

# Office of River Protection Consent Decree Monthly Report

## Monthly Reporting Period

November 1–November 30, 2021<sup>1</sup>

**Consent Decree, *State of Washington v. Dept. of Energy*,**  
No: 08-5085-FVS (October 25, 2010)

**Amended Consent Decree, *State of Washington v. Dept. of Energy*,**  
No: 2:08-CV-5085-RMP (March 11, 2016)

**Second Amended Consent Decree, *State of Washington v. Dept. of Energy*,**  
No: 2:08-CV-5085-RMP (April 12, 2016)

**Third Amended Consent Decree, *State of Washington v. Dept. of Energy*,**  
No: 2:08-CV-5085-RMP (October 12, 2018)<sup>2</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 October 2021.

<sup>2</sup> The consent decrees listed above are between the State of Washington and U.S. Department of Energy. For the first three of these decrees, there are similar separate decrees with the State of Oregon.

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## Acronyms and Abbreviations

AoA	analysis of alternatives
BNI	Bechtel National, Inc.
BOF	Balance of Facilities
COVID-19	coronavirus disease 2019
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
HLW	High-Level Waste (Facility)
LAB	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LBL	Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
PT	Pretreatment (Facility)
WTP	Waste Treatment and Immobilization Plant

**Consent Decree Milestone Statistics/Status**

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>Completion Date</b>	<b>Status</b>
<b>Fiscal Year 2021</b>				
D-00A-07 Interim	LAW Facility Construction Substantially Complete	TBD <sup>1</sup>		Complete
D-16B-03	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank waste in at least 5	TBD <sup>1,2</sup>		On Schedule
<b>Fiscal Year 2023</b>				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	TBD <sup>1</sup>		On Schedule
<b>Fiscal Year 2024</b>				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	TBD <sup>1</sup>		On Schedule
<b>Fiscal Year 2026</b>				
D-16B-02	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106. AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3 DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly	TBD <sup>1,2</sup>		On Schedule / Under Analysis <sup>3</sup>
<b>Fiscal Year 2031</b>				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		At Risk <sup>4</sup>
<b>Fiscal Year 2032</b>				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031		At Risk <sup>4</sup>
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		At Risk <sup>4</sup>
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		At Risk <sup>4</sup>
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		At Risk <sup>4</sup>

Milestone	Title	Due Date	Completion Date	Status
D-00A-06 Interim	Complete Methods Validations	06/30/2032		On Schedule
<b>Fiscal Year 2033</b>				
D-00A-15 Interim	Start PT Facility Cold Commissioning	12/31/2032		At Risk <sup>4</sup>
<b>Fiscal Year 2034</b>				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		At Risk <sup>4</sup>
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		At Risk <sup>4</sup>
D-00A-17	Hot Start of WTP	12/31/2033		At Risk <sup>4</sup>
<b>Fiscal Year 2037</b>				
D-00A-01	Achieve Initial Plant Operations for the WTP	12/31/2036		At Risk <sup>4</sup>

<sup>1</sup> On December 10, 2020, the United States District Court, Eastern District of Washington issued an order modifying the Amended Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-05085-RMP on the basis that COVID-19 constitutes a force majeure event. The order established a method for calculating an extension of the B-2, B-3, A-7, A-8, and A-9 milestones in order to offset work interruptions due to COVID-19.

<sup>2</sup> Third Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (October 12, 2018).

<sup>3</sup> As discussed in the joint motion to amend the Consent Decree filed on October 1, 2018, DOE is engaged in ongoing analysis of non-vapors-related retrieval challenges and tank condition issues associated with tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone). These issues are under analysis, and could require issuance of a “serious risk” notice or another request for amendment of the Consent Decree (including the B-2 Milestone). DOE met with Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of tanks A-104 and A-105. Since August 2018, DOE has had several discussions with Ecology on this topic.

<sup>4</sup> 19-ORP-0007, 2019, “Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085),” (external letter to M.D. Bellon, Washington State Department of Ecology), from B.T. Vance, U.S. Department of Energy, Richland, Washington, September 4.

COVID-19 = coronavirus disease 2019.

PT = pretreatment.

DOE = U.S. Department of Energy.

SST = single-shell tank.

Ecology = Washington State Department of Ecology.

TBD = to be determined.

HLW = high-level waste.

WTP = Waste Treatment and Immobilization Plant.

LAW = low-activity waste.

## **Consent Decree Reports/Reviews**

### **D-16C-03 series, Submit to State of Washington and State of Oregon Quarterly Report**

Due: Forty-five days following each calendar year quarter (February 14, May 15, August 14, and November 14).

Status: On Schedule.

### **D-00C-02 series, Submit to State of Washington and State of Oregon Monthly Summary Reports**

Due: End of each month.

Status: On Schedule.

### **D-006-00-B1, Provide State of Oregon notice of meetings in D-006-00-B, etc. no less than 30 days before they are scheduled**

Due: See below.

Status: On Schedule.

### **D-006-00-B, Meet Approximately Every Three Years after Entry of Decree to review requirements of the Consent Decree**

Due: Approximately 3 years from March 16, 2020.

Status: On Schedule.

### **D-16E-01, DOE must purchase by December 31, 2016 a spare E-A-1 reboiler for the 242-A Evaporator**

Due: December 31, 2016.

Status: Complete (November 15, 2016).

### **D-16E-02, Have available spare E-A-1 reboiler for the 242-A Evaporator**

Due: December 31, 2018.

Status: Complete (May 8, 2018).

## Single-Shell Tank Retrieval Program

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Jim Greene

Milestone	Title	Due Date	Status
D-16B-03	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank waste in at least five	TBD <sup>1,2</sup>	On Schedule
D-16B-01	Complete retrieval of tank waste from the following remaining SSTs in WMA-C: C-102, C-105, and C-111	03/31/2024	Complete
D-16B-02	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106, AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3 DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly	TBD <sup>1,2</sup>	On Schedule / Under Analysis <sup>3</sup>

<sup>1</sup> Third Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (October 12, 2018).

<sup>2</sup> On December 10, 2020, the United States District Court, Eastern District of Washington issued an order modifying the Amended Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-05085-RMP on the basis that COVID-19 constitutes a force majeure event. The order established a method for calculating an extension of the B-2, B-3, A-7, A-8, and A-9 milestones in order to offset work interruptions due to COVID-19.

<sup>3</sup> As discussed in the joint motion to amend the Consent Decree filed on October 1, 2018, DOE is engaged in ongoing analysis of non-vapors-related retrieval challenges and tank condition issues associated with tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone). These issues are under analysis, and could require issuance of a “serious risk” notice or another request for amendment of the Consent Decree (including the B-2 Milestone). DOE met with Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of tanks A-104 and A-105. Since August 2018, DOE has had several discussions with Ecology on this topic.

COVID-19 = coronavirus disease 2019.

SST = single-shell tank.

DOE = U.S. Department of Energy.

TBD = to be determined.

Ecology = Washington State Department of Ecology.

WMA-C = C Tank Farm waste management area.

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, region, and the environment.

On May 20, 2020, the U.S. Department of Energy (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 continued and targeted mobilization and low-risk workscope, such as

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

On May 21, 2020, the Department of Justice, on behalf of DOE, sent a letter to the Washington State Office of the Attorney General with a proposal to amend the Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.). The proposal included schedule extensions due to force majeure events associated with the COVID-19 pandemic.<sup>3</sup>

The Hanford Site transitioned to Phase 2 beginning on August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce whose work was not portable returned to the site incrementally through September 30, 2020, to progress work activities leveraging established COVID-19 controls.

On December 9, 2020, DOE and the state of Washington filed a joint motion to amend the Consent Decree, and on December 10, 2020, the United States District Court, Eastern District of Washington issued an order modifying the Amended Consent Decree in *State of Washington v. Brouillete, et al.* on the basis that COVID-19 constitutes a force majeure event. The order established a method for calculating an extension of the B-2, B-3, A-7, A-8, and A-9 milestones to offset work interruptions due to COVID-19. DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information and COVID-19 potential impacts to the Consent Decree and if other actions may be necessary.

Since March 24, 2020, when moving to the essential mission-critical operations posture due to COVID-19 concerns, the site has experienced numerous impacts related to COVID-19-based restrictions or requirements.

The following highlights some examples of tank farm impacts continuing or having occurred in November 2021:

- The completion of the new AY tent, an action to establish additional space for social distancing in support of A and AX Tank Farm operations, was delayed due to COVID-19 related supply chain delays.
- Continuing COVID-19 impacts:
  - COVID-19 controls implemented for the health and safety of the workforce continued to have efficiency consequences for prejob briefings, donning/doffing durations, and in-farm work area ingress/egress access. Additional trailers were installed to mitigate inefficiencies while continuing to ensure social distancing objectives were met.

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<sup>3</sup> ENV\_DEFENSE-#919846, 2020, "Proposal to Amend Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.), Due to *Force Majeure* Event," (external letter to A.A. Fitz, Office of the Attorney General, Ecology Division), from A.D. Saylor, C.H. Kolman, and S. Shea, United States Department of Justice, Environmental Defense Section, Washington, D.C., May 21.



**Significant Accomplishments during the Prior Month:**Completed Accomplishments:

- Completed setting of electrical rack POR580, hydraulic power units POR632, and POR636 at Tank A-101 in support of the electrical upgrades for the retrieval system
- Completed setting of electrical rack POR650 at AP01A in support of the electrical upgrades for the decant and retrieval systems.

Ongoing Activities:

- Continued retrieval of Tank AX-103 waste. The waste volume retrieved through November was approximately 102,000 gallons of waste or 91 percent.
- Continued preparation of Tank AX-104 third retrieval technology practicability evaluation.
- Continued A Tank Farm equipment removal activities in preparation for new retrieval equipment installation.
- Continued the A Tank Farm electrical infrastructure installation.
- Continued installation of new A/AX/AY Tank Farm access control tent to mitigate COVID-19 social distancing impacts.

**Significant Planned Activities in the Next Month:**

- Place electrical rack POR650 and hydraulic power units POR388 and POR473 at AP01A.

**Issues:**

- Work restrictions related to the COVID-19 pandemic are expected to continue into the next reporting period.
- DOE is engaged in ongoing analysis of challenges and condition issues associated with the retrievals of tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone).<sup>4</sup> These issues are under analysis and could require issuance of a “serious risk” notice or another request for amendment of the Consent Decree (including the B-2 Milestone).
- The as-found condition of existing abandoned equipment in AX and A tank farms has affected DOE’s ability to remove the equipment efficiently; therefore, negative impacts to the cost and schedule are being realized.
  - Removal of Tank A-103 riser 2 thermocouple required a duration of 209 days (planned 83 days) to complete. The lower section of the thermocouple was damaged

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<sup>4</sup> The U.S. Department of Energy met with the Washington State Department of Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of Tanks A-104 and A-105. The U.S. Department of Energy has had several discussions with the Washington State Department of Ecology on this topic since August 2018.

- and could not be removed. Unique tooling was required to lower the remaining section to the tank bottom.
- Removal of Tank A-101 riser 2 thermocouple required the top sections to be removed in two sections and the remaining third section to be lowered to the tank bottom. This activity was originally planned for 83 days, but the actual duration was 235 days.
  - Removal of Tank A-106 riser 2 thermocouple was removed in sections, with the lower section left in the tank. Removal of the thermocouple was planned for 113 days, but required 246 days.
  - A stuck shield plug in Tank A-101 01C Pit required an alternative method (i.e., core drilling) to tie in the ventilation system. Removal of the shield plug was expected to require 12 days, but was completed in 31 days.
  - A stuck shield plug in Tank AX-102 02B Pit prevented the installation of the planned third extended reach sluicer system. Eighty days were expended (planned 12 days) on the attempts to remove the plug, until it was decided the plug could not be removed and to retrieve Tank AX-102 with two extended reach sluicer systems.
- On April 18, 2019, the Washington State Department of Ecology (Ecology) provided a notice of incompleteness determination for the A and AX tank farms (19-NWP-063). DOE provided a response on May 14, 2019 (19-ECD-0038), which set forth how the original application met the regulations and asked Ecology to continue processing the application. DOE submitted a revised application on October 31, 2019 (19-ECD-0080), to provide supplemental information to address Ecology's comments. A revised application to address additional Ecology comments has been prepared for submission following resolution of the ambient air boundary and modeling conditions. DOE is holding the revised permit to support site priorities and enable Ecology to complete processing air permits to limit further schedule impacts to site cleanup activities.

## Tank Waste Retrieval Work Plan Status

*Tank Farms Assistant Manager:* Delmar Noyes

*Federal Program Manager:* Jim Greene

Tank	TWRWP	Expected Revisions	Retrieval Technology		
			First	Second	Third
AX-101	RPP-RPT-58932, Rev. 1	Complete	Sluicing with ERSS	High-pressure water deployed with ERSS	–
AX-102	RPP-RPT-58933, Rev. 1	Complete	Sluicing with ERSS	High-pressure water deployed with ERSS	–
AX-103	RPP-RPT-58934, Rev. 1	Complete	Sluicing with ERSS	High-pressure water deployed with ERSS	–
AX-104	RPP-RPT-58935, Rev. 1	Complete	Sluicing with ERSS	High-pressure water deployed with ERSS	–

ERSS = extended reach sluicer system.

TWRWP = tank waste retrieval work plan.

### Significant Accomplishments during the Prior Month:

- None.

### Significant Planned Activities in the Next Month:

- Continue drafting the Tank A-101 tank waste retrieval work plan.

### Issues:

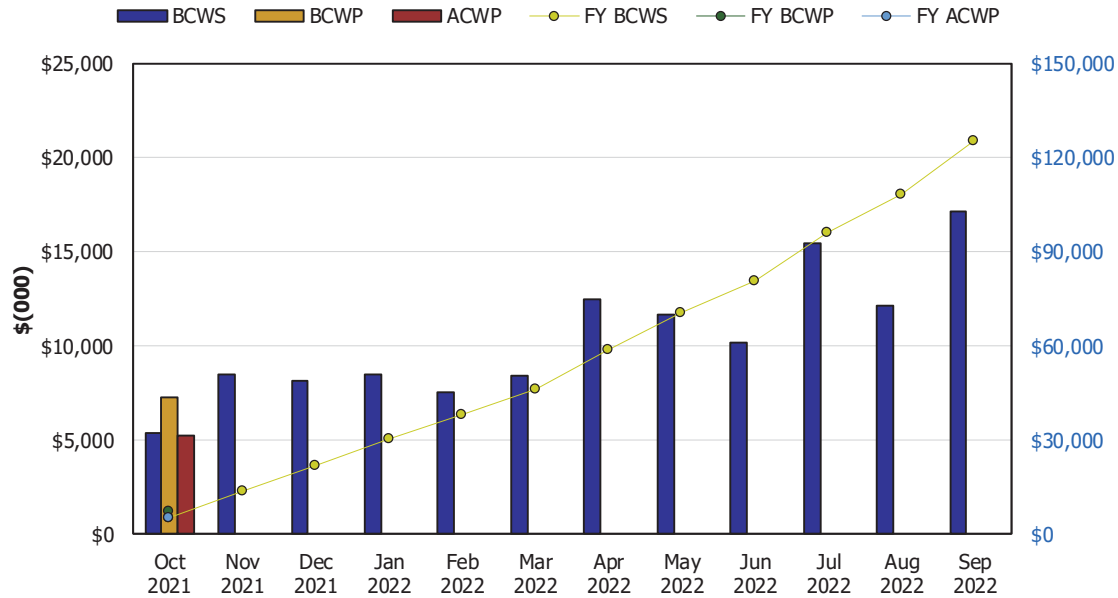
- None.

Earned Value Data: Fiscal Year 2022

October-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 2021	\$5,352	\$7,278	\$5,214	1.36	1.40	\$5,352	\$7,278	\$5,214	1.36	1.40
Nov 2021	\$8,477					\$13,830				
Dec 2021	\$8,136					\$21,966				
Jan 2022	\$8,460					\$30,425				
Feb 2022	\$7,518					\$37,943				
Mar 2022	\$8,449					\$46,392				
Apr 2022	\$12,462					\$58,854				
May 2022	\$11,641					\$70,495				
Jun 2022	\$10,167					\$80,662				
Jul 2022	\$15,463					\$96,125				
Aug 2022	\$12,132					\$108,257				
Sep 2022	\$17,147					\$125,403				

CTD	\$1,332,102	\$1,327,884	\$1,370,251	1.00	0.97
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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.     |

**Retrieve and Close Single-Shell Tanks (5.02)<sup>5</sup>**

The October favorable schedule variance of \$1.93 million was primarily due to the following:

- Schedule performance recovery for completion of cover block removal and preparation for disposal at Tank A-106 B Pit and Tank A-102 B Pit
- Schedule performance recovery for work on the AY Tank Farm change tent installation and relocation of the vapor boundary fence for AY Tank Farm
- Ahead of schedule progress on the rotary core system fabrication and component testing
- Schedule performance recovery for completion of equipment removal from Tank AP-101 A Pit and demobilization
- Schedule performance recovery for completion of the TX Tank Farm interim surface barrier demobilization.

The October favorable cost variance of \$2.06 million was primarily due to the following:

- Accrual adjustments to the TX Tank Farm interim surface barrier and the Tank Dome Core Cutting System Development contracts.
- Efficiencies from better than anticipated field conditions during foam and lead removal at four tank pits within A Tank Farm led to decreased durations than what was planned for the work.
- Timecard changes and subcontractor accrual adjustments for time that had been forecasted for A/AX Tank Farm common upgrades support the last 2 weeks of fiscal year 2021 as directed by Washington River Protection Solutions LLC Finance organization.

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<sup>5</sup> “Closure” activities are expressly excluded from the Consent Decree. See 2010 Consent Decree, Appendix C, first paragraph: “Processes not covered by a TWRWP (e.g., tank closure) are not established under this Consent Decree.”

## Waste Treatment and Immobilization Plant Project

*Federal Project Director:* Tom Fletcher

*Deputy Federal Project Director:* Mat Irwin

Milestone	Title	Due Date	Status
D-00A-06	Complete Methods Validations	06/30/2032	On Schedule
D-00A-17	Hot Start of Waste Treatment Plant	12/31/2033	At Risk <sup>1</sup>
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2036	At Risk <sup>1</sup>

<sup>1</sup> 19-ORP-0007, 2019, “Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085),” (external letter to M.D. Bellon, Washington State Department of Ecology), from B.T. Vance, U.S. Department of Energy, Richland, Washington, September 4.

WTP = Waste Treatment and Immobilization Plant.

The Waste Treatment and Immobilization Plant (WTP) Project continues to focus on completion of the Low-Activity Waste (LAW) Facility, Balance of Facilities (BOF), and Analytical Laboratory (LAB) (collectively referred to as LBL, including direct-feed low-activity waste [DFLAW] and LBL facility services).

As of October 2021, DFLAW modifications for the WTP Project were 100 percent complete, engineering design was 100 percent complete, procurement was 100 percent complete, and construction was 100 percent complete. As of October 2021, total facilities within LBL were 89 percent complete, engineering design was 100 percent complete, procurement was 98 percent complete, construction was 100 percent complete, and startup and commissioning was 71 percent complete.

In December 2020, Bechtel National, Inc. (BNI) performed a rebaseline of DFLAW and established a new Performance Measurement Baseline for the remaining activities. The rebaseline was done to ensure that the Performance Measurement Baseline represents the current work execution strategy. This allows better performance monitoring and management actions towards meeting the DFLAW milestones. The rebaseline also incorporated the following:

- Impacts from the partial stop work order for COVID-19 (incurred to-date) and some potential upcoming costs related to cleaning and sanitization
- Key corrective actions resulting from the June 2019 earned value management system surveillance.

DOE has completed its independent review of the rebaseline and BNI has incorporated the recommendations. Currently, it is in the process of formal DOE approval.

In 2018, at DOE’s request, the U.S. Army Corps of Engineers conducted a parametric analysis of options and funding scenarios to evaluate the likelihood of achieving certain milestones established by the Amended Consent Decree for the High-Level Waste (HLW) and Pretreatment (PT) facilities. The analysis indicated a low probability that DOE could meet construction and commissioning milestones for these facilities as established by the Amended Consent Decree

under the current funding profile. The DOE Office of Project Management subsequently conducted an independent assessment of the U.S. Army Corps of Engineers report.

Based on the review, on September 4, 2019, DOE notified Ecology that there was a serious risk DOE may be unable to meet milestones for the HLW and PT facilities in the Amended Consent Decree.<sup>6</sup> The notification stated:

... it is appropriate, out of an abundance of caution, to provide this notice of serious risk as described in the Amended Consent Decree ... Specifically, the Department is providing notice of a “serious risk ... that DOE may be unable to meet” Milestones A-1 and A-17 (Waste Treatment Plant), Milestones A-2 to A-4 (HLW Facility), and A-13 to A-16 and A-19 (PT Facility) of that Decree. With respect to the “preliminary recovery plan” required by the Amended Consent Decree, completion of the AoA is the first and most critical aspect of that plan. The steps that follow the completion of the AoA will be determined based on the final report’s conclusions and the Department’s consultations with Ecology.<sup>7</sup>

Pursuant to Section IV-C-3(b) of the Amended Consent Decree<sup>8</sup>, as requested by Ecology in a letter dated September 25, 2019, DOE staff met with Ecology on October 16, 2019, to answer questions Ecology had concerning the serious risk as well as to discuss mitigation options, cooperative solutions, and problem-solving opportunities.

DOE set up the WTP HLW Treatment Analysis of Alternatives (AoA) contractor team in June 2019. The purpose of the AoA is to identify and evaluate a broad set of alternatives to meet the mission need; analyze the life-cycle cost, schedule, and risks associated with each alternative; and present the evaluation results to DOE leadership, pursuant to the requirements of DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. DOE and Ecology staff have been participating in the AoA team plans, discussions, and review of reports. DOE approved the *Waste Treatment and Immobilization Plant High-Level Waste Treatment Analysis of Alternatives Study Plan* (Rev. 3). The study plan was updated to incorporate comments from Steering Committee members to include the method, approach, and schedule to be used in conducting an independent AoA for the identified mission need.

The AoA team drafted the *Waste Treatment and Immobilization Plant High-Level Waste Treatment Analysis of Alternatives Final Report*, and submitted it to Ecology for review and comment. Ecology was provided 10 days to review the report. Rather than provide detailed comments, Ecology communicated some “significant” broader concerns via a letter (20-NWP-107, dated June 11, 2020) to Tom Fletcher. On August 3, 2020, DOE sent a letter to Ecology (20-ORP-0015) providing additional time to provide comments, but Ecology deferred to comment. In October 2020, the AoA Steering Committee directed that an additional alternative be analyzed during the AoA process. In November 2020, DOE briefed Ecology on the status of

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<sup>6</sup> 19-ORP-0007, 2019, “Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085).”

<sup>7</sup> Footnotes 3 and 4 were omitted from this quote.

<sup>8</sup> *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016).



the AoA. In December 2020, the AoA team began working on the new alternative. The final draft of the AoA is in comment resolution.

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

On May 21, 2020, the Department of Justice, on behalf of DOE, sent a letter to the Washington State Office of the Attorney General with a proposal to amend the Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.). The proposal included schedule extensions due to force majeure events associated with the COVID-19 pandemic.<sup>9</sup>

The Hanford Site transitioned to Phase 2 beginning on August 31, 2020, which remobilized Building Trades back into the field with the majority of nonmanual workers continuing to telework to the degree workscope allows.

On December 9, 2020, DOE and the state of Washington filed a joint motion to amend the Consent Decree, and on December 10, 2020, the United States District Court, Eastern District of Washington issued an order modifying the Amended Consent Decree in *State of Washington v. Brouillete, et al.* on the basis that COVID-19 constitutes a force majeure event. The order established a method for calculating an extension of the B-2, B-3, A-7, A-8, and A-9 milestones to offset work interruptions due to COVID-19. DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information and COVID-19 potential impacts to the Consent Decree, and if other actions may be necessary.

Since March 24, 2020, when moving to the essential mission-critical operations posture due to COVID-19 concerns, the site has experienced numerous impacts related to COVID-19-based restrictions or requirements.

The following highlights some examples of WTP impacts continuing or having occurred in November 2021:

- Continuing COVID-19 impacts:
  - Engineering and management personnel continued to primarily work remotely. Communications through remote means, such as the use of meeting software and

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<sup>9</sup> ENV\_DEFENSE-#919846, 2020, "Proposal to Amend Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.), Due to *Force Majeure* Event," external letter to A.A. Fitz, Office of the Attorney General, Ecology Division from A.D. Saylor, C.H. Kolman, and S. Shea, United States Department of Justice, Environmental Defense Section, Washington, D.C., May 21.



electronic devices, are not as efficient as traditional face-to-face communications and slowed the resolution of issues that arose.

- COVID-19 facility cleaning/decontamination protocols contributed to minor delays.

**Significant Accomplishments during the Prior Month:**

- Significant accomplishments during the prior month are noted in project reports for the PT Facility, HLW Facility, LAW Facility, BOF, and LAB.

**Significant Planned Activities for the Next Month:**

- Significant planned activities in the reporting period are noted in project reports for the PT Facility, HLW Facility, LAW Facility, BOF, and LAB.

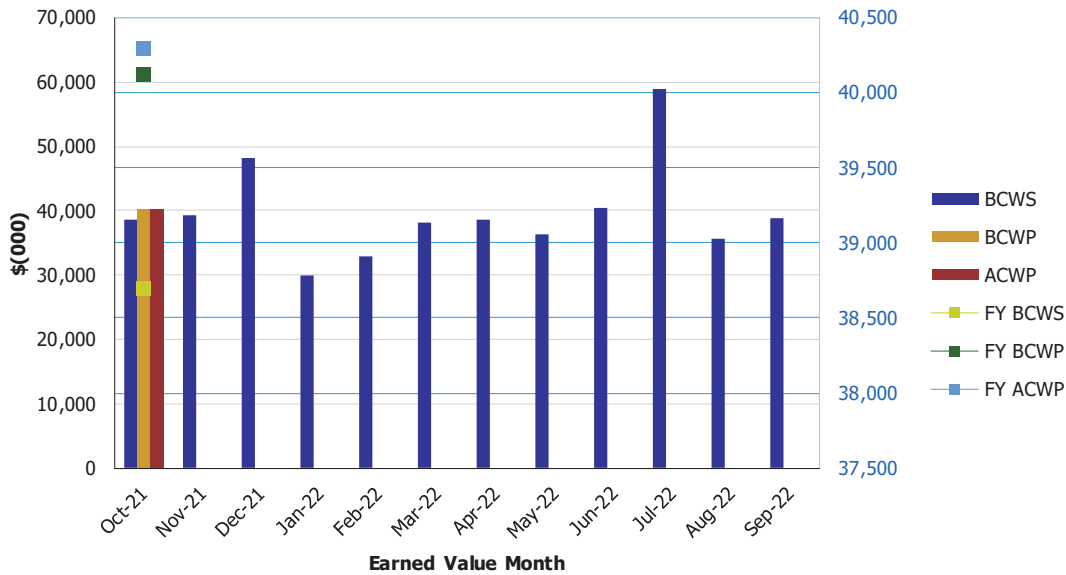
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

#### River Protection Project Waste Treatment Plant (WTP) Project

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 2021	\$38,696	\$40,119	\$40,298	1.04	1.00	\$38,696	40,119	40,298	1.04	1.0
Nov 2021	\$39,329									
Dec 2021	\$48,219									
Jan 2022	\$29,919									
Feb 2022	\$32,899									
Mar 2022	\$38,218									
Apr 2022	\$38,569									
May 2022	\$36,336									
Jun 2022	\$40,426									
Jul 2022	\$58,839									
Aug 2022	\$35,713									
Sep 2022	\$38,832									

PTD	\$13,003,610	\$12,989,216	\$12,927,011	1.00	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.
- EVMS = earned value management system.
- FY = fiscal year.
- PTD = project to date.
- SPI = schedule performance index.

## Project Schedule and Cost Variance Performance (\$x1,000)

Performance Tracking	SV	CV
Current Period (October 2021)	\$1,423	(\$179)
Fiscal Year 2022 to-date	\$1,423	(\$179)
Cumulative (through October 2021)	(\$14,394)	\$62,205

CV = cost variance.

SV = schedule variance.

For the October 2021 earned value management system reporting period, a net favorable schedule variance of approximately \$1.4 million was reported, primarily due to the following:

- LAW Facility reported a favorable schedule variance due to completion of behind schedule LAW Facility startup workscope planned to be completed in previous periods and an earlier than planned mobilization of radiation technicians to support Melter 1 heat-up.

For the October 2021 earned value management system reporting period, a net unfavorable, but negligible, cost variance of approximately (\$0.2 million) was reported, primarily due to the following:

- Current cost variance is below the reporting threshold.

## Pretreatment Facility

**Federal Project Director:** Tom Fletcher

**Facility Federal Project Director:** Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-18	Complete Structural Steel Erection Below Elevation 56' in PT Facility	12/31/2009	Complete
D-00A-19	Complete Elevation 98' Concrete Floor Slab Placements in PT Facility	12/31/2031	At Risk <sup>1</sup>
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-O0001A/1B	12/31/2031	At Risk <sup>1</sup>
D-00A-14	PT Facility Construction Substantially Complete	12/31/2031	At Risk <sup>1</sup>
D-00A-15	Start PT Facility Cold Commissioning	12/31/2032	At Risk <sup>1</sup>
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2033	At Risk <sup>1</sup>

<sup>1</sup> 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)," (external letter to M.D. Bellon, Washington State Department of Ecology), from B.T. Vance, U.S. Department of Energy, Richland, Washington, September 4.

PT = pretreatment.

The PT Facility is intended to separate radioactive tank waste into high-level waste and low-activity waste fractions and transfer each waste type to the respective facility for immobilization. As of September 2012, the PT Facility was 56 percent complete overall, engineering design was 85 percent complete, procurement was 56 percent complete, construction was 43 percent complete, and startup and commissioning was 3 percent complete. The physical percent complete analysis for the PT Facility was frozen in September 2012, pending development of a revised baseline to address technical and design issues.

DOE and BNI completed resolution of all the technical issues identified in the Third Order Regarding Motions to Modify Consent Decrees<sup>10</sup>.

Design and construction of the PT Facility remain on hold. The results of the ongoing AoA will inform the path forward on the PT Facility. Key ongoing activities include maintenance of the facility and discussions with vendors regarding suspended procurements in order to reduce liabilities.

<sup>10</sup> *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016) (ECF-221).

**Significant Accomplishments during the Prior Month:**

- None.

**Ongoing Activities:**

- Continued to manage suspended plant equipment purchase orders to reduce storage and suspension costs and evaluate ways to reduce procurement liability
- Continued to implement asset maintenance at the PT Facility to protect equipment and structures and to ensure design documents are maintained.

**Significant Planned Activities for the Next Month:**

- None.

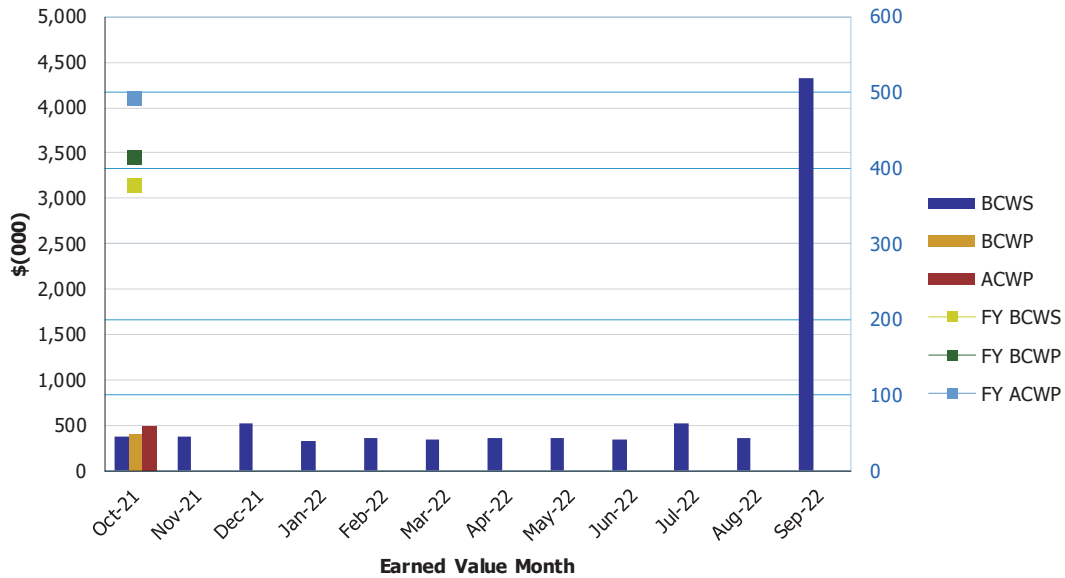
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

**River Protection Project  
Pretreatment Facility (WBS 1.01)**

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 2021	\$377	\$414	\$492	1.10	0.84	377	414	492	1.10	0.84
Nov 2021	\$377									
Dec 2021	\$517									
Jan 2022	\$327									
Feb 2022	\$360									
Mar 2022	\$344									
Apr 2022	\$361									
May 2022	\$361									
Jun 2022	\$347									
Jul 2022	\$525									
Aug 2022	\$364									
Sep 2022	\$4,328									

PTD	\$3,504,344	\$3,504,309	\$3,501,565	1.00	1.00
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- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
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- PTD = project to date.
- SPI = schedule performance index.

## High-Level Waste Facility

*Federal Project Director:* Tom Fletcher

*Facility Federal Project Director:* Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-20	Complete Construction of Structural Steel to Elevation 14' in HLW Facility	12/31/2010	Complete
D-00A-21	Complete Construction of Structural Steel to Elevation 37' in HLW Facility	12/31/2012	Complete
D-00A-02	HLW Facility Construction Substantially Complete	12/31/2030	At Risk <sup>1</sup>
D-00A-03	Start HLW Facility Cold Commissioning	06/30/2032	At Risk <sup>1</sup>
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2033	At Risk <sup>1</sup>

<sup>1</sup> 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)," (external letter to M.D. Bellon, Washington State Department of Ecology), from B.T. Vance, U.S. Department of Energy, Richland, Washington, September 4.

HLW = high-level waste.

The HLW Facility is intended to receive the separated high-level waste concentrate from the PT Facility. This concentrate would then be blended with glass formers, converted into molten glass in one of the two HLW Facility melters and then poured into cylindrical stainless-steel canisters. After cooling, the canisters would then be sealed and decontaminated before shipping to interim storage.

As of September 2012, the HLW Facility was 62 percent complete overall, engineering design was 89 percent complete, procurement was 81 percent complete, construction was 43 percent complete, and startup and commissioning was 4 percent complete. The physical percent complete analysis for the HLW Facility was frozen in September 2012, pending development of a revised baseline to address technical and design issues.

Since 2019, HLW Facility design activities have been ramping up as the engineering staff have been transitioning from DFLAW/LBL activities based on the availability of funds. System designs for completing preliminary design (60 percent) and detailed design (90 percent) reviews, and updating the hazards analysis and safety basis based on the updated design are the key ongoing activities. Additionally, because of the revision of the natural phenomena hazards that increased the ashfall criteria significantly, strategy and planning activities for developing the path forward for the updated ashfall criteria are being conducted to minimize the potential impact to the project.

In March 2019, DOE awarded the AoA contract for the high-level waste treatment mission. The purpose of the AoA is to identify all viable options to meet mission needs and reduce risk, while providing decision-quality analysis and results to inform the acquisition authority and other stakeholders of all the alternatives to meet both Headquarters and DOE Office of Environmental

Management policy requirements. Additional information regarding the AoA process is included in the WTP section at the beginning of this report.

**Significant Accomplishments during the Prior Month:**

- None.

Ongoing Activities:

- Continued to advance system designs and hazard analysis for key mechanical and process systems
- Continued to upgrade melter structural design and incorporate potential design modifications
- Continued to manage suspended plant equipment purchase orders to reduce storage and suspension costs and to evaluate ways to reduce procurement liability
- Continued to implement asset maintenance at the HLW Facility to protect equipment and structures and to ensure design documents are maintained.

**Significant Planned Activities in the Next Month:**

- None.



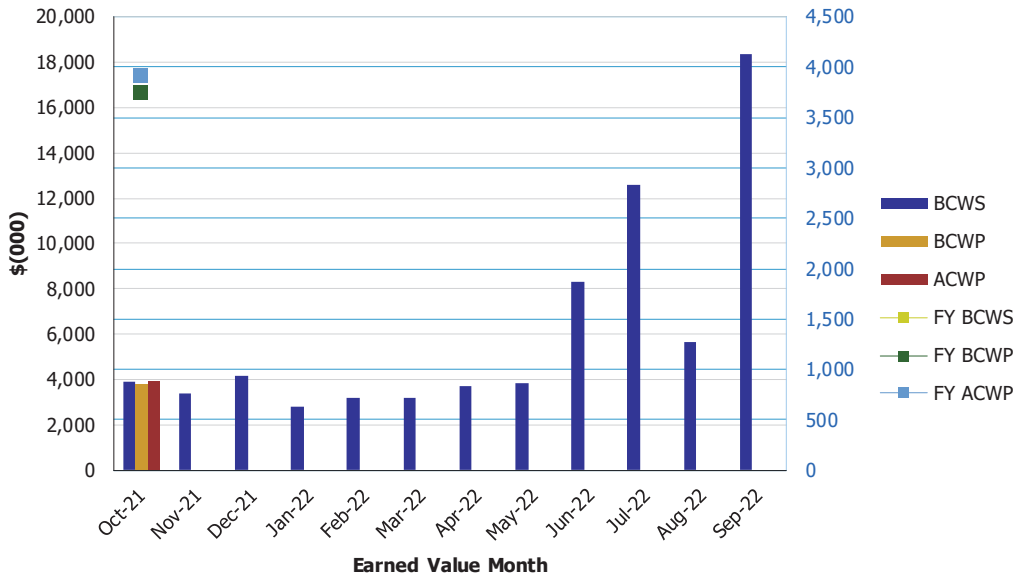
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

**River Protection Project  
High-Level Waste Facility (WBS 1.03)**

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 2021	\$3,928	\$3,750	\$3,930	0.95	0.95	3,928	3,750	3,930	0.95	0.95
Nov 2021	\$3,401									
Dec 2021	\$4,170									
Jan 2022	\$2,766									
Feb 2022	\$3,180									
Mar 2022	\$3,171									
Apr 2022	\$3,695									
May 2022	\$3,847									
Jun 2022	\$8,311									
Jul 2022	\$12,578									
Aug 2022	\$5,640									
Sep 2022	\$18,328									

PTD	\$2,599,599	\$2,594,325	\$2,583,688	1.00	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.
- EVMS = earned value management system.
- FY = fiscal year.
- PTD = project to date.
- SPI = schedule performance index.

## Low-Activity Waste Facility<sup>11</sup>

**Federal Project Director:** Tom Fletcher

**Facility Federal Project Director:** Jason Young

Milestone	Title	Due Date	Status
D-00A-07	LAW Facility Construction Substantially Complete	TBD <sup>1</sup>	Complete
D-00A-08	Start LAW Facility Cold Commissioning	TBD <sup>1</sup>	On Schedule
D-00A-09	LAW Facility Hot Commissioning Complete	TBD <sup>1</sup>	On Schedule

<sup>1</sup> On December 10, 2020, the United States District Court, Eastern District of Washington issued an order modifying the Amended Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-05085-RMP on the basis that COVID-19 constitutes a force majeure event. The order established a method for calculating an extension of the B-2, B-3, A-7, A-8, and A-9 milestones in order to offset work interruptions due to COVID-19.

COVID-19 = coronavirus disease 2019.

LAW = low-activity waste.

TBD = to be determined.

The LAW Facility will process concentrated low-activity waste, which will be mixed with silica and other glass-forming materials. The mixture will be fed into the LAW Facility's two melters at a design capacity of 30 metric tons per day, heated to 2,100°F, and vitrified into glass. The 300-ton melters are approximately 20 feet by 30 feet and 16 feet high. The glass mixture will then be poured into stainless steel containers, which are 4 feet in diameter, 7 feet tall, and weigh more than 7 tons. These containers are anticipated to be disposed of on the Hanford Site in the Integrated Disposal Facility.

As of October 2021, the LAW Facility was 90 percent complete overall, with engineering design 100 percent complete, procurement 100 percent complete, construction 100 percent complete, and startup and commissioning 64 percent complete. Construction has been completed and startup testing has been initiated for all LAW Facility systems. Startup has completed component testing for 100 percent of LAW Facility systems and custody of these systems has been transferred to the Plant Management organization for operations. Plant Management is working to resolve outstanding punch list items and begin integrated system testing and tuning in support of melter heat-up.

### Significant Accomplishments during the Prior Month:

- Plant Management initiated portions of the water runs commissioning process to verify integrated fluid system functionality within the LAW Facility.

<sup>11</sup> Discussions about the related Low-Activity Waste Pretreatment System and tank-side cesium removal are included in the monthly reports submitted under the *Hanford Federal Facility Agreement and Consent Order* (also known as the Tri-Party Agreement or TPA). Prior discussions are in reports archived in the Administrative Record.

Ongoing Activities:

- Plant Management continued testing and tuning for LAW Facility lifting and handling systems
- Plant Management continued testing and tuning for LAW Facility ventilation systems.

**Significant Planned Activities in the Next Month:**

- None.

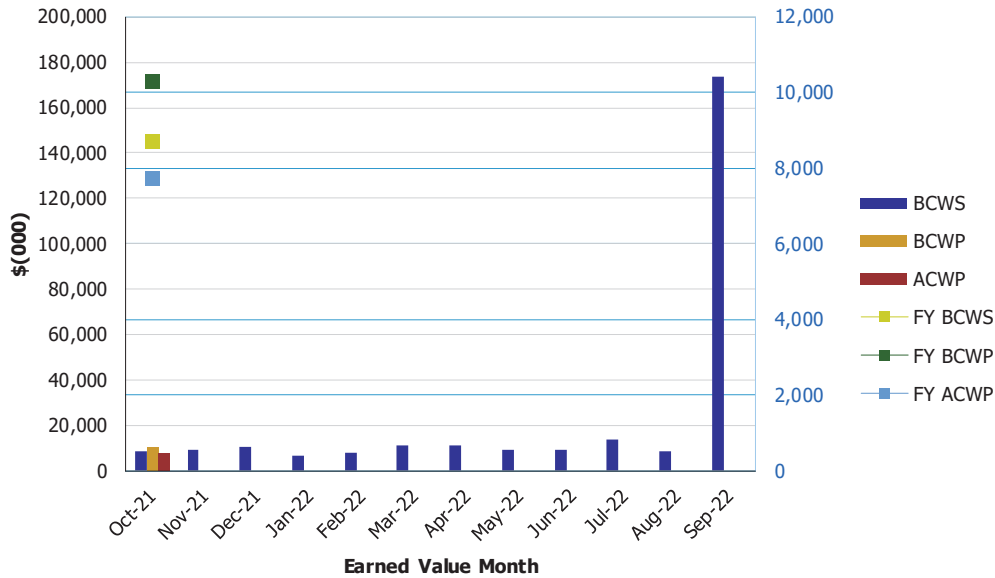
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

**River Protection Project**  
**Low-Activity Waste Facility (WBS 1.02)**

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 2021	\$8,722	\$10,320	\$7,758	1.18	1.33	8,722	10,320	7,758	1.18	1.33
Nov 2021	\$9,194									
Dec 2021	\$10,519									
Jan 2022	\$6,791									
Feb 2022	\$7,593									
Mar 2022	\$11,042									
Apr 2022	\$11,010									
May 2022	\$9,361									
Jun 2022	\$9,229									
Jul 2022	\$13,604									
Aug 2022	\$8,734									
Sep 2022	\$173,865									

PTD	\$3,751,131	\$3,742,995	\$3,727,651	1.00	1.00
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- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
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- CPI = cost performance index.
- EVMS = earned value management system.
- FY = fiscal year.
- PTD = project to date.
- SPI = schedule performance index.

## Balance of Facilities

*Federal Project Director:* Tom Fletcher

*Facility Federal Project Director:* Jason Young

Milestone	Title	Due Date	Status
D-00A-12	Steam Plant Construction Complete	12/31/2012	Complete

BOF will provide services and utilities to support operation of the main production facilities: PT, HLW, LAW, and LAB. As of October 2021, BOF was 96 percent complete overall, engineering design was 100 percent complete, procurement was 100 percent complete, construction was 100 percent complete, and startup and commissioning was 89 percent complete. Design of the Effluent Management Facility was 100 percent complete.

BOF has completed construction and startup testing for all systems, and custody of these systems has been transferred to the Plant Management organization for operations. System operation and maintenance, operator training, and procedure refinement continues as BNI prepares for increased BOF demands to support LAB operation and LAW Facility system testing.

### Significant Accomplishments during the Prior Month:

- None.

### Ongoing Activities:

- Plant Management continued troubleshooting of control system software throughout BOF.
- Plant Management continued testing and tuning for the Glass Former Facility.
- Plant Management continued operations, testing, and tuning of the Steam Plant.

### Significant Planned Activities in the Next Month:

- Plant Management is expected to initiate the BOF/LAB readiness assessment.

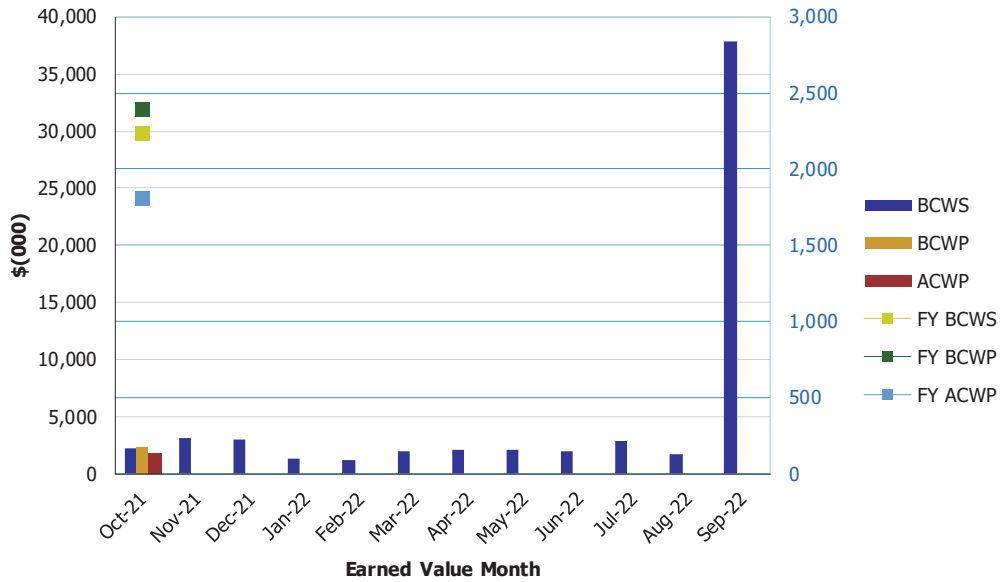
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

**River Protection Project  
Balance of Facilities (WBS 1.05)**

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 2021	\$2,234	\$2,392	\$1,807	1.07	1.32	2,234	2,392	1,807	1.07	1.32
Nov 2021	\$3,085									
Dec 2021	\$2,968									
Jan 2022	\$1,276									
Feb 2022	\$1,145									
Mar 2022	\$2,000									
Apr 2022	\$2,033									
May 2022	\$2,048									
Jun 2022	\$1,975									
Jul 2022	\$2,882									
Aug 2022	\$1,683									
Sep 2022	\$37,881									

PTD	\$1,486,829	\$1,486,472	\$1,479,203	1.00	1.00
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- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
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- EVMS = earned value management system.
- FY = fiscal year.
- PTD = project to date.
- SPI = schedule performance index.

## Analytical Laboratory

*Federal Project Director:* Tom Fletcher

*Facility Federal Project Director:* Jason Young

Milestone	Title	Due Date	Status
D-00A-05	LAB Construction Substantially Complete	12/31/2012	Complete

LAB = Analytical Laboratory.

The LAB will support WTP operations by analyzing feed, vitrified waste, and effluent streams. As of October 2021, the LAB was 92 percent complete overall, engineering design was 100 percent complete, procurement was 100 percent complete, construction was 100 percent complete, and startup and commissioning was 76 percent complete.

The LAB has completed construction and startup testing for all LAB systems, and custody of these systems has been transferred to the Plant Management organization for operations. BNI has completed an operational readiness assessment and is working to increase staffing and improve workflow to support facility operations.

### Significant Accomplishments during the Prior Month:

- None.

### Ongoing Activities:

- Plant Management continued to focus on LAB workflow improvement.
- Plant Management continued recruiting, hiring, and training personnel for LAB operations.
- Plant Management continued preparation for open source methods validation testing.

### Significant Planned Activities in the Next Month:

- Plant Management is expected to initiate the BOF/LAB readiness assessment.

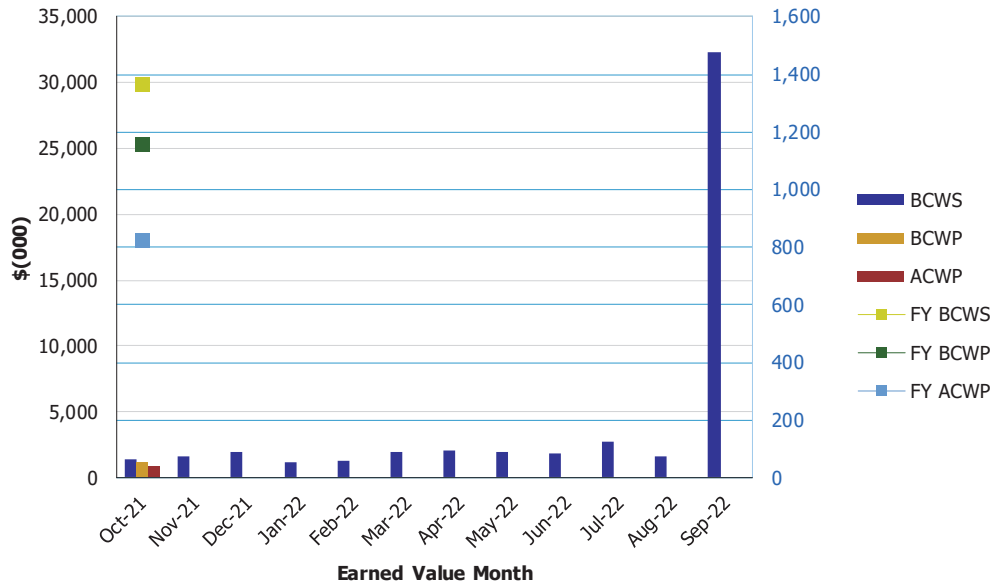
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: October 2021

**River Protection Project  
Analytical Laboratory (WBS 1.06)**

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 2021	\$1,365	\$1,154	\$825	0.85	1.40	1,365	1,154	825	0.85	1.40
Nov 2021	\$1,632									
Dec 2021	\$1,942									
Jan 2022	\$1,184									
Feb 2022	\$1,290									
Mar 2022	\$1,977									
Apr 2022	\$2,026									
May 2022	\$1,948									
Jun 2022	\$1,861									
Jul 2022	\$2,752									
Aug 2022	\$1,618									
Sep 2022	\$32,296									

PTD	\$899,983	\$899,688	\$891,454	1.00	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.
- EVMS = earned value management system.
- FY = fiscal year.
- PTD = project to date.
- SPI = schedule performance index.



## Waste Treatment Plant Project Percent Complete Status (Table)

### Waste Treatment Plant Project - (LBL/Project Services) Percent Complete Status Through October 2021

(Dollars - Millions)	Overall Facility Percent Complete Dollars			Unallocated			Design/Engineering Unallocated Dollars			Procurement Unallocated Dollars			Construction Unallocated Dollars			Startup & Plant Operations Unallocated Dollars			Project Management & Shared Services Unallocated Dollars		
	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete
<b>Facilities</b>																					
Low-Activity Waste	2,353.4	2,118.5	90%	597.0	594.7	100%	342.6	342.4	100%	787.6	787.6	100%	604.1	385.9	64%	22.1	7.8	35%			
Balance of Facilities	872.8	836.3	96%	159.7	159.1	100%	60.6	60.6	100%	325.7	325.7	100%	326.2	290.4	89%	0.5	0.5	100%			
Analytical Lab	457.6	422.1	92%	92.6	92.4	100%	60.1	60.1	100%	170.6	170.6	100%	127.2	96.9	76%	7.0	2.0	29%			
Direct Feed LAW	503.4	502.7	100%	114.3	114.3	100%	79.0	79.0	100%	300.1	299.9	100%	0.3	0.3	100%	9.7	9.2	94%			
LBL Facility Services	1,088.7	824.1	76%	0.0	0.0	0%	84.7	74.5	88%	115.5	115.5	100%	577.9	384.4	67%	310.7	249.7	80%			
<b>Total LBL</b>	<b>5,275.8</b>	<b>4,703.6</b>	<b>89%</b>	<b>963.8</b>	<b>960.6</b>	<b>100%</b>	<b>627.0</b>	<b>616.6</b>	<b>98%</b>	<b>1,699.5</b>	<b>1,699.4</b>	<b>100%</b>	<b>1,635.7</b>	<b>1,157.9</b>	<b>71%</b>	<b>350.0</b>	<b>269.2</b>	<b>77%</b>			
Project Services	1,008.3	871.6	86%	96.7	91.9	95%	59.7	55.6	93%	93.4	93.4	100%	23.4	12.9	55%	735.2	617.8	84%			
<b>Total Project Services</b>	<b>1,008.3</b>	<b>871.6</b>	<b>86%</b>	<b>96.7</b>	<b>91.9</b>	<b>95%</b>	<b>59.7</b>	<b>55.6</b>	<b>93%</b>	<b>93.4</b>	<b>93.4</b>	<b>100%</b>	<b>23.4</b>	<b>12.9</b>	<b>55%</b>	<b>735.2</b>	<b>617.8</b>	<b>84%</b>			
<b>Total LBL, DFLAW &amp; Project Services</b>	<b>6,284.2</b>	<b>5,575.2</b>	<b>89%</b>	<b>1,060.4</b>	<b>1,052.5</b>	<b>99%</b>	<b>686.6</b>	<b>672.2</b>	<b>98%</b>	<b>1,792.9</b>	<b>1,792.8</b>	<b>100%</b>	<b>1,659.0</b>	<b>1,170.8</b>	<b>71%</b>	<b>1,085.2</b>	<b>887.0</b>	<b>82%</b>			
<b>PT/HLW/SS Percent Complete Status Frozen as of September 2012 (due to project rebaselining efforts)</b>																					
High-Level Waste	1,478.6	922.1	62%	364.4	325.2	89%	433.9	349.4	81%	561.1	243.2	43%	119.2	4.4	4%	n/a	n/a	n/a			
Pretreatment	2,517.3	1,410.5	56%	761.7	645.8	85%	679.9	380.4	56%	890.0	378.6	43%	185.8	5.6	3%	n/a	n/a	n/a			
Shared Services	4,726.9	3,632.6	77%	1,047.0	977.9	93%	451.7	395.0	87%	1,436.5	1,143.0	80%	453.5	133.2	29%	1,338.1	983.5	73%			
<b>Total HLW/PT/SS</b>	<b>8,722.8</b>	<b>5,965.2</b>	<b>68%</b>	<b>2,173.1</b>	<b>1,948.9</b>	<b>90%</b>	<b>1,565.5</b>	<b>1,124.8</b>	<b>72%</b>	<b>2,887.6</b>	<b>1,764.8</b>	<b>61%</b>	<b>758.5</b>	<b>143.2</b>	<b>19%</b>	<b>1,338.1</b>	<b>983.5</b>	<b>73%</b>			
Undistributed Budget	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
<b>Total WTP</b>	<b>15,007.0</b>	<b>11,540.4</b>	<b>77%</b>	<b>3,233.5</b>	<b>3,001.4</b>	<b>93%</b>	<b>2,252.1</b>	<b>1,797.0</b>	<b>80%</b>	<b>4,680.5</b>	<b>3,557.6</b>	<b>76%</b>	<b>2,417.5</b>	<b>1,314.0</b>	<b>54%</b>	<b>2,423.3</b>	<b>1,870.5</b>	<b>77%</b>			

Source: Preliminary WTP Contract Performance Report - Format 1, Data for October 2021

Note: In September 2012, the LBL Replan was incorporated into the project OTB baseline resulting in increases/decreases to the LBL facility budgets, which correspondingly increased/decreased the facility/function to-date percent complete values. In October 2012, the PT/HLW/SS Interim Work Plan was incorporated into the project OTB baseline resulting in decreases to the PT/HLW/SS facility budgets, this was due to a work scope shift from the Distributed budget to UB. Percent Complete Values shown for PT, HLW and SS have been frozen with the September 2012 values due to the Interim Work Plan and budgets being moved into UB. UB value for the project for PT/HLW/SS is \$2,014M. The percent complete values for the Total WTP are the current total LBL BCWP added to the frozen HLW/PT/SS BCWP values. In March 2014, Project Controls and Project Management work scope was moved out of Shared Services control accounts into the facilities with new control accounts being set up in the facilities. These will now be seen under Project Management/Shared Services by facility. The Shared Services PMB value has not been changed to reflect this change due to the freeze on HLW/PT and SS and the budgets remaining in UB. October 2014 data reflects the incorporation of Direct Feed LAW and the split of Shared Services into LBL Facility Services and Project Services. March 2016 LBL percent complete data is a total of LAW-BOF-LAB-DFLAW and LBL Facility Services. The Project Services Allocation account (zPSA), as shown on the CPR Format 1, is not added to LBL for percent complete purposes.

**Table 1 Administrative Record Metadata**

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
D-00A-07	LAW Facility Construction Substantially Complete
D-00A-08	Start LAW Facility Cold Commissioning
D-00A-09	LAW Facility Hot Commissioning Complete
D-00B-01D	C-105 Submit Retrieval Completion Certification
D-00B-00-01	Submit Revised TWRWP Prior to Initiating Installation of Equipment
D-00B-00-02	Submit TWRWP to Ecology
D-00C-02ED	Submit to Ecology & State of Oregon Monthly Summary Report
D-16B-03	Of the 12 SSTs Referred to in B-1 and B-2, Complete Retrieval of Tank Wastes in at Least 5
H-0-8	Waste Treatment and Immobilization Plant (WTP)
S-2-3	Double-Shell Tank System (DST) & 204-AR Waste Unloading Station
S-2-4	Single-Shell Tank System (SST)

Ecology = Washington State Department of Ecology.

LAW = Low-Activity Waste (Facility).

TWRWP = tank waste retrieval work plan.