
Final

Office of River Protection

Tri-Party Agreement
Monthly Summary Report
March 2016



Office of River Protection (ORP)
Tri-Party Agreement (TPA) Milestone Review
Project Earned Value Management System reflects January 2016 information

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Administrative Items/Milestone Status
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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	01/29/2016	Complete
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016		In Dispute
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016		In Dispute
M-062-31-T01	Comp. Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016		In Dispute
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		At Risk

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 = Waste Management Area.

System Plan

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 ORP-11242, *River Protection Project System Plan*, Rev. 7 (System Plan 7).
2. Ecology defined five scenarios to be analyzed in System Plan 7. Washington River Protection Solutions LLC (WRPS) 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, "Completion of Hanford Federal Facility Agreement and Consent Order Milestone M-062-40C, to select a Minimum of Three Scenarios and Partial Completion of Milestone M-062-40," 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, "Contract No. DE-AC27-08RV14800 – Approval to use Washington State Department of Ecology's Appendix B, "Key Assumptions and Success Criteria" for the ORP-11242, *River Protection Project System Plan*, Rev. 7") to WRPS in response to letter WRPS-1400313, "One System – Washington River Protection Solutions LLC Transmits to the U.S. Department of Energy, Office of River Protection for Approval, Appendix B Key Assumptions and Success Criteria for the River Protection Project System Plan, Revision 7, in Support of Contract Deliverable C.2.3.1 -1, River Protection Project System Plan," to approve the use of Ecology's Appendix B, "Key Assumptions and Success Criteria," for 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, "Department of Ecology Review of the *River Protection Project System Plan*, ORP-11242, Revision 7," 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, "Washington State Department of Ecology Review of ORP-11242, *River Protection System Plan*, Rev. 7, 15-NWP-004, January 14, 2015," 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:

- Scenario selection discussions will be conducted to support M-062-40E due October 31, 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 dispute. Change control form M-90-15-01 was submitted by ORP to Ecology for approval on December 30, 2015. This dispute has been extended to March 28, 2016.

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: In dispute. Change control form M-47-15-01 was submitted by ORP to Ecology for approval on December 30, 2015. This dispute has been extended to March 28, 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: On schedule.

Significant Past Accomplishments: None.

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: In dispute.

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

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

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.

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: In dispute.

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, "Documentation of U.S. Department of Energy, Office of River Protection and Washington State Department of Ecology Agreement that the Office of River Protection will not Submit A One-Time Hanford Tank Waste Supplemental Treatment Technologies Report," 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, "Acknowledgement that the U.S. Department of Energy, Office of River Protection Will Not Submit a One-Time Supplemental Treatment Technologies Report," on May 29, 2014. ORP letter 14-TF-0088, "Hanford Federal Facilities Agreement and Consent Order Class II Change Request for Deletion

of Tri-Party Agreement Milestone M-062-40ZZ, One-Time Hanford Tank Waste Supplemental Treatment Technologies Report,” 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, “Initiation of Dispute Resolution Regarding Disapproval of Hanford Federal Facility Agreement and Consent Order Change Control Form M-62-14-02,” 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, “Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Package, Change Number M-62-14-02, dated 01/30/2015.” Ecology and ORP signed an extension of the dispute resolution period at the TPA project manager level until March 31, 2016. The extension is available in the TPA Administrative Record at <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0078323H>

242-A Evaporator Status

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

The 242-A Evaporator campaign strategy for fiscal year (FY) 2015 through fourth 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	AP-104	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	AY-101	AP-104	Estimated to begin fourth 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

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 February 1 – 29, 2016.

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 02/29/16)	~4.87 Mgal	~6.85 Mgal	~6.63 Mgal
AZ-301 Tanker Shipments	-	-	-
MWBT-31 and 34 Leachate	-	-	~70,000 gal
Perched Water Tanker Shipments	-	-	-
ERDF Leachate Transfers	-	149,000 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.
- Berm special protective coating of specific areas at the Effluent Treatment Facility (ETF) and LERF are to be repaired in the following months.
- Class 1 Modifications package submitted by March 31, 2016.

Issues: None.

Tank System Update

Significant Planned Actions in FY 2016:

~~Strikethrough~~ means completed to date

Double Shell Tank (DST) Integrity

- Enhanced annulus video inspection:
 - ~~241-AN-101~~ (complete)
 - 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 (this inspection is in process, finish date May 5, 2016)
 - 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~~ (complete)
 - ~~241-T-110~~ (complete)
 - 241-TX-103
 - 241-TX-111
 - 241-TX-113
 - 241-TX-116
 - ~~241-B-101~~ (complete)
 - ~~241-B-201~~ (complete)
 - 241-BY-105
 - 241-U-102
 - 241-U-105
 - 241-U-107.

- Intrusions mitigation (M45-56):
 - Complete 241-T-111
 - Work is initiated on subsequent tank 241-T-112

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

For the period from February 1 through February 29, 2016:

Accomplishments:

- Completed RPP-RPT-57019, *Derivation of Best-Basis Inventory for Tank 241-BY-101 as of January 1, 2016*, Rev 1.
- Completed RPP-RPT-58928, *Derivation of Best-Basis Inventory for Tank 241-T-103 as of January 1, 2016*, Rev 0.
- Completed RPP-RPT-46616, *Derivation of Best-Basis Inventory for Tank 241-C-104 as of January 1, 2016*, Rev 8.
- Completed RPP-RPT-43992, *Derivation of Best-Basis Inventory for Tank 241-AN-106 as of January 1, 2016*, Rev 15.
- Completed RPP-RPT-51343, *Derivation of Best-Basis Inventory for Tank 241-C-109 as of January 1, 2016*, Rev 5.
- Completed RPP-RPT-58279, *Derivation of Best-Basis Inventory for Tank 241-BY-102 as of January 1, 2016*, Rev 1.
- Completed RPP-RPT-59031, *Derivation of Best-Basis Inventory for Tank 241-B-101 as of January 1, 2016*, Rev 0.
- Completed RPP-RPT-59032, *Derivation of Best-Basis Inventory for Tank 241-B-102 as of January 1, 2016*, Rev 0.
- Completed RPP-RPT-59033, *Derivation of Best-Basis Inventory for Tank 241-B-103 as of January 1, 2016*, Rev 0.
- Completed RPP-RPT-48459, *Derivation of Best-Basis Inventory for Tank 241-C-111 as of January 1, 2016*, Rev 1.
- Completed RPP-RPT-59034, *Derivation of Best-Basis Inventory for Tank 241-B-104 as of January 1, 2016*, Rev 0.
- Completed RPP-PLAN-60607, *Tank 241-AN-101 Grab Sampling and Analysis Plan FY16 Q2*, Rev 1.
- Completed RPP-PLAN-60685, *Sampling and Analysis of 241-AP Stack Chemical Emissions*, Rev 0.
- Completed RPP-PLAN-60678, *Tank 241-AY-101 Grab Sampling and Analysis Plan in Support of Evaporator Campaign EC-06*, Rev 0.
- Completed RPP-PLAN-60695, *Tank 241-AP-107 Core Sampling and Analysis Plan in FY2016*, Rev 0.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending December 31, 2015*, Rev 336.
- RPP-RPT-59166, *Final Report for Tank 241-AY-102A Leak-Detection Pit Liquid Grab Samples, January 2016*, Rev 0, was released.
- Completed 241-C-111 hard heel retrieval in-process sampling on February 5, 2016, and February 8, 2016. A total of four samples were received at the lab.

- Completed 241-C-102 grab sampling February 10, 2016. One sample was received at the lab.
- Completed 241-AN-101 organic surface sampling on February 22, 2016. Two samples were received at the lab.
- Completed 241-SY-101 grab sampling February 25, 2016. Ten samples were received at the lab.

Planned Action within the Next Six Months:

Tank sampling:

- Tank 241-AY-101 grab sampling to support evaporator campaign EC-06 is planned for March 2016.
- Tank 241-C-102 extended reach sluicing system (ERSS) closure sampling at Riser 06 is planned to begin March 2016.
- Tank 241-AN-101 grab sampling at completion of C-111 hard heel retrieval is planned for April 2016.
- Tank 241-AP-107 core sampling is planned to begin April 2016.
- Tank 241-AP-107 grab sampling is planned to begin April 2016
- Tank 241-AP-102 grab sampling in support of AY-102 retrieval is planned for June 2016.
- Tank 241-AW-103 grab sampling is planned for July 2016.
- Tank 241-C-111 Off-Riser Sampling System (ORSS) closure sampling is planned for July 2016.

Best-Basis Inventory (BBI) updates:

BBI updates for the following tanks were completed in February 2016:

- | | | |
|--------------|--------------|-------------|
| • 241-AN-106 | • 241-B-104 | • 241-C-109 |
| • 241-B-101 | • 241-BY-101 | • 241-C-111 |
| • 241-B-102 | • 241-BY-102 | • 241-T-103 |
| • 241-B-103 | • 241-C-104 | |

BBI updates for the following tanks currently are planned to be completed in March 2016:

- | | | |
|--------------|--------------|--------------|
| • 241-A-102 | • 241-AP-107 | • 241-C-110 |
| • 241-A-103 | • 241-BY-103 | • 241-SY-102 |
| • 241-AN-101 | • 241-C-102 | |

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 March 2016.

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 January 31, 2016 WRPS TOC has worked 850,323 hours or 67 days without a lost time workday injury, and has worked 850,323 hours or 67 days since the last recordable case

January-16										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	44,755	40,183	43,604	(4,572)	(3,420)	0.90	0.92			
FYTD	155,547	148,173	154,669	(7,374)	(6,496)	0.95	0.96	547,791		
CTD	3,006,387	2,979,426	2,979,346	(26,961)	80	0.99	1.00	3,398,631	3,424,970	(26,339)

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

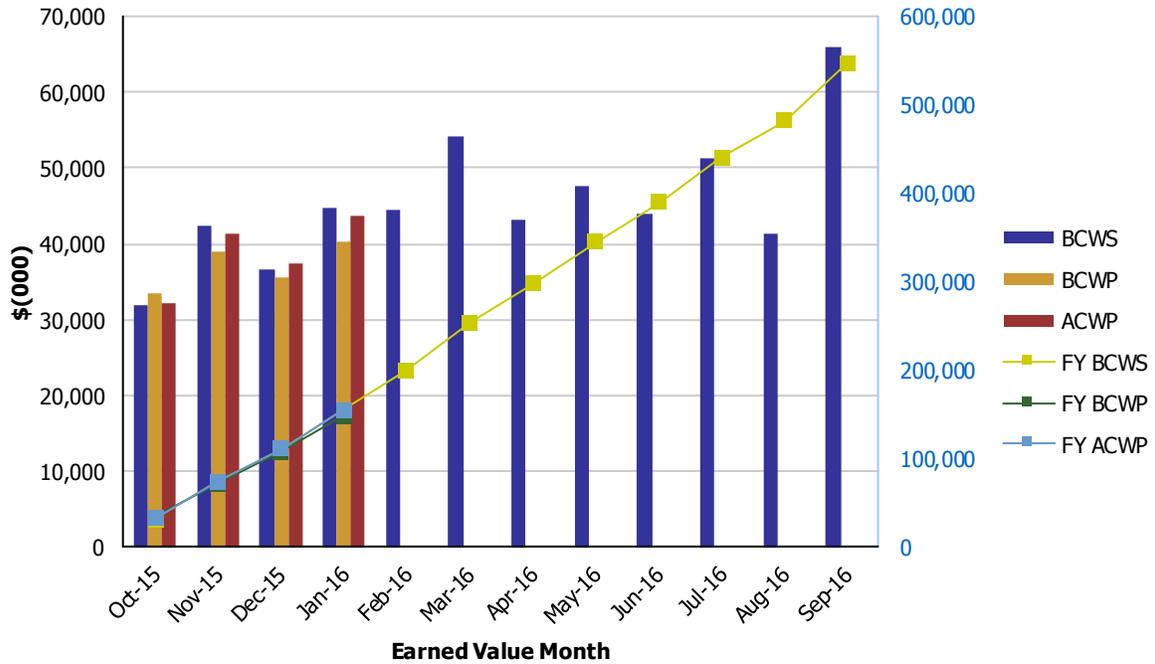
CV = cost variance.
 EAC = estimate at completion.
 FYTD = fiscal year to date
 SPI = schedule performance index.
 SV = schedule variance.
 VAC = variance at completion.

Earned Value Data: Fiscal Year 2016

January-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	\$31,937	\$33,377	\$32,188	1.05	1.04	\$31,937	\$33,377	\$32,188	1.05	1.04
Nov 2015	\$42,325	\$38,998	\$41,461	0.92	0.94	\$74,262	\$72,376	\$73,649	0.97	0.98
Dec 2015	\$36,530	\$35,614	\$37,416	0.97	0.95	\$110,792	\$107,990	\$111,065	0.97	0.97
Jan 2016	\$44,755	\$40,183	\$43,604	0.90	0.92	\$155,547	\$148,173	\$154,669	0.95	0.96
Feb 2016	\$44,524					\$200,071				
Mar 2016	\$54,286					\$254,356				
Apr 2016	\$43,286					\$297,642				
May 2016	\$47,560					\$345,202				
Jun 2016	\$44,056					\$389,258				
Jul 2016	\$51,264					\$440,522				
Aug 2016	\$41,279					\$481,801				
Sep 2016	\$65,990					\$547,791				
CTD	\$3,006,387	\$2,979,426	\$2,979,346	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.

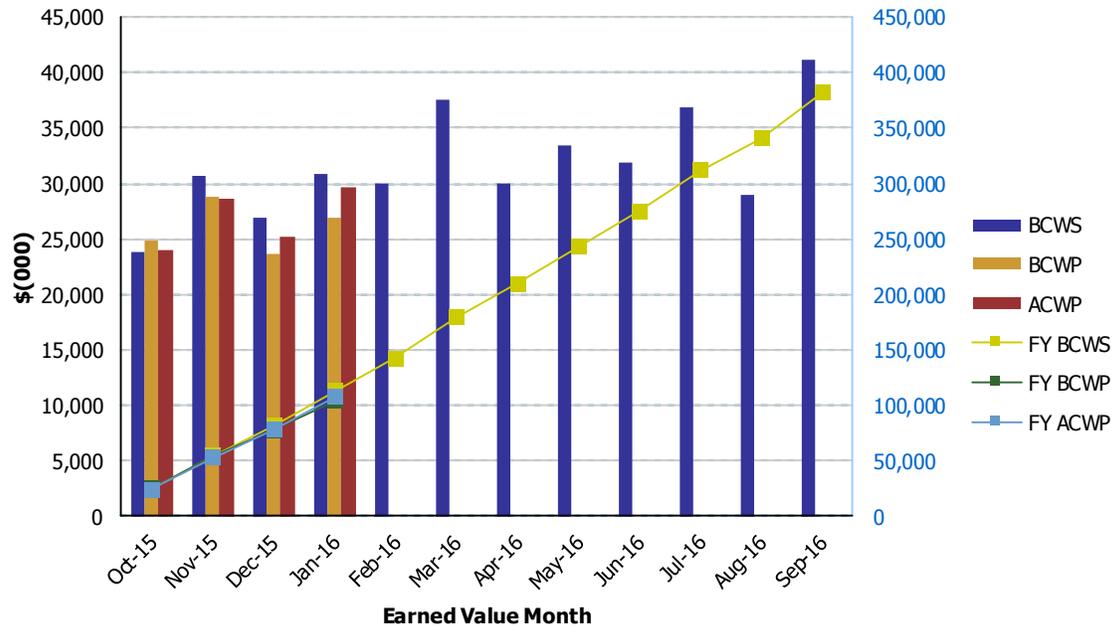
CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Earned Value Data: Fiscal Year 2016

January-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	\$29,974					\$142,140				
Mar 2016	\$37,612					\$179,752				
Apr 2016	\$29,989					\$209,741				
May 2016	\$33,491					\$243,232				
Jun 2016	\$31,877					\$275,109				
Jul 2016	\$36,857					\$311,966				
Aug 2016	\$28,955					\$340,921				
Sep 2016	\$41,082					\$382,003				

CTD	\$2,004,049	\$1,986,355	\$1,981,328	0.99	1.00
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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

Base Operations and Tank Farm Projects

The current month unfavorable schedule variance (SV) of **(\$3,917K)** is due to:

- AY-102 tie-in to portable exhauster (POR)-127 - Procuring materials and initiating fabrication for POR-127 tie-in (AY-102) did not take place as planned due to focusing crews on higher priority work in AY-102 and AP-102 Waste Retrieval System. This will delay POR-127 installation activities from March 2016 to April 2016.
- Tank Vapor Assessment Team (TVAT) Implementation Plan Phase 1 Project experienced a delayed receipt of pilot scale testing equipment. The division of receipts into lot 1 (bench scale) and lot 2 (pilot scale) deliveries has resulted in multiple revisions to procurement paperwork and ultimately a delay in contract award and follow on receipt of the equipment.
- Effluent Treatment Facility Special Protective Coating (ETF SPC) Restoration - Excessive amount of work days lost in this period from the inability to perform sandblasting activities for the ETF berm special protective coating restoration work due to continual inclement weather (rain/snow)

The current month unfavorable cost variance (CV) of **(\$2,827K)** is due to:

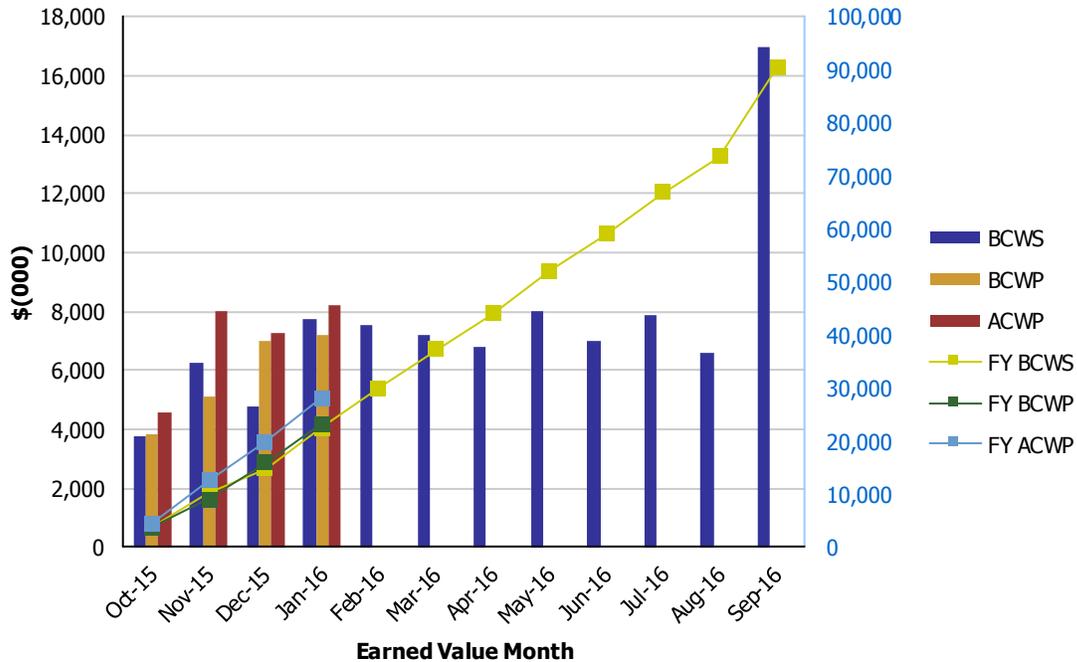
- Washington River Protection Solutions (WRPS) and American Electric,(AEI) construction contractors continue to accelerate schedule recovery through overtime, weekend shifts and allocating more resources to complete remaining AY-102 construction activities and initiate testing and complete AP-102 construction acceptance tests (CAT), operational acceptance tests (OAT), and readiness activities to support near term waste transfer(s). Additional engineering support was required to provide field requested design changes due to field conditions/technical challenges in AY-02D and AY-02F.

Earned Value Data: Fiscal Year 2016

January-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	\$7,512					\$30,034				
Mar 2016	\$7,210					\$37,244				
Apr 2016	\$6,775					\$44,019				
May 2016	\$8,014					\$52,033				
Jun 2016	\$6,979					\$59,012				
Jul 2016	\$7,853					\$66,865				
Aug 2016	\$6,619					\$73,484				
Sep 2016	\$16,954					\$90,437				

CTD	\$615,000	\$608,356	\$638,026	0.99	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

Retrieve and Close Single Shell Tanks

The current month unfavorable schedule variance (SV) of (\$487K) is due to:

- Crews were unable to complete AX-104 cover block removal due to lack of resources and crane availability (AY-102 and C-105 higher priority).

The current month unfavorable cost variance (CV) of (\$1,018K) is due to:

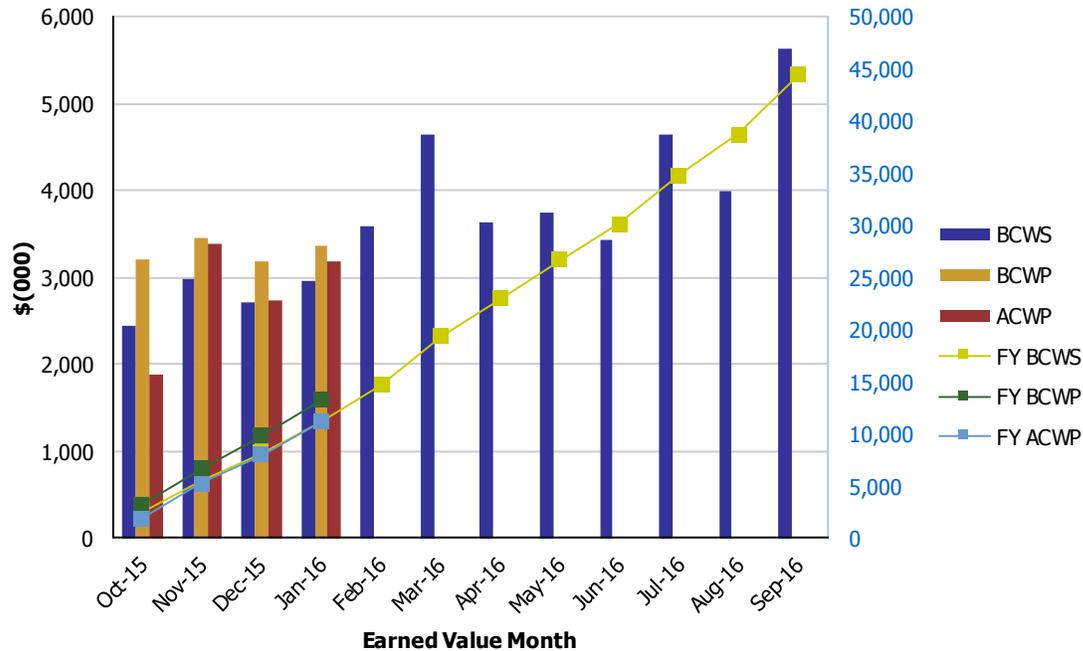
- AX-Farm ventilation installation activities progressed slower during January due to continued self-contained breathing apparatus (SCBA) requirements and flammable gas at Riser 7C and 9D (requiring additional health physicist technicians [HPT]/industrial hygienist technicians [IHT]). In addition, more time/duration has been required for replanning/sequencing field activities due to lack of resources and engineering revising work packages due to field conditions.

Earned Value Data: Fiscal Year 2016

January-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	\$3,580					\$14,680				
Mar 2016	\$4,652					\$19,332				
Apr 2016	\$3,626					\$22,958				
May 2016	\$3,743					\$26,702				
Jun 2016	\$3,438					\$30,140				
Jul 2016	\$4,649					\$34,789				
Aug 2016	\$3,999					\$38,788				
Sep 2016	\$5,629					\$44,417				
CTD	\$339,773	\$339,491	\$316,261	1.00	1.07					

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|---|--|
| ACWP = actual cost of work performed. | CTD = contract to date |
| BCWP = budgeted cost of work performed. | EVMS = Earned Value Management System. |
| BCWS = budgeted cost of work scheduled. | FY = fiscal year. |
| CPI = cost performance index. | SPI = schedule performance index |

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

The current month favorable schedule variance (SV) of \$399K is due to:

- A negative budget adjustment in the Integrated Disposal Facility (IDF) Glass Testing project, due to the removal of scope that was no longer required because the IDF performance assessment (PA) modeling team chose an alternate modeling approach.
- Pacific Northwest National Laboratory (PNNL) and Vitreous State Lab (VSL) have been able to begin work associated with the *Performance Testing of New Glass Composition for Performance Assessment and Annual Report*, which was originally planned to start February 2016.

The current month favorable cost variance (CV) of \$185K is due to:

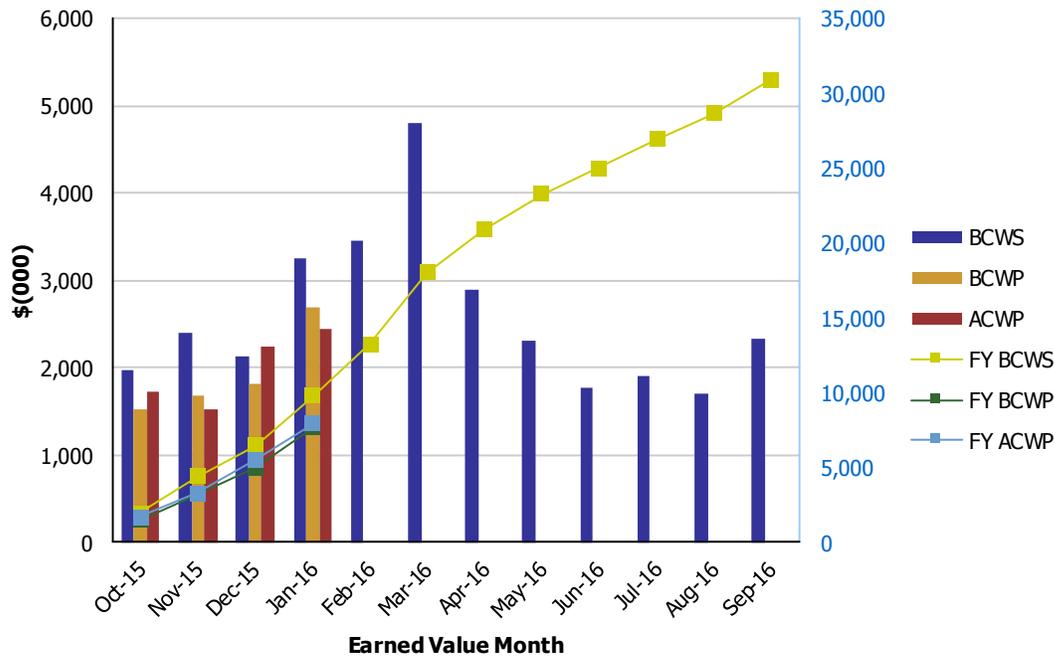
- Significant progress being made by Savannah River National Laboratory (SRNL), one of the two national laboratories subcontracted, performed work with less resources than originally planned (Sec Liquid Waste Stream Tech Mat project).

Earned Value Data: Fiscal Year 2016

January-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	\$1,965	\$1,513	\$1,735	0.77	0.87	\$1,965	\$1,513	\$1,735	0.77	0.87
Nov 2015	\$2,399	\$1,669	\$1,517	0.70	1.10	\$4,364	\$3,182	\$3,252	0.73	0.98
Dec 2015	\$2,137	\$1,814	\$2,245	0.85	0.81	\$6,501	\$4,996	\$5,497	0.77	0.91
Jan 2016	\$3,258	\$2,691	\$2,451	0.83	1.10	\$9,759	\$7,687	\$7,948	0.79	0.97
Feb 2016	\$3,458					\$13,217				
Mar 2016	\$4,812					\$18,028				
Apr 2016	\$2,896					\$20,924				
May 2016	\$2,312					\$23,236				
Jun 2016	\$1,761					\$24,997				
Jul 2016	\$1,905					\$26,902				
Aug 2016	\$1,706					\$28,608				
Sep 2016	\$2,326					\$30,934				

CTD	\$27,455	\$25,114	\$24,570	0.91	1.02
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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

The current month unfavorable schedule variance (SV) of (\$567K) is due to:

- The delays in the procurement of resin for the integrated test. The Microbead Resin manufacturer was unable to produce the needed resin due to previously scheduled production runs. Resin has been acquired from another ORP contract, and was transferred to the project in the previous reporting period.
- Gas retention and release testing has not progressed due to technical issues contributing to the SV. This is due to difficulty in developing a methodology to create hydrogen bubbles in the scoping tests. Bubbles were created using air under vacuum. This has not been deemed totally prototypic.

The current month favorable cost variance (CV) of \$240K is due to:

- The subcontract for the expanded isotherm testing was awarded with an authorized value less than was planned. During the time between the baseline of the sRF-3 testing and subcontract award, the engineering design was further developed and refined. This resulted in a reduction of the testing scope and quantity of tests required.

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: At risk.

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:

- 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/Resource Conservation and Recovery Act (RCRA) Tier 3 closure plan templates for C-200 Tanks
- Finalize/Issue for IDF PA summary analysis.
- Complete the waste management area (WMA) C Appendix I PA

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, “The U.S. Department of Energy, Office of River Protection Transmittal of Hanford Federal Facility Agreement and Consent Order Change Control Form M-45-15-03 to Modify Milestone M-045-82 for Approval,” to Ecology for approval on June 30, 2015.
 - Ecology disapproved M-45-15-03 via letter 15-NWP-128, “Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form, Change Number M-45-15-03, Dated June 25, 2015,” on July 14, 2015.
 - ORP initiated dispute resolution via letter 15-TF-0069, “Initiation of Dispute Resolution Regarding Disapproval of Hanford Federal Facility Agreement and Consent Order Change Control Form M-45-15-03,” on July 16, 2015.
 - This dispute has been extended to March 25, 2016. ORP submitted a closure schedule to Ecology on January 13, 2016.
- **M-045-92 (N, O, P, Q, R), Complete Installation of Four Additional Interim Barriers**
 - (N) Construct SX interim surface barriers (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, “Transmittal for Approval of the Hanford Federal Facility Agreement and Consent Order Change Control Form M-45-15-01 to Modify Milestone M-045-92 Due Dates,” to Ecology for approval on March 31, 2015.

- Ecology disapproved M-45-15-01 via letter 15-NWP-075, “Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form, Change Number M-045-15-01, dated 03/26/15,” on April 17, 2015.
- ORP initiated dispute resolution via letter 15-TF-0042, “Initiation of Dispute Resolution Regarding Disapproval of Hanford Federal Facility Agreement and Consent Order Change Control Form M-45-15-01,” on April 20, 2015.
- ORP elevated this matter to the Interagency Management Integration Team (IAMIT) for resolution via submission of a Statement of Dispute on February 16, 2016 (16-TF-0016).
- ORP and Ecology have extended the deadline for resolution of the M-45-15-01 dispute at the IAMIT level until the next regularly-scheduled IAMIT meeting following the entry of a final order modifying the Consent Decree in *State of Washington v. U.S. Dept. of Energy*, No. 08-5085-RMP.

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: On schedule.

- M-045-86I: RDR for C-101 was due September 24, 2015, completed on September 24, 2015 with letter 15-TF-0099, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-101.”
- M-045-86C: RDR for C-104 was due March 21, 2014, completed on February 18, 2014 with letter 14-TF-0013, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-104.”
- M-45-86E: RDR for C-107 was due July 28, 2015, completed on September 15, 2015 with letter 15-TF-0086, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-107.”
- M-045-86F: RDR for C-108 was due May 1, 2014, completed on November 27, 2013 with letter 13-TF-0120, “Submittal of Retrieval Data Report for Single-Shell Tank 241-C-108, RPP-RPT-55896, Revision 1.”
- M-045-86G: RDR for C-109 was due June 4, 2014, completed on March 13, 2014 with letter 14-TF-0020, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-109.”
- M-045-86H: RDR for C-110 was due January 29, 2015, completed on August 6, 2014 with letter 14-TF-0086, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-110.”
- M-045-86K: RDR for C-112 was due September 30, 2015, completed on September 30, 2015 with letter 15-TF-0098, “The U.S. Department of Energy, Office of River Protection Submits the Retrieval Data Report for Tank 241-C-112.”

Significant Past Accomplishments:

- Washington State Department of Ecology (Ecology) approved practicability evaluation request to forego a third retrieval technology in Tank 241-C-102.
- Completed Tank 241-C-102 Retrieval Completion Certification.
- Completed first post retrieval sample of C-102. Staging equipment for second sample
- Retrieved approximately 45 percent of waste from Tank 241-C-105 utilizing the Mobile Arm Retrieval System – Vacuum (MARS-V) and high-pressure water.
- Obtained Tank 241-C-105 in-process sample.
- Initiate equipment removal of the Tank C-105 MARS-V, to ready tank for modification to modified sluicing system.

- Retrieved approximately 72 percent of the waste from Tank 241-C-111 through March 1, an estimated 9,800 gallons of waste remain in the tank.
- Completed isolation of legacy duct ventilation lines at Tanks 241-AX-101, Tank 241-AX-102, Tank 241-AX-103 and Tank 241-AX-104.
- Completed Tank 241-AX-102 cover block removal.

Significant Planned Activities in the Next Six Months:

- Complete Tank 241-C-102 post retrieval sampling.
- Complete Tank 241-C-111 Extended reach sluicing system (ERSS) retrieval operations using high-pressure water, with caustic/water dissolution (second and third technologies).
- Complete A/AX infrastructure (water and utilities) design – fiscal year (FY) 2015 Phase 4A and Phase 5.
- Complete AX Farm field work for tower, stack extension, and platform installation.
- Complete equipment removal/disposal at AX-101 pit and riser.
- Complete AX-2707 fencing and gate upgrades
- Complete AX ventilation installation, testing and startup at portable exhauster (POR) 126.
- Complete building AX-2707 and building AX-80 removal and disposal.

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	Third Technology	MARS-V	MARS-V-High Pressure Water Spray	TBD
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

TBD = To Be Determined
TWRWP = Tank Waste Retrieval Work Plan
V = vacuum

Significant Accomplishments: None.

Significant Planned Activities in the Next Six Months:

- Finalize AX Farm tank waste retrieval work plans.
- Modify RPP-22520, “241-C-101, and 241-C-105, Tanks Waste Retrieval Work Plan, (C-105 TWRWP) to include a third technology for C-105 retrieval

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.