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**FINAL**

Office of River Protection

Tri-Party Agreement  
Monthly Summary Report  
November 2015



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

**Project Earned Value Management System reflects September 2015 information**

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<b>Administrative Items/Milestone Status</b>
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Milestone	Title	Due Date	Completion Date	Status
<b>Fiscal Year 2015</b>				
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
<b>Fiscal Year 2016</b>				
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
<b>Fiscal Year 2017</b>				
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 <sup>nd</sup> SST WMA	01/31/2017		On Schedule

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>Completion Date</b>	<b>Status</b>
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 has been updated based on ORP-11242, *River Protection Project Plan* and ongoing schedule integration efforts.

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 = 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

### Issues:

None.

## Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

The 200 Area Effluent Treatment Facility (ETF) is currently in shutdown mode and is undergoing maintenance in preparation of an anticipated spring 2016 startup. The heat exchanger unit replacement was completed in summer 2015.

The Liquid Effluent Retention Facility (LERF) liquid levels, inventory, and received waste is shown in the table below for the time period of October 1 – 31, 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.

	<b>242AL-42 (Basin 42)</b>	<b>242AL-43 (Basin 43)</b>	<b>242AL-44 (Basin 44)</b>
<b>Volume (as of 10/31/15)</b>	~4.66 Mgal	~5.83 Mgal	~6.34 Mgal
<b>AZ-301 Tanker Shipments</b>	~6,500 gal	-	-
<b>MWBT-31 &amp; MWVT 34 Leachate</b>	-	-	~14,000 gal
<b>Perched Water Tanker Shipments</b>	-	-	-
<b>ERDF Leachate Transfers</b>	-	-	-
<b>Other (325 Building Totes)</b>	-	~1,320 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 are to 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*
- Corrosion probe data evaluation and quarterly reports (4 reports)
- Development of primary tank bottom nondestructive examination (NDE) tool
- Release DST integrity assessment report

#### 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:
  - Complete 241-T-111
  - Subsequent tank to be determined.

### **Current Status**

- Ultrasonic inspection operations are ongoing for Tank AN-104. Initial scans have indicated some thinning along the annulus floor. To further evaluate the condition, additional scanning of the annulus floor is currently being performed and the UT work is being completed by ITIVS of South Carolina.

## **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 October 1 through October 31, 2015:

### Accomplishments:

- Completed RPP-RPT-58767, *Derivation of Best-Basis Inventory for Tank 241-SX-111 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-58768, *Derivation of Best-Basis Inventory for Tank 241-SX-112 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-43979, *Derivation of Best-Basis Inventory for Tank 241-AY-101 as of October 1, 2015*, Rev 15.
- Completed RPP-RPT-58700, *Derivation of Best-Basis Inventory for Tank 241-TX-110 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-57458, *Derivation of Best-Basis Inventory for Tank 241-C-102 as of October 1, 2015*, Rev 4.
- Completed RPP-RPT-58769, *Derivation of Best-Basis Inventory for Tank 241-SX-113 as of October 1, 2015*, Rev 0.
- Completed RPP-RPT-58696, *Derivation of Best-Basis Inventory for Tank 241-TX-103 as of October 1, 2015*, Rev 0.
- Completed RPP-PLAN-60585, *Software Management Plan for Utility Calculation Software Tank Waste Volume Calculator*, Rev 0.
- Completed RPP-PLAN-60589, *Sampling and Analysis of 241-AY/AZ Combined Ventilation System Stack Chemical Emissions*, Rev 0.
- Completed RPP-PLAN-60550, *Sampling and Analysis Plan for Residual Waste Solids in Tank 241-C-102*, Rev 0.
- Completed RPP-PLAN-60011, *Tank Sampling and Analysis Plan for Tank 241-C-105 Solids*, Rev 3.
- Completed RPP-PLAN-60523, *Tank 241-AN-106 Grab Sampling and Analysis Plan in Support of Corrosion Mitigation Midway through Tank 241-C-105 Retrieval*, Rev 0.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending August 31, 2015*, Rev 322.
- Completed 241-C-105 sampling on October 28, 2015. Three samples were received at the lab.

### Planned Action within the Next Six Months:

#### Tank sampling:

- Tank 241-AN-106 grab sampling at 50 percent C-105 retrieval is planned for November 2015.
- Tank 241-C-102 clamshell closure sampling is planned to begin November 2015.
- Tank 241-C-111 hard heel retrieval in-process grab sampling is planned for December 2015.
- Tank 241-SY-101 grab sampling is planned for December 2015.
- Tank 241-AN-101 grab sampling is planned for January 2016.

- Tank 241-AP-107 grab sampling is planned for March 2016.
- Tank 241-C-111 Off-Riser Sampling System (ORSS) closure sampling is planned for April 2016.
- Tank 241-AW-102 grab sampling (242-A Evaporator campaign EC-05) is planned for April 2016.
- Tank 241-AW-106 grab sampling (242-A Evaporator campaign EC-06) is planned for May 2016.
- Tank 241-AP-102 grab sampling at AY-102 50 percent retrieval is planned for May 2016.

**Best-Basis Inventory (BBI) updates:**

BBI updates for the following tanks were completed in October:

- |              |              |
|--------------|--------------|
| • 241-AY-101 | • 241-SX-112 |
| • 241-C-102  | • 241-SX-113 |
| • 241-C-105  | • 241-TX-110 |
| • 241-SX-111 | • 241-TX-103 |

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

- |              |              |
|--------------|--------------|
| • 241-AN-101 | • 241-AW-102 |
| • 241-AN-106 | • 241-AY-102 |
| • 241-AP-103 | • 241-AZ-102 |

**Data Quality Objectives (DQO):**

- Completed HNF-SD-WM-DQO-001, *Data Quality Objectives for Tank Farm Waste Compatibility Program*, Rev 21 in October.
- RPP-44057, *Data Quality Objectives to Support Strategic Planning*, Rev 2, is in-process to clarify DQO applicability and obtain data used to update the BBIs and is planned to be released in November.
- 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 November.

**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 September 30, 2015 WRPS TOC has worked 4,697,917 hours or 345 days without a lost time workday injury, and has worked 455,697 hours or 34 days since the last recordable case.

September-15										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	61,051	65,454	52,364	4,403	13,090	1.07	1.25			
FYTD	506,935	512,773	523,732	5,838	(10,959)	1.01	0.98	506,935		
CTD	2,850,840	2,831,253	2,824,677	(19,587)	6,576	0.99	1.00	3,395,276	3,391,694	3,582

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.

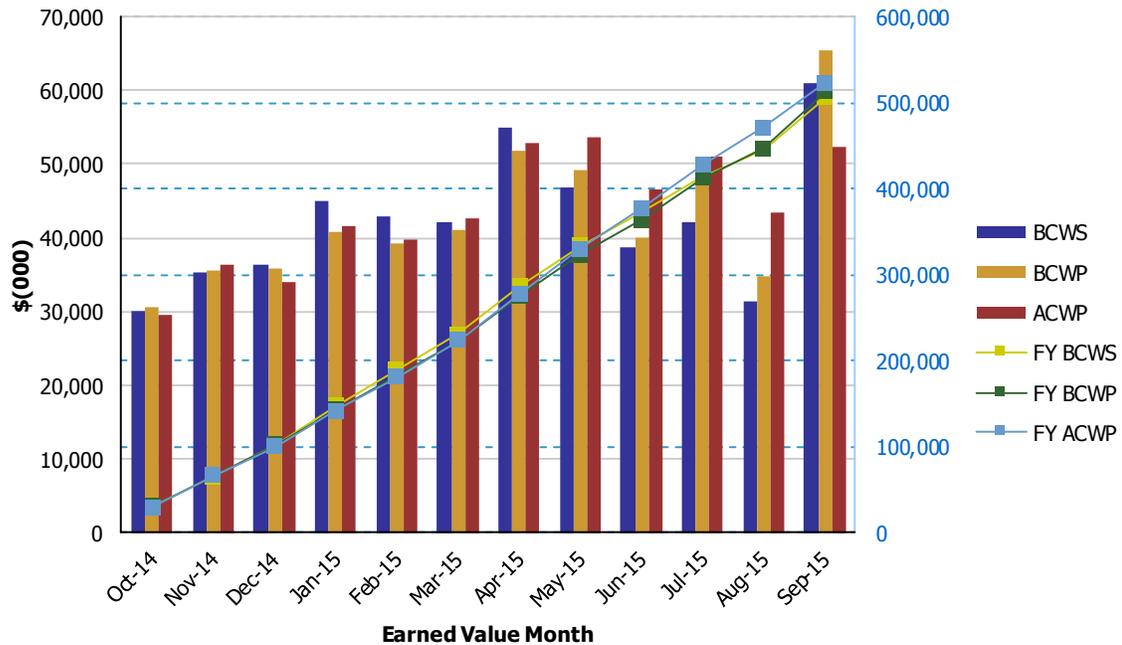
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

September-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 2014	\$30,052	\$30,480	\$29,607	1.01	1.03	\$30,052	\$30,480	\$29,607	1.01	1.03
Nov 2014	\$35,246	\$35,697	\$36,417	1.01	0.98	\$65,298	\$66,178	\$66,024	1.01	1.00
Dec 2014	\$36,377	\$35,858	\$33,978	0.99	1.06	\$101,675	\$102,036	\$100,002	1.00	1.02
Jan 2015	\$45,082	\$40,697	\$41,603	0.90	0.98	\$146,757	\$142,733	\$141,605	0.97	1.01
Feb 2015	\$42,913	\$39,189	\$39,643	0.91	0.99	\$189,671	\$181,922	\$181,248	0.96	1.00
Mar 2015	\$42,159	\$41,174	\$42,721	0.98	0.96	\$231,830	\$223,096	\$223,968	0.96	1.00
Apr 2015	\$54,958	\$51,747	\$52,923	0.94	0.98	\$286,788	\$274,843	\$276,891	0.96	0.99
May 2015	\$46,888	\$49,161	\$53,532	1.05	0.92	\$333,676	\$324,005	\$330,423	0.97	0.98
Jun 2015	\$38,744	\$40,149	\$46,503	1.04	0.86	\$372,420	\$364,154	\$376,926	0.98	0.97
Jul 2015	\$42,157	\$48,379	\$50,929	1.15	0.95	\$414,577	\$412,533	\$427,855	1.00	0.96
Aug 2015	\$31,307	\$34,786	\$43,513	1.11	0.80	\$445,884	\$447,319	\$471,368	1.00	0.95
Sep 2015	\$61,051	\$65,454	\$52,364	1.07	1.25	\$506,935	\$512,773	\$523,731	1.01	0.98
<b>CTD</b>	<b>\$2,850,840</b>	<b>\$2,831,253</b>	<b>\$2,824,677</b>	<b>0.99</b>	<b>1.00</b>					

- 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

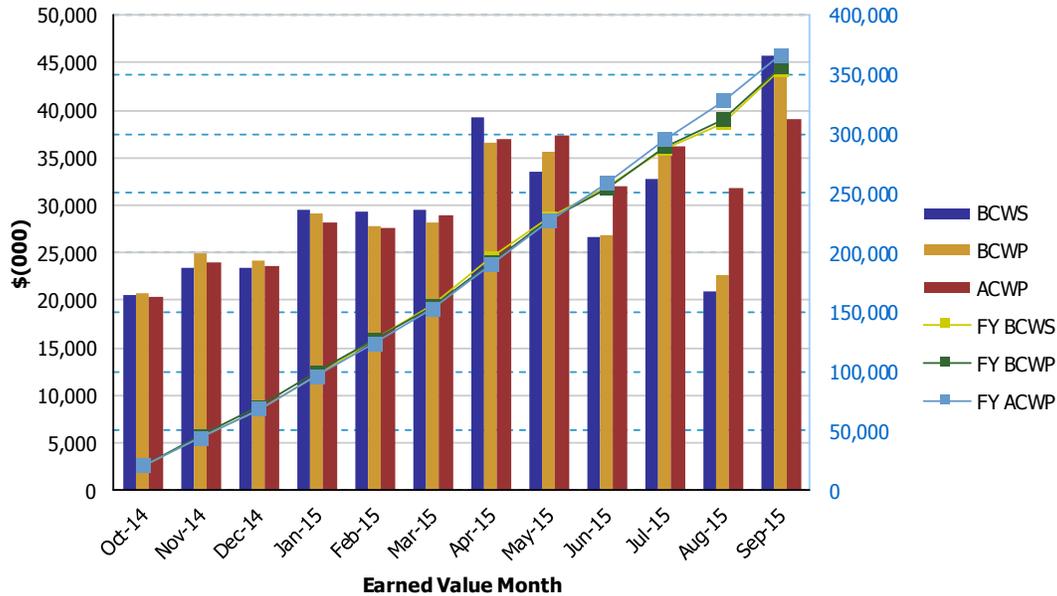
**EXC-01a: Fiscal Year Cost and Schedule Report**

Data Set: FY 2015 Earned Value Data

September-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 2014	\$20,627	\$20,833	\$20,428	1.01	1.02	\$20,627	\$20,833	\$20,428	1.01	1.02
Nov 2014	\$23,471	\$24,929	\$23,988	1.06	1.04	\$44,098	\$45,762	\$44,416	1.04	1.03
Dec 2014	\$23,467	\$24,105	\$23,548	1.03	1.02	\$67,565	\$69,867	\$67,964	1.03	1.03
Jan 2015	\$29,511	\$29,162	\$28,218	0.99	1.03	\$97,075	\$99,029	\$96,182	1.02	1.03
Feb 2015	\$29,299	\$27,739	\$27,582	0.95	1.01	\$126,375	\$126,768	\$123,764	1.00	0.98
Mar 2015	\$29,525	\$28,162	\$28,967	0.95	0.97	\$155,900	\$154,929	\$152,732	0.99	0.99
Apr 2015	\$39,203	\$36,623	\$36,998	0.93	0.99	\$195,103	\$191,553	\$189,730	0.98	0.99
May 2015	\$33,584	\$35,557	\$37,250	1.06	0.95	\$228,686	\$227,109	\$226,980	0.99	1.00
Jun 2015	\$26,594	\$26,830	\$32,081	1.01	0.84	\$255,280	\$253,940	\$259,061	0.99	1.02
Jul 2015	\$32,674	\$35,612	\$36,276	1.09	0.98	\$287,954	\$289,551	\$295,337	1.01	1.02
Aug 2015	\$20,845	\$22,598	\$31,783	1.08	0.71	\$308,799	\$312,150	\$327,120	1.01	1.05
Sep 2015	\$45,657	\$44,220	\$39,025	0.97	1.13	\$354,456	\$356,370	\$366,145	1.01	1.03
<b>CTD</b>	<b>\$1,891,884</b>	<b>\$1,882,213</b>	<b>\$1,873,829</b>	<b>0.99</b>	<b>1.00</b>					

- 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 unfavorable schedule variance (SV) of **(\$1,437K)** is due to the following:

- AP-102 Equipment Removal and Installation: Slower progress made regarding field activities pump removal, standard sluicer installation, electrical installation, and splitter box installation due to lack of critical resources and crane availability.

The current month favorable cost variance (CV) of \$5,195K is due to the following:

- Overhead pass back (end of year alignment)
- 242-A Evaporator Campaigns - Efficiencies achieved during the operation of the 242-A Evaporator Campaign EC-03 due to conditions (cooler water temperatures) and waste composition.

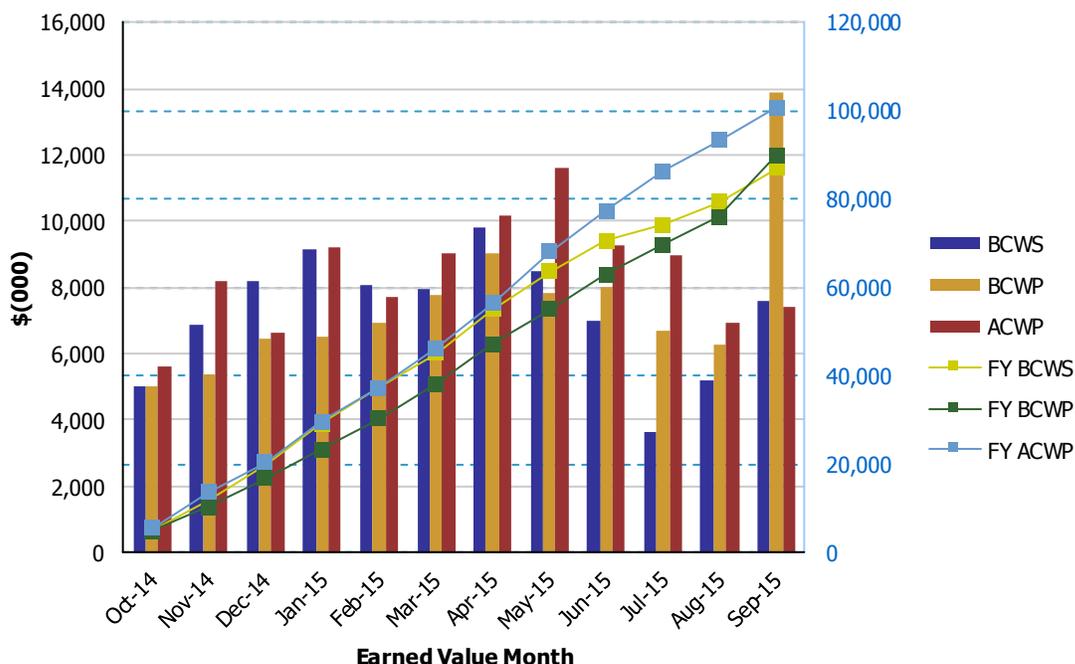
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

September-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 2014	\$5,024	\$5,011	\$5,609	1.00	0.89	\$5,024	\$5,011	\$5,609	1.00	0.89
Nov 2014	\$6,852	\$5,392	\$8,174	0.79	0.66	\$11,876	\$10,403	\$13,783	0.88	0.75
Dec 2014	\$8,171	\$6,453	\$6,612	0.79	0.98	\$20,047	\$16,856	\$20,395	0.84	0.83
Jan 2015	\$9,167	\$6,524	\$9,195	0.71	0.71	\$29,214	\$23,380	\$29,589	0.80	0.79
Feb 2015	\$8,075	\$6,924	\$7,719	0.86	0.90	\$37,290	\$30,304	\$37,309	0.81	0.81
Mar 2015	\$7,971	\$7,801	\$9,009	0.98	0.87	\$45,261	\$38,105	\$46,318	0.84	0.82
Apr 2015	\$9,818	\$9,019	\$10,148	0.92	0.89	\$55,079	\$47,124	\$56,466	0.86	0.83
May 2015	\$8,474	\$7,830	\$11,613	0.92	0.67	\$63,553	\$54,954	\$68,079	0.86	0.81
Jun 2015	\$6,981	\$8,021	\$9,247	1.15	0.87	\$70,534	\$62,976	\$77,326	0.89	0.81
Jul 2015	\$3,666	\$6,714	\$8,983	1.83	0.75	\$74,199	\$69,690	\$86,309	0.94	0.81
Aug 2015	\$5,201	\$6,256	\$6,916	1.20	0.90	\$79,400	\$75,946	\$93,225	0.96	0.81
Sep 2015	\$7,578	\$13,863	\$7,404	1.83	1.87	\$86,979	\$89,809	\$100,629	1.03	0.89
CTD	\$592,478	\$585,227	\$609,972	0.99	0.96					

#### Retrieve and Close Single Shell Tanks

The current month favorable schedule variance (SV) of \$6,285K is due to:

- The remaining performance taken on the Mobile Arm Retrieval System-Vacuum (MARS-V) due to an end effector hose leak that permanently shut down this retrieval system for Tank-241-C-105.

The current month favorable cost variance (CV) of \$6,477K is due to:

- Performance was claimed with minimal costs due to the permanent shut down of the MARS-V due to an end effector hose leak.

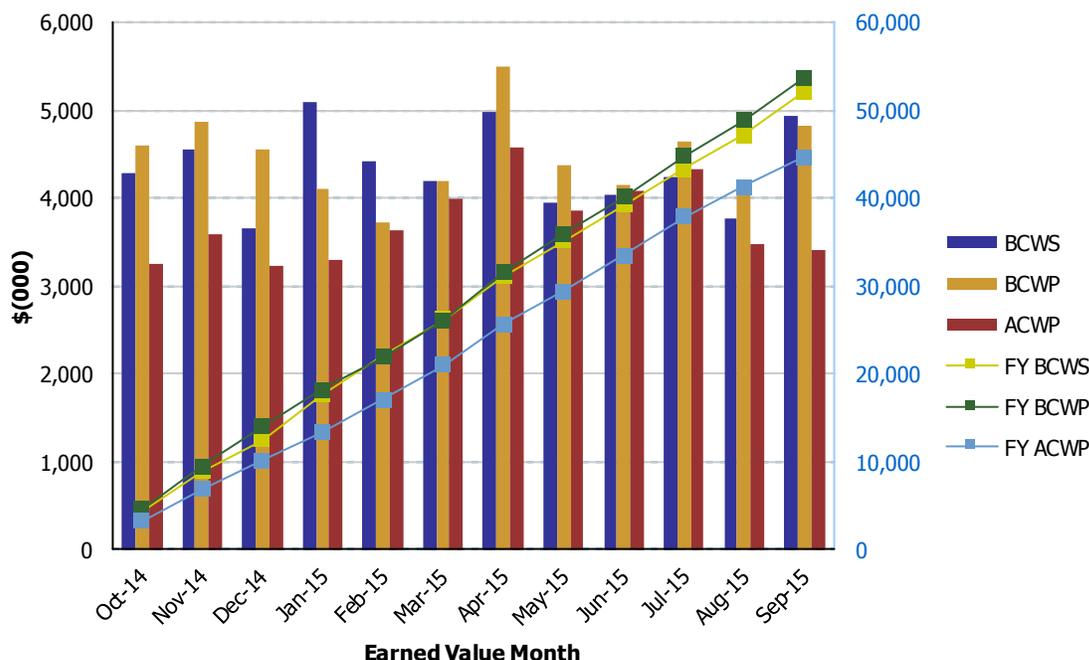
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

September-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 2014	\$4,277	\$4,604	\$3,261	1.08	1.41	\$4,277	\$4,605	\$3,261	1.08	1.41
Nov 2014	\$4,549	\$4,876	\$3,585	1.07	1.36	\$8,826	\$9,480	\$6,846	1.07	1.38
Dec 2014	\$3,652	\$4,559	\$3,229	1.25	1.41	\$12,478	\$14,040	\$10,075	1.13	1.39
Jan 2015	\$5,101	\$4,113	\$3,308	0.81	1.24	\$17,579	\$18,152	\$13,383	1.03	1.36
Feb 2015	\$4,413	\$3,734	\$3,636	0.85	1.03	\$21,992	\$21,887	\$17,019	1.00	1.29
Mar 2015	\$4,185	\$4,206	\$3,988	1.00	1.05	\$26,177	\$26,092	\$21,008	1.00	1.24
Apr 2015	\$4,989	\$5,497	\$4,584	1.10	1.20	\$31,166	\$31,590	\$25,592	1.01	1.23
May 2015	\$3,946	\$4,372	\$3,849	1.11	1.14	\$35,112	\$35,961	\$29,441	1.02	1.22
Jun 2015	\$4,043	\$4,154	\$4,082	1.03	1.02	\$39,155	\$40,115	\$33,522	1.02	1.20
Jul 2015	\$4,250	\$4,650	\$4,341	1.09	1.07	\$43,406	\$44,765	\$37,864	1.03	1.18
Aug 2015	\$3,759	\$4,116	\$3,473	1.09	1.19	\$47,165	\$48,881	\$41,336	1.04	1.18
Sep 2015	\$4,938	\$4,831	\$3,401	0.98	1.42	\$52,103	\$53,712	\$44,738	1.03	1.20
CTD	\$328,672	\$326,276	\$305,083	0.99	1.07					

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

The current month unfavorable schedule variance (SV) of **(\$107K)** is due to:

- Budget recovery for Best Basis Inventory (BBI) updates performed during the third quarter, but were originally scheduled for September (fourth quarter).

The current month favorable cost variance (CV) of \$1,429K is due to:

- Reflection of under-stated performance in previous months, resulting in a positive cost variance this month for secondary waste form development.
- Labor and Subcontractor usage efficiencies in support of waste feed delivery baseline studies. Efficiencies were realized due to utilizing labor resources with historical experience.
- Effluent Management Facility disposition evaluations being performed by WRPS labor rather than the planned subcontractor resources. Usage efficiencies were realized due to utilizing labor resources with historical experience.

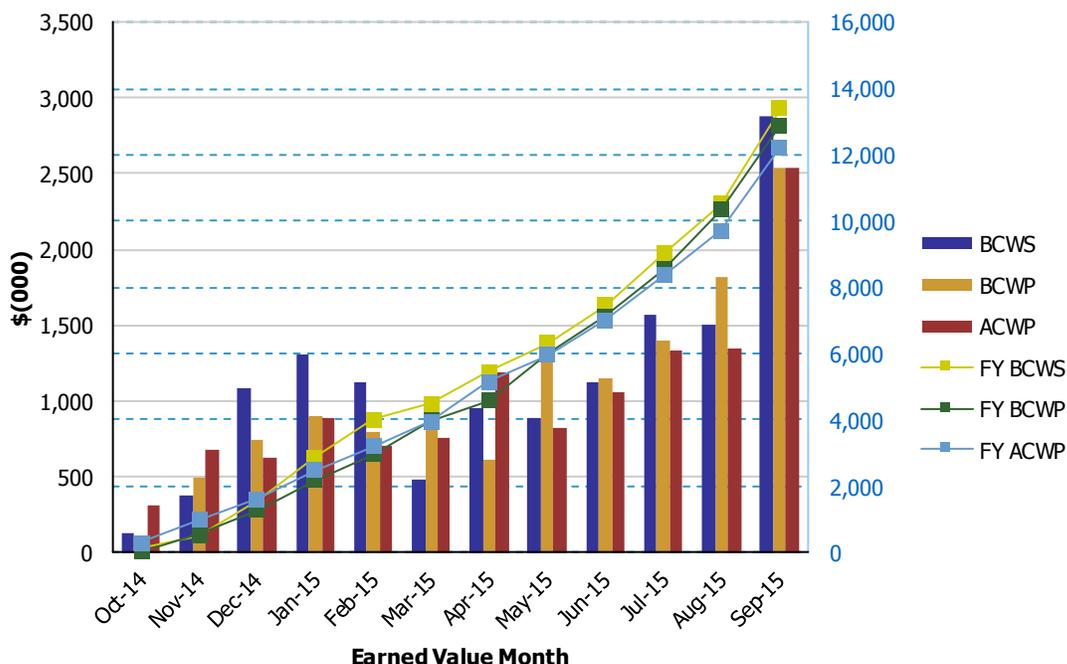
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

September-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 2014	\$124	\$32	\$308	0.26	0.10	\$124	\$32	\$308	0.26	0.10
Nov 2014	\$374	\$500	\$674	1.34	0.74	\$498	\$532	\$982	1.07	0.54
Dec 2014	\$1,087	\$741	\$628	0.68	1.18	\$1,585	\$1,273	\$1,610	0.80	0.79
Jan 2015	\$1,304	\$899	\$883	0.69	1.02	\$2,889	\$2,172	\$2,493	0.75	0.87
Feb 2015	\$1,126	\$792	\$707	0.70	1.12	\$4,015	\$2,964	\$3,200	0.74	0.93
Mar 2015	\$478	\$1,006	\$754	2.11	1.33	\$4,492	\$3,970	\$3,954	0.88	1.00
Apr 2015	\$948	\$607	\$1,194	0.64	0.51	\$5,441	\$4,577	\$5,148	0.84	0.89
May 2015	\$884	\$1,403	\$818	1.59	1.71	\$6,325	\$5,980	\$5,966	0.95	1.00
Jun 2015	\$1,127	\$1,144	\$1,057	1.02	1.08	\$7,452	\$7,124	\$7,023	0.96	1.01
Jul 2015	\$1,566	\$1,402	\$1,328	0.90	1.06	\$9,018	\$8,526	\$8,351	0.95	1.02
Aug 2015	\$1,501	\$1,816	\$1,341	1.21	1.35	\$10,519	\$10,342	\$9,692	0.98	1.07
Sep 2015	\$2,878	\$2,540	\$2,533	0.88	1.00	\$13,397	\$12,881	\$12,226	0.96	1.05
CTD	\$17,697	\$17,427	\$16,622	0.98	1.05					

#### Treat Waste

The current month unfavorable schedule variance (SV) of **(\$338K)** is due to:

- The delay in the procurement of resin for the Low-Activity Waste Pretreatment System (LAWPS) engineering scale integrated test. The micro-bead resin manufacture was unable to produce the needed resin due to previously scheduled production runs. The

project team developed a revised strategy to transfer excess resin from Bechtel National, Inc. (BNI) (WTP), which is currently stored onsite. This delay will not impact the overall schedule for testing.

The current month favorable cost variance (CV) of \$7K is within threshold.

## 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.
- Completed TPA/RCRA Tier I Closure Plan.
- 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 November 20, 2015, 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 an additional 11,000 gallons for a total of 54.8K gallons retrieved of waste from Tank-C-105 MARS-V.
- Completed extended reach sluicing system (ERSS) installation and operational testing for Tank 241-C-111.
- Completed C-101, C-107, and C-112 retrieval data reports (RDR).

### 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.
- PBI-11.0.3 – 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.**