendix H, "Status - Single Shell Waste Retrieval Criteria"

Tank 241-C-106

Significant Past Accomplishments:

None.

Significant Planned Activities in the Next Six Months:

- Continue U.S. Nuclear Regulatory Commission (NRC) review of the C-106 exception request. A request for additional information was received from the NRC in February 2009.

Issues:

- It has been discussed with the NRC that much of the additional information requested is dependent upon development of C Farm residual waste PA and, therefore, cannot be provided until the PA is published.

Tank Retrievals with Individual Milestones

Tank 241-A-103

M-045-15, Completion of Tank A-103 SST Waste Retrieval, Due: September 30, 2022, Status: On schedule. Change package M-45-11-04 replaced Tank S-102 with Tank A-103 and changed the milestone completion date for M-045-15 to September 30, 2022.

M-045-15A, Embedded Milestone, Submit a Retrieval Data Report Pursuant to Agreement Appendix I, Due: September 30, 2022, Status: On schedule. Updated with Tank A-103 and due date of September 30, 2022, per change package M-45-11-04.

M-045-15D, Embedded Milestone, if appropriate, DOE will request an exception to waste retrieval criteria pursuant to Agreement Appendix H, Due: September 30, 2022, Status: On

schedule. Updated with Tank A-103 and due date of September 30, 2022, per change package M-45-11-04.

Significant Past Accomplishments:

- Change package M-45-11-04 was signed by ORP and Ecology on April 19, 2011.

No significant planned activities in the next six months and no issues for Tank 241-A-103.

Tank 241-S-112

M-045-13, Interim Completion of Tank S-112 SST Waste Retrieval and Closure Demonstration Project, Due: To be determined (in accordance with M-045-84 or M-045-85),
Status: On schedule.

M-045-13E, Complete Negotiations for Interim Milestones for Closure of S-112, Due: To be determined, **Status:** On schedule as part of M-045-84 or M-045-85.

Significant Past Accomplishments:

- Ecology letter of January 7, 2008, concurred with ORP that retrieval of Tank S-112 is complete.

No significant planned activities in the next six months and no issues for Tank 241-S-112.