

Office of River Protection Consent Decree Monthly Report

Monthly Reporting Period December 1–December 31, 2021¹

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)²

¹ 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 November 2021.

² 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
CV	cost variance
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)
SV	schedule variance
WTP	Waste Treatment and Immobilization Plant

Consent Decree Milestone Statistics/Status

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2021				
D-00A-07 Interim	LAW Facility Construction Substantially Complete	TBD ¹		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 ^{1,2}		On Schedule
Fiscal Year 2023				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	TBD ¹		On Schedule
Fiscal Year 2024				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	TBD ¹		On Schedule
Fiscal Year 2026				
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 ^{1,2}		On Schedule / Under Analysis ³
Fiscal Year 2031				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		At Risk ⁴
Fiscal Year 2032				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031		At Risk ⁴
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		At Risk ⁴
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		At Risk ⁴

Milestone	Title	Due Date	Completion Date	Status
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		At Risk ⁴
D-00A-06 Interim	Complete Methods Validations	06/30/2032		On Schedule
Fiscal Year 2033				
D-00A-15 Interim	Start PT Facility Cold Commissioning	12/31/2032		At Risk ⁴
Fiscal Year 2034				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		At Risk ⁴
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		At Risk ⁴
D-00A-17	Hot Start of WTP	12/31/2033		At Risk ⁴
Fiscal Year 2037				
D-00A-01	Achieve Initial Plant Operations for the WTP	12/31/2036		At Risk ⁴

¹ 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.

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

³ 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.

⁴ 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 ^{1,2}	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 ^{1,2}	On Schedule / Under Analysis ³

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

² 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.

³ 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.³

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 December 2021:

- Continuing COVID-19 impacts:
 - The completion of the new AY Tank Farm 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.
 - 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.

³ 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 hydraulic power units POR388 and POR473 at Tank AP-101 01A Pit in support of the electrical upgrades for the decant and retrieval systems.
- Completed removal of cover blocks at Tank A-103 A and D pits.

Ongoing Activities:

- Continued retrieval of Tank AX-103 waste. The waste volume retrieved through December was approximately 104,000 gallons of waste or 92.5 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:

- Install new pump in Tank AP-101 at 01A Pit to support the decant and retrieval systems.
- Remove cover blocks for Tank A-101 A Pit and complete clean out of Tank A-102 C Pit.
- Complete hose-in-hose transfer line disconnects for hose-in-hose transfer lines used for Tank AY-102 retrieval operations.

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).⁴ 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).

⁴ 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.

- 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-106 A Pit cover blocks has been delayed due to encountering higher than anticipated radiological dose rates. The work is being evaluated to determine removal methods to reduce worker exposure.
 - 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 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:

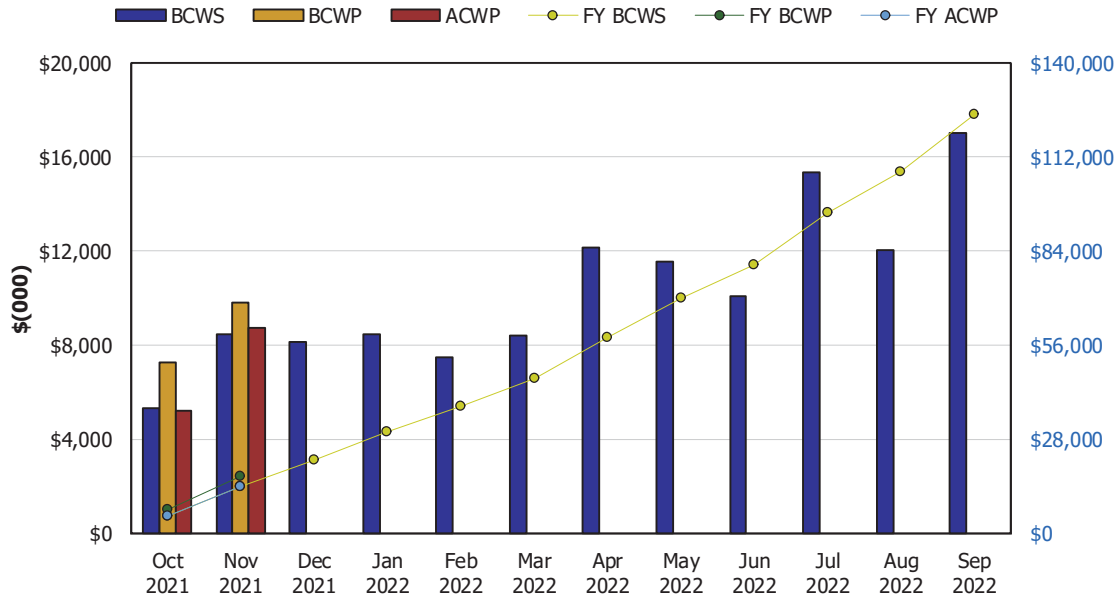
- None.

Earned Value Data: Fiscal Year 2022

November-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	\$9,811	\$8,762	1.16	1.12	\$13,830	\$17,089	\$13,977	1.24	1.22
Dec 2021	\$8,136	\$0	\$0	0.00	0.00	\$21,966				
Jan 2022	\$8,460	\$0	\$0	0.00	0.00	\$30,425				
Feb 2022	\$7,506	\$0	\$0	0.00	0.00	\$37,931				
Mar 2022	\$8,418	\$0	\$0	0.00	0.00	\$46,349				
Apr 2022	\$12,156	\$0	\$0	0.00	0.00	\$58,505				
May 2022	\$11,550	\$0	\$0	0.00	0.00	\$70,055				
Jun 2022	\$10,083	\$0	\$0	0.00	0.00	\$80,139				
Jul 2022	\$15,347	\$0	\$0	0.00	0.00	\$95,485				
Aug 2022	\$12,034	\$0	\$0	0.00	0.00	\$107,519				
Sep 2022	\$17,012	\$0	\$0	0.00	0.00	\$124,532				
CTD	\$1,340,579	\$1,337,695	\$1,379,013	1.00	0.97					

- | | |
|---|--|
| 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)⁵

The November favorable schedule variance of \$1.33 million was primarily due to the following:

- Pit cleanout work at four pits within A Tank Farm (A-101 A Pit, A-102 A Pit, and A-103 A and D pits) was performed ahead of schedule, in part due to shortened durations realized on the foam and lead removals performed earlier at those pits.
- Waste retrieval operations at Tank AX-103 progressed efficiently and resulted in a reduced duration expected to be necessary to complete. Waste retrieval is currently at 90 percent complete at the end of November.
- Installation of electrical power, signal, control, and safety instrumented system conduit at the POR626 splitter box in A Tank Farm was performed ahead of schedule due to resequencing of work because of delays for other electrical work elsewhere in A Tank Farm.
- Schedule performance recovery for work on the AY Tank Farm change tent installation and relocation of the vapor boundary fence for AY Tank Farm.

The November favorable cost variance of \$1.05 million was primarily due to the following:

- Efficiencies due to better than anticipated field conditions during pit cleanout at four tank pits within A Tank Farm (tanks A-101 A Pit, A-102 A Pit, and A-103 A and D pits) led to decreased durations from what was planned for the work.
- Waste retrieval operations at Tank AX-103 progressed efficiently and resulted in an expected reduced duration for completion. Waste retrieval was at 90 percent complete at the end of November.
- Labor efficiencies resulting from reduced staffing levels for construction management, work package development, and engineering support.

⁵ “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 ¹
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2036	At Risk ¹

¹ 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 November 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 November 2021, total facilities within LBL were 90 percent complete, engineering design was 100 percent complete, procurement was 98 percent complete, construction was 100 percent complete, and startup and commissioning was 72 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.⁶ 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.⁷

Pursuant to Section IV-C-3(b) of the Amended Consent Decree⁸, 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

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

⁷ Footnotes 3 and 4 were omitted from this quote.

⁸ *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.⁹

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 December 2021:

- Continuing COVID-19 impacts:

⁹ 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.

- Engineering and management personnel continued to primarily work remotely. Communications through remote means, such as the use of meeting software and electronic devices, are not as efficient as traditional face-to-face communications and slowed the resolution of issues that arose.

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.

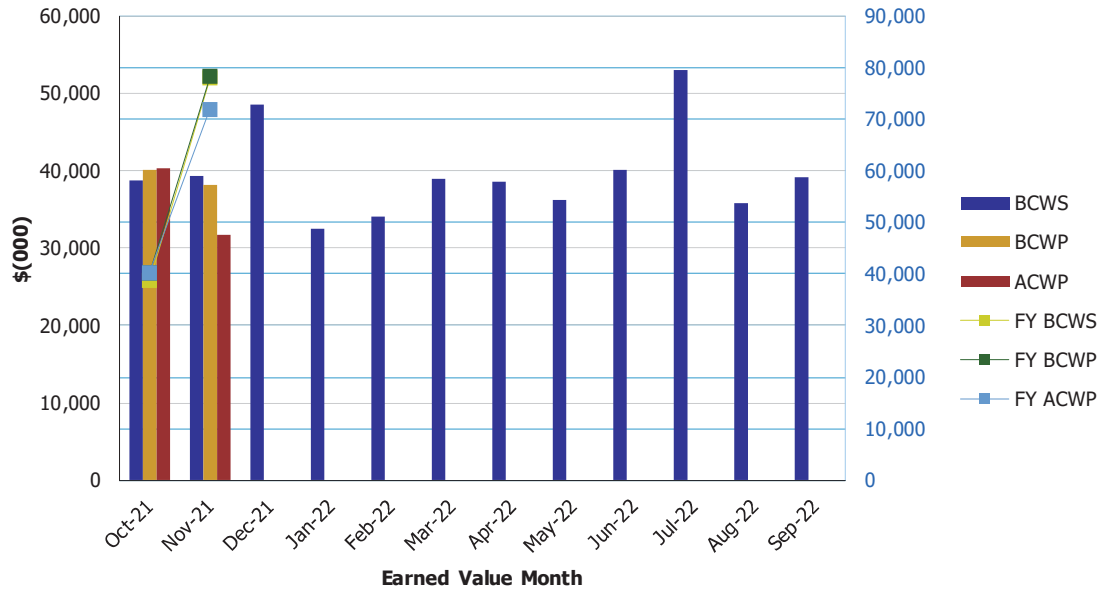
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	1.00
Nov 2021	\$39,329	\$38,193	\$31,657	0.97	1.21	\$78,025	\$78,312	\$71,955	1.00	1.09
Dec 2021	\$48,549									
Jan 2022	\$32,413									
Feb 2022	\$34,105									
Mar 2022	\$38,883									
Apr 2022	\$38,526									
May 2022	\$36,294									
Jun 2022	\$40,195									
Jul 2022	\$53,051									
Aug 2022	\$35,874									
Sep 2022	\$39,137									

PTD	\$13,042,939	\$13,027,410	\$12,958,668	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.

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

Performance Tracking	SV	CV
Current Period (November 2021)	(\$1,136)	\$6,537
Fiscal Year 2022 to-date	\$287	\$6,357
Cumulative (through November 2021)	(\$15,529)	\$68,742

CV = cost variance.

SV = schedule variance.

For the November 2021 earned value management system reporting period, a net unfavorable schedule variance (SV) of approximately (\$1.1 million) was reported, primarily due to the following:

- LAW Facility reported a slight unfavorable SV due to identification of emergent issues discovered while performing LAW water runs.
- HLW Facility reported an unfavorable SV in engineering design due to resources being diverted to support higher WTP priorities.
- LAB reported an unfavorable SV due to an intentional 2-month delay in purchasing LAB equipment and resequencing of LAB methods validation, which are not needed until calendar year 2022.

For the November 2021 earned value management system reporting period, a net favorable cost variance (CV) of \$6.5 million was reported, primarily due to the following:

- DFLAW reported a favorable CV due to the final negotiated settlement for the dual contained pipe spool fabrication purchase order and also due to a 2019 premium credit on workers compensation insurance affecting direct hire and distributions craft.
- BOF reported a favorable CV due to following:
 - Decreased preventive maintenance effort due to additional support required for corrective maintenance.
 - Operations support resources being diverted to higher priority scope under the LAW Facility.
- Project Services reported a favorable CV due to the following:
 - Multiple organizations have experienced attrition resulting in actual staffing charging less than planned.
 - Information Systems and Technology hardware budgeted and earned (level of effort) prior to needing to be purchased.
 - Fewer hours needed for radiation technician training due to the experience of new hires.

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 ¹
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-O0001A/1B	12/31/2031	At Risk ¹
D-00A-14	PT Facility Construction Substantially Complete	12/31/2031	At Risk ¹
D-00A-15	Start PT Facility Cold Commissioning	12/31/2032	At Risk ¹
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2033	At Risk ¹

¹ 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 Decrees¹⁰.

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.

¹⁰ *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.

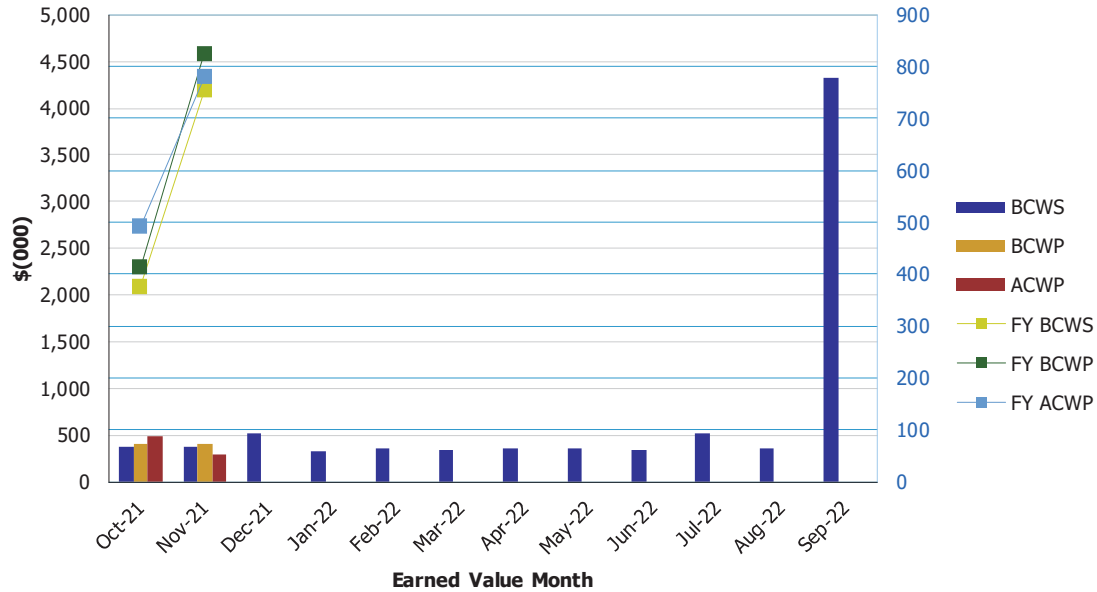
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	\$413	\$288	1.09	1.43	\$754	\$827	\$780	1.10	1.06
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	\$3,504,722	\$3,504,722	\$3,501,854	1.00	1.00					

- 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.

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 ¹
D-00A-03	Start HLW Facility Cold Commissioning	06/30/2032	At Risk ¹
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2033	At Risk ¹

¹ 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.

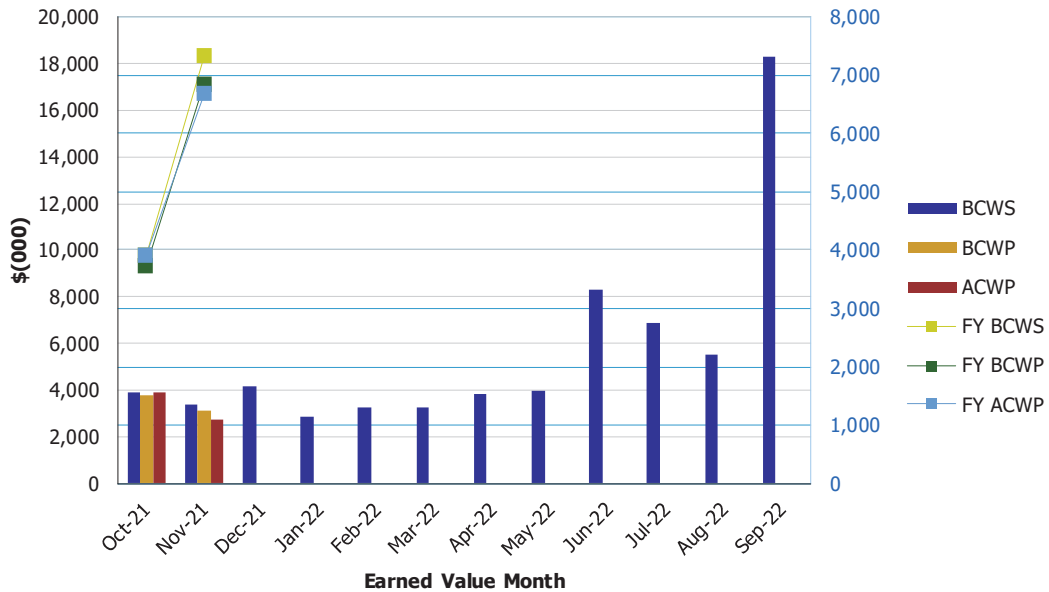
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	\$3,103	\$2,756	0.91	1.13	\$7,329	\$6,852	\$6,686	0.93	1.02
Dec 2021	\$4,127									
Jan 2022	\$2,842									
Feb 2022	\$3,264									
Mar 2022	\$3,251									
Apr 2022	\$3,832									
May 2022	\$3,961									
Jun 2022	\$8,291									
Jul 2022	\$6,911									
Aug 2022	\$5,499									
Sep 2022	\$18,260									
PTD	\$2,603,000	\$2,597,427	\$2,586,444	1.00	1.00					

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|---|--|
| ACWP = actual cost of work performed. | EVMS = earned value management system. |
| BCWP = budgeted cost of work performed. | FY = fiscal year. |
| BCWS = budgeted cost of work scheduled. | PTD = project to date. |
| CPI = cost performance index. | SPI = schedule performance index. |

Low-Activity Waste Facility¹¹

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 ¹	Complete
D-00A-08	Start LAW Facility Cold Commissioning	TBD ¹	On Schedule
D-00A-09	LAW Facility Hot Commissioning Complete	TBD ¹	On Schedule

¹ 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 November 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 65 percent complete. Construction has been completed and startup testing has been initiated for all LAW Facility systems. Startup has completed component testing for 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:

- None.

¹¹ 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 the water runs commissioning process to verify integrated fluid system functionality within the LAW Facility.
- 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.

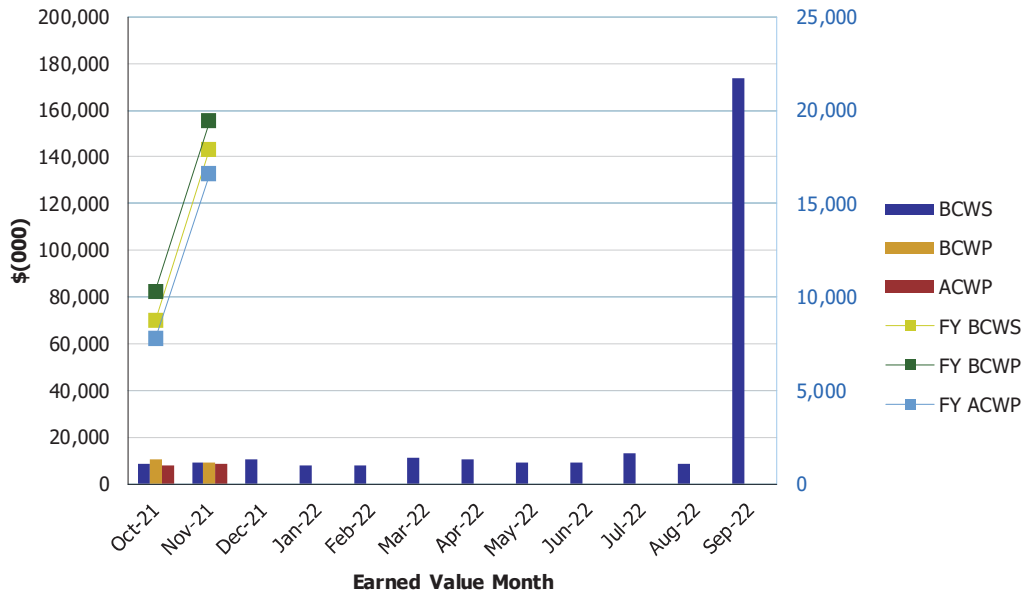
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	\$9,096	\$8,818	0.99	1.03	\$17,916	\$19,416	\$16,576	1.08	1.17
Dec 2021	\$10,680									
Jan 2022	\$8,125									
Feb 2022	\$8,009									
Mar 2022	\$11,185									
Apr 2022	\$10,709									
May 2022	\$9,066									
Jun 2022	\$8,859									
Jul 2022	\$13,154									
Aug 2022	\$8,716									
Sep 2022	\$173,864									
PTD	\$3,760,325	\$3,752,091	\$3,736,469	1.00	1.00					

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- FY = fiscal year.
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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 November 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 90 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:

- A BOF and LAB readiness assessment was conducted to evaluate program and process readiness to support LAW Facility cold commissioning.
- Plant Management initiated a BOF reliability assessment in preparation for LAW Facility Melter 1 heat-up.
- Plant Management initiated testing and tuning activities for the Effluent Management Facility evaporator.

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:

- None.

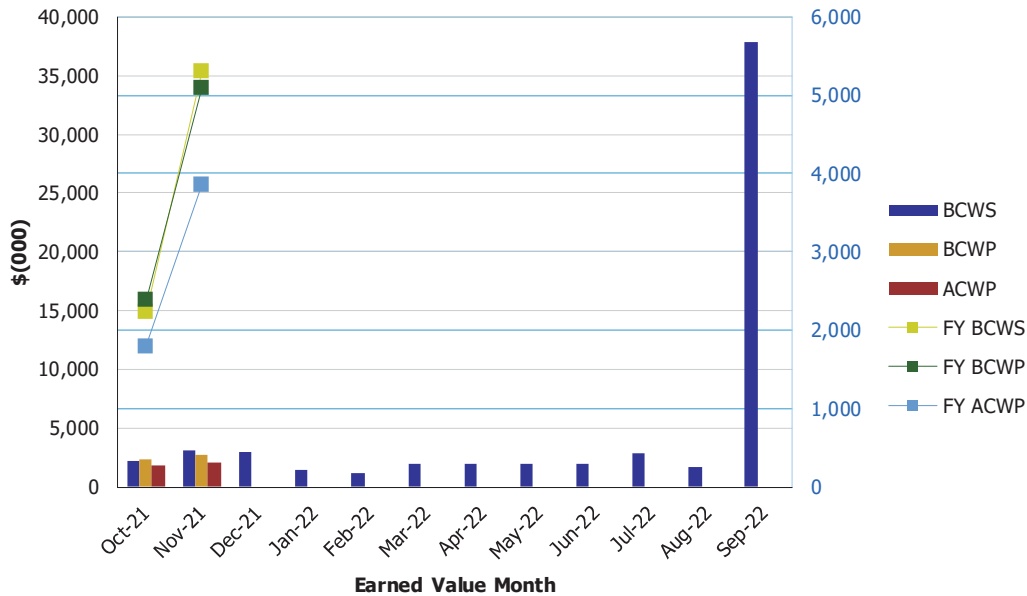
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	\$2,714	\$2,062	0.88	1.32	\$5,319	\$5,106	\$3,868	0.96	1.32
Dec 2021	\$2,972									
Jan 2022	\$1,459									
Feb 2022	\$1,145									
Mar 2022	\$1,966									
Apr 2022	\$1,994									
May 2022	\$2,010									
Jun 2022	\$1,940									
Jul 2022	\$2,840									
Aug 2022	\$1,681									
Sep 2022	\$37,881									

PTD	\$1,489,914	\$1,489,186	\$1,481,265	1.00	1.01
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- ACWP = actual cost of work performed.
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- EVMS = earned value management system.
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- 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 November 2021, the LAB was 93 percent complete overall, engineering design was 100 percent complete, procurement was 100 percent complete, construction was 100 percent complete, and startup and commissioning was 77 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:

- A BOF and LAB readiness assessment was conducted to evaluate program and process readiness to support LAW Facility cold commissioning.

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:

- None.

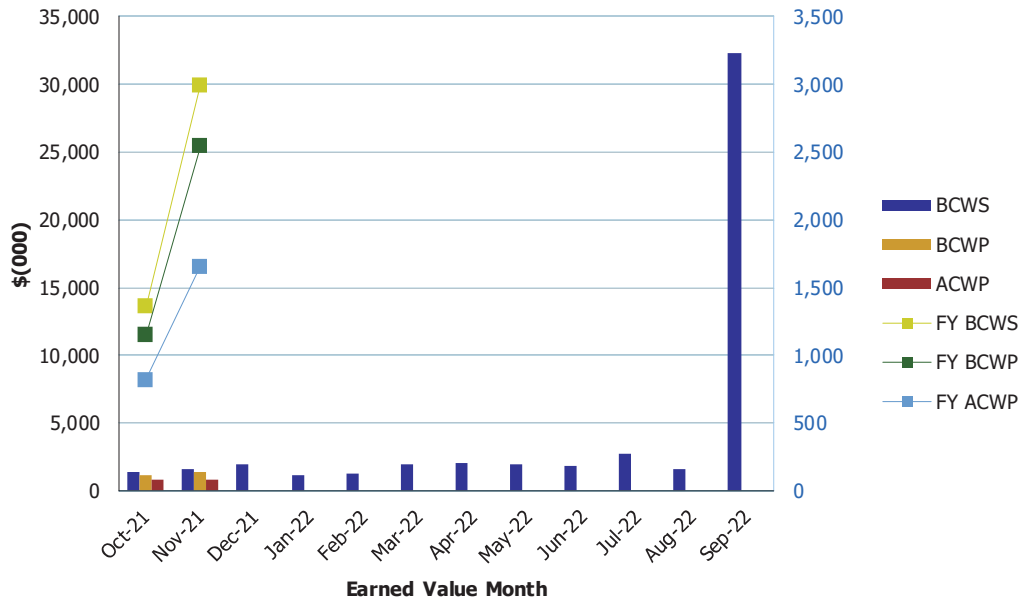
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2022 Earned Value Data

Data as of: November 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	\$1,394	\$834	0.85	1.67	\$2,997	\$2,548	\$1,659	0.85	1.54
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	\$2,749									
Aug 2022	\$1,612									
Sep 2022	\$32,298									

PTD	\$901,615	\$901,082	\$892,288	1.00	1.01
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- 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.

Waste Treatment Plant Project Percent Complete Status (Table)

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

(Dollars - Millions)	Overall Facility Percent Complete Dollars			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
Facilities																		
Low-Activity Waste	2,354.7	2,127.6	90%	597.0	594.9	100%	342.6	342.4	100%	787.6	787.6	100%	605.2	394.7	65%	22.2	8.0	36%
Balance of Facilities	872.8	839.0	96%	159.7	159.1	100%	60.6	60.6	100%	325.7	325.7	100%	326.2	293.1	90%	0.5	0.5	100%
Analytical Lab	457.6	423.5	93%	92.6	92.4	100%	60.1	60.1	100%	170.6	170.6	100%	127.2	98.1	77%	7.0	2.2	32%
Direct Feed LAW	503.4	502.8	100%	114.3	114.3	100%	79.0	79.0	100%	300.1	300.0	100%	0.3	0.3	100%	9.7	9.2	95%
LBL Facility Services	1,096.4	839.2	77%	0.0	0.0	0%	84.7	75.4	89%	115.5	115.5	100%	583.8	395.4	68%	312.4	252.9	81%
Total LBL	5,284.9	4,732.0	90%	963.7	960.8	100%	627.0	617.5	98%	1,699.5	1,699.4	100%	1,642.8	1,181.6	72%	351.9	272.8	78%
Project Services	1,008.3	877.8	87%	96.7	92.1	95%	59.7	55.8	94%	93.4	93.4	100%	23.4	13.4	57%	735.2	623.1	85%
Total Project Services	1,008.3	877.8	87%	96.7	92.1	95%	59.7	55.8	94%	93.4	93.4	100%	23.4	13.4	57%	735.2	623.1	85%
Total LBL, DFLAW & Project Services	6,293.2	5,609.9	89%	1,060.4	1,052.9	99%	686.6	673.3	98%	1,792.9	1,792.8	100%	1,666.2	1,195.0	72%	1,087.1	895.9	82%
PT/HLW/SS Percent Complete Status Frozen as of September 2012 (due to project rebaselining efforts)																		
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%
Total HLW/PT/SS	8,722.8	5,965.2	68%	2,173.1	1,948.9	90%	1,565.5	1,124.8	72%	2,887.6	1,764.8	61%	758.5	143.2	19%	1,338.1	983.5	73%
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
Total WTP	15,016.0	11,575.1	77%	3,233.5	3,001.8	93%	2,252.1	1,798.1	80%	4,680.5	3,557.6	76%	2,424.7	1,338.2	55%	2,425.2	1,879.4	77%

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

Milestone Number or Facility Identification	Title
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-02EE	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.