

# Office of River Protection



## Monthly Reporting Period

July 1–July 31, 2021<sup>1</sup>

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<sup>1</sup> The narrative descriptions of progress in this report cover the reporting period. Information outside the reporting period may also be included for purposes of providing continuity or useful context. Information may be repeated in multiple sections of this report for continuity and clarity. Earned Value Management System data and descriptions cover the period through June 2021.

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## Acronyms and Abbreviations

CD	critical decision
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
COVID-19	coronavirus disease 2019
CMIP	corrective measures implementation work plan
CV	cost variance
DFLAW	Direct-Feed Low-Activity Waste
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
DST	double-shell tank
Ecology	Washington State Department of Ecology
ESRB	Executive Safety Review Board
EPA	U.S. Environmental Protection Agency
ETF	Effluent Treatment Facility
FY	fiscal year
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i> (HFFACO and TPA are used interchangeably throughout this report)
IQRPE	Independent, Qualified, Registered, Professional Engineer
LERF	Liquid Effluent Retention Facility
IX	ion exchange
MCS	Monitoring and Control System
ORP	U.S. Department of Energy, Office of River Protection
PMR	Permit Modification Request
RCRA	<i>Resource Conservation and Recovery Act</i>
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	Tank-Side Cesium Removal
UV/OX	Ultraviolet/Oxidation
WMA	waste management area
WTP	Waste Treatment and Immobilization Plant

**Administrative Items/Milestone Status**

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
<b>Prior Years</b>				
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	B. Harkins	In Dispute
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	B. Harkins	In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	B. Harkins	In Dispute
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	B. Harkins	In Dispute
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	B. Harkins	In Dispute
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD <sup>a</sup>	B. Harkins	On Schedule
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD <sup>a</sup>	B. Harkins	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD <sup>a</sup>	B. Harkins	On Schedule
<b>Fiscal Year 2021 (October 1, 2020 – September 30, 2021)</b>				
M-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2020	B. Harkins	Complete
M-062-40H	Submit System Plan to Ecology	11/13/2020 <sup>b</sup>	M. Irwin	Complete
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	01/30/2021	B. Harkins	Complete

Milestone	Title	Due Date	DOE PM	Status
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2021	G. Trenchard	Complete
M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW	3/31/2021	B. Harkins	Complete
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021	B. Harkins	In Dispute
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	4/30/2021	B. Harkins	In Dispute
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2021	G. Trenchard	Complete
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2021	B. Harkins	Complete
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2021	B. Harkins	On Schedule
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	09/30/2021	B. Harkins	On Schedule
<b>Fiscal Year 2022 (October 1, 2021 – September 30, 2022)</b>				
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm	10/31/2021	B. Harkins	On Schedule
M-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm	10/31/2021	B. Harkins	On Schedule
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2021	B. Harkins	On Schedule
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5	12/31/2021	B. Harkins	On Schedule
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan	12/31/2021	B. Harkins	On Schedule

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
M-062-52-T01	Submit to Ecology, as a Primary Document, a Secondary Solid Waste Disposition Work Plan	12/31/2021	B. Harkins	On Schedule
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs	1/31/2022	B. Harkins	On Schedule
M-045-92AA	Barrier 4 Design Approved by Ecology	1/31/2022	B. Harkins	On Schedule
M-062-01AR	Submit Semi-Annual Project Compliance Report to Ecology	1/31/2022	B. Trimberger	On Schedule
M-062-53A	Achieve Substantial Completion of EMF Construction	4/30/2022	W. Abdul	On Schedule
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types	5/15/2022	B. Harkins	On Schedule
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste	5/15/2022	B. Harkins	On Schedule
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	7/31/2022	B. Harkins	On Schedule
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2022	B. Trimberger	On Schedule
M-045-15	Completion of Tank A-103 SST Waste Retrieval	9/30/2022	B. Harkins	At Risk
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document	9/30/2022	B. Harkins	On Schedule
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA	9/30/2022	B. Harkins	On Schedule
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	9/30/2022	B. Harkins	At Risk

Milestone	Title	Due Date	DOE PM	Status
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	9/30/2022	B. Harkins	At Risk

<sup>a</sup> To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

<sup>b</sup> DOE and Ecology agreed to an extension until November 13, 2020, for submission of System Plan Rev. 9.

CD = critical decision

CMIP = corrective measures implementation work plan

CMS = Corrective Measure Study

DFLAW = Direct-Feed Low-Activity Waste

DOE = U.S. Department of Energy

Ecology = Washington State Department of Ecology

EMF = Effluent Management Facility

HFFACO = *Hanford Federal Facility Agreement and Consent Order*

Mod = modification

PA = Performance Agreement

PM = project manager

PMR = Permit Modification Request

RCRA = *Resource Conservation and Recovery Act*

RFI = *Resource Conservation and Recovery Act Facility Investigation*

SST = single-shell tank

TBD = to be determined

TSCR = Tank-Side Cesium Removal

WMA = waste management area

WTP = Waste Treatment and Immobilization Plant

## System Plan

**Responsible Assistant Manager:** Mat Irwin  
**Technical Lead:** Kaylin Burnett  
**Ecology Project Manager:** Dan McDonald, Jeff Lyon

**M-062-40H Submit System Plan to Ecology**

Due: November 13, 2020<sup>2</sup>

Status: Complete.

**M-062-45-A Complete Negotiations 6-Months after Last Issuance of System Plan**

Due: April 30, 2021

Status: In Dispute.

## Significant Past Accomplishments

- The U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), and Washington State Department of Ecology (Ecology) met in the first mediated session of the “Holistic Negotiations” on June 25, 2020. The weekly negotiation sessions were suspended in July 2021 due to key participants being unavailable.
- On January 27, 2021, DOE submitted signed change package M-62-21-01 to Ecology for evaluation to extend the M-62-45 Milestone date 90 days, due to “Holistic Negotiations” progress. This change package was not concurred on by Ecology within the 14-day period; therefore, the change package went into dispute on February 10, 2021.

## Significant Planned Actions in the Next Six Months

- Discuss disputes regarding Milestone M-062-45 and its associated milestones during “Holistic Negotiations.”

## Issues

- Ecology and DOE Office of River Protection (ORP) have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing Coronavirus Disease 2019 (COVID-19) concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical

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<sup>2</sup> DOE and Ecology agreed to an extension until November 13, 2020, for submission of System Plan, Rev. 9.



operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the Tri-Party Agreement (TPA), and if other actions may be necessary.

## Acquisition of New Facilities

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Janet Diediker  
**Ecology Project Manager:** Dan McDonald, Jeff Lyon

- M-090-13**    **CD-1<sup>3</sup> for Interim Hanford Storage Project and CR for CD-2 to ECY<sup>4</sup>**  
 Due: September 30, 2025  
 Status: On schedule.
- M-090-00**    **Acquire/Modify Facilities for Storage of First Two Years of IHLW<sup>5</sup> from the WTP<sup>6</sup> Operations**  
 Due: December 31, 2036  
 Status: On schedule.
- M-047-00**    **Completion of Work for Management of Secondary Waste from the WTP**  
 Due: To be determined.  
 Status: On schedule.

## Significant Past Accomplishments

- Completed M-090-14 Milestone, “Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW<sup>7</sup>.” ORP transmitted letter 20-ECD-0050, “Submittal of CD-1 for Facility to Store Spent Ion Exchange Columns Prior to Direct Feed Low-Activity Waste Tri-Party Agreement Milestone M-090-14,” on October 23, 2020, to Ecology.

## Significant Planned Actions in the Next Six Months

- None.

## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as

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<sup>3</sup> CD denotes critical decision.

<sup>4</sup> ECY denotes Washington State Department of Ecology.

<sup>5</sup> IHLW denotes immobilized high-level waste.

<sup>6</sup> WTP denotes Waste Treatment and Immobilization Plant.

<sup>7</sup> DFLAW denotes direct-feed low-activity waste.

implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Ricky Bang  
**Ecology Project Manager:** Dan McDonald

The current status for each of the projects listed below, unless noted differently, is:

In Dispute. Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. Therefore, the status of the milestones below has changed to “In Dispute.”

**M-062-45-T01 Complete Negotiations 6-Months after Last Issuance of System Plan**  
 Due: April 30, 2015

**M-062-45-ZZ Negotiate a One-Time Supplemental Treatment Selection**  
 Due: April 30, 2015

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

**M-062-31-T01 Complete Final Design and Submit RCRA<sup>8</sup> Part B Permit  
 Modification Request for Enhanced WTP & Supplemental Treatment**  
 Due: April 30, 2016

**M-062-32-T01 Start Construction of Supplemental Vitrification Facility and/or WTP  
 Enhancements**  
 Due: April 30, 2018

**M-062-33-T01 Complete Construction of Supplemental Treatment Vitrification  
 Facility and/or WTP Enhancements**  
 Due: April 30, 2021

**M-062-45-XX Complete Negotiations to Resolve Future Disputes M-062-45,  
 Paragraphs 4 and 5**  
 Due: December 31, 2021  
 Status: On schedule.

**M-062-34-T01 Complete Hot Commissioning of Supplemental Treatment  
 Vitrification Facility and/or WTP Enhancements**  
 Due: December 30, 2022

**M-062-21 Annually Submit Data Which Demonstrates Operation of the WTP at  
 a Rate Sufficient to Meet M-062-00**  
 Due: February 28, 2023  
 Status: At risk.

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<sup>8</sup> RCRA denotes *Resource Conservation and Recovery Act*.

**M-062-00 Complete Pretreatment Processing and Vitrification of HLW<sup>9</sup> and LAW<sup>10</sup> Tank Wastes**

Due: December 31, 2047

Status: At risk.

**Significant Past Accomplishments**

- None.

**Significant Planned Actions in the Next Six Months**

- See the “System Plan” section, above, for updates related to the M-062-45 Milestone negotiations.

**Issues**

- Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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<sup>9</sup> HLW denotes high-level waste.

<sup>10</sup> LAW denotes low-activity waste.

## Low-Activity Waste Pretreatment System

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Janet Diediker

**Ecology Project Manager:** Dan McDonald

**M-062-60 Submit Disposition Pathways Evaluation for Spent IX<sup>11</sup> Columns as Primary Document to Ecology**

Due: June 30, 2026

Status: On Schedule.

**M-062-61 Submit Updated TSCR<sup>12</sup> Closure Plan as a Permit Modification Request to Ecology**

Due: April 30, 2029

Status: On Schedule.

**M-062-62 Complete Negotiations to Establish HFFACO<sup>13</sup> Milestones for Disposition of Spent IX Columns**

Due: January 31, 2035

Status: On Schedule.

**M-062-62-T01 Submit Conceptual Design Package (30% Design) for Facility to Remove/Prepare/Process IX Waste Media**

Due: December 30, 2040

Status: On Schedule.

**M-062-62-T02 Submit Conceptual Design Package (60% Design) for Facility to Remove/Prepare/Process IX Waste Media**

Due: June 30, 2042

Status: On Schedule.

**M-062-63 Submit as PMR<sup>14</sup>, Final Design (90-100% Design) for Facility to Remove/Prepare/Process IX Waste Media**

Due: September 30, 2043

Status: On Schedule.

## Significant Past Accomplishments

- Completed M-062-50 Milestone, "Submit to Ecology as a Secondary Document, a Mass Balance Flow." ORP transmitted letter 20-ECD-0057, "Completion of Tri-Party Agreement Milestone M-062-50," on December 4, 2020, to Ecology.

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<sup>11</sup> IX denotes ion exchange.

<sup>12</sup> TSCR denotes Tank-Side Cesium Removal.

<sup>13</sup> HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

<sup>14</sup> PMR denotes Permit Modification Request.

### **Significant Planned Actions in the Next Six Months**

- None.

### **Issues**

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Tank-Side Cesium Removal System

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Janet Diediker  
**Ecology Project Manager:** Dan McDonald

This section only covers the Tank Farms Project scope of the DFLAW mission. Please refer to the Consent Decree monthly report for the WTP project scope pertaining to DFLAW.

### Significant Past Accomplishments

- ORP approved the Documented Safety Analysis (DSA) addendum Technical Safety Requirements.
- Completed water run operations with the four rotating shifts.
- Completed the TSCR Operational Acceptance Test.
- Received the initial LAW Pretreatment System RCRA permit from Ecology to support final construction activities. Submitted a follow-up RCRA permit modification to reflect changes to the facility configuration and provided requested facility documentation in preparation for facility startup.
- Completed backfill for SN-637/700 near ICD-30/31. Completed electrical tie-ins for the TSCR enclosures.
- Completed the TSCR shield wall installation and fencing around the IX Column storage pad.
- Completed TSCR construction.
- Washington River Protection Solutions, LLC completed the Management Self-Assessment in mid-July.

### Significant Planned Actions in the Next Six Months

- Turnover from Construction to Operations.
- Receive Ecology approval of the RCRA permit.
- Receive Ecology approval of the air operating permit.
- Approve the DSA Amendment and implement the TSCR DSA.
- Amentum will perform the Contractor Readiness Assessment in August.
- Conduct the DOE Readiness Assessment of the contractor.
- ORP to submit and receive DOE Office of Environmental Management approval of the CD-4A package to allow TSCR operations to commence.



## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## 242-A Evaporator Status

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Paul Hernandez  
**Ecology Project Manager:** Jeff Lyon

The 242-A Evaporator campaign strategy is identified in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY23	EC-11	AW-102	AP-104	EC-11 to be performed after completion of transfer lines replacements in FY23.

FY = fiscal year

### Significant Past Accomplishments

- Completed work on the resolution of the universal joint potential inadequacy in the Safety Analysis. Universal joint testing was completed, and the vendor has incorporated the new universal joints into the calculations, engineering change notices, and drawings.
- Initiated replacement of the Raw Water Strainer in the 242-A Water Service Building.
- Completed development of the 100 percent engineering design revisions for the 242-A Evaporator DSA upgrades.
- Completed wall nozzle fabrication for the 242-A Evaporator slurry and feed transfer line replacement.
- Completed AW-02A pump pit jumper removal for the 242-A Evaporator slurry and feed transfer line replacement.
- Installed new wall nozzle in the AW-02A pit in support of the new 242-A Evaporator slurry line and feed transfer lines.
- Mobilized AW Tank Farm transfer line excavation for the 242-A Evaporator slurry and feed transfer line replacement.
- Installed new wall nozzles in the evaporator pump room to support the new 242-A Evaporator slurry and feed transfer lines.
- Removed the old 242-A Evaporator feed pump and placed into concrete box for disposal.
- Received majority of the 242-A DSA Safety System upgrades procurements.
- Initiated 242-A DSA Safety System upgrades construction phase.
- Commenced excavation between the AW-B and AW-02A pits for the 242-A Evaporator slurry and feed transfer line replacement.

### Significant Planned Actions in the Next Six Months

- Procure new PB-1 and PB-2 replacement pumps.
- Receive 242-A DSA Safety System upgrades solenoid valve procurements.
- Complete 242-A DSA Safety System upgrades construction phase.
- Initiate 242-A Ventilation Control System upgrades.
- Install a new 242-A Evaporator feed pump in the AW-02E pit.
- Complete installation of the 242-A Raw Water Strainer.
- Continue excavation in AW Tank Farm for the 242-A Evaporator slurry and feed transfer line replacement.

### Issues

- Initial testing revealed an issue with the original universal joints on the actuators used to drive the tank farm double isolation valves. A potential inadequacy in the Safety Analysis was written. Testing of different universal joints was completed, and the vendor has incorporated the new universal joints into the calculations, engineering change notices, and drawings.
- Following universal joint determination, 92 universal joints/actuators will need to be replaced. Project team and facility operations personnel are initiating phased planning of replacement to support tank transfer operations.
- On July 1, 2021, a test gauge was lowered into the 242-A Evaporator feed pump riser in the AW-02E pit and an obstruction was encountered. On July 6, 2021, a camera was lowered into the riser and a weld bead on the riser was identified as the obstruction. Engineering has designed a tool that will be used to remove a 3/8-inch-thick weld protruding inside the AW-02E riser that is preventing the new pump from being installed. Assembly and testing of the tool was completed in late July with deployment in early August.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to

telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.

- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Richard Valle  
**Ecology Project Manager:** John Temple, Dan McDonald (for milestones)

**M-062-51-T01     Submit to Ecology, as a Primary Document for Approval a Secondary Liquid Waste Disposition Work Plan**

Due: December 31, 2021  
 Status: On schedule.

**M-062-51-T02     Submit Permit Modification Request for Redesign Upgrades and Operations to Support Volumes of Waste Types Expected**

Due: May 15, 2022  
 Status: On schedule.

**M-062-51     Achieve Substantial Completion of LERF<sup>15</sup>/ETF<sup>16</sup> Construction Upgrades Necessary for LAW Hot Commissioning**

Due: April 15, 2023  
 Status: On schedule.

### Significant Past Accomplishments

- Total fiscal year (FY) 2021 processing volume: approximately 3.2 million gallons.
- Continued LERF Basin 44 cover replacement activities and removed approximately 55,848 square feet (total area of 102,000 square feet) of existing cover.
- Initiated replacement activities of the obsolete cooling water blowdown pump.
- Initiated repairs to the thin film dryer steam condensate system.
- Continued fieldwork for the ETF Monitoring and Control System (MCS) upgrade.
- Continued fieldwork for the ETF Ultraviolet/Oxidation (UV/OX) upgrade.
- Continued site mobilization of the construction subcontractor for the LERF Basin 41 installation.
- Completed conceptual design of the ETF modular grout system.
- Completed preliminary design of the ETF brine and acetonitrile distillate storage tanks.
- Completed preliminary design of the ETF carbon dioxide membrane contactors.
- Completed preliminary design of the ETF motor control center upgrade.
- Completed preliminary design of the ETF freeze protection upgrade.
- Completed preliminary design of the ETF chiller addition.

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<sup>15</sup> LERF denotes Liquid Effluent Retention Facility.

<sup>16</sup> ETF denotes Effluent Treatment Facility.

- Completed conceptual design of the ETF instrument air system.
- Completed conceptual design of the ETF acetonitrile distillate load-out station.
- Completed procurements and fabrications for ETF MCS project.

### **Significant Planned Actions in the Next Six Months**

- Complete replacement of the LERF Basin 44 cover to address the degraded condition.
- Complete the FY 2021 portion of the ETF MCS upgrade, as it is currently operating on outdated systems. This includes the ETF main treatment train, secondary treatment train, and local control units 15 and 17.
- Complete the ETF UV/OX upgrade, as the current system is no longer supported by the manufacturer.
- Complete LERF Basin 41 site preparation activities and begin construction fieldwork.
- Complete procurement and continue fabrications of the ETF supplemental organic treatment (i.e. steam stripping) system to provide the capability to treat the WTP DFLAW effluent.
- Complete design of the ETF modular grout system to provide the onsite capability to stabilize the WTP DFLAW effluent.
- Complete design of the ETF brine and acetonitrile distillate storage tanks to provide added capacity to manage the WTP DFLAW effluent.
- Complete design of the ETF carbon dioxide membrane upgrade to provide the capability to treat the WTP DFLAW effluent.
- Complete design of the ETF motor control center upgrade to address the deficient condition and provide additional capability for ongoing upgrade projects.
- Complete design of the ETF freeze protection upgrade, as systems have become degraded and many replacement parts are considered obsolete.
- Complete design of the ETF instrument air upgrade to provide added capability to manage the WTP DFLAW effluent.
- Complete design of the ETF Chiller addition to provide added capability to manage the WTP DFLAW effluent.
- Continue procurements and fabrications for the ETF, UV/OX, redundant filtration, carbon dioxide membrane, freeze protection, instrument air, vent off gas system, 2025ED Load-In Station expansion, and chiller addition upgrade projects.
- Initiate modification of the evaporator's boiler pressure safety valve discharge piping.
- Initiate modification of the thin film dryer room conveyor remote activation warning system.

## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Liquid Effluent Retention Facility Volumes

LERF liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated.<sup>17</sup>

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 <sup>b</sup> (Basin 44)
AZ-301 Condensate	-	-	-
Mixed Waste Trench 31 and 34	+ 23,300	-	-
Other <sup>a</sup>	-	-	-
<b>Total Volume</b>	1,230,000 <sup>c</sup>	6,550,000 <sup>c</sup>	0 <sup>d</sup>

<sup>a</sup> 325 Building Retention Process Sewer

<sup>b</sup> LERF Basin 44 was placed out-of-service on January 14, 2021.

<sup>c</sup> LERF level instrumentation is out-of-service for project upgrades. Basin 42 and Basin 43 levels are approximate based on visual inspection of liquid level.

<sup>d</sup> LERF Basin 44 was emptied to allow for cover replacement.

Data Date: July 29, 2021.

Values shown in gallons.

<sup>17</sup> The volume in each LERF basin is calculated from liquid level sensor readings. Therefore, based on sensor fluctuations and/or environmental effects (e.g., precipitation, temperature), values for basin volumes may vary slightly from the net inputs and outputs shown for the basin.



## Tank System Update

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Erik Nelson  
**Ecology Project Manager:** Jeff Lyon, Nina Menard

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

**M-045-91E4 Provide SST<sup>18</sup> Farms Dome Deflection Surveys Every 2 Years to Ecology**

Due: September 30, 2021  
 Status: On schedule.

**M-045-91K Complete Initial Baseline Visual Inspections of all SSTs**

Due: September 30, 2023  
 Status: On schedule.

**M-045-91K-T01 Submit Report of the Initial Baseline Visual Inspection of all SSTs Remaining to be Inspected**

Due: March 31, 2024  
 Status: On schedule.

**M-045-91L Obtain Assessment Reviewed/Certified by an IQRPE<sup>19</sup> Attesting to SST Structural Integrity**

Due: September 30, 2034  
 Status: On schedule.

### Double-Shell Tank Integrity

#### Significant Past Accomplishments

- Released RPP-RPT-34311, *Double-Shell Tank Integrity Inspection Report for 241-AY Tank Farm*, in December 2020.
- Released RPP-RPT-39149, *Double-Shell Tank Integrity Inspection Report for 241-SY Tank Farm*, in June 2021.
- Released RPP-RPT-42147, *Double-Shell Tank Integrity Inspection Report for 241-AW Tank Farm*, in July 2021.
- Completed fieldwork for nine of nine enhanced annulus visual inspections for the following double-shell tanks (DSTs):
  - Tank 241-AP-101.
  - Tank 241-AP-102.
  - Tank 241-AP-103.

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<sup>18</sup> SST denotes single-shell tank.

<sup>19</sup> IQRPE denotes Independent Qualified Registered Professional Engineer.

- Tank 241-AP-104.
- Tank 241-AP-105.
- Tank 241-AP-106.
- Tank 241-AP-107.
- Tank 241-AP-108.
- Tank 241-AY-101.
- Completed fieldwork for three of three ultrasonic testing and air slot inspections for the following DSTs:
  - Tank 241-AW-105.
  - Tank 241-AW-104 (included additional air slot inspections).
  - Tank 241-AP-103.
- Completed Liquid Air Interface scans and air-slot inspections at Tank 241-AZ-102.
- Completed deployment of annulus floor cleaner, Liquid Air Interface scans, secondary floor liner scans, and air-slot inspections at Tank 241-AY-101.
- Received and tested Southwest Research Institute Guided Wave inspection system at Pacific Northwest National Laboratory.
- Completed Tank 241-AW-106 ultrasonic testing report.
- Completed Tank 241-AW-105 ultrasonic testing report.
- Completed Tank 241-AW-104 ultrasonic testing report.
- Completed Tank 241-AP-103 ultrasonic testing report.
- Completed Tank 241-AZ-102 ultrasonic testing report.

### **Significant Planned Actions in the Next Six Months**

- Complete limited ultrasonic testing inspection scans at Tank 241-AP-106.
- Draft and complete ultrasonic testing inspection reports for Tanks 241-AY-101 and 241-AP-106.
- Complete report development for the nine DST annulus visual inspections performed in FY 2021.

### **Ultrasonic Testing Report Status**

- Tank 241-AW-106 ultrasonic testing report was released as RPP-RPT-62764, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AW-106 FY 2020*, on February 17, 2021.
- Tank 241-AW-105 ultrasonic testing report was released as RPP-RPT-62939, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AW-105 FY 2020*, on March 8, 2021.

- Tank 241-AW-104 ultrasonic testing report was released as RPP-RPT-63014, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AW-104 FY 2021*, on May 20, 2021.
- Tank 241-AP-103 ultrasonic testing report was released as RPP-RPT-63146, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AP-103 FY 2021*, on July 20, 2021. Tank 241-AZ-102 ultrasonic testing report was released as RPP-RPT-63185, *Ultrasonic Inspection and Air Slot Visual Inspection Results for Double Shell Tank 241-AZ-102 FY 2021*, on July 27, 2021.

## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Single-Shell Tank Integrity

### Significant Past Accomplishments

- Performed TFC-ENG-CHEM-P-57, *Intrusion Notification and Tank Leak Assessment Process*, on Tank 241-TX-113.
- Visual inspections were completed for the following single-shell tanks (SSTs):
  - Tank 241-B-106 (completed November 2020).
  - Tank 241-B-108 (completed December 2020).
  - Tank 241-BY-112 (completed December 2020).
  - Tank 241-BY-104 (completed January 2021).
  - Tank 241-BY-108 (completed January 2021).
  - Tank 241-AX-104 (completed January 2021).

- Tank 241-BY-103 (completed February 2021).
- Tank 241-U-108 (completed March 2021).
- Tank 241-U-110 (completed March 2021).
- Tank 241-U-112 (completed March 2021).
- Tank 241-U-202 (completed March 2021).
- Tank 241-U-203 (completed March 2021).
- Tank 241-U-204 (completed March 2021).
- Tank 241-U-201 (completed April 2021).
- Tank 241-S-112 (completed April 2021).
- Tank 241-AX-103 (completed July 2021).
- Completed TFC-ENG-CHEM-P-57 on Tank 241-B-109.

### **Significant Planned Actions in the Next Six Months**

- Complete report development for the SST integrity visual inspections performed in FY 2021.
- Complete development and release of final Tank 241-SX-112 Extent of Condition report.
- Perform follow-up visual and laser inspections in Tanks 241-SX-109, 241-SX-111, and 241-SX-112.

### **RPP-9937 Rev. 4 Updates**

- Baseline Change Authorizations implemented:
  - None.
- Specification Limit Exceedance:
  - One interstitial-liquid level exceeded its upper specification limit (Tank 241-SX-111).
  - One surface level exceeded its lower specification limit (Tank 241-T-111).

### **Issues**

- Tank 241-SX-112 was inspected visually in late February 2020. The concrete dome was inspected fully, and there were three spots of spalled concrete in the dome. While there have been past inspections of the tank, they did not include the full dome and this was the first inspection to reflect the spalling. There was no evidence of structural issues; however, the dome loading is being limited to current levels until further analysis is complete. The full analysis may take several months to complete, but a structural analysis contract is in place with Pacific Northwest National Laboratory. Tank 241-SX-112 was inspected visually again in late July. The inspection did not identify any changes in the condition of the spalled locations. Concrete was noted on the waste surface under the spalled locations, suggesting that the spalling took place after 1969 when the tank was pumped and taken out of service. On August 17, 2020, a laser scan of Tank 241-SX-112

was performed to assist with analysis of dome spalling. Tank 241-SX-112 analysis is ongoing.

- Tank 241-SX-109 was inspected visually in late July 2020. Spalled concrete was identified in the northeast portion of the tank dome next to a rectangular construction manhole. Additional small/shallow spalling locations, similar to those in Tank 241-SX-112, were noted on the tank dome. Concrete was noted on the waste surface, and, comparing to past visual inspections, suggests that the spalling occurred post-1996. In September 2020, a laser scan of Tank 241-SX-109 was also performed to assist with analysis of dome spalling. Tank 241-SX-109 analysis is ongoing.
- Tank 241-SX-108 was inspected visually in early August 2020. Minor spalled concrete was identified on the tank dome.
- Tank 241-SX-111 was inspected visually in mid-August 2020. Spalled/Cracked concrete was identified in various locations on the tank dome. Concrete was noted on the waste surface and, when compared to past visual inspections, suggests that the spalling occurred post-1987. On September 1, 2020, a laser scan of Tank 241-SX-111 was performed. Review of the laser scan results identified a new spalling location since the visual inspection.
- Tank 241-B-109 was visually inspected on February 5, 2021 to support the ongoing Tank 241-B-109 leak assessment. The leak assessment team reviewed visual inspection images with interstitial-liquid level data. Elicitation forms to determine the probability that Tank 241-B-109 has a leak were completed. Drywell monitoring was completed to aid the leak assessment. The visual inspection of Tank 241-S-102 was rescheduled for FY 2022 to accommodate the drywell monitoring. The leak assessment results and recommendation were presented to the Executive Safety Review Board (ESRB) on April 29, 2021. The ESRB concurred with the recommendation to change Tank 241-B-109's status from "sound" to "assumed/active leaker." The tank was also added to the list of SSTs with known active leaks in HNF-EP-0182 Rev. 400, *Waste Tank Summary Report for Month Ending April 30, 2021*, and its integrity status was updated throughout the report. The Tank 241-B-109 leak assessment report RPP-ASMT-64349, *Leak Assessment Report for Tank 241-B-109*, was externally released.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to

telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.

- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Independent Qualified Registered Professional Engineer Activities

### DST System:

- RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*, Rev. 1, was completed in 2016.
- The IQRPE recommended the next DST system integrity assessment report be completed in 10 years.

### SST System:

- Completed M-045-9II Milestone report RPP-IQRPE-50028, *Single-Shell Tank System Structural Integrity Assessment Report*, in 2018.
- The IQRPE recommended the next SST structural integrity assessment be completed in 16 years. Ecology transmitted letter 19-NWP-009, “*Single-Shell Tank Structural Integrity Assessment, RPP-IQRPE-50028*,” on January 16, 2019. The letter noted Ecology’s agreement with the IQRPE’s 16-year recommendation.

### 242-A Evaporator:

- Completed RPP-RPT-60098, *242-A Evaporator System Integrity Assessment Report*, Rev. 0, in 2018.
- The IQRPE recommended the next 242-A Evaporator system integrity assessment be completed in 15 years. Ecology transmitted letter 18-NWP-114, “Department of Ecology’s (Ecology’s) Comments on the *242-A Evaporator System Integrity Assessment Report, RPP-RPT-60098, Revision 0*,” on July 19, 2018. The letter noted Ecology’s disagreement with the IQRPE’s 15-year recommendation. The Hanford Sitewide permit, Rev. 8C, currently provides for 242-A Evaporator system integrity assessments at a frequency of 10 years. ORP will continue to comply with the permit condition.

### ETF:

- Completed RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*, in 2019.
- The IQRPE recommended the next ETF integrity assessment be completed in 10 years.

### 219-S Tank System:

- Completed RPP-IQRPE-50029, *219-S Integrity Assessment Report*, in February 2020.
- The IQRPE recommended the next 219-S Tank System Integrity Assessment be completed in 20 years.

## **In-Tank Characterization and Summary**

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Erik Nelson

**Ecology Project Manager:** Jeff Lyon

### **Reports Completed or Released**

For July 2021, the following reports were completed (internal access only) or released (external access):

- Completed:
  - RPP-RPT-51224, *Derivation of Best-Basis Inventory for Tank 241-TX-101 as of July 1, 2021*, Rev. 2.
  - RPP-PLAN-64788, *Tank 241-AY-102 Annulus Sampling and Analysis Plan - Fiscal Year 2021*, Rev. 0.
  - RPP-PLAN-64727, *Tank 241-AP-101 Large Volume Sample Collection to Support Platform Testing, Phase 1, FY22*, Rev. 0.
  - RPP-PLAN-64728, *Tank 241-AP-101 Large Volume Sample Collection to Support Platform Testing, Phase 2, FY22*, Rev. 0.
  - RPP-RPT-63204, *241-AP-107 Grab Sample Results for Qualification of Direct Feed Low Activity Waste (DFLAW) Unit Operations Testing, 2021*, Rev. 0.
  - RPP-RPT-63236, *Final Analytical Report for Tank Sampling and Analysis Plan for Residual Solid Waste in Tank 241-AX-102*, Rev. 0.
- Released:
  - HNF-EP-0182, *Waste Tank Summary Report for Month Ending May 31, 2021*, Rev. 401.

### **Tank Sampling**

#### **Significant Past Accomplishments**

For July 2021, the following tank sampling was conducted:

- Completed Tank 241-AN-101 core sampling on July 1, 2021. One core sample (segment 340-19-4) was received at the 222-S Laboratory.
- Completed Tank 241-AX-104 residual solid waste grab sampling. Six samples were received at the 222-S Laboratory.
- Completed Tank 241-AX-104 grab sampling.

#### **Significant Planned Actions in the Next Six Months**

- Complete Tank 241-AN-101 grab sampling in August 2021.



- Complete Tank 241-AZ-102 grab sampling in September 2021.
- Complete Tank 241-AY-102A grab sampling in September 2021.
- Complete Tank 241-AP-101 grab sampling in October 2021.

## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Best-Basis Inventory Updates

### Significant Past Accomplishments

- Best-basis inventory updates for the following tanks were completed in July 2021:
  - Tank 241-TX-101.

### Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in August 2021:
  - Tank 241-AP-108.
  - Tank 241-AZ-101.
  - Tank 241-BX-105.

## Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers

reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.
- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

## Single-Shell Tank Closure Program

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Rod Lobos  
 Becky Blackwell  
**Ecology Project Manager:** Jeff Lyon

- M-045-59 Control Surface Water Infiltration Pathways as Needed**  
 Due: To be determined. Will be implemented if needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST waste management areas (WMAs) (pending the corrective measures study report, M-45-58 Milestone, and implementation of other interim corrective measures).  
 Status: On schedule.
- M-045-62 Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP<sup>20</sup> for WMA-C<sup>21</sup>**  
 Due: To be determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.  
 Status: On schedule.
- M-045-83 Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan**  
 Due: To be determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.  
 Status: On schedule.
- M-045-92AD Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**  
 Due: October 31, 2020  
 Status: Completed October 7, 2020.
- M-045-97 Submit to Ecology as a Primary Document a Waste Management Area Integration Study for WMA A/AX, as described in HFFACO Appendix I.2.1.1**  
 Due: September 30, 2021  
 Status: On schedule.
- M-045-92Y Complete Construction of Barrier 3 in 241-TX Farm**  
 Due: October 31, 2021  
 Status: On schedule.

<sup>20</sup> CMIP denotes corrective measures implementation work plan.

<sup>21</sup> WMA-C denotes C Tank Farm waste management area.

- M-045-92Z**     **Submit to Ecology Design for Barrier 4 in 241-U Farm**  
Due:            October 31, 2021  
Status:         On schedule.
- M-045-92AA**   **Barrier 4 in 241-U Farm Design Approved by Ecology**  
Due:            January 31, 2022  
Status:         On schedule.
- M-045-85**       **Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs**  
Due:            January 31, 2022  
Status:         On schedule.
- M-045-98**       **Submit to Ecology as a Primary Document an RFI/CMS<sup>22</sup> work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6**  
Due:            September 30, 2022  
Status:         On schedule.
- M-045-102**      **Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX PA<sup>23</sup>**  
Due:            September 30, 2022  
Status:         On schedule.
- M-045-92AB**    **Complete Construction of Barrier 4 in 241-U Farm**  
Due:            October 31, 2023  
Status:         On schedule.
- M-045-103**      **Submit to Ecology a PMR with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule**  
Due:            September 30, 2026  
Status:         On schedule.
- M-045-104**      **Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX**  
Due:            September 30, 2028  
Status:         On schedule.
- M-045-00**       **Complete Closure of All SST Farms**  
Due:            January 31, 2043  
Status:         At risk. Decision document 2016-005, signed August 22, 2016, requires this milestone to be addressed with the negotiations supporting M-062-45 Milestone.

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<sup>22</sup> RFI/CMS denotes *Resource Conservation and Recovery Act* Facility Investigation/Corrective Measure Study.

<sup>23</sup> PA denotes Performance Agreement

## Significant Past Accomplishments

- Responded to Ecology comments on RPP-RPT-62684 via letter 21-TF-000239, “Response to 20-NWP-199 from the Washington State Department of Ecology,” dated January 20, 2021. Ecology comments had been received via letter 20-NWP-199, “Department of Ecology’s (Ecology) Review Comment Record on the United States Department of Energy – Office of River Protection’s FY2019 Annual Interim Surface Barrier Monitoring Report, RPP-RPT-62684, Revision 0,” dated December 23, 2020.
- Submitted revisions and comment responses to Ecology for RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*; RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for 241-C-200 Series Tanks*; and RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*.
- Continued permitting workshops with Ecology for the SST closure plans in the Hanford Site-wide permit. The workshops are currently being conducted as teleconferences.
- Held a data quality objective meeting for defining the WMA A/AX boundary with Ecology and EPA, September 1, 2020. Held two follow-up meetings for defining the WMA A/AX boundary with Ecology on September 16 and November 3, 2020.
- Held a data quality objective sampling meeting for WMA A/AX with Ecology on September 29, 2020.
- Completed installation of change and break trailers installations, as well as construction mobilization for TX Tank Farm Barrier construction on March 11, 2021.
- Initiated subgrade modifications for TX Tank Farm Barrier construction on March 10, 2021.
- Completed southeast subgrade modifications on Tanks 241-TX-101, 241-TX-102, 241-TX-105, 241-TX-106, 241-TX-109, and 241-TX-110 for the TX Tank Farm Barrier construction on May 27, 2021.
- Continued southwest subgrade modifications on Tanks 241-TX-103, 241-TX-104, 241-TX-107, 241-TX-108, 241-TX-111, and 241-TX-112.
- Ecology approved RPP-RPT-61684, *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, Rev. 2, via letter 21-NWP-021, “Approval of *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, RPP-RPT-61684, Revision 2,” on February 3, 2021.
- Completed direct push activities for WMA A/AX Focus Area 2.
- Began direct push activities at T Tank Farm for the Tank 241-T-102 and Tank 241-T-105 investigation.
- Completed Milestone M-045-56 annual meeting on June 17, 2021. Meeting notes were approved by DOE and Ecology and are now with DOE to sign.

### Significant Planned Activities in the Next Six Months

- Resolve Ecology’s comments on RPP-RPT-59389, RPP-RPT-59390, and RPP-RPT-58858.
- Release updated TPA Appendix I Performance Assessment documents, incorporating Ecology comments as appropriate for WMA-C.
- Submit WMA A/AX Integration Study to meet Milestone M-045-97, “Submit to Ecology as a Primary Document, a Waste Management Area Integration Study for WMA A/AX, as described in HFFACO Appendix I.2.1.1.”
- Complete southwest and north subgrade modifications for TX Tank Farm Barrier construction.
- Complete TX Tank Farm Barrier protective structure installation and initiate barrier placement for TX Tank Farm Barrier construction.

### Issues

- The boundary of WMA A/AX must be defined in order to complete Milestones M-045-97 and M-045-98. In September 2020, Ecology proposed adding three areas to WMA A/AX: 1) the 244-AR Vault and 241-AR-151 diversion box; 2) the soil in the area around DST 241-AY-102; and 3) an area outside the east of Tank Farm A fence line. Meetings about the boundary for WMA A/AX continued through October 2020 and into November 2020. Work necessary to meet these two milestones has fallen behind schedule as the scope is unresolved and resources are being used to support the evaluation of Ecology’s requests. As discussions continue regarding the boundary, the DOE’s ability to complete these milestones is impacted. Additionally, if discussions yield the need to add additional areas to the WMA A/AX boundary, the milestones’ dates will also be impacted. These impacts will be addressed by DOE proposing new dates for these milestones through a TPA Change Control Form. DOE sent letter 21-TF-000513, “Waste Management Area A-AX Boundary,” to Ecology on February 18, 2021, which identified the path forward for the WMA A/AX Boundary.
- Ecology proposed (via an email from Mr. Jeff Lyon on June 17, 2020) to remove the milestone (i.e. M-045-62, “Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C”) for submittal of the CMIP, with the intent to install a final closure cap, rather than implement the planned interim barrier. Ecology’s proposal to install the final closure cap before most of the closure activities would be completed at Tank Farms 241-A, 241-AN, 241-AP, 241-AW, 241-AX, 241-AY, and 241-AZ is an issue for the following reasons:
  - Could impact retrievals and tank structural stability.
  - Could cause runoff issues for adjacent tank farms.
  - Is not consistent with the approach analyzed in DOE/EIS-0391, *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*; the record of decision (78 FR 75918, “Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland,

Washington”); and captured in the approved RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*.

DOE plans to develop the CMIP to submit to Ecology and has followed this path since RPP-RPT-59379 was approved in June 2018. DOE understands that the CMIP is the vehicle that Ecology will use to meet its TPA/HFFACO obligations in its role as lead agency, as set forth in paragraph 54 of the HFFACO legal agreement. Paragraph 54 of the HFFACO states:

DOE shall develop and submit its proposed remedial action (or corrective action) alternative following completion and approval of a Remedial Investigation and Feasibility Study (or RCRA Facility Investigation and Corrective Measures Study), in accordance with the requirements and schedules set forth in the Action Plan. If Ecology is the lead regulatory agency, it will recommend the CERCLA<sup>24</sup> remedial action(s) it deems appropriate to EPA. The EPA Administrator, in consultation with the DOE and Ecology, shall make final selection of the CERCLA remedial action(s), which shall not be subject to dispute.

Notwithstanding Ecology’s forthcoming recommendations and whether they also indicate Ecology’s position that corrective actions are not needed for the dangerous waste constituents, the EPA Administrator has sole authority to make the CERCLA remedial action decisions. DOE has not received a clearly articulated rationale for any Ecology-proposed change, or the process Ecology plans to use to recommend any remedial action(s) to the EPA and to obtain the EPA’s selection of remedial action(s). Ecology submitted a revised Change Control Form to establish WMA-C closure milestones to DOE on January 28, 2021 (21-NWP-018, “Re: Waste Management Area C (WMA C) Closure Milestones”). DOE responded to 21-NWP-018 via letter 21-TF-001798, “Receipt of Washington State Department of Ecology Letter 21-NWP-018, ‘Waste Management Area C (WMA C) Closure Milestones’,” on June 17, 2021.

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 beginning August 31, 2020. In Phase 2, the workforce that has been performing portable work via telework will generally continue to telework. The majority of the workforce performing nonportable work will return to the site to progress work activities, leveraging established COVID-19 controls.

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<sup>24</sup> CERCLA denotes the *Comprehensive Environmental Response, Compensation, and Liability Act*, 42 USC § 9601 *et seq.*

- DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.



## Single-Shell Tank Retrieval Program

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Jim Greene

**Ecology Project Manager:** Jeff Lyon

**M-045-15 Completion of Tank A-103 SST Waste Retrieval**

Due: September 30, 2022

Status: At risk.

**M-045-86 Submit Retrieval Data Report (RDR) to Ecology for 19 Tanks Retrieved Under Consent Decree**

Due: To be determined (12 months after retrieval certification).

Status: No retrieval data reports are currently underway. The next planned retrieval is Tank 241-AX-102.

**M-045-70 Complete Waste Retrieval from all Remaining Single Shell Tanks (SSTs)**

Due: December 31, 2040

Status: At risk. Decision document 2016-005, signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45 Milestone.

### Significant Past Accomplishments

- Refer to the Consent Decree monthly report.

### Significant Planned Activities in the Next Six Months

- Refer to the Consent Decree monthly report.

### Issues

- Refer to the Consent Decree monthly report.

## Tank Operations Contract Overview

Earned Value Data: Fiscal Year 2021

June-2021

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$52,394	\$56,346	\$58,498	\$3,952	(\$2,152)	1.08	0.96			
FYTD	\$421,471	\$485,952	\$511,638	\$64,481	(\$25,686)	1.15	0.95	\$629,433		
CTD	\$6,741,285	\$6,692,849	\$6,647,867	(\$48,437)	\$44,982	0.99	1.01	\$6,996,218	\$6,964,382	\$31,836

ACWP	=	actual cost of work performed	CV	=	cost variance
BAC	=	budget at completion	EAC	=	estimate at completion
BCWP	=	budgeted cost of work performed	FYTD	=	fiscal year to date
BCWS	=	budgeted cost of work scheduled	SPI	=	schedule performance index
CM	=	current month	SV	=	schedule variance
CPI	=	cost performance index	VAC	=	variance at completion
CTD	=	contract to date	WBS	=	work breakdown structure

The Earned Value Management System is intended to provide a status of how the contractor is progressing against its monthly planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

The project plan is measured by expressing the schedule in terms of dollars spread over the anticipated project duration, and then for each month, determining how much of the planned work was accomplished or “earned,” as measured in equivalent dollars. If more work is accomplished than planned, then the project is ahead of schedule and has a favorable schedule variance (SV). Similarly, if less work is accomplished, the project is behind schedule and has an unfavorable SV. Accomplished work is reported in the month it was completed, which may not be when it was planned. For example, work completed in a month earlier than planned would be reported as a favorable SV for the month in which it was completed but would be reported as an unfavorable SV in the month it was planned. The end result would be a net zero overall cumulative SV over these months. Likewise, work completed late will recover an earlier reported unfavorable SV.

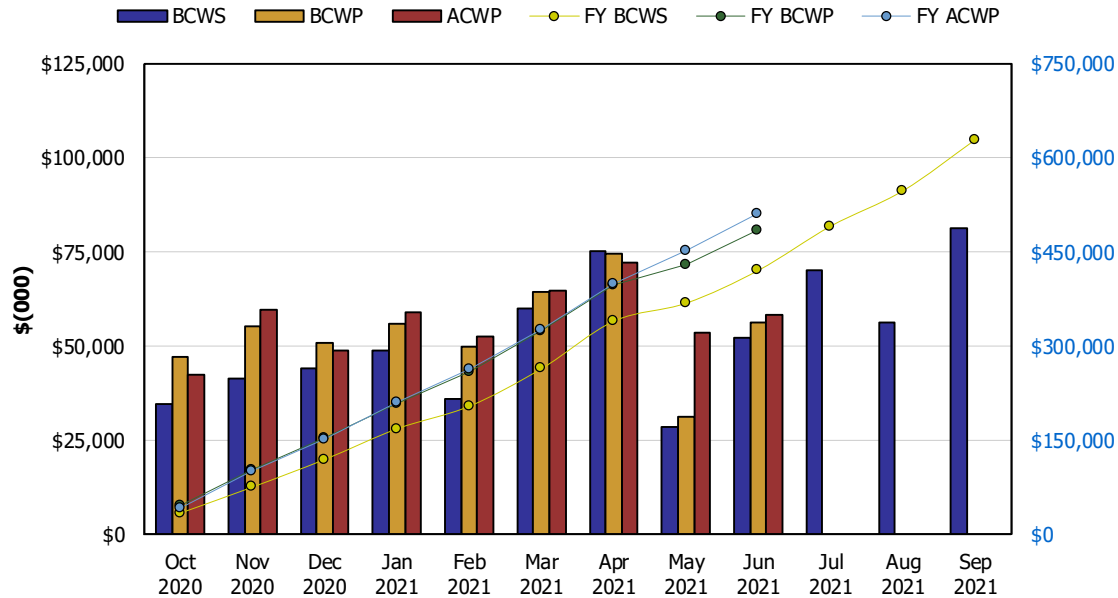
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 behind schedule [a negative or unfavorable SV: \$8,000–\$10,000 = (\$2,000)], and has cost \$1,000 more [a negative or unfavorable CV: \$8,000–\$9,000 = (\$1,000)] than was planned for completing that work scope. Likewise, a favorable or positive CV would be reported if it cost less to complete the work than the performed dollar value of the work. The SV and CV are reported for each monthly period, fiscal-year-to-date, as well as for the contract-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the FY or contract-to-date report provides a better indicator of the overall project completion status and can give a reasonable projection of how the project will finish, based on the progress-to-date.

Earned Value Data: Fiscal Year 2021

June-2021

**Tank Farms ORP-0014**  
**WBS 5 - River Protection Project**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2020	\$34,722	\$47,321	\$42,535	1.36	1.11	\$34,722	\$47,321	\$42,535	1.36	1.11
Nov 2020	\$41,528	\$55,244	\$59,604	1.33	0.93	\$76,250	\$102,565	\$102,139	1.35	1.00
Dec 2020	\$44,063	\$50,761	\$49,044	1.15	1.04	\$120,313	\$153,326	\$151,183	1.27	1.01
Jan 2021	\$48,724	\$55,964	\$59,102	1.15	0.95	\$169,037	\$209,291	\$210,285	1.24	1.00
Feb 2021	\$35,972	\$49,983	\$52,587	1.39	0.95	\$205,009	\$259,273	\$262,872	1.26	0.99
Mar 2021	\$60,039	\$64,476	\$64,635	1.07	1.00	\$265,048	\$323,749	\$327,507	1.22	0.99
Apr 2021	\$75,449	\$74,641	\$72,152	0.99	1.03	\$340,497	\$398,390	\$399,658	1.17	1.00
May 2021	\$28,579	\$31,216	\$53,482	1.09	0.58	\$369,076	\$429,606	\$453,141	1.16	0.95
Jun 2021	\$52,394	\$56,346	\$58,498	1.08	0.96	\$421,471	\$485,952	\$511,638	1.15	0.95
Jul 2021	\$70,358					\$491,828				
Aug 2021	\$56,342					\$548,170				
Sep 2021	\$81,262					\$629,432				

CTD	\$6,741,285	\$6,692,849	\$6,647,867	0.99	1.01
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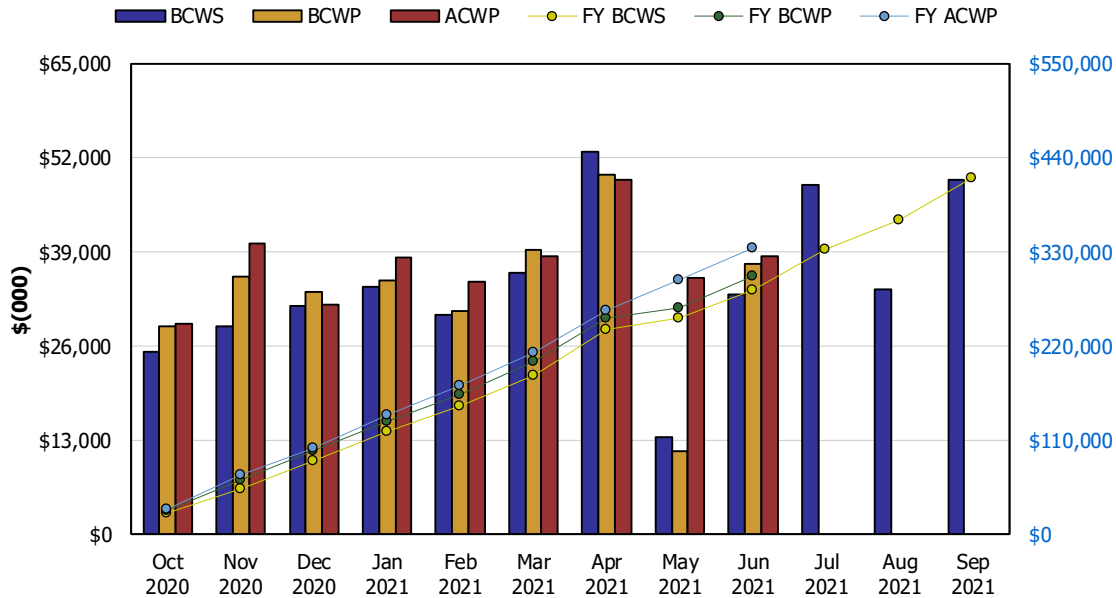
- ACWP = actual cost of work performed
- BCWP = budgeted cost of work performed
- BCWS = budgeted cost of work scheduled
- CPI = cost performance index
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

Earned Value Data: Fiscal Year 2021

June-2021

**Tank Farms ORP-0014  
WBS 5.1 - Base Operations**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2020	\$25,298	\$28,696	\$29,098	1.13	0.99	\$25,298	\$28,696	\$29,098	1.13	0.99
Nov 2020	\$28,824	\$35,687	\$40,259	1.24	0.89	\$54,123	\$64,383	\$69,358	1.19	0.93
Dec 2020	\$31,608	\$33,430	\$31,814	1.06	1.05	\$85,730	\$97,813	\$101,172	1.14	0.97
Jan 2021	\$34,177	\$35,141	\$38,270	1.03	0.92	\$119,907	\$132,954	\$139,442	1.11	0.95
Feb 2021	\$30,283	\$30,790	\$34,840	1.02	0.88	\$150,190	\$163,744	\$174,282	1.09	0.94
Mar 2021	\$36,185	\$39,317	\$38,385	1.09	1.02	\$186,375	\$203,061	\$212,667	1.09	0.95
Apr 2021	\$52,832	\$49,696	\$48,991	0.94	1.01	\$239,207	\$252,756	\$261,658	1.06	0.97
May 2021	\$13,389	\$11,528	\$35,440	0.86	0.33	\$252,595	\$264,285	\$297,098	1.05	0.89
Jun 2021	\$33,192	\$37,465	\$38,464	1.13	0.97	\$285,787	\$301,750	\$335,562	1.06	0.90
Jul 2021	\$48,346					\$334,134				
Aug 2021	\$33,809					\$367,943				
Sep 2021	\$49,066					\$417,009				

CTD	\$4,471,566	\$4,437,856	\$4,390,434	0.99	1.01
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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
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- CTD = contract to date
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- SPI = schedule performance index

**Tank Farms Assistant Manager:** Delmar Noyes  
**Technical Lead:** Ricky Bang

### 5.01 – Base Operations

The June 2021 variances below do not impact TPA milestones.

The current month **favorable** SV of \$4,273,222 was in part due to:

- Replacement of the ETF Basin Covers' favorable SV was due to schedule recovery for cover fabrication and cover removal scope that was originally planned to be completed in FY 2019.
- The 242-A Transfer Line Replacement's favorable SV was due to schedule recovery related to the 242-A wall nozzle installations. Field crews were also able to utilize two field crews to begin transfer line excavation work that was originally planned to begin in FY 2020.
- The TSCR IX Column Procurement's favorable SV was due to schedule recovery for the vendor receipt of long lead fabrication material that was originally planned in a previous period but was completed in the current period.

The current month **unfavorable** CV of (\$998,378) was primarily due to:

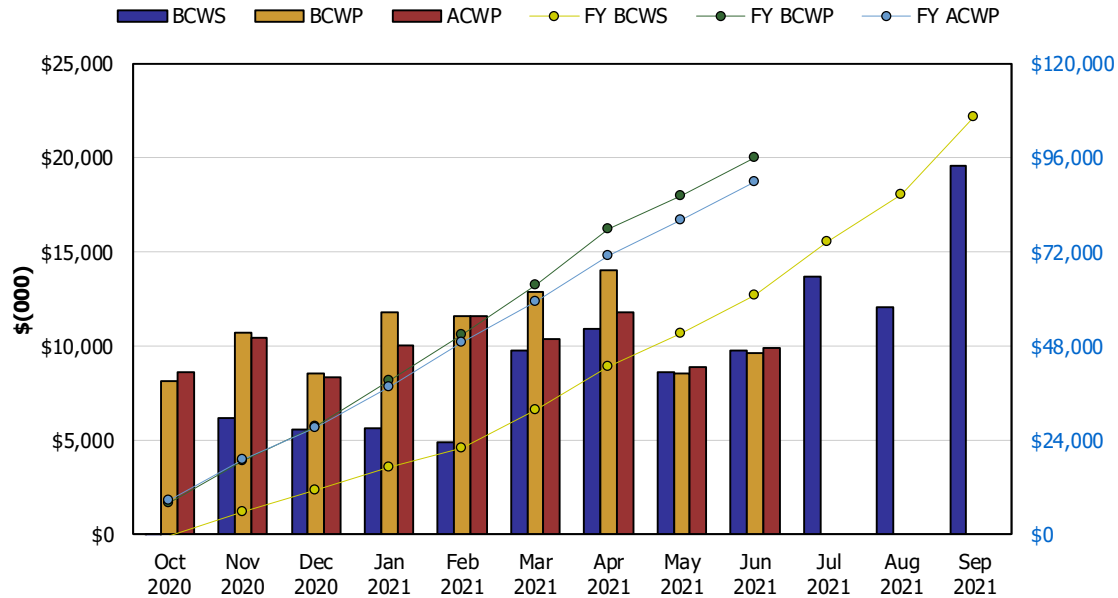
- Replacing the ETF Basin Covers' negative CV was due to radiological conditions that required more extensive controls and activities than planned to safely perform the field work. Also unexpected, record setting, high temperatures caused the need for alternate shift schedules and weekend shifts, all with associated overtime costs.
- SY Tank Farm Exhauster Upgrade Project's negative CV was due to an inability to perform the SY Exhauster Cold Operational Acceptance Test in the current period as planned, due to delays in completing the precursor Construction Acceptance Test work steps. Due to required performance of an unanticipated exhauster housing decay testing and a faulty valve actuator that delayed completion of the test, the Construction Acceptance Test completion was extended into the next reporting period. Labor resources were used to support the unexpected testing, resulting in additional labor costs that contributed to the current variance within these accounts.

Earned Value Data: Fiscal Year 2021

June-2021

**Tank Farms ORP-0014**  
**WBS 5.2 - Retrieve and Close SSTs**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2020	(\$362)	\$8,176	\$8,653	-22.56	0.94	(\$362)	\$8,176	\$8,653	-22.56	0.94
Nov 2020	\$6,177	\$10,692	\$10,435	1.73	1.02	\$5,815	\$18,867	\$19,088	3.24	0.99
Dec 2020	\$5,605	\$8,581	\$8,335	1.53	1.03	\$11,419	\$27,448	\$27,423	2.40	1.00
Jan 2021	\$5,647	\$11,788	\$10,078	2.09	1.17	\$17,066	\$39,236	\$37,501	2.30	1.05
Feb 2021	\$4,925	\$11,619	\$11,594	2.36	1.00	\$21,991	\$50,855	\$49,094	2.31	1.04
Mar 2021	\$9,764	\$12,911	\$10,381	1.32	1.24	\$31,755	\$63,766	\$59,475	2.01	1.07
Apr 2021	\$10,948	\$14,033	\$11,795	1.28	1.19	\$42,702	\$77,799	\$71,270	1.82	1.09
May 2021	\$8,631	\$8,585	\$8,910	0.99	0.96	\$51,333	\$86,384	\$80,181	1.68	1.08
Jun 2021	\$9,794	\$9,628	\$9,878	0.98	0.97	\$61,127	\$96,012	\$90,058	1.57	1.07
Jul 2021	\$13,679					\$74,806				
Aug 2021	\$12,081					\$86,887				
Sep 2021	\$19,597					\$106,484				

CTD	\$1,278,938	\$1,272,219	\$1,321,320	0.99	0.96
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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
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

***Tank Farms Assistant Manager:*** Delmar Noyes  
***Technical Lead:*** Becky Blackwell  
Jim Greene

### **5.02 – Retrieve and Close Single-Shell Tanks**

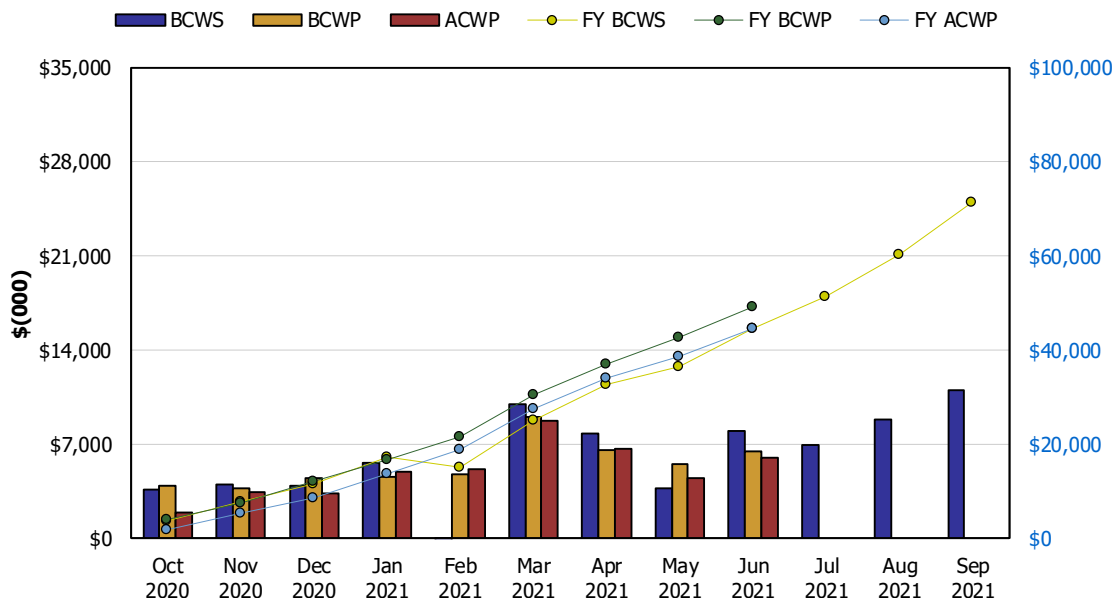
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2021

June-2021

**Tank Farms ORP-0014**  
**WBS 5.3 - WFD/Treatment Plng/DST Retrieval/Closure**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2020	\$3,681	\$3,941	\$1,894	1.07	2.08	\$3,681	\$3,941	\$1,894	1.07	2.08
Nov 2020	\$4,020	\$3,738	\$3,418	0.93	1.09	\$7,701	\$7,679	\$5,312	1.00	1.45
Dec 2020	\$3,905	\$4,496	\$3,380	1.15	1.33	\$11,606	\$12,175	\$8,692	1.05	1.40
Jan 2021	\$5,597	\$4,594	\$4,988	0.82	0.92	\$17,202	\$16,769	\$13,680	0.97	1.23
Feb 2021	(\$2,139)	\$4,822	\$5,144	-2.25	0.94	\$15,063	\$21,590	\$18,824	1.43	1.15
Mar 2021	\$9,994	\$8,998	\$8,723	0.90	1.03	\$25,057	\$30,588	\$27,547	1.22	1.11
Apr 2021	\$7,787	\$6,593	\$6,628	0.85	0.99	\$32,843	\$37,181	\$34,175	1.13	1.09
May 2021	\$3,760	\$5,522	\$4,467	1.47	1.24	\$36,603	\$42,703	\$38,642	1.17	1.11
Jun 2021	\$7,974	\$6,509	\$5,963	0.82	1.09	\$44,577	\$49,213	\$44,605	1.10	1.10
Jul 2021	\$6,941					\$51,518				
Aug 2021	\$8,896					\$60,414				
Sep 2021	\$11,071					\$71,485				

CTD	\$699,451	\$693,466	\$641,444	0.99	1.08
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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
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index



***Tank Farms Assistant Manager:*** Delmar Noyes  
***Federal Program Manager:*** Brian Harkins

### **5.03 – Waste Feed Delivery/Treatment**

The June 2021 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$1,464,559) was primarily due to:

- WTP Transition Support's negative SV was due to the award of the LAWMAST Facility Upgrades being later than originally planned. This was primarily due to delays in obtaining the required supporting information from the construction subcontractor.

The current month **favorable** CV of \$546,121 was primarily due to:

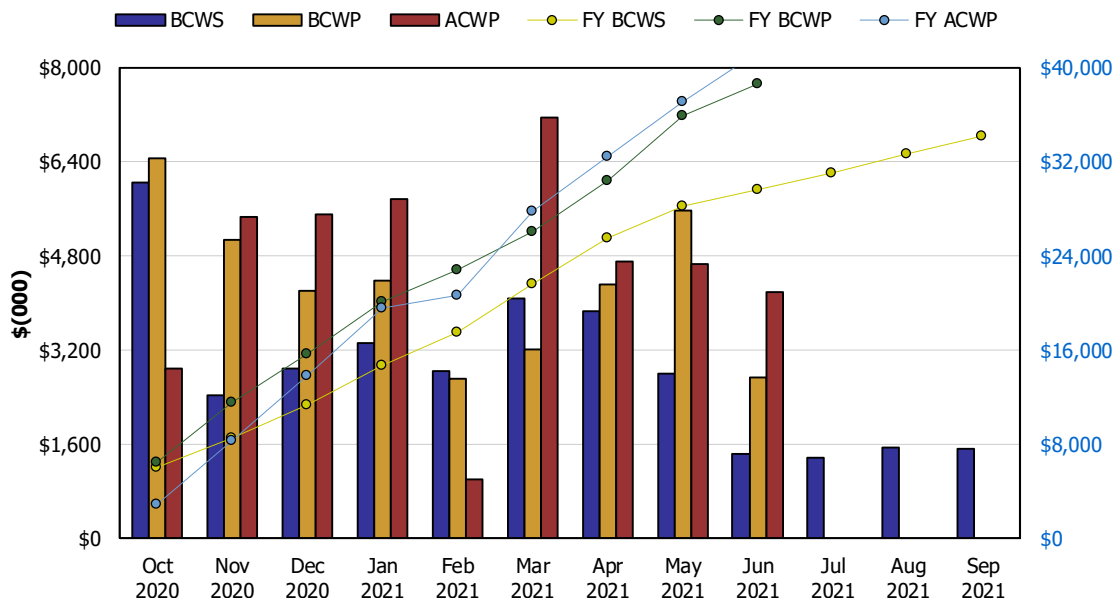
- WTP Transition Support's favorable current month CV was primarily due to LAWMAST Phase II scope completing with fewer resources than planned, as well as procuring the construction subcontractor at a lower value than initially proposed by the vendor.

Earned Value Data: Fiscal Year 2021

June-2021

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

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2020	\$6,053	\$6,465	\$2,900	1.07	2.23	\$6,053	\$6,465	\$2,900	1.07	2.23
Nov 2020	\$2,441	\$5,073	\$5,471	2.08	0.93	\$8,494	\$11,538	\$8,371	1.36	1.38
Dec 2020	\$2,890	\$4,207	\$5,511	1.46	0.76	\$11,384	\$15,745	\$13,882	1.38	1.13
Jan 2021	\$3,313	\$4,391	\$5,762	1.33	0.76	\$14,697	\$20,136	\$19,645	1.37	1.03
Feb 2021	\$2,851	\$2,710	\$1,003	0.95	2.70	\$17,548	\$22,845	\$20,648	1.30	1.11
Mar 2021	\$4,079	\$3,221	\$7,163	0.79	0.45	\$21,628	\$26,066	\$27,811	1.21	0.94
Apr 2021	\$3,874	\$4,309	\$4,720	1.11	0.91	\$25,502	\$30,375	\$32,531	1.19	0.93
May 2021	\$2,792	\$5,573	\$4,660	2.00	1.20	\$28,294	\$35,949	\$37,191	1.27	0.97
Jun 2021	\$1,428	\$2,737	\$4,186	1.92	0.65	\$29,722	\$38,686	\$41,376	1.30	0.93
Jul 2021	\$1,383					\$31,105				
Aug 2021	\$1,549					\$32,654				
Sep 2021	\$1,517					\$34,171				

CTD	\$267,646	\$265,684	\$273,075	0.99	0.97
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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
- CM = current month
- CTD = contract to date
- FY = fiscal year
- SPI = schedule performance index

***Tank Farms Assistant Manager:*** Delmar Noyes  
***Federal Program Manager:*** Brian Harkins

### **5.05 – Treat Waste**

The June 2021 variances below do not impact TPA milestones.

The current month **favorable** SV of \$1,282,500 was primarily due to:

- Schedule recovery of LAW Feed activities, TSCR Infrastructure fieldwork activities, and the High Solids Filter Testing.

The current month **unfavorable** CV of (\$1,482,800) was primarily due to:

- Additions to the construction subcontract as a result of field issues discovered during installation and schedule recovery via overtime shifts.
- Additional direct labor to compile readiness check documentation and resolve non-conformance reports.

**Table 1 Administrative Record Metadata**

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA
M-045-15	Completion of Tank A-103 SST Waste Retrieval
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I
M-045-15D	Exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92AA	Barrier 4 Design Approved by Ecology
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm
M-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-062-45	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones

Milestone Number or Facility Identification	Title
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types
M-062-52-T01	Submit to Ecology, a Secondary Solid Waste Disposition Work Plan as a Primary Document
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste
M-062-53A	Achieve Substantial Completion of EMF Construction
S-2-3	Double-Shell Tank System (DST)
S-2-4	Single-Shell Tank System (SST)
S-2-8	Liquid Effluent Retention Facility (LERF)
T-2-6	242-A Evaporator
T-2-8	Effluent Treatment Facility (ETF)
TS-2-8	Low-Activity Waste Pretreatment System (LAWPS)

CD	=	critical decision	PMR	=	Permit Modification Request
DFLAW	=	Direct-Feed Low-Activity Waste	RCRA	=	<i>Resource Conservation and Recovery Act</i>
DOE	=	U.S. Department of Energy	SST	=	single-shell tank
Ecology	=	Washington State Department of Ecology	TSCR	=	Tank-Side Cesium Removal
EMF	=	Effluent Management Facility	WMA	=	waste management area
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order</i>	WTP	=	Waste Treatment and Immobilization Plant
PA	=	Performance Agreement			