
Final
Office of River Protection
Tri-Party Agreement
Monthly Report
August 2016



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

Page	Topic	Leads
3	Administrative Items/Milestone Status	Bryan Trimberger/Dan McDonald/Jeff Lyon
5	System Plan	Kaylin Burnett/Jeff Lyon/Dan McDonald
6	Acquisition of New Facilities	Janet Diediker/Jeff Lyon/Dan McDonald
6	Supplemental Treatment and Part B Permit Applications	Steve Pfaff/Jeff Lyon/Dan McDonald
8	242-A Evaporator Status	Paul Hernandez/Jeff Lyon
9	Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	Richard Valle/Stephanie Schleif
10	Tank System Update	Dusty Stewart/Jeff Lyon
11	Single-Shell Tank Integrity Assurance	Dusty Stewart/Jim Alzheimer
11	In Tank Characterization and Summary	Dusty Stewart/Michael Barnes
13	Tank Operations Contract Overview	ORP TPA Program Managers/Jeff Lyon
23	Single-Shell Tank Closure Program	Ryan Beach/Jeff Lyon
25	Single-Shell Tank Retrieval Program	Chris Kemp/Jeff Lyon
27	Tank Waste Retrieval Work Plan Status	Chris Kemp/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 Report for WTP Facility-specific information	Joni Grindstaff/Dan McDonald

Acronyms and Abbreviations

CV	cost variance
DOE	U.S. Department of Energy
DST	double-shell tank
Ecology	Washington State Department of Ecology
FY	fiscal year
HAMTC	Hanford Atomic Metals Trades Council
IQRPE	independent qualified registered professional engineer
MARS-V	Mobile Arm Retrieval System-Vacuum
ORP	U.S. Department of Energy, Office of River Protection
RFI	RCRA Facility Investigation.
SST	single-shell tank
SV	schedule variance
System Plan	<i>River Protection Project System Plan</i>
TPA	Tri Party Agreement
WESP	Wet Electrostatic Precipitator
WMA-C	C Farm waste management area
WTP	Waste Treatment and Immobilization Plant

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-045-82	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-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-062-01AG	Submit Semi-Annual Project Compliance Report	07/31/2016	07/29/2016	Complete
M-045-56L	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2016	07/20/2016	Complete
Fiscal Year 2017				
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
M-062-01AH	Submit Semi-Annual Project Compliance Report	01/31/2017		On Schedule

Milestone	Title	Due Date	Completion Date	Status
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
M-045-92	DOE and Ecology will agree on locations for Barriers 3 and 4	09/30/2017		On Schedule

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

System Plan

Significant Past Accomplishments:

- The *River Protection Project System Plan* (System Plan), Rev. 8 scenario selection discussions to support M-062-40E started between the U.S. Department of Energy (DOE), Office of River Protection (ORP) and the Washington State Department of Ecology (Ecology) on April 25, 2016.
- Both ORP and Ecology presented scenarios for consideration with an initial prioritization of all scenarios on June 27, 2016.

Significant Planned Actions in the Next Six Months:

- Scenario selection discussions will be conducted to support M-062-40E, Due: October 31, 2016
- Submittal of a change request form to align the logic of the evaluation of milestone dates within M-062-45 to System Plan, Rev. 8 to assist in dispute resolution of M-062-45-T01.

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 August 1, 2016. To be informed by System Plan, Rev. 8 and to be negotiated within 6 months of System Plan, Rev. 8 issuance in accordance with milestone M-062-45.

M-090-00, Acquire/Modify Facilities for Storage of Immobilized High-Level Waste (IHLW), Due: December 31, 2019, Status: At risk. To be informed by System Plan, Rev. 8 and to be negotiated within 6 months of System Plan, Rev. 8 issuance in accordance with milestone M-062-45.

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 August 1, 2016. To be informed by System Plan, Rev. 8 and to be negotiated within 6 months of System Plan, Rev. 8 issuance in accordance with milestone M-062-45.

M-047-00, Complete Work Necessary to Provide Facilities for Management of Secondary Waste from the Waste Treatment and Immobilization Plant (WTP), Due: December 31, 2022, Status: At risk. To be informed by System Plan, Rev. 8 and to be negotiated within 6 months of System Plan, Rev. 8 issuance in accordance with milestone M-062-45.

Significant Past Accomplishments: None.

Significant Planned Actions in the Next Six Months: None.

Issues: None.

Supplemental Treatment and Part B Permit Applications

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

M-062-45-ZZ-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-062-45-XX, No later than December 31, 2021, the DOE and Ecology shall complete negotiations to establish a mechanism that will apply to resolve future disputes regarding the determinations in M-062-45, paragraphs 4 and 5, Due: December 31, 2021, Status: On schedule.

M-062-34-T01, Complete hot commissioning of supplemental vitrification treatment facility and/or WTP enhancements, Due: December 30, 2022, Status: In 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: None

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 Tri-Party Agreement (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 August 1, 2016.

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 is depicted in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2015	EC-01	AP-103 AP-104	AP-107	Completed June 21, 2015. WVR = 381 kgal
FY 2015	EC-02	AZ-102	AP-103	Completed July 21, 2015. WVR = 384 kgal
FY 2015	EC-03	AZ-102	AP-103	Completed September 25, 2015. WVR = 375 kgal
FY 2016	EC-04	AP-104	AP-103	Completed April 15, 2016. WVR = 258 kgal
FY 2016	EC-05	AP-104	AP-104	Completed April 21, 2016. WVR = 46 kgal
FY 2016	EC-06	AY-101	AP-104	Evaporator campaign EC-06 has been postponed until after November 24, 2016, or until the Court rules on the requests for preliminary injunction filed by the State of Washington, and separately, Hanford Challenge and Local 598) in late July.

FY = fiscal year.

kgal = thousand gallons.

WVR = waste volume reduction.

Significant Planned Actions in the Next Six Months:

- Laser mapping to support reboiler procurement.
- Future campaign and outage scheduling
- Electrical preventative maintenance activities in 241-AW
- Begin integrity assessment on 242-A Evaporator components
- Replace P-B-2 pump and associated pressure relief valves.

Issues:

- Impacts from preliminary injunction

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

The Liquid Effluent Retention Facility liquid levels, inventory, and received waste is shown in the table below.

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 07/31/2016)	~5.36M gal	~4.50M gal	~6.92M gal
AZ-301 Tanker Shipments	-	-	-
MWBT-31 and 34 Leachate	-	-	~21,000 gal
Perched Water Tanker Shipments	-	-	-
ERDF Leachate Tanker Shipments	-	-	-
Other (325 Building Totes)	-	-	~2,640 gal
242-A Campaigns (EC-04 & 05)	-	-	-

ERDF = Environmental Restoration Disposal Facility.

Gal = gallon.

M gal = million gallons.

MWBT = mixed waste burial trench.

Significant Past Accomplishments:

- Total FY 2016 volume processed by 200 Area Effluent Treatment Facility (as of 07/31/2016): Approximately 2,700,000 gallons
- Initial 2 million gallon Liquid Effluent Retention Facility backlog reduction since Effluent Treatment Facility restart achieved July 7, 2016
- Hanford Dangerous Waste Permit 8C, Operation Unit Group -3, class 2 – Groundwater Monitoring Plan, Addendum D, submitted for informal review on July 28, 2016.

Significant Planned Actions in the Next Six Months:

- Continued waste processing of Basin 43 to achieve second 2 million gallon reduction (DOE key performance goal) by end of FY 2016
- Repair of the concentrated chemical storage tank berm is to be completed in fourth quarter of FY 2016.

Issues: None.

Tank System Update

Significant Planned Actions in FY 2016

Double-Shell Tank (DST) Integrity:

- Enhanced annulus video inspection:
All DST videos are completed and being evaluated by engineering with report preparation in progress
- Ultrasonic testing (UT) inspections (two risers for primary wall/welds, one riser for secondary floor):
 - 241-AN-105 (report complete awaiting clearance)
 - 241-AW-103 (scanning underway)
- Continuing bi-weekly inspections of AY-102 waste accumulation site
- Continuing bi-monthly comprehensive inspection of AY-102 annulus
- Issued RPP-7574, *Double-Shell Tank Integrity Program Plan*
- Issued RPP-RPT-39149, DST Integrity Inspection Report for 241-SY Tank Farm
- Received Ecology comments on DST independent qualified registered professional engineer (IQRPE) integrity assessment report (RPP-RPT-58441) per WAC 173-303-640(2), “Tank systems” and responses are being developed.

Single-Shell Tanks (SST) Integrity:

- In-tank video inspections:
 - 241-TX-103
 - 241-TX-111
 - 241-TX-113
 - 241-TX-116
 - 241-BY-105
 - 241-U-102
 - 241-U-105
 - 241-U-107 (no free riser, replaced with 241-S-105)
- Intrusion mitigation (M-045-56):
 - Complete 241-T-111; evaporation of 241-T-111 continues video was completed, and a report will be issued when evaporation is considered complete

Single-Shell Tank Integrity Assurance

M-045-91I, Provide to Ecology an Independent, Qualified, Registered Professional Engineer (IQRPE) certification of single-shell tanks (SST) structural integrity for the remainder of the mission, or for such time as the IQRPE believes he/she can reasonably certify, Due: September 30, 2018, Status: On schedule.

Significant Past Accomplishments: None.

Significant Planned Actions in the Next Six Months:

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

Issues: None.

In Tank Characterization and Summary

Accomplishments:

For the period from July 1 through July 31, 2016 the following reports were issued:

- Completed RPP-RPT-59491, *Derivation of Best-Basis Inventory for Tank 241-U-201 as of July 1, 2016*, Rev. 0.
- Completed RPP-RPT-59461, *Derivation of Best-Basis Inventory for Tank 241-T-102 as of July 1, 2016*, Rev. 0.
- Completed RPP-RPT-59473, *Derivation of Best-Basis Inventory for Tank 241-T-104 as of July 1, 2016*, Rev. 0.
- Completed RPP-RPT-59536, *Derivation of Best-Basis Inventory for Tank 241-TY-103 as of July 1, 2016*, Rev. 0.
- Completed RPP-RPT-59519, *Derivation of Best-Basis Inventory for Tank 241-T-105 as of July 1, 2016*, Rev. 0.
- Completed RPP-RPT-59554, *Derivation of Best-Basis Inventory for Tank 241-U-202 as of July 1, 2016*, Rev. 0.
- Completed RPP-CALC-60804, *242-A Evaporator Campaign EC-06 Process Control Plan Calculations*, Rev. 0.
- Completed RPP-PLAN-60912, *Process Control Plan for 242-A Evaporator Campaign EC-06 to Concentrate 241-AY-101 Waste Feed*, Rev. 0.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending June 30, 2016*, Rev. 342.

- Completed RPP-RPT-59556, *Tank 241-AY-102 Monthly Monitoring Report June 2016*, Rev. 0.

Planned Action within the Next Six Months:

Tank sampling:

- Tank 241-AY-102 annulus grab sampling is planned for August 2016.
- Tank 241-AP-107 core sampling is planned to begin October 2016.
- Tank 241-AP-107 grab sampling is planned to begin September 2016.

Best-Basis Inventory updates:

Best-basis inventory updates for the following tanks were completed in July 2016:

- 241-T-102
- 241-T-104
- 241-T-105
- 241-TY-103
- 241-U-201
- 241-U-202

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

- 241-AN-101
- 241-AP-104
- 241-AW-102
- 241-AY-101
- 241-AY-102
- 241-B-201
- 241-BY-105
- 241-T-108
- 241-T-109
- 241-T-110
- 241-T-112
- 241-TY-104
- 241-TY-105
- 241-U-203

Data Quality Objectives:

RPP-8532, *Double-Shell Tanks Chemistry Control Data Quality Objectives*, Rev. 15, is in-process to identify additional analyses for corrosion mitigation and to simplify quality control parameters is planned to be released in August 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 for monthly performance reporting. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

June-16										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	43,107	48,460	48,778	5,353	(318)	1.12	0.99			
FYTD	413,307	409,472	407,667	(3,835)	1,805	0.99	1.00	584,296		
CTD	3,264,442	3,240,724	3,232,345	(23,718)	8,380	0.99	1.00	4,711,123	4,714,433	(3,310)

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.

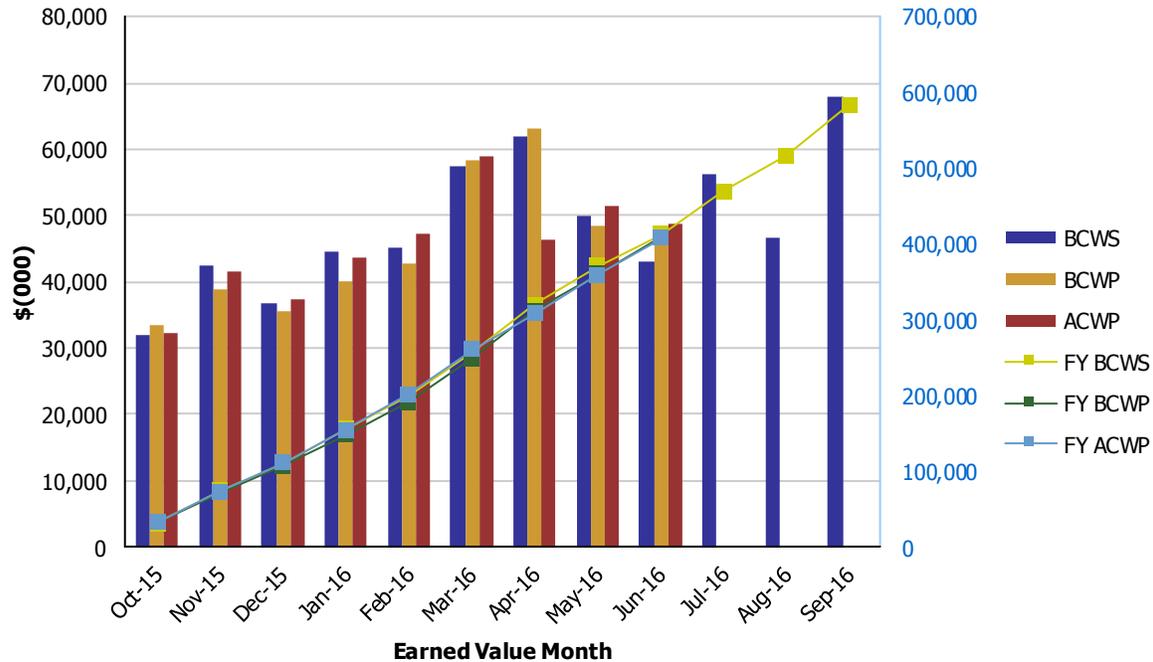
CV = cost variance.
 EAC = estimate at completion.
 FYTD = fiscal year to date.
 SPI = schedule performance index.
 SV = schedule variance.
 VAC = variance at completion.

Earned Value Data: Fiscal Year 2016

June-16

Tank Farms ORP-0014

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$31,981	\$33,377	\$32,188	1.04	1.04	\$31,981	\$33,377	\$32,188	1.04	1.04
Nov 2015	\$42,365	\$38,998	\$41,461	0.92	0.94	\$74,345	\$72,376	\$73,649	0.97	0.98
Dec 2015	\$36,744	\$35,614	\$37,416	0.97	0.95	\$111,089	\$107,990	\$111,065	0.97	0.97
Jan 2016	\$44,587	\$40,183	\$43,604	0.90	0.92	\$155,677	\$148,173	\$154,669	0.95	0.96
Feb 2016	\$45,043	\$42,790	\$47,389	0.95	0.90	\$200,720	\$190,963	\$202,058	0.95	0.95
Mar 2016	\$57,499	\$58,407	\$59,030	1.02	0.99	\$258,219	\$249,370	\$261,088	0.97	0.96
Apr 2016	\$62,027	\$63,159	\$46,446	1.02	1.36	\$320,246	\$312,529	\$307,534	0.98	1.02
May 2016	\$49,955	\$48,483	\$51,355	0.97	0.94	\$370,200	\$361,012	\$358,889	0.98	1.01
Jun 2016	\$43,107	\$48,460	\$48,778	1.12	0.99	\$413,307	\$409,472	\$407,667	0.99	1.00
Jul 2016	\$56,321					\$469,628				
Aug 2016	\$46,683					\$516,311				
Sep 2016	\$67,985					\$584,296				

CTD	\$3,264,442	\$3,240,724	\$3,232,345	0.99	1.00
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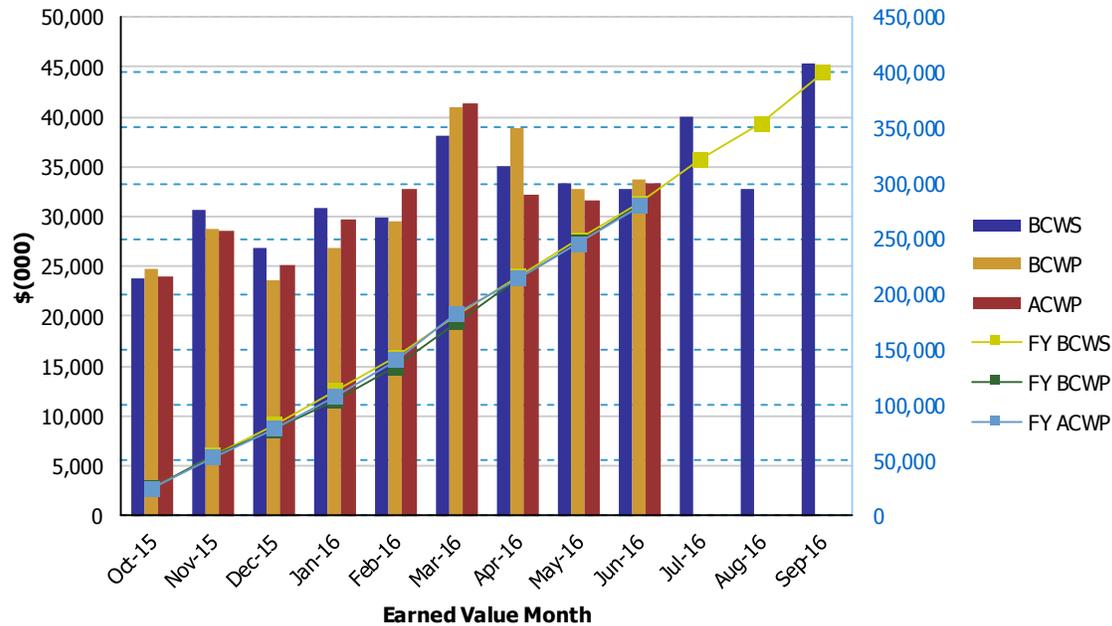
- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CTD = contract to date
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index

Earned Value Data: Fiscal Year 2016

June-16

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$23,768	\$24,839	\$24,025	1.05	1.03	\$23,768	\$24,839	\$24,025	1.05	1.03
Nov 2015	\$30,658	\$28,752	\$28,562	0.94	1.01	\$54,426	\$53,592	\$52,587	0.98	1.02
Dec 2015	\$26,911	\$23,637	\$25,173	0.88	0.94	\$81,336	\$77,229	\$77,760	0.95	0.99
Jan 2016	\$30,829	\$26,913	\$29,740	0.87	0.90	\$112,165	\$104,142	\$107,500	0.93	0.97
Feb 2016	\$29,963	\$29,524	\$32,689	0.99	0.90	\$142,128	\$133,666	\$140,189	0.94	0.95
Mar 2016	\$38,167	\$40,891	\$41,434	1.07	0.99	\$180,295	\$174,557	\$181,623	0.97	0.96
Apr 2016	\$34,996	\$38,877	\$32,157	1.11	1.21	\$215,291	\$213,434	\$213,780	0.99	1.00
May 2016	\$33,412	\$32,736	\$31,529	0.98	1.04	\$248,703	\$246,170	\$245,308	0.99	1.00
Jun 2016	\$32,672	\$33,750	\$33,375	1.03	1.01	\$281,375	\$279,919	\$278,683	0.99	1.00
Jul 2016	\$39,973					\$321,348				
Aug 2016	\$32,693					\$354,041				
Sep 2016	\$45,356					\$399,397				
CTD	\$2,173,259	\$2,162,132	\$2,152,512	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

Base Operations and Tank Farm Projects (5.01)

The June variances below have no impacts on TPA milestones.

The current month **favorable** schedule variance (SV) of \$1,078K is due to:

- Schedule recovery for final design of spare transfer pumps, delay caused by internal pump shaft size change. This allows contractor to have spares in support of tank retrieval and operations.
- AY-102 ERSS Installation work has been accelerated due to favorable weather and experienced crews performing field activities. This action continues to support the completion of retrieval on AY-102 by March 4, 2017 along with the follow up activities of Phase III implementation of the AY-102 Settlement Agreement.

The current month **favorable** cost variance (CV) of \$375K is due to:

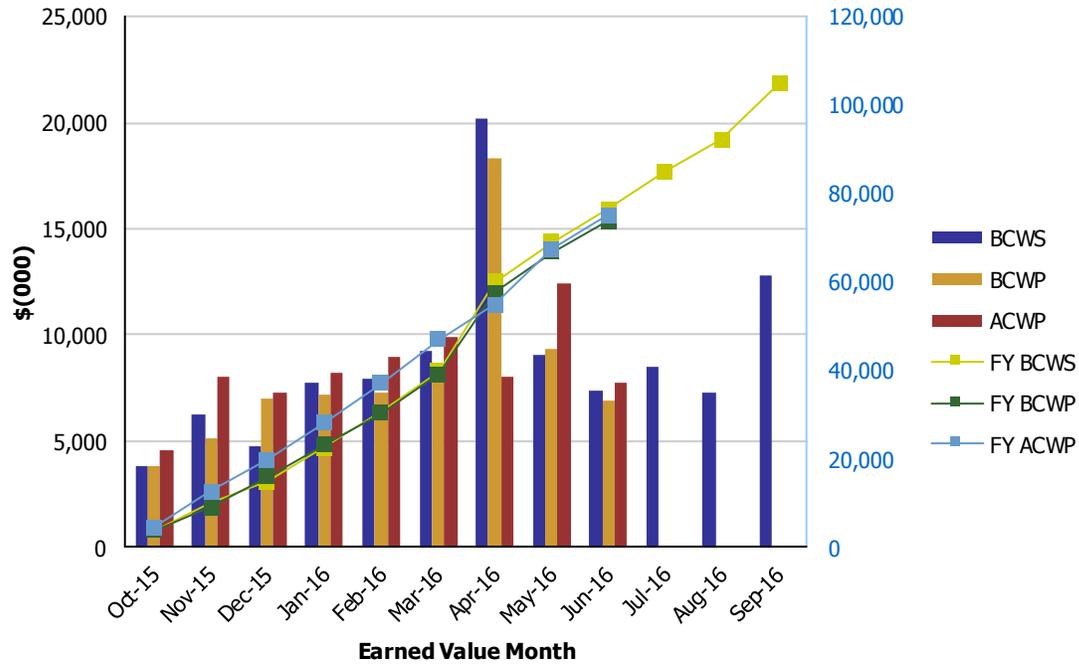
- Less resources were required to remove the AY-02B sluicer and ancillary equipment at AY-102 due to favorable weather, experienced construction crews, and favorable field conditions. This action continues to support the completion of retrieval on AY-102 by March 4, 2017, along with the follow-up activities of Phase III implementation of the AY-102 settlement agreement.

Earned Value Data: Fiscal Year 2016

June-16

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$3,770	\$3,814	\$4,560	1.01	0.84	\$3,770	\$3,814	\$4,560	1.01	0.84
Nov 2015	\$6,282	\$5,131	\$8,006	0.82	0.64	\$10,052	\$8,946	\$12,566	0.89	0.71
Dec 2015	\$4,769	\$6,970	\$7,255	1.46	0.96	\$14,821	\$15,915	\$19,821	1.07	0.80
Jan 2016	\$7,702	\$7,214	\$8,233	0.94	0.88	\$22,522	\$23,130	\$28,053	1.03	0.82
Feb 2016	\$7,948	\$7,288	\$8,959	0.92	0.81	\$30,470	\$30,417	\$37,012	1.00	0.82
Mar 2016	\$9,249	\$8,693	\$9,857	0.94	0.88	\$39,719	\$39,111	\$46,869	0.98	0.83
Apr 2016	\$20,237	\$18,288	\$8,046	0.90	2.27	\$59,956	\$57,399	\$54,916	0.96	1.05
May 2016	\$9,013	\$9,299	\$12,417	1.03	0.75	\$68,970	\$66,698	\$67,333	0.97	0.99
Jun 2016	\$7,387	\$6,885	\$7,713	0.93	0.89	\$76,357	\$73,584	\$75,045	0.96	0.98
Jul 2016	\$8,496					\$84,852				
Aug 2016	\$7,264					\$92,116				
Sep 2016	\$12,840					\$104,956				
CTD	\$668,834	\$658,811	\$685,018	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.

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

Retrieve and Close Single Shell Tanks (5.02)

The June variances have a minimal variance on Consent Decree and TPA milestones (M-045-15) at A-103 for tank retrieval.

The current month **unfavorable** SV of (\$502k) is due to:

- AX Retrieval equipment procurements have been re-planned based on funding challenges and prioritization; major equipment procurements have been re-scheduled to arrive based on installation activities/requirements. This negative variance does not impact the completion of projects B-1 and B-3 of the Consent Decree milestones.

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

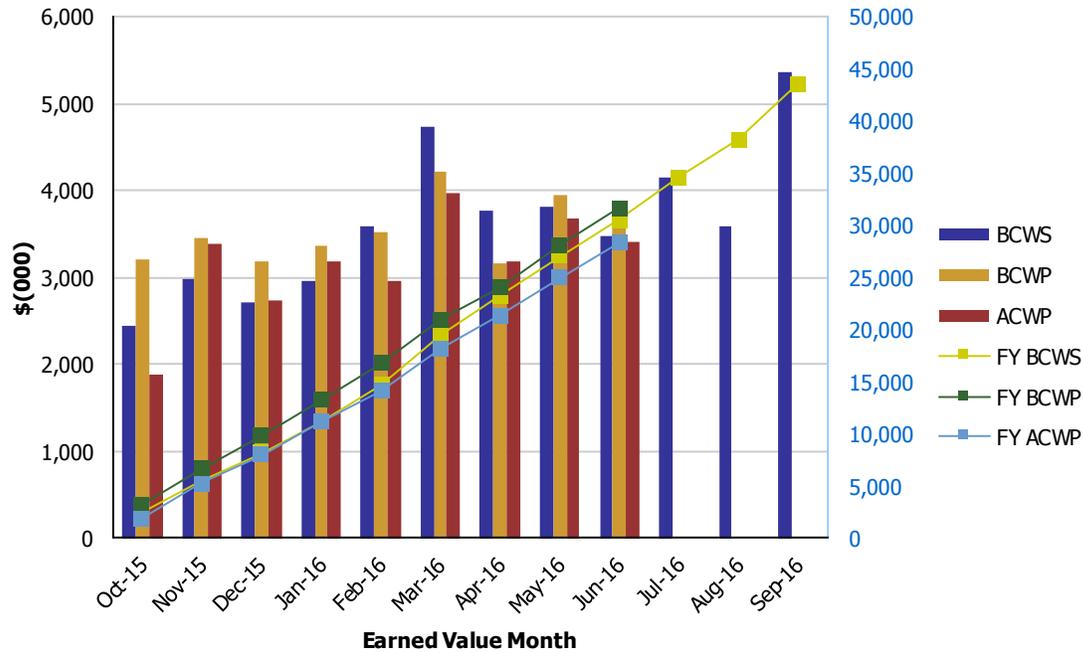
- Additional health physicist technicians (HPT)/industrial hygienist technicians (IHT), support staff, and duration/time have been required to support in-farm field activities due to vapor impact and lower work productivity. This activity increases the cost of activities at C-105 and AX-102/104 to maintain Consent Decree retrieval milestones. This cost variance is expected to continue through the project along with a “stop work” explained in the second bullet.
- On July 11, 2016, the Hanford Atomic Metal Trades Council (HAMTC), a labor organization composed of various unions working at Hanford, issued a “stop work” requiring mandatory use of supplied air within the perimeter fence lines of both SST and DST farms. This letter also included six other demands that HAMTC expected the Washington River Protection Solutions LLC to implement immediately. On July 21, 2016, the Washington State Attorney General and Citizens (Local Union 598 and Hanford Challenge) filed motions for a preliminary injunction in federal court seeking, among other things, all work inside the perimeter fences of any tank farm be performed while wearing *mandatory* supplied air.

Earned Value Data: Fiscal Year 2016

June-16

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$2,434	\$3,210	\$1,876	1.32	1.71	\$2,434	\$3,210	\$1,876	1.32	1.71
Nov 2015	\$2,987	\$3,446	\$3,379	1.15	1.02	\$5,421	\$6,656	\$5,255	1.23	1.27
Dec 2015	\$2,714	\$3,193	\$2,743	1.18	1.16	\$8,134	\$9,849	\$7,998	1.21	1.23
Jan 2016	\$2,966	\$3,366	\$3,180	1.13	1.06	\$11,101	\$13,215	\$11,178	1.19	1.18
Feb 2016	\$3,583	\$3,518	\$2,966	0.98	1.19	\$14,683	\$16,733	\$14,144	1.14	1.18
Mar 2016	\$4,740	\$4,210	\$3,979	0.89	1.06	\$19,424	\$20,943	\$18,124	1.08	1.16
Apr 2016	\$3,777	\$3,155	\$3,183	0.84	0.99	\$23,200	\$24,098	\$21,307	1.04	1.13
May 2016	\$3,824	\$3,954	\$3,678	1.03	1.08	\$27,025	\$28,052	\$24,984	1.04	1.12
Jun 2016	\$3,467	\$3,623	\$3,416	1.04	1.06	\$30,492	\$31,675	\$28,401	1.04	1.12
Jul 2016	\$4,142					\$34,634				
Aug 2016	\$3,591					\$38,225				
Sep 2016	\$5,354					\$43,579				
CTD	\$359,164	\$357,951	\$333,483	1.00	1.07					

- | | |
|---|--|
| 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 (5.03)

The June variances below have no impacts on TPA milestones.

The current month **favorable** SV of \$155K variance is primarily due to:

- Testing of the technetium melter being completed by Vitreous State Laboratory earlier than planned. The test was originally assumed to have a longer duration and that the analysis phase would not start until the test was complete. The analysis was instead run in parallel with testing and with the analysis from previous tests. The performance of these tasks concurrently optimized the schedule.

The current month **favorable** CV of \$207K variance is primarily due to:

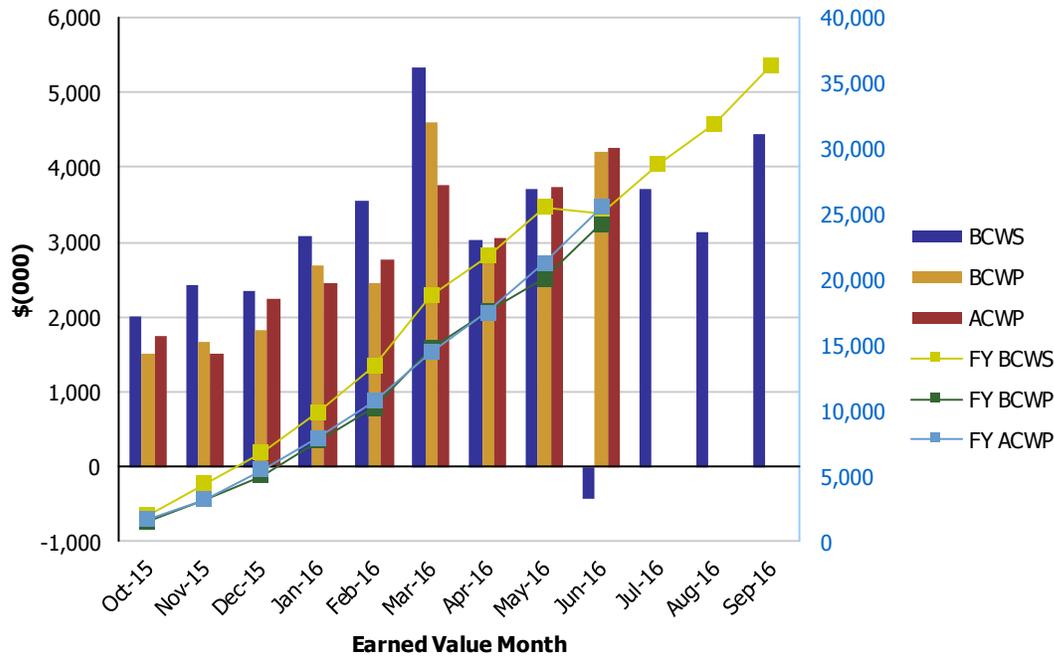
- Efficiencies realized in the work being performed by Savannah River National Laboratory.

Earned Value Data: Fiscal Year 2016

June-16

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

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$2,008	\$1,513	\$1,735	0.75	0.87	\$2,008	\$1,513	\$1,735	0.75	0.87
Nov 2015	\$2,439	\$1,669	\$1,517	0.68	1.10	\$4,447	\$3,182	\$3,252	0.72	0.98
Dec 2015	\$2,351	\$1,814	\$2,245	0.77	0.81	\$6,798	\$4,996	\$5,497	0.73	0.91
Jan 2016	\$3,090	\$2,691	\$2,451	0.87	1.10	\$9,888	\$7,687	\$7,948	0.78	0.97
Feb 2016	\$3,550	\$2,460	\$2,775	0.69	0.89	\$13,438	\$10,147	\$10,723	0.76	0.95
Mar 2016	\$5,343	\$4,613	\$3,760	0.86	1.23	\$18,781	\$14,760	\$14,482	0.79	1.02
Apr 2016	\$3,018	\$2,838	\$3,060	0.94	0.93	\$21,799	\$17,598	\$17,542	0.81	1.00
May 2016	\$3,705	\$2,495	\$3,732	0.67	0.67	\$25,503	\$20,092	\$21,274	0.79	0.94
Jun 2016	(\$420)	\$4,202	\$4,274	-10.01	0.98	\$25,084	\$24,294	\$25,548	0.97	0.95
Jul 2016	\$3,710					\$28,794				
Aug 2016	\$3,135					\$31,929				
Sep 2016	\$4,434					\$36,363				

CTD	\$43,076	\$41,721	\$42,170	0.97	0.99
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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 |

Treat Waste (5.5)

The June variances below have no impacts on TPA milestones.

The current month **favorable** SV of \$4,622K is due to:

- Recovery of scheduled work in Tech Maturation and Integrated Scale Test Program including receipt of Microbead resin and the procurement, fabrication, and assembly of both the full-scale test and integrated test rig assemblies. Additionally, a portion of the current month variance resulted from the implementation of BCR-RPP-16-171 for the safety control decision changes. This baseline change request was processed to resequence design activities to integrate the logic between existing and new scope to employ active ventilation instead of diffusion of hydrogen gas through concrete.

The current month **unfavorable** CV of (\$73K) is due to:

- Additional effort was required to prepare the piping and instrumentation diagram and ventilation and instrumentation diagram for 30 percent delta design drawings, including the hazard and operability study, management, and independent reviews. Also, development of the safety integrity level/failure modes and effects analysis calculations required additional resources.

Single-Shell Tank Closure Program

M-045-00, Complete closure of all SST farms, Due: January 31, 2043, Status: At risk. To be informed by information in System Plan, Rev. 8.

M-045-56M, Complete Implementation of Agreed to Interim Measures, Due: July 28, 2017, Status: On schedule. An annual meeting is held between ORP and Ecology to discuss the prior FY accomplishments and the next FY proposed interim measures. The last annual meeting was held July 20, 2015 (M-045-56L), and the meeting minutes are being finalized.

M-045-59, Control surface water infiltration pathways as needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST Waste Management Areas (WMA) (pending the Corrective Measures Study report, Milestone M-45-58, and implementation of other interim corrective measures), Due: To be determined, Status: To be determined.

M-045-61A, Submit to Ecology for review and approval as an Agreement primary document, 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.

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 submitted under milestone M-045-61A. Status: On schedule. TPA change control form M-045-15-02 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.

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

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, 2020, Status: On Schedule.

July Accomplishments:

- Completed the T and TY Farms Interim Surface Barrier Monitoring Report for FY 2015.
- The low-level waste federal review group voted to approve the C Farm waste management area (WMA-C) Performance Assessment the DOE O 435.1, *Radioactive Waste Management* for release.

Significant Planned Activities in the Next Six Months:

- Continue data collection for T Farm and TY Farm interim surface barrier monitoring and develop the annual interim barrier monitoring report for FY 2016.
- Complete TPA/*Resource Conservation and Recovery Act* Tier 2 and Tier 3 closure plans after input from Ecology and potentially revise Tier 1 submittal by following Figure 9-2 in the TPA.
- Complete the draft TPA Action Plan, Appendix I, Section 2.5, WMA-C Performance Assessment and submit to the WMA-C participants and stakeholders for review.
- The Ecology TPA Project Manager communicated on July 14, 2016, that the following items are to be put into the TPA monthly report:

*“Ecology would like to include 3 items in Single-Shell Tank Closure Program section, under the heading “**Significant Planned Actions in the Next Six Months:**” for our TPA PMM report for the month of July:*

- *Ecology made a “Counter Proposal” on TPA milestones for M-45-82 and M-45-83 that required submittal of SST System Closure and the WMA -C Tier 2&3 closure plans. This proposal include information on additional TPA work related to WMA-C PA, RFI final document, and the CMS. Ecology is awaiting USDOE response. Ecology would like to meet with USDOE to clarify the contents of Tier 2 & 3 submittals.*
- *We have sent comments to USDOE via a letter on the SST System Tier 1 Closure Plan. At the July 5th Ecology/Energy Meeting on DW Permit Status Meeting Ecology informed USDOE that Ecology is ready to meet on the comments. Ecology request USDOE agree to a meeting time to start the process for comment resolution.*
- *In February 2015, Ecology recommended USDOE-ORP schedule a recurring meeting to discuss statements, regulatory interpretations, and the process steps for obtaining an agreeable RFI/CMS process for WMA C Closure (letter 15-NWP-037, February 23, 2015). Ecology notes that we have been meeting on the RFI to resolve comments. However USDOE has not requested a meeting on the contents of a CMS. Ecology would like to request a meeting with USDOE, to review USDOE plans for preparing the document and a discussion about the contents and level of detail.”*

Issues: None.

Single-Shell Tank Retrieval Program

M-045-70, Complete waste retrieval from all remaining SSTs, Due: December 31, 2040, Status: At risk. To be informed by information in System Plan, Rev. 8.

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

Significant Past Accomplishments:

- Completed post-retrieval sampling of Tank 241-C-111
- Completed proof of concept demonstrations for Tank C-105 Mobile Arm Retrieval System-Vacuum (MARS-V) in-tank equipment removal
- Began development of Tank C-111 Retrieval Data Report
- Completed below grade removal of Buildings AX2707 and AX80
- Completed Building 2724AB demolition and below grade removal
- Completed installation of POR126 system and began cold operational acceptance testing
- Completed installation of the new A/AX change trailers and turned them over to operations.
- Completed pit cleanout of AX-02D
- Prepared for concrete foundation pour on the new air and service water building (A-285)
- Completed A Farm ventilation design.

Significant Planned Activities in the Next Three Months:

- Submit retrieval data report for Tank 241-C-102
- Negotiate contract proposal for installing and performing the third retrieval technology at Tank C-105
- Complete Tank C-105 MARS-V containment box disassembly
- Complete removal of Tank C-105 MARS-V in-tank equipment
- Complete Tank C-105 modified sluicing system design
- Issue Tank C-111 retrieval completion certification
- Complete cleanout of Tank 241-AX-104 pits 04A, and 04D, and initiate debris removal from 04C
- Complete AX-2707 fencing and gate upgrades
- Complete Tank 241-AX-102 and 241-AX-104 extended reach sluicing system procurement
- Complete installation of the A-285 service building.

Issues:

- The HAMTC stop work issued on July 11, 2016, has impacted Tank C-105 equipment removal activities due to C Farm access limitations. Construction resources have been redeployed to other work/contracts as available.
- The HAMTC stop work issued on July 11, 2016, has impacted the AX field work due to equipment availability. Pit cleanouts are currently on hold. Crews will opportunistically attempt to continue pit cleanout when crews and equipment are freed up from AY-102 construction installing four extended reach sluicer systems, and removal of the C-105 MARS-V.

Tank Waste Retrieval Work Plan Status

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

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

- Modification approved to RPP-22520, 241-C-101, and 241-C-105, *Tanks Waste Retrieval Work Plan*, to include a third retrieval technology for C-105 retrieval on July 20, 2016.

Significant Planned Activities in the Next Three Months:

- Finalize AX Farm tank waste retrieval work plans.

Issues: None.