

# Office of River Protection Consent Decree Monthly Report

## Monthly Reporting Period June 1–June 30, 2020<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 May 2020.

<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
HIHTL	hose-in-hose transfer line
HLW	High-Level Waste (Facility)
LAB	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LBL	Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
ORP	U.S. Department of Energy, Office of River Protection
PPR	Project Peer Review
PT	Pretreatment (Facility)
SV	schedule variance
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	12/31/2020		Amendment Proposed <sup>4</sup>
D-16B-03	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank waste in at least 5	06/30/2021 <sup>1</sup>		Amendment Proposed <sup>4</sup>
<b>Fiscal Year 2023</b>				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	12/31/2022		Amendment Proposed <sup>4</sup>
<b>Fiscal Year 2024</b>				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	12/31/2023		Amendment Proposed <sup>4</sup>
<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	09/30/2026 <sup>1</sup>		Under Analysis <sup>2</sup> / Amendment Proposed <sup>4</sup>
<b>Fiscal Year 2031</b>				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		At Risk <sup>3</sup>
<b>Fiscal Year 2032</b>				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-O0001A/1B	12/31/2031		At Risk <sup>3</sup>
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		At Risk <sup>3</sup>
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		At Risk <sup>3</sup>

Milestone	Title	Due Date	Completion Date	Status
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		At Risk <sup>3</sup>
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>3</sup>
<b>Fiscal Year 2034</b>				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		At Risk <sup>3</sup>
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		At Risk <sup>3</sup>
D-00A-17	Hot Start of WTP	12/31/2033		At Risk <sup>3</sup>
<b>Fiscal Year 2037</b>				
D-00A-01	Achieve Initial Plant Operations for the WTP	12/31/2036		At Risk <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> 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>3</sup> 19-ORP-0007, 2019, “Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085).”

<sup>4</sup> Certain Consent Decree-related work at the Hanford Site has been interrupted since March 23, 2020, due to the COVID-19 pandemic. On May 21, 2020, the U.S. Department of Justice, on behalf of DOE, submitted a proposal to the State of Washington to amend the Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.) due to a Force Majeure event. 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 A.A. Fritz, 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.

DOE = U.S. Department of Energy.

PT = pretreatment.

Ecology = Washington State Department of Ecology.

SST = single-shell tank.

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, 2017.

Status: COVID-19-affected – scheduling discussions ongoing.

### **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:** Rob Hastings

**Technical Lead:** Jeff Rambo

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	06/30/2021 <sup>1</sup>	Amendment Proposed <sup>3</sup>
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	09/30/2026 <sup>1</sup>	Under Analysis <sup>2</sup> / Amendment Proposed <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> 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>3</sup> Certain Consent Decree-related work at the Hanford Site has been interrupted since March 23, 2020, due to the COVID-19 pandemic. On May 21, 2020, the U.S. Department of Justice, on behalf of DOE, submitted a proposal to the State of Washington to amend the Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.) due to a Force Majeure event. 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 A.A. Fritz, 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.

DOE = U.S. Department of Energy.

SST = single-shell tank.

Ecology = Washington State Department of Ecology.

WMA-C = C Tank Farm waste management area.

### Significant Accomplishments during the Prior Month:

#### Completed Accomplishments:

- Essential mission-critical operations and limited onsite activities in light of restrictions relating to coronavirus disease 2019 (COVID-19). Additional work on planning for remobilization, engineering analysis, permitting documentation development, etc. by both the U.S. Department of Energy (DOE) and site contractors progressed as conditions allowed.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk work scope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added
- Completed shipment of one long-length equipment removal (AX-101-01B pump) to Environmental Restoration Disposal Facility.
- Completed A Tank Farm exhauster and ventilation system hot operational acceptance testing.

#### Ongoing Activities:

- Continue the preparation of the practicability evaluation in support of the request to forego the third retrieval technology for Tank AX-102.
- Continue the procurement of the residual volume measurement system. The residual volume measurement system and camera / Computer Aided Design modeling system will be deployed to calculate the Tank AX-102 residual waste volume.
- Continue Tank AX-104 installation and testing of waste retrieval equipment.
- Continue Tank AX-103 installation of electrical and support infrastructure.
  - Conduit installation, backfilling, compacting, and wire pulling, and testing.
  - Hose-in-hose transfer line (HIHTL) installation, backfilling, compacting, shielding placement, and testing.
- Continue Tank AX-101 removal of long-length equipment.
- Continue Tank A-101 removal of long-length equipment.
- Continue removal of AY to AP HIHTL removal in support of future A Tank Farm HIHTL installation.

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

- Continue essential mission-critical operations and Phase 1 activities in light of restrictions related to the COVID-19 pandemic and DOE's authorization for the Hanford Site to move to Phase 1. Additional work on planning for remobilization, engineering analysis, permitting documentation development, etc. by both DOE and site contractors will progress as conditions support.
- Complete A Tank Farm exhauster ventilation system readiness in preparation for turnover to Operations.

#### **Issues:**

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. While the majority of the Hanford Site workforce continues to telework, there are a limited number of workers

reporting to the site to perform activities necessary to maintain the site in a safe condition, continuing to protect the community, region, and the environment. 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 on the Consent Decree and, if other actions may be necessary. On May 21, 2020, the Department of Justice, on behalf of DOE, sent letter ENV\_DEFENSE-#919846 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>

- DOE is engaged in ongoing analysis of retrieval challenges and 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).<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 and is affecting the cost and schedule.
  - Removal of Tank A-103 Riser 2 thermocouple required a duration of 209 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 was lowered to the tank bottom.
  - Removal of Tank A-106 Riser 2 thermocouple was removed in sections, with the lower section left in the tank.
  - A stuck shield plug in Tank A-101 01C Pit required an alternative method (core drilling) to tie in the ventilation system.
  - A stuck shield plug in Tank AX-102 02B Pit prevented the installation of the planned third extended reach sluicer.
- On December 3, 2018, the Washington State Department of Ecology (Ecology) sent the DOE Office of River Protection (ORP) and DOE Richland Operations Office a letter (18-NWP-177) regarding the Hanford Site ambient air boundary. Ecology expressed its concern that the ambient air boundary appears to have changed because of increased

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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 A.A. Fritz, 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.

<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.

public access to parts of the Hanford Site. DOE, Ecology, and the Washington State Department of Health met several times to attempt to develop a shared understanding of existing conditions and a path forward. DOE and Ecology engaged in mediation to try to resolve the issue. On May 8, 2020, DOE and Ecology reached a mediated agreement to resolve Ecology's concerns about the Hanford Site ambient air boundary. The parties are developing a Memorandum of Agreement to capture revisions to the boundary and other agreements.

- On January 28, 2019, ORP received a Washington River Protection Solutions LLC letter (WRPS-1900243), outlining potential impacts to tank retrievals at A and AX Tank Farms, due to a lack of Ecology regulatory approval associated with exhausters in the 241-A and 241-AX Tank Farms. On March 4, 2019, DOE transmitted WRPS-1900243 to ensure Ecology was aware of potential impacts to A and AX Tank Farm retrievals and possibly associated Consent Decree milestones, if Ecology does not approve a pending notice of construction application in the near future. DOE is continuing to evaluate the information in the letter, as well as whether amendment of the Consent Decree (including potential invocation of "force majeure" provisions) or other actions may be necessary. Retrieval of Tank AX-102 began on August 31, 2019, with the exhausters running at 1,000 standard cubic feet per minute. DOE will continue to assess retrieval performance at this airflow rate due to the potential for fogging at various stages of the retrieval process that may affect schedule.
- On April 18, 2019, Ecology provided a notice of incompleteness determination for the A and AX Tank Farms (19-NWP-063). ORP 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. ORP submitted a revised application on October 31, 2019 (19-ECD-0080), to provide supplemental information to address Ecology's comments.

## Tank Waste Retrieval Work Plan Status

*Tank Farms Assistant Manager:* Rob Hastings

*Federal Program Manager:* Jeff Rambo

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:

- None.

### Issues:

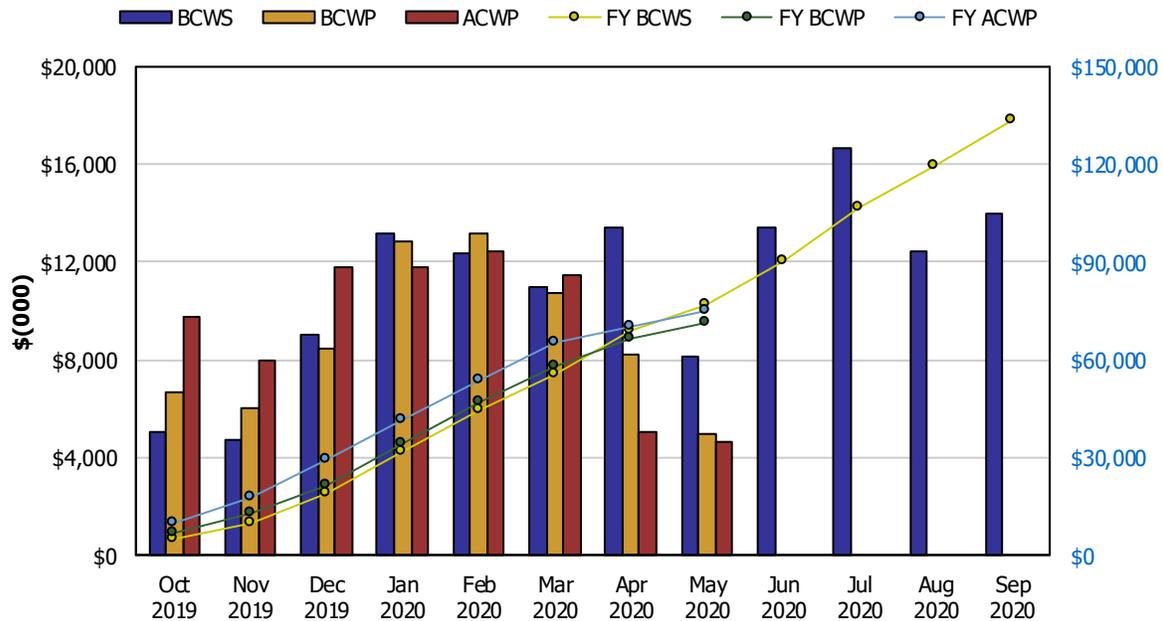
- None.

Earned Value Data: Fiscal Year 2020

May-2020

**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 2019	\$5,039	\$6,662	\$9,772	1.32	0.68	\$5,039	\$6,662	\$9,772	1.32	0.68
Nov 2019	\$4,722	\$6,050	\$7,940	1.28	0.76	\$9,761	\$12,712	\$17,711	1.30	0.72
Dec 2019	\$9,040	\$8,482	\$11,822	0.94	0.72	\$18,801	\$21,193	\$29,534	1.13	0.72
Jan 2020	\$13,201	\$12,877	\$11,828	0.98	1.09	\$32,003	\$34,070	\$41,362	1.06	0.82
Feb 2020	\$12,323	\$13,174	\$12,473	1.07	1.06	\$44,326	\$47,245	\$53,834	1.07	0.88
Mar 2020	\$10,984	\$10,744	\$11,497	0.98	0.93	\$55,310	\$57,989	\$65,331	1.05	0.89
Apr 2020	\$13,412	\$8,230	\$5,011	0.61	1.64	\$68,722	\$66,218	\$70,343	0.96	0.94
May 2020	\$8,123	\$4,957	\$4,623	0.61	1.07	\$76,845	\$71,175	\$74,966	0.93	0.95
Jun 2020	\$13,399			0.00	0.00	\$90,244			0.00	0.00
Jul 2020	\$16,637			0.00	0.00	\$106,881			0.00	0.00
Aug 2020	\$12,436			0.00	0.00	\$119,317			0.00	0.00
Sep 2020	\$14,021			0.00	0.00	\$133,338			0.00	0.00

CTD	\$1,161,107	\$1,132,517	\$1,193,749	0.98	0.95
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- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CTD = contract to date.
- EVMS = earned value management system.
- FY = fiscal year.
- SPI = schedule performance index.

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

The May unfavorable schedule variance (SV) of (\$3,166,000) is primarily due to the following:

- Delays in the release of contracts for procurement of A Tank Farm retrieval system equipment (extended reach sluicer system, slurry pump and hydraulic pressure unit, and the receipt of HIHTL raw material) due to engineering resources supporting higher priority work.
- Delays in installation of the Tank AX-104 retrieval system, due to the COVID-19 partial stop work order, have in turn delayed the start of Tank AX-104 retrieval operations.

The May favorable cost variance (CV) of \$334,000 is primarily due to the following:

- Implementation of the COVID-19 partial stop work order resulted in many craft employees and subcontractor personnel being placed in a “Ready to Serve” status, and costs have not been charged to project accounts. This resulted in many level of effort accounts still earning performance for the month without incurring costs.

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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).”

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 known as LBL, including direct-feed low-activity waste [DFLAW] and LBL facility services).

As of May 2020, DFLAW modifications for the WTP Project were 92 percent complete, engineering design was 98 percent complete, procurement was 100 percent complete, and construction was 87 percent complete. As of May 2020, total LBL facilities were 86 percent complete, engineering design was 98 percent complete, procurement was 98 percent complete, construction was 96 percent complete, and startup and commissioning was 60 percent complete.

At the request of DOE, the U.S. Army Corps of Engineers conducted a parametric analysis of certain 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 there is a low probability that DOE can meet the milestones for constructing and commissioning these facilities established by the Amended Consent Decree under the current funding profile.

The DOE Office of Project Management conducted an independent assessment of the U.S. Army Corps of Engineers report. As noted previously, the Office of Project Management’s assessment concluded the U.S. Army Corps of Engineers’ analyses were generally accurate, although not sufficiently detailed for budget purposes, and they potentially understate the funding needed to complete the HLW and PT facilities on the schedule established by the Amended Consent Decree.

As previously noted, Ecology sent ORP and the Richland Operations Office a letter (18-NWP-177) on December 3, 2018, regarding the Hanford Site ambient air boundary. Ecology expressed its concern that the ambient air boundary appears to have changed because of increased public access to parts of the Hanford Site. DOE, Ecology, and the Washington State Department of Health have met several times to attempt to develop a shared understanding of existing conditions and a path forward. DOE and Ecology engaged in mediation to try to resolve the issue. On May 8, 2020, DOE and Ecology reached a mediated agreement to resolve

Ecology's concerns about the Hanford Site ambient air boundary. The parties are developing a Memorandum of Agreement to capture revisions to the boundary and other agreements.

ORP held initial meetings with the WTP HLW Treatment Analysis of Alternatives (AoA) contractor team in June 2019, with Ecology participation. 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*.

Membership on the DOE AoA Steering Committee was revised in July 2019 to include senior-level representation from DOE's Office of Project Management, Office of Cost Estimating and Program Evaluation, Office of the Chief Financial Officer, Office of Environmental Management, and Acquisition and Project Management for the National Nuclear Security Administration.

ORP 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 new Steering Committee members to include the method, approach, and schedule to be used in conducting an independent AoA for the identified mission need.

On September 4, 2019, DOE notified Ecology that there is 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.

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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 Office of Project Management conducted a Project Peer Review (PPR) of the WTP Project in late November 2019. The PPR focused on DFLAW programs and projects for delivering waste from tanks, pretreating the waste to remove radioactive cesium and solids, vitrifying the low-activity waste, treating effluent waste from the LAW Facility, and disposing of the treated effluent wastes. The PPR team also reviewed infrastructure projects needed to provide essential services to all facilities that will play a role in the DFLAW Program. The PPR team issued its final report to ORP in December 2019. The PPR team's report concluded that the DFLAW Program is effective, with readiness planning across all contractors and facilities. The report also concluded the WTP Project has made considerable progress to transition from construction to testing and commissioning in anticipation of operations. The report also concluded DOE and WTP contractor Bechtel National, Inc. (BNI) are highly focused on completing the project and are working together to eliminate barriers and realize opportunities for improving costs and schedules. The report included 19 recommendations representing opportunities to continue safe and effective project performance. The recommendations were entered into the Hanford Site integrated issues management tracking system and each will be addressed and tracked to closure.

As of February 23, 2020, 76 percent of the WTP scoped systems supporting DFLAW have been turned over from the Construction organization to the Startup organization. In addition, Plant Management has accepted handover of 48 percent of the WTP scoped systems supporting DFLAW from the Startup organization.

On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. While the majority of the Hanford Site workforce continues to telework, there are a limited number of workers reporting to the site to perform activities necessary to maintain the site in a safe condition, continuing to protect the community, region, and the environment. 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 on the Consent Decree and if other actions may be necessary.

On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk work scope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added. 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>

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

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

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<sup>9</sup> ENV\_DEFENSE-#919846.

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

- Essential mission-critical operations and Phase 1 activities will continue in light of restrictions related to the COVID-19 pandemic and DOE's authorization for the Hanford site to move to Phase 1. Additional work on planning for remobilization, engineering analysis, permitting documentation development, etc. by both DOE and site contractors will progress as conditions support.
- Other significant planned activities in the reporting period are noted in project reports for the PT Facility, HLW Facility, LAW Facility, BOF, and LAB.

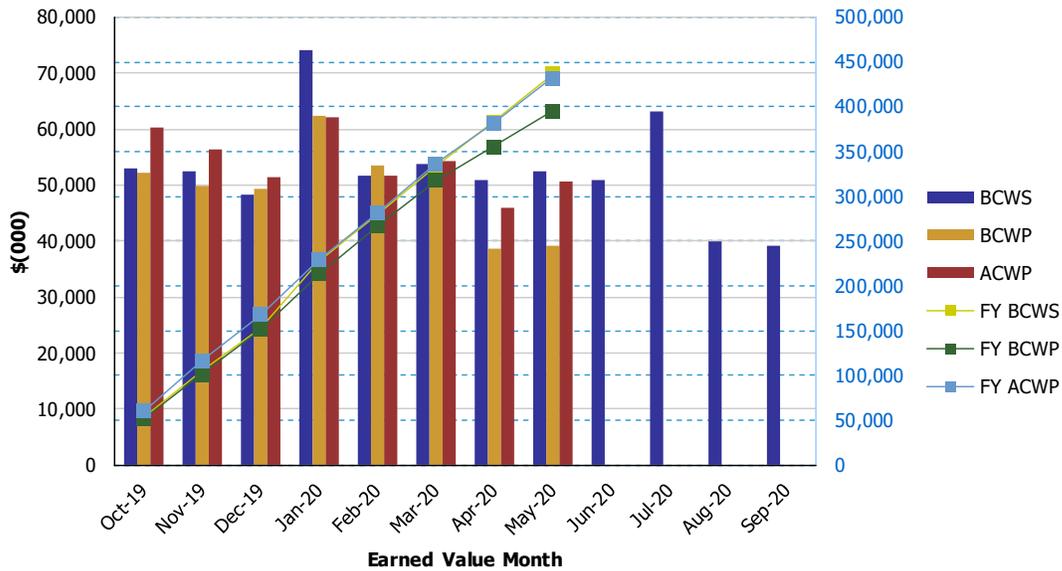
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$52,863	\$52,079	\$60,216	0.99	0.86	\$52,863	\$52,079	\$60,216	0.99	0.86
Nov 2019	\$52,457	\$49,780	\$56,387	0.95	0.88	\$105,320	\$101,859	\$116,603	0.97	0.87
Dec 2019	\$48,219	\$49,369	\$51,429	1.02	0.96	\$153,538	\$151,228	\$168,032	0.98	0.90
Jan 2020	\$74,007	\$62,261	\$62,070	0.84	1.00	\$227,545	\$213,489	\$230,102	0.94	0.93
Feb 2020	\$51,722	\$53,420	\$51,766	1.03	1.03	\$279,267	\$266,908	\$281,867	0.96	0.95
Mar 2020	\$53,763	\$50,732	\$54,238	0.94	0.94	\$333,030	\$317,640	\$336,106	0.95	0.95
Apr 2020	\$50,878	\$38,578	\$45,969	0.76	0.84	\$383,908	\$356,218	\$382,075	0.93	0.93
May 2020	\$52,452	\$39,269	\$50,645	0.75	0.78	\$436,360	\$395,487	\$432,720	0.91	0.91
Jun 2020	\$50,994									
Jul 2020	\$63,275									
Aug 2020	\$40,049									
Sep 2020	\$39,208									

PTD	\$12,314,588	\$12,173,548	\$12,182,451	0.99	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.     |

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

Performance Tracking	SV	CV
Current Period (May 2020)	(\$13,182)	(\$11,376)
Fiscal Year 2020 to-date	(\$40,873)	(\$37,233)
Cumulative (through May 2020)	(\$141,040)	(\$8,903)

CV = cost variance.

SV = schedule variance.

For the May 2020 earned value management system reporting period, a net unfavorable SV of approximately (\$13.2 million) was reported, primarily due to the following:

- LAW Facility Plant Management reported an unfavorable SV due to delays in discrete planned activities, consumables award delay, and extended testing tasks.
- BOF Construction reported an unfavorable SV due to direct hire craft, mostly working on essential mission critical operations only.
- BOF Startup reported an unfavorable SV due to delays in system and component testing.

For the May 2020 earned value management system reporting period, a net unfavorable CV of approximately (\$11.4 million) was reported, primarily due to the following:

- Project Services (which is a level-of-effort account) reported an unfavorable CV due to the essential mission critical operations posture.
- BOF Plant Management reported an unfavorable CV primarily driven by correction of historical craft wage rate adders during the current period; partially offset by level-of-effort work that continued to earn during the month.

## 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-00001A/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)."

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.

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

In addition, ORP and BNI completed resolution of technical issues not included in the Third Order Regarding Motions to Modify Consent Decrees (i.e., T6 in relation to design redundancy and in-service inspection, and T7 in relation to seismic ground motion criteria changes in 2005). ORP notified BNI in July 2019 that it concurred with BNI's determination that the PT Facility's technical issues have been resolved.<sup>11</sup>

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

<sup>11</sup> 19-WTP-0078, "Contract No. DE-AC27-01RV14136 – Concurrence on the Resolution of Technical Issues (T1 – T8) for the Waste Treatment and Immobilization Plant Pretreatment Facility," July 16, 2019.

**Significant Accomplishments during the Prior Month:**

- BNI continued to manage suspended plant equipment purchase orders to reduce storage and suspension costs, and evaluated ways to reduce project procurement liability.
- BNI continued to implement ongoing asset maintenance at the PT Facility to protect equipment and structures, and ensure design documents were maintained.

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

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

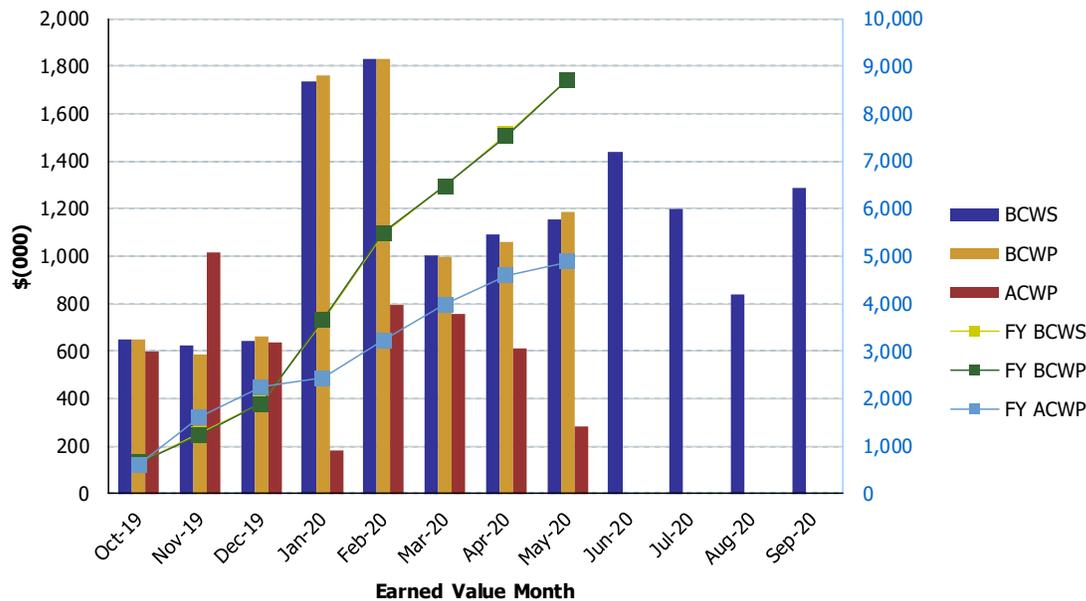
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$647	\$651	\$597	1.01	1.09	\$647	\$651	\$597	1.01	1.09
Nov 2019	\$622	\$584	\$1,015	0.94	0.58	\$1,270	\$1,235	\$1,612	0.97	0.77
Dec 2019	\$640	\$663	\$636	1.04	1.04	\$1,910	\$1,898	\$2,249	0.99	0.84
Jan 2020	\$1,739	\$1,763	\$179	1.01	9.87	\$3,648	\$3,661	\$2,427	1.00	1.51
Feb 2020	\$1,830	\$1,830	\$792	1.00	2.31	\$5,479	\$5,491	\$3,220	1.00	1.71
Mar 2020	\$1,000	\$994	\$758	0.99	1.31	\$6,479	\$6,485	\$3,978	1.00	1.63
Apr 2020	\$1,091	\$1,059	\$614	0.97	1.72	\$7,569	\$7,543	\$4,592	1.00	1.64
May 2020	\$1,155	\$1,187	\$283	1.03	4.20	\$8,725	\$8,730	\$4,875	1.00	1.79
Jun 2020	\$1,438									
Jul 2020	\$1,198									
Aug 2020	\$836									
Sep 2020	\$1,286									

PTD	\$3,521,805	\$3,519,870	\$3,452,780	1.00	1.02
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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.

## 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)."

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.

Work on the HLW Facility is being performed in accordance with the fiscal year 2017 through fiscal year 2021 Interim Work Plan, which was for work primarily associated with asset maintenance and key ongoing procurement activities initially. Subsequently, engineering staff have been transitioning to HLW Facility design activities as they complete their DFLAW/LBL activities based on the availability of funds.

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:**

- BNI continued to perform engineering design activities and hazard analysis for the key mechanical and process systems (melter feed process and the primary offgas process systems).
- BNI continued to manage suspended plant equipment purchase orders to reduce storage and suspension costs and evaluate ways to reduce project procurement liability.
- BNI continued to implement asset maintenance at the HLW Facility to protect equipment and structures and to ensure design documents were maintained.

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

- BNI is expected to continue to perform engineering design activities and hazard analysis for key mechanical and process systems. Priority systems for fiscal year 2020 include the design of the HLW Facility melter feed process and the primary offgas process systems.
- BNI is planning to conduct a 60 percent design review of the HLW melter offgas system (which includes offgas treatment process system, process vessel vent exhaust system, and pulse-jet ventilation system) in July 2020.
- BNI is expected to continue to manage suspended plant equipment purchase orders to reduce storage and suspension costs and to evaluate ways to reduce project procurement liability.
- BNI will continue to implement asset maintenance at the HLW Facility to protect equipment and structures and to ensure design documents are maintained.

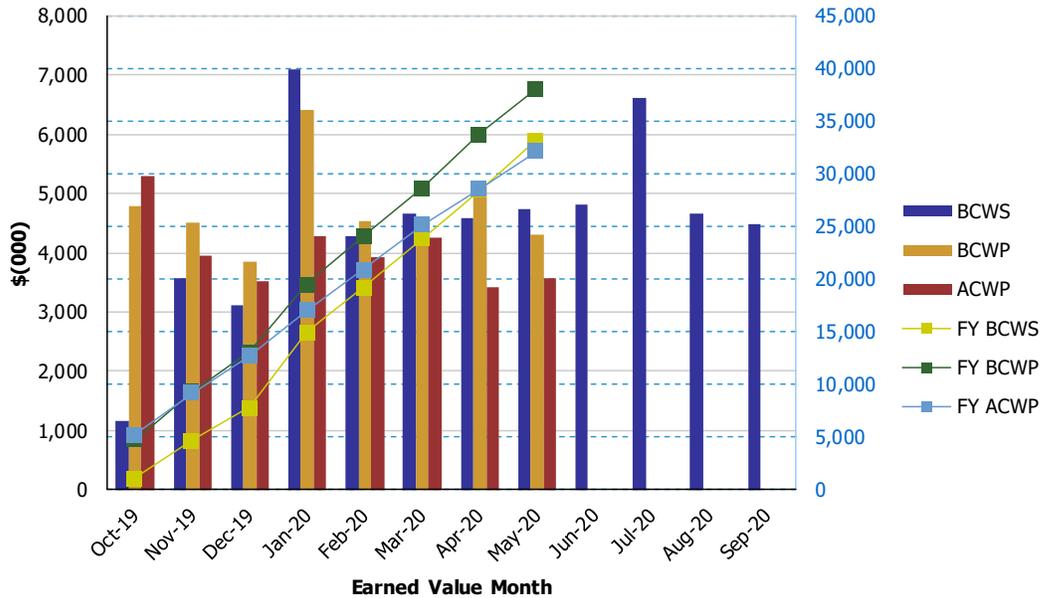
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$1,158	\$4,792	\$5,293	4.14	0.91	\$1,158	\$4,792	\$5,293	4.14	0.91
Nov 2019	\$3,569	\$4,519	\$3,943	1.27	1.15	\$4,727	\$9,311	\$9,236	1.97	1.01
Dec 2019	\$3,124	\$3,852	\$3,521	1.23	1.09	\$7,851	\$13,163	\$12,757	1.68	1.03
Jan 2020	\$7,103	\$6,418	\$4,276	0.90	1.50	\$14,954	\$19,581	\$17,033	1.31	1.15
Feb 2020	\$4,294	\$4,531	\$3,931	1.06	1.15	\$19,248	\$24,113	\$20,964	1.25	1.15
Mar 2020	\$4,655	\$4,595	\$4,257	0.99	1.08	\$23,903	\$28,707	\$25,221	1.20	1.14
Apr 2020	\$4,595	\$5,126	\$3,414	1.12	1.50	\$28,498	\$33,833	\$28,635	1.19	1.18
May 2020	\$4,735	\$4,309	\$3,573	0.91	1.21	\$33,234	\$38,142	\$32,207	1.15	1.18
Jun 2020	\$4,807									
Jul 2020	\$6,612									
Aug 2020	\$4,661									
Sep 2020	\$4,485									

PTD	\$2,536,984	\$2,536,564	\$2,480,009	1.00	1.02
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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>12</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	12/31/2020	Amendment proposed <sup>1</sup>
D-00A-08	Start LAW Facility Cold Commissioning	12/31/2022	Amendment proposed <sup>1</sup>
D-00A-09	LAW Facility Hot Commissioning Complete	12/31/2023	Amendment proposed <sup>1</sup>

<sup>1</sup> Certain Consent Decree-related work at the Hanford Site has been interrupted since March 23, 2020, due to the COVID-19 pandemic. On May 21, 2020, the U.S. Department of Justice, on behalf of DOE, submitted a proposal to the State of Washington to amend the Consent Decree in *State of Washington v. Brouillete, et al.*, No. 2:08-cv-5085-RMP (E.D. Wash.) due to a Force Majeure event. 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 A.A. Fritz, 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.

COVID-19 = coronavirus disease 2019.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

LAW = low-activity waste.

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 May 2020, the LAW Facility was 85 percent complete overall, with engineering design 98 percent complete, procurement 100 percent complete, construction 99 percent complete, and startup and commissioning 45 percent complete. BNI has completed construction and turnover for 89 LAW Facility systems. This represents 96 percent of LAW Facility systems that have completed construction and initiated startup testing. BNI has completed startup testing for 36 LAW Facility systems (39 percent) and custody of these systems has been transferred to Plant Management for operations. BNI is working to resolve outstanding punch list items, progress procedure preparation, and perform planning activities as much as possible via telework. Limited onsite activities are coordinated to maintain systems and perform key work activities. On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations

<sup>12</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.

began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk work scope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

**Significant Accomplishments during the Prior Month:**

- BNI continued pressurization of the LAW Facility fire-water service system.
- BNI continued punch list resolution and preparations for LAW Facility system testing where possible via telework.

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

- None.

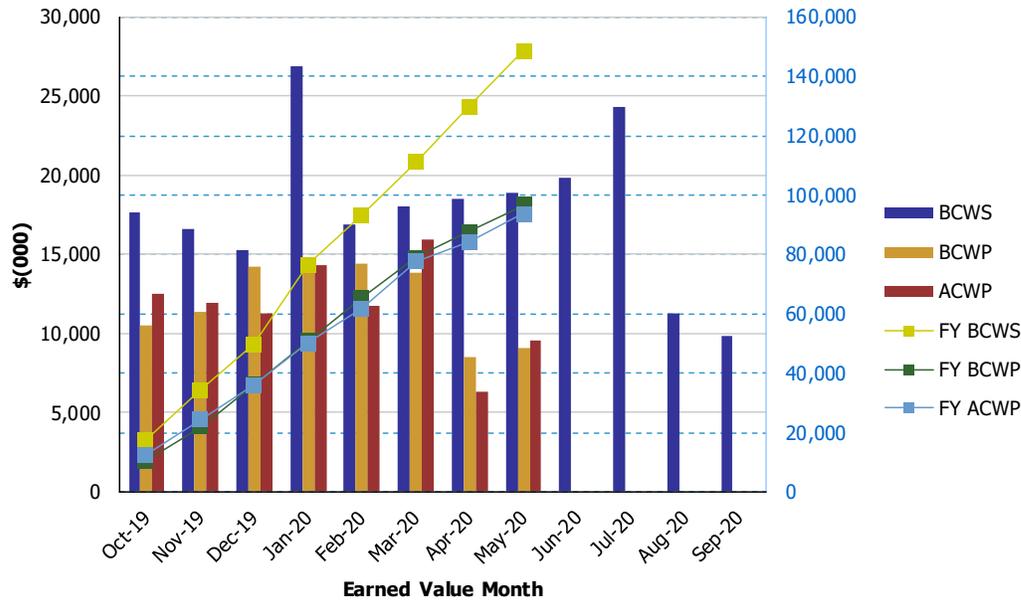
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$17,656	\$10,507	\$12,532	0.60	0.84	\$17,656	\$10,507	\$12,532	0.60	0.84
Nov 2019	\$16,594	\$11,356	\$11,977	0.68	0.95	\$34,250	\$21,863	\$24,509	0.64	0.89
Dec 2019	\$15,259	\$14,260	\$11,290	0.93	1.26	\$49,509	\$36,123	\$35,799	0.73	1.01
Jan 2020	\$26,877	\$14,761	\$14,331	0.55	1.03	\$76,386	\$50,884	\$50,130	0.67	1.02
Feb 2020	\$16,880	\$14,419	\$11,727	0.85	1.23	\$93,266	\$65,303	\$61,858	0.70	1.06
Mar 2020	\$18,044	\$13,801	\$15,925	0.76	0.87	\$111,310	\$79,103	\$77,783	0.71	1.02
Apr 2020	\$18,469	\$8,484	\$6,307	0.46	1.35	\$129,779	\$87,588	\$84,090	0.67	1.04
May 2020	\$18,880	\$9,045	\$9,578	0.48	0.94	\$148,659	\$96,632	\$93,668	0.65	1.03
Jun 2020	\$19,849									
Jul 2020	\$24,329									
Aug 2020	\$11,275									
Sep 2020	\$9,872									

PTD	\$2,433,324	\$2,338,448	\$2,336,700	0.96	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.      |

## 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 May 2020, BOF was 91 percent complete overall, engineering design was 97 percent complete, procurement was 100 percent complete, construction was 94 percent complete, and startup and commissioning was 82 percent complete. Design of Effluent Management Facility was 100 percent complete.

BOF has completed construction and turnover to the Startup organization for all systems. BNI has completed startup testing for 50 BOF systems (93 percent) and custody of these systems has been transferred to the Plant Management organization for operations. BNI is working to resolve outstanding punch list items, progress procedure preparation, and perform planning activities as much as possible via telework. Limited onsite activities are coordinated to maintain systems and perform key work activities. On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk work scope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

### Significant Accomplishments during the Prior Month:

- BNI initiated site paving.
- BNI prepared Steam Plant for startup to continue system testing and support methods validation efforts in the LAB.
- BNI continued limited system walkdowns to support turnover to the Startup organization.
- BNI continued limited system maintenance to ensure safe shutdown conditions.
- BNI Engineering continued design support and punch list resolution activities for the Effluent Management Facility where possible via telework.

### Significant Planned Activities in the Next Month:

- Startup Steam Plant to support LAB validation testing.

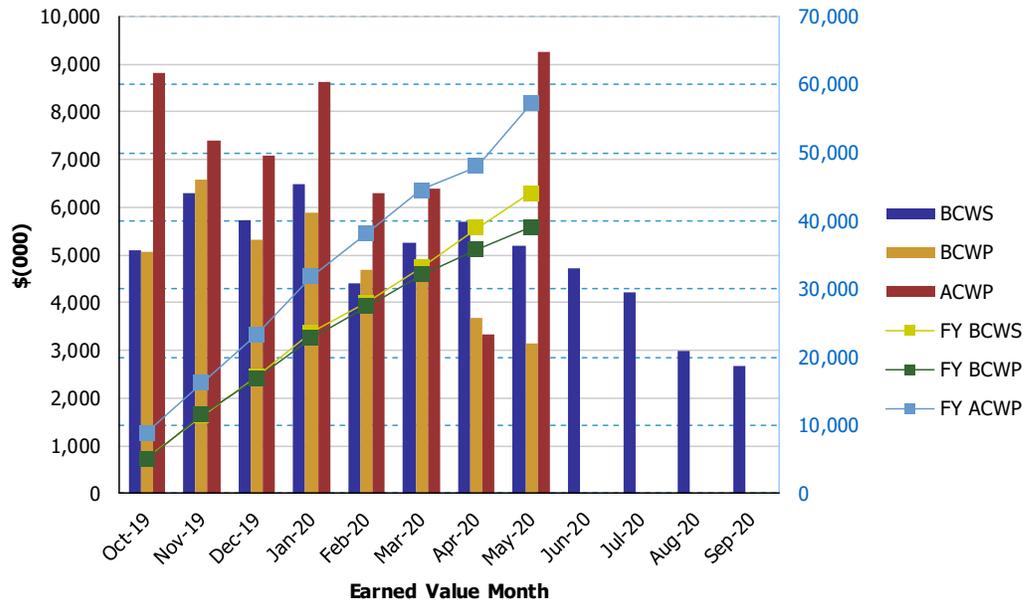
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$5,103	\$5,056	\$8,817	0.99	0.57	\$5,103	\$5,056	\$8,817	0.99	0.57
Nov 2019	\$6,296	\$6,582	\$7,383	1.05	0.89	\$11,399	\$11,638	\$16,200	1.02	0.72
Dec 2019	\$5,729	\$5,305	\$7,071	0.93	0.75	\$17,128	\$16,943	\$23,271	0.99	0.73
Jan 2020	\$6,470	\$5,888	\$8,630	0.91	0.68	\$23,598	\$22,831	\$31,901	0.97	0.72
Feb 2020	\$4,392	\$4,689	\$6,304	1.07	0.74	\$27,990	\$27,520	\$38,205	0.98	0.72
Mar 2020	\$5,265	\$4,631	\$6,385	0.88	0.73	\$33,256	\$32,151	\$44,590	0.97	0.72
Apr 2020	\$5,698	\$3,696	\$3,341	0.65	1.11	\$38,954	\$35,847	\$47,931	0.92	0.75
May 2020	\$5,194	\$3,159	\$9,256	0.61	0.34	\$44,148	\$39,006	\$57,188	0.88	0.68
Jun 2020	\$4,735									
Jul 2020	\$4,228									
Aug 2020	\$2,988									
Sep 2020	\$2,676									

PTD	\$959,137	\$941,938	\$993,701	0.98	0.95
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- |      |   |                                  |      |   |                                 |
|------|---|----------------------------------|------|---|---------------------------------|
| ACWP | = | actual cost of work performed.   | EVMS | = | earned value management system. |
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| BCWS | = | budgeted cost of work scheduled. | PTD  | = | project to date.                |
| CPI  | = | cost performance index.          | 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 May 2020, the LAB was 90 percent complete overall, engineering design was 99 percent complete, procurement was 100 percent complete, construction was 100 percent complete, and startup and commissioning was 68 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 is working to resolve outstanding punch list items, progress procedure preparation, and perform planning activities as much as possible via telework. Limited onsite activities are coordinated to maintain systems and perform key work activities. On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk work scope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

### Significant Accomplishments during the Prior Month:

- BNI continued fume hood testing and certification to support methods validation activities.
- BNI continued preparation of analytical procedures to support methods development activities.
- BNI continued activities to support LAB readiness and operability where possible via telework.

### Significant Planned Activities in the Next Month:

- None.

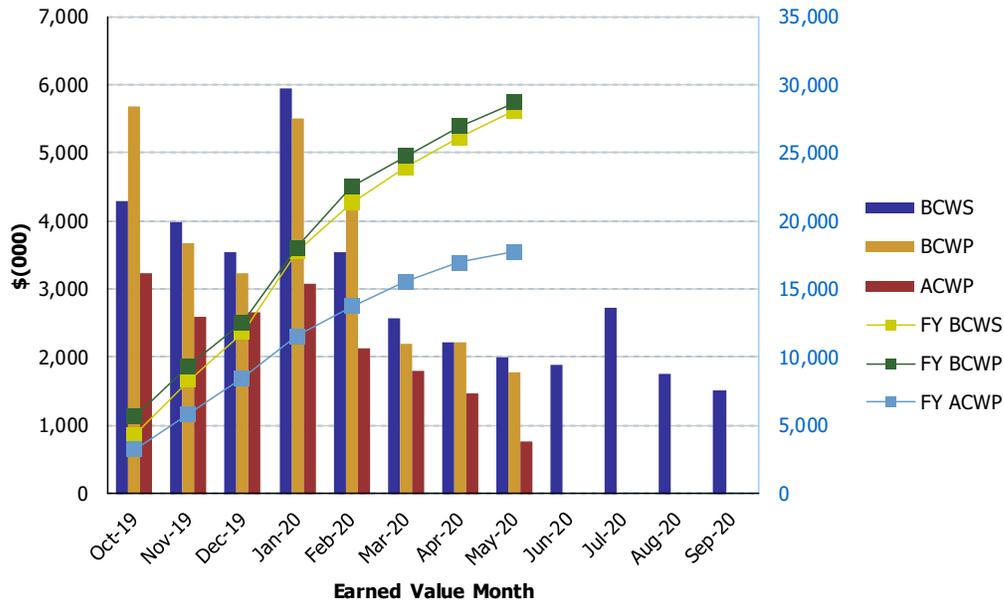
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data

Data as of: May 2020

**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 2019	\$4,297	\$5,683	\$3,222	1.32	1.76	\$4,297	\$5,683	\$3,222	1.32	1.76
Nov 2019	\$3,984	\$3,669	\$2,604	0.92	1.41	\$8,281	\$9,352	\$5,826	1.13	1.61
Dec 2019	\$3,549	\$3,228	\$2,666	0.91	1.21	\$11,830	\$12,580	\$8,492	1.06	1.48
Jan 2020	\$5,947	\$5,495	\$3,081	0.92	1.78	\$17,778	\$18,076	\$11,573	1.02	1.56
Feb 2020	\$3,548	\$4,446	\$2,136	1.25	2.08	\$21,326	\$22,522	\$13,709	1.06	1.64
Mar 2020	\$2,568	\$2,191	\$1,808	0.85	1.21	\$23,894	\$24,713	\$15,517	1.03	1.59
Apr 2020	\$2,221	\$2,214	\$1,462	1.00	1.51	\$26,114	\$26,928	\$16,979	1.03	1.59
May 2020	\$1,995	\$1,772	\$765	0.89	2.32	\$28,110	\$28,699	\$17,744	1.02	1.62
Jun 2020	\$1,897									
Jul 2020	\$2,717									
Aug 2020	\$1,747									
Sep 2020	\$1,519									

PTD	\$471,962	\$464,112	\$441,185	0.98	1.05
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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 May 2020																		
(Dollars - Millions)	Overall Facility Percent Complete Unallocated 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	2,252.3	1,922.5	85%	590.1	578.4	98%	342.9	342.5	100%	753.3	746.1	99%	554.2	250.3	45%	11.9	5.3	44%
Balance of Facilities	777.4	710.6	91%	157.1	153.1	97%	60.8	60.8	100%	307.5	290.4	94%	251.6	205.9	82%	0.5	0.5	100%
Analytical Lab	468.6	419.6	90%	94.7	93.8	99%	60.5	60.5	100%	166.1	165.7	100%	144.5	98.6	68%	2.9	1.0	34%
Direct Feed LAW	432.0	397.4	92%	110.9	109.0	98%	72.4	72.2	100%	239.3	208.6	87%	0.0	0.0	0%	9.5	7.6	81%
LBL Facility Services	763.1	565.6	74%	0.0	0.0	0%	70.5	60.9	86%	107.1	105.2	98%	333.3	209.7	63%	252.2	189.9	75%
<b>Total LBL</b>	<b>4,693.4</b>	<b>4,015.8</b>	<b>86%</b>	<b>952.8</b>	<b>934.3</b>	<b>98%</b>	<b>607.0</b>	<b>596.8</b>	<b>98%</b>	<b>1,573.1</b>	<b>1,516.0</b>	<b>96%</b>	<b>1,283.5</b>	<b>764.5</b>	<b>60%</b>	<b>277.0</b>	<b>204.2</b>	<b>74%</b>
Project Services	907.8	744.1	82%	92.5	90.0	97%	63.4	55.3	87%	101.0	92.4	92%	7.5	4.6	62%	643.4	501.7	78%
<b>Total Project Services</b>	<b>907.8</b>	<b>744.1</b>	<b>82%</b>	<b>92.5</b>	<b>90.0</b>	<b>97%</b>	<b>63.4</b>	<b>55.3</b>	<b>87%</b>	<b>101.0</b>	<b>92.4</b>	<b>92%</b>	<b>7.5</b>	<b>4.6</b>	<b>62%</b>	<b>643.4</b>	<b>501.7</b>	<b>78%</b>
<b>Total LBL, DFLAW &amp; Project Services</b>	<b>5,601.2</b>	<b>4,759.9</b>	<b>85%</b>	<b>1,045.3</b>	<b>1,024.3</b>	<b>98%</b>	<b>670.4</b>	<b>652.1</b>	<b>97%</b>	<b>1,674.1</b>	<b>1,608.5</b>	<b>96%</b>	<b>1,291.0</b>	<b>769.1</b>	<b>60%</b>	<b>920.4</b>	<b>705.9</b>	<b>77%</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>14,324.0</b>	<b>10,725.1</b>	<b>75%</b>	<b>3,218.4</b>	<b>2,973.2</b>	<b>92%</b>	<b>2,235.9</b>	<b>1,776.9</b>	<b>79%</b>	<b>4,561.7</b>	<b>3,373.3</b>	<b>74%</b>	<b>2,049.5</b>	<b>912.3</b>	<b>45%</b>	<b>2,258.5</b>	<b>1,689.4</b>	<b>75%</b>

Source: Preliminary WTP Contract Performance Report - Format 1, Data for May 2020

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-02DM	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)

LAW = Low-Activity Waste (Facility).

TWRWP = tank waste retrieval work plan.