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Office of River Protection
Consent Decree
Monthly Report
October 2018[1]

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],[3]

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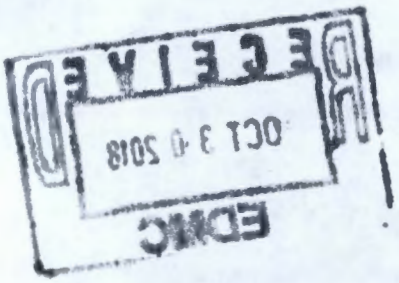
[1] Except where otherwise expressly stated, the narrative descriptions of progress in this report cover the period through September 30, 2018. Earned Value Management System data and descriptions cover the period through August 31, 2018; this includes the facility completion percentage estimates included at various locations in the Waste Treatment and Immobilization Plant section.

[2] The cited consent decrees are between the State of Washington and U.S. Department of Energy. For each of these decrees, there are companion, separate consent decrees with the State of Oregon, as Intervenor, under the same case numbers.

[3] Although outside of the reporting period. changes related to the October 2018 Amended Consent Decree have been included in this report,



Acronyms and Abbreviations

BNI	Bechtel National, Inc.
BOF	Balance of Facilities
CV	cost variance
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
EMF	Effluent Management Facility
FY	fiscal year
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
PT	Pretreatment (Facility)
SV	schedule variance
USACE	U.S. Army Corps of Engineers
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	12/31/2020		On Schedule
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[1]		On Schedule
Fiscal Year 2023				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	12/31/2022		On Schedule
Fiscal Year 2024				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	12/31/2023		On Schedule
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[1]		Under Analysis[2]
Fiscal Year 2031				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		Under Analysis[3]
Fiscal Year 2032				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031		Under Analysis[3]
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		Under Analysis[3]
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		Under Analysis[3]

Milestone	Title	Due Date	Completion Date	Status
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		Under Analysis[3]
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		Under Analysis[3]
Fiscal Year 2034				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		Under Analysis[3]
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		Under Analysis[3]
D-00A-17	Hot Start of WTP	12/31/2033		Under Analysis[3]
Fiscal Year 2037				
D-00A-01	Achieve Initial Plant Operations for the WTP	12/31/2036		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] As discussed in the joint motion to amend the Consent Decree filed October 10, 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 the Washington State Department of Ecology on August 30, 2018, to discuss the retrieval challenges and tank conditions issues with Tanks A-104 and A-105.

[3] As described in this report, DOE received the U.S. Army Corps of Engineers' final report on its parametric analysis of certain options and funding scenarios used to evaluate the likelihood of achieving PT- and HLW-related milestones. Based on the results of this analysis, DOE considers the milestones for the HLW and PT facilities as "Under Analysis." DOE also considers milestones A-1 and A-17 as being "Under Analysis" because of the definition in Section IV-A-2: "'Hot Start of Waste Treatment Plant' means the initiation of simultaneous operation of the Pretreatment (PT) Facility, High-Level Waste (HLW) Facility and Low-Activity Waste (LAW) Facility (including as needed the operations of the Analytical Laboratory (LAB) and the Balance of Facilities) treating Hanford tank wastes and producing a waste glass product."

DOE	=	U.S. Department of Energy.	PT	=	pretreatment.
Ecology	=	Washington State Department of Ecology.	SST	=	single-shell tank.
HLW	=	high-level waste.	WMA-C	=	C Tank Farm waste management area.
LAW	=	low-activity waste.	WTP	=	Waste Treatment and Immobilization Plant.

Consent Decree Reports/Reviews

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

Due: 45 days following each calendar year quarter (due November 14, 2018).
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: 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: Rob Hastings

Federal Program Manager: 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 5	12/31/2020	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.	03/31/2024	Under Analysis[1].

[1] As discussed in the joint motion to amend the Consent Decree filed October 10, 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 the Washington State Department of Ecology on August 30, 2018, to discuss the retrieval challenges and tank conditions issues with Tanks A-104 and A-105.

DOE = U.S. Department of Energy.
Ecology = Washington State Department of Ecology.
SST = single-shell tank.
WMA-C = C Tank Farm waste management area.

Significant Accomplishments during the Prior Month:

Completed Accomplishments:

- Completed construction of A Tank Farm exhauster pads (concrete placement)
- Completed remaining C Tank Farm layup activities:
  - Removed hose-in-hose transfer lines in C Tank Farm and AN Tank Farm

  - Disconnected and disposed of portable power, heat trace and temperature monitoring, leak detection systems
  - Disconnected high resolution resistivity-leak detection and monitoring cables inside C Tank Farm
- Completed riser investigations (thermocouples) at Tanks A-101, A-103, A-106, and A-104
- Completed engineering evaluation of the high definition videos of Tanks A-104/A-105
- Completed installation of three boreholes at A-104 and A-105 (approximately 250, 280, and 295 feet deep)
- Shipped the AX04 Pit 05B pump components to onsite disposal
- Installed POR466 water manifold in AX Tank Farm
- Installed POR412 diversion valve box in AX Tank Farm.

Ongoing Activities:

- Continue installation of the electrical infrastructure (power and control systems) inside the AX Tank Farm
- Continue riser investigation at Tank AX-101 and Tank AX-103
- Continue direct-push sampling of soil at Tank A-104 and Tank A-105 (installation of two additional boreholes)
- Continue installation of caustic and water system piping from POR496 to the AX Tank Farm
- Continue Phase II of the AX-102/AX-104 tanks control trailer installation (POR471)
- Continue installation of A Tank Farm ventilation system:
  - Install exhausters and structural steel
  - Install ventilation manifold supports
  - Remove thermocouple trees from risers (connections for ventilation system).

Significant Planned Activities in the Next Month:

- Complete installation of AX-102 Pit 02C extended reach sluicer system
- Install A Tank Farm exhausters (POR518 and POR519) on pad
- Complete AX-102 diversion box hose barn installation
- Complete excavation from diversion box to Pits 04A, B, C, and D
- Complete AX01A pit cleanout
- Complete AX-104 diversion box hose barn installation
- Complete conduit installs for east/west electrical system.

Issues:

- Reduced worker efficiencies associated with mandatory use of supplied air continues to impact work in the tank farms.

Tank Waste Retrieval Work Plan Status

Tank Farms Assistant Manager: Rob Hastings

Federal Program Manager: Jeff Rambo

			Retrieval Technology		
Tank	**TWRWP**	**Expected Revisions**	**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.

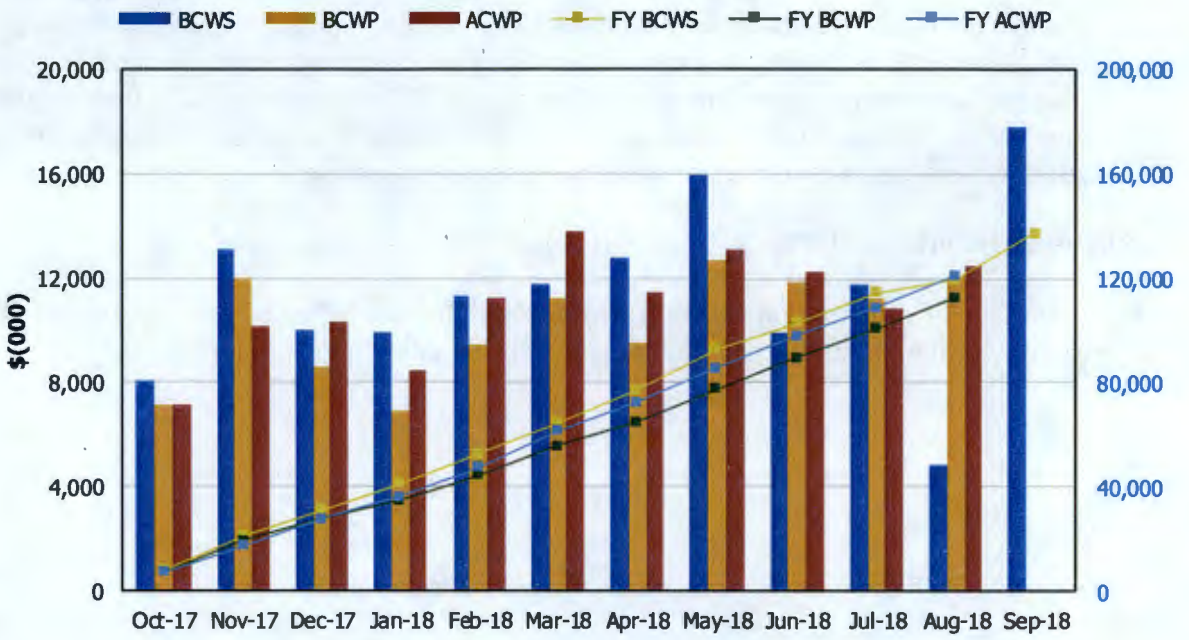
Issues:

- None.

Earned Value Data: Fiscal Year 2018 August-18

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 2017	$8,053	$7,119	$7,127	0.88	1.00	$8,053	$7,119	$7,127	0.88	1.00
Nov 2017	$13,058	$11,996	$10,119	0.92	1.19	$21,111	$19,115	$17,246	0.91	1.11
Dec 2017	$9,964	$8,572	$10,318	0.86	0.83	$31,075	$27,686	$27,563	0.89	1.00
Jan 2018	$9,940	$6,911	$8,464	0.70	0.82	$41,015	$34,597	$36,027	0.84	0.96
Feb 2018	$11,310	$9,456	$11,225	0.84	0.84	$52,326	$44,053	$47,252	0.84	0.93
Mar 2018	$11,787	$11,248	$13,799	0.95	0.82	$64,113	$55,301	$61,051	0.86	0.91
Apr 2018	$12,763	$9,509	$11,495	0.75	0.83	$76,875	$64,810	$72,546	0.84	0.89
May 2018	$15,972	$12,694	$13,076	0.79	0.97	$92,848	$77,504	$85,622	0.83	0.91
Jun 2018	$9,930	$11,819	$12,233	1.19	0.97	$102,778	$89,323	$97,855	0.87	0.91
Jul 2018	$11,803	$11,257	$10,812	0.95	1.04	$114,581	$100,580	$108,667	0.88	0.93
Aug 2018	$4,836	$12,075	$12,438	2.50	0.97	$119,416	$112,655	$121,105	0.94	0.93
Sep 2018	$17,759					$137,175				
CTD	$922,987	$917,318	$959,657	0.99	0.96					

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)[4]

The August 2018 **favorable** schedule variance (SV) of $7,239,000 was due to:

- U.S. Department of Energy (DOE), Office of River Protection (ORP) letter 18-TF-0064, "Cost Correction from General Plant Project to Expense for Barriers and Exhausters," dated August 2, 2018, requested a change in the funding type for the SX barrier work from General Plant Project to Expense-funded. This change required the creation of new work breakdown structure elements, so that historical costs and planned values could be transferred. This resulted in a current month point adjustment, as the financial systems will not allow changes to previously closed accounting periods.

The August 2018 **unfavorable** cost variance (CV) of ($363,000) was due to:

- A shortage of construction subcontractor electricians has impacted activity progress. The use of overtime, to minimize schedule impacts, resulted in the unfavorable CV.

[4] "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: Vacant

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	Under Analysis[1]
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2036	Under Analysis[1]

[1] As described in this report, DOE received the U.S. Army Corps of Engineers' final report on its parametric analysis of certain options and funding scenarios used to evaluate the likelihood of achieving PT- and HLW-related milestones. Based on the results of this analysis, DOE considers the milestones for the HLW and PT facilities as "Under Analysis." DOE also considers milestones A-1 and A-17 as being "Under Analysis" because of the definition in Section IV-A-2: "'Hot Start of Waste Treatment Plant' means the initiation of simultaneous operation of the Pretreatment (PT) Facility, High-Level Waste (HLW) Facility and Low-Activity Waste (LAW) Facility (including as needed the operations of the Analytical Laboratory (LAB) and the Balance of Facilities) treating Hanford tank wastes and producing a waste glass product."

DOE = U.S. Department of Energy.
HLW = high-level waste.
PT = pretreatment.
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 August 2018, DFLAW modifications for the WTP Project were 52 percent complete, engineering design was 85 percent complete, procurement was 50 percent complete, and construction was 38 percent complete. As of August 2018, total LBL facilities were 67 percent complete, engineering design was 91 percent complete, procurement was 81 percent complete, construction was 83 percent complete, and startup and commissioning was 32 percent complete.

The WTP Project has complied with milestones already come due as of the date of this report. There are no missed milestones that may affect compliance with other milestones.

Significant Accomplishments during the Prior Month:

- DOE continued to evaluate the U.S. Army Corp of Engineers (USACE) report on its parametric analysis of certain options and funding scenarios used to evaluate the potential achievement of the Pretreatment (PT) Facility construction substantially complete milestone (13 years from now) and the High-Level Waste (HLW) Facility construction substantially complete milestone (12 years from now). Once the DOE evaluation of the USACE report is complete, a path forward focused on meeting treatment objectives to achieve the mission will be developed.

- Other 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:

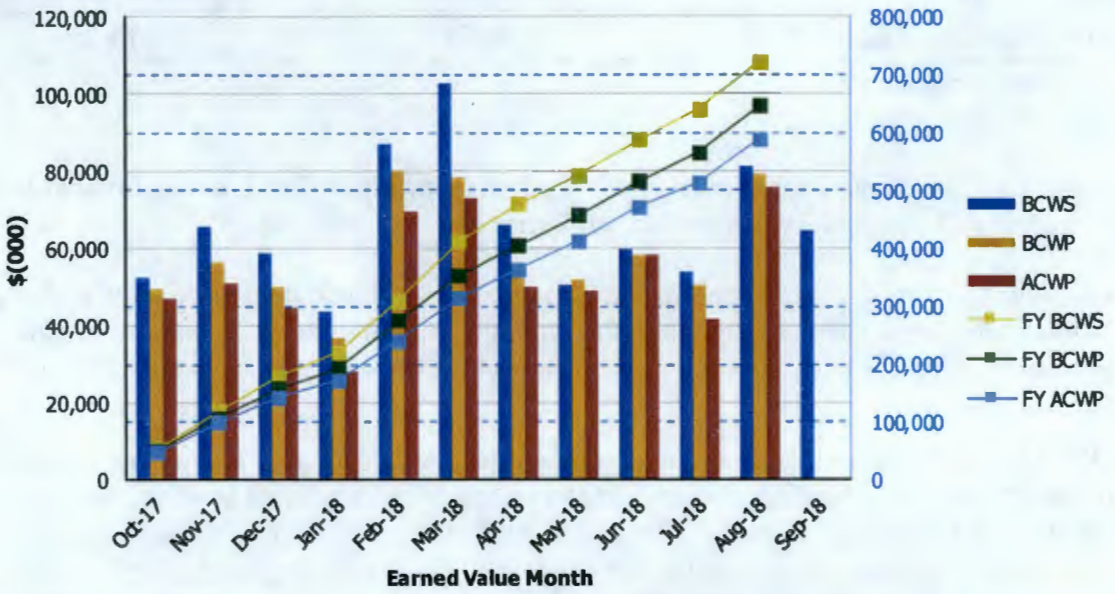
- DOE will continue its evaluation of the USACE report and the Bechtel National, Inc. (BNI) presentations.
- ORP met with the Washington State Department of Ecology on October 4, 2018, to discuss the tank waste treatment mission and high-level waste approaches.
- ORP expects to receive the DFLAW replan schedule and baseline change proposal from BNI for its consideration and implementation.
- BNI is expected to perform an Integrated Safety Management System Phase 1 review of the commissioning programs. The review will evaluate the documentation that forms the basis of the programs, which will be used to commission WTP.
- Other significant planned activities in the next month 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 2018 Earned Value Data Data as of: August 2018

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 2017	$52,662	$49,804	$46,894	0.95	1.06	$52,662	$49,804	$46,894	0.95	1.06
Nov 2017	$65,935	$56,513	$51,026	0.86	1.11	$118,597	$106,317	$97,920	0.90	1.09
Dec 2017	$58,797	$50,134	$44,924	0.85	1.12	$177,394	$156,452	$142,844	0.88	1.10
Jan 2018	$43,622	$36,665	$28,076	0.84	1.31	$221,016	$193,117	$170,920	0.87	1.13
Feb 2018	$86,995	$80,565	$69,775	0.93	1.15	$308,011	$273,683	$240,695	0.89	1.14
Mar 2018	$102,749	$78,481	$72,880	0.76	1.08	$410,760	$352,163	$313,575	0.86	1.12
Apr 2018	$65,995	$52,537	$50,050	0.80	1.05	$476,755	$404,701	$363,625	0.85	1.11
May 2018	$50,537	$52,199	$49,027	1.03	1.06	$527,292	$456,900	$412,653	0.87	1.11
Jun 2018	$59,842	$58,499	$58,483	0.98	1.00	$587,134	$515,399	$471,135	0.88	1.09
Jul 2018	$53,752	$50,561	$41,973	0.94	1.20	$640,886	$565,961	$513,108	0.88	1.10
Aug 2018	$81,376	$79,255	$76,035	0.97	1.04	$722,262	$645,216	$589,143	0.89	1.10
Sep 2018	$64,898									
PTD	$11,233,856	$11,103,113	$10,972,557	0.99	1.01					

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 (August 2018)	($2,120)	$3,221
Fiscal Year 2018 to-date	($77,046)	$56,073
Cumulative (through August 2018)	($130,744)	$130,555

CV = cost variance.
SV = schedule variance.

For the August 2018 Earned Value Management System reporting period, a net **unfavorable** SV of approximately ($2.1 million) was reported, primarily due to the following:

- DFLAW Construction craft reported an unfavorable SV due to delivery delays with the radioactive Liquid Effluent Retention Facility pipe, modular rack steel, and rack pipe. Increased focus has been put on pipe delivery, with a delivery manager embedded in the vendor shop.
- DFLAW Plant Equipment reported an unfavorable SV due to early and/or late deliveries of the Effluent Management Facility (EMF) prefabricated electrical powerhouse, actuated on/off plug valves, maintenance monorail hoists, EMF vessel vent process system, high-efficiency particulate air filter housings, and chemical storage tanks.
- LAW Facility Construction subcontracts reported an unfavorable SV due to early completion of the truck bay canopy roofing, installation of the carbon dioxide gas system vessel, and installation of insulation.
- LAW Facility Construction craft reported an unfavorable SV due to delays in starting the preliminary documented safety analysis-related piping, electrical, and design evolution scope. Recovery is planned after release of the engineering design expected by the end of October 2018.
- LBL Plant Management (i.e., commissioning) continued to show an unfavorable SV due to a planned delay of staff increases. LBL staffing needs to support commissioning are being evaluated. The future staffing level of commissioning personnel will be based on the outcomes of the evaluation. This control account will continue to show an unfavorable SV until staffing levels in the budgeting tools are realigned with the commissioning execution plan via the baseline change control process in a replan effort expected to be completed by the end of October 2018.
- BOF Startup reported an unfavorable SV due to delays in starting system testing in the steam plant and the ammonia reagent system and delayed delivery of diesel fuel oil.

For the August 2018 Earned Value Management System reporting period, a net **favorable** CV of approximately $3.2 million was reported, primarily due to the following:

- LBL Plant Management (i.e., commissioning) continued to report a favorable CV because current spending priorities are different than the existing baseline. Revised

commissioning spend plans are currently being developed and will be incorporated in the replan effort expected to be completed by the end of October 2018.

- LAW Facility Startup reported an unfavorable CV due to equipment and component failures, which led to a test pause and retesting.
- BOF Engineering reported an unfavorable CV related to mechanical systems support to Construction exceeding the baseline rates. The punchlist items worked included the functional and pressure testing of systems before turnover to the Startup organization.
- BOF Startup reported an unfavorable CV as actual work effort and scope was greater than the estimated baseline. In addition to labor-rate variances, the basis of the estimate did not include the initial component/system test failures/retests and design modifications.

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	Under Analysis[1]
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031	Under Analysis[1]
D-00A-14	PT Facility Construction Substantially Complete	12/31/2031	Under Analysis[1]
D-00A-15	Start PT Facility Cold Commissioning	12/31/2032	Under Analysis[1]
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2033	Under Analysis[1]

1. As described in this report, DOE received the U.S. Army Corps of Engineers' final report on its parametric analysis of certain options and funding scenarios used to evaluate the likelihood of achieving PT- and HLW-related milestones. Based on the results of this analysis, DOE considers the milestones for the HLW and PT facilities as "Under Analysis." DOE also considers milestones A-1 and A-17 as being "Under Analysis" because of the definition in Section IV-A-2: "'Hot Start of Waste Treatment Plant' means the initiation of simultaneous operation of the Pretreatment (PT) Facility, High-Level Waste (HLW) Facility and Low-Activity Waste (LAW) Facility (including as needed the operations of the Analytical Laboratory (LAB) and the Balance of Facilities) treating Hanford tank wastes and producing a waste glass product."

DOE = U.S. Department of Energy.
HLW = high-level waste.
PT = pretreatment.
WTP = Waste Treatment and Immobilization Plant.

The PT Facility will separate radioactive tank waste into high-level waste and low-activity waste fractions and transfer each waste type to the respective vitrification 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 continue to work on resolving the remaining technical issues identified in the Third Order Regarding Motions to Modify Consent Decrees[5], which includes, "Ensuring Control of the Pulse Jet Mixers" (i.e., T4 in relation to pulse-jet mixer vessel mixing and control);

[5] *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016) (EDF-221).

"Protecting Against Possible Erosion and Corrosion" (i.e., T5 in relation to erosion/corrosion in piping and ancillary vessels); and "Ensuring Ventilation Balancing" (i.e., T8 in relation to facility ventilation/process offgas treatment).[6]

Preliminary engineering work, documented previously in a BNI and ORP study, was completed and demonstrates how the standard high-solids vessel design can be implemented in the PT Facility (i.e., T6 in relation to design redundancy and in-service inspection). The engineering study showed that 16 standard high-solids vessels can be incorporated into the PT Facility, while meeting the PT Facility throughput contract requirements. The Washington State Department of Ecology was briefed on the design concept in February 2018.

Significant Accomplishments during the Prior Month:

- DOE continued to evaluate the USACE report on its parametric analysis of certain options and funding scenarios used to evaluate the potential achievement of the PT Facility construction substantially complete milestone (13 years from now), and the HLW Facility construction substantially complete milestone (12 years from now). Once the DOE evaluation of the USACE report is complete, a path forward focused on meeting treatment objectives to achieve the mission will be developed.
- BNI has completed deliverables for the technical decision related to vessels and equipment structural integrity (i.e., T7 in relation to seismic ground motion criteria changes around 2005).
- ORP continued to work with BNI on completing documentation for the remaining open technical issues described as T4 and T5.
- BNI continued to focus on ongoing asset maintenance at the PT Facility to protect equipment and structures and ensure design documents are maintained.

Significant Planned Activities for the Next Month:

- BNI is expected to issue the calculation to validate the analytical method for requirements verification of installed low solids pulse-jet mixer vessels (i.e., T4 in relation to pulse-jet mixer vessel mixing and control) before the end of 2018.
- ORP will continue discussions with DOE's Office of Environmental Management about the direction to provide BNI regarding engineering, procurement, and construction activities at the PT Facility.
- BNI will continue to focus on ongoing asset maintenance at the PT Facility to protect equipment and structures and ensure design documents are maintained. Work will continue on technical issue resolution related to the remaining technical issues.

[6] At the outset of U.S. Department of Energy's identification of the technical issues, the issues were grouped into eight issues. During the litigation, some issues were combined with others into five groups of issues. Consequently, the descriptions of the issues listed above may be both different by number and somewhat different by description.

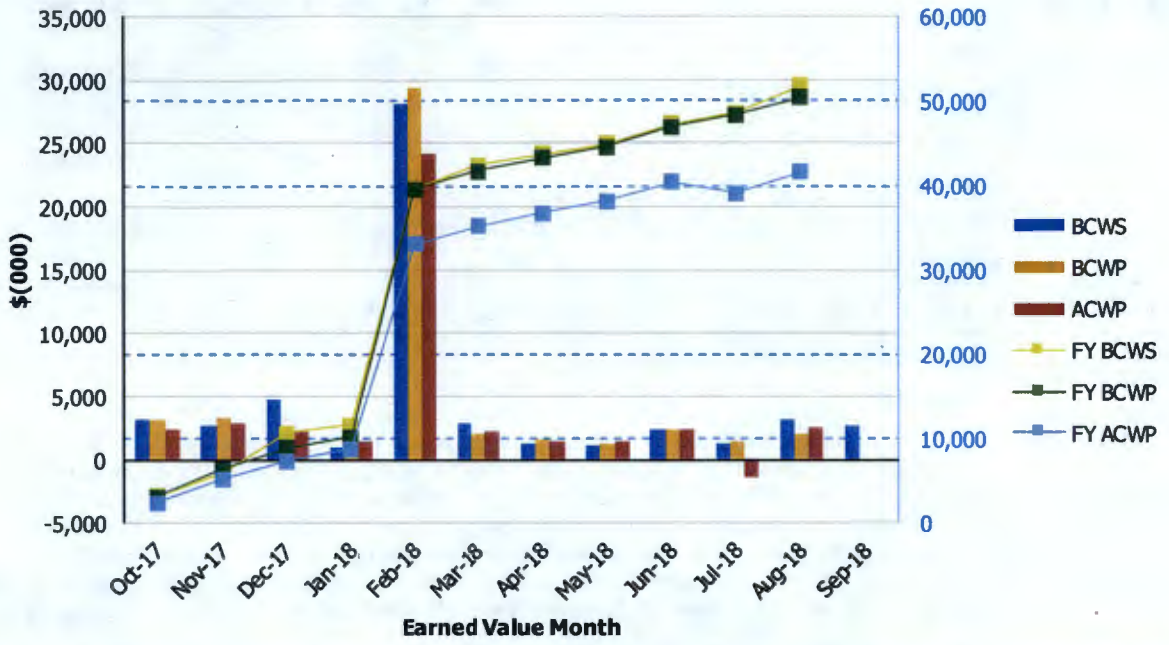
- BNI is expected to issue an update to the localized corrosion test basis document supporting closure of technical issue T5 and closure of the T5 corrective action plan before the end of 2018. Comment resolution on the T5 corrosion test report has taken longer than expected.
- ORP anticipates resolution of the remaining technical issues (noted above) with notification to the Defense Nuclear Facilities Safety Board before the end of 2018. The resolution of the technical issues is likely to require significant design changes to the PT Facility.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2018 Earned Value Data Data as of: August 2018

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 2017	$3,230	$3,129	$2,345	0.97	1.33	$3,230	$3,129	$2,345	0.97	1.33
Nov 2017	$2,757	$3,293	$2,838	1.19	1.16	$5,987	$6,422	$5,184	1.07	1.24
Dec 2017	$4,691	$2,502	$2,204	0.53	1.14	$10,678	$8,924	$7,387	0.84	1.21
Jan 2018	$896	$1,272	$1,371	1.42	0.93	$11,574	$10,196	$8,758	0.88	1.16
Feb 2018	$28,072	$29,440	$24,268	1.05	1.21	$39,647	$39,635	$33,026	1.00	1.20
Mar 2018	$2,819	$2,143	$2,222	0.76	0.96	$42,466	$41,778	$35,248	0.98	1.19
Apr 2018	$1,308	$1,528	$1,494	1.17	1.02	$43,773	$43,306	$36,743	0.99	1.18
May 2018	$1,125	$1,268	$1,382	1.13	0.92	$44,898	$44,574	$38,125	0.99	1.17
Jun 2018	$2,364	$2,366	$2,353	1.00	1.01	$47,262	$46,939	$40,477	0.99	1.16
Jul 2018	$1,331	$1,376	($1,416)	1.03	-0.97	$48,593	$48,315	$39,061	0.99	1.24
Aug 2018	$3,161	$2,006	$2,579	0.63	0.78	$51,754	$50,321	$41,641	0.97	1.21
Sep 2018	$2,773									
PTD	$1,992,863	$1,987,906	$1,955,001	1.00	1.02					

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.

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	Under Analysis[1]
D-00A-03	Start HLW Facility Cold Commissioning	06/30/2032	Under Analysis[1]
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2033	Under Analysis[1]

[1] As described in this report, DOE received the U.S. Army Corps of Engineers' final report on its parametric analysis of certain options and funding scenarios used to evaluate the likelihood of achieving PT- and HLW-related milestones. Based on the results of this analysis, DOE considers the milestones for the HLW and PT facilities as "Under Analysis." DOE also considers milestones A-1 and A-17 as being "Under Analysis" because of the definition in Section IV-A-2: "'Hot Start of Waste Treatment Plant' means the initiation of simultaneous operation of the Pretreatment (PT) Facility, High-Level Waste (HLW) Facility and Low-Activity Waste (LAW) Facility (including as needed the operations of the Analytical Laboratory (LAB) and the Balance of Facilities) treating Hanford tank wastes and producing a waste glass product."

DOE = U.S. Department of Energy.
HLW = high-level waste.
PT = pretreatment.
WTP = Waste Treatment and Immobilization Plant.

The HLW Facility will receive the separated high-level waste concentrate from the PT Facility. This concentrate will 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 will 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 (FY) 2017 through FY 2021 Interim Work Plan, which resulted in work primarily associated with asset maintenance and key ongoing procurement activities. With the receipt of increased funding in FY 2018 (noted below), additional engineering workscope is being performed and is being planned for FY 2019 in anticipation of receiving engineering resources from DFLAW/LBL activities.

Significant Accomplishments during the Prior Month:

- ORP and BNI established a plan to continue development of limited engineering design products for FY 2019 based on carry-over funding from the HLW Facility in the *Consolidated Appropriations Act, 2018*. In addition, long-range planning in preparation for a rebaselining effort and the release of critical and long-lead procurements continued.
- DOE continued to evaluate the USACE report on its parametric analysis of certain options and funding scenarios in order to evaluate the potential achievement of the PT Facility construction substantially complete milestone (13 years from now) and the HLW Facility construction substantially complete milestone (12 years from now). Once the DOE evaluation of the USACE report is complete, a path forward focused on meeting treatment objectives to achieve the mission will be developed.
- BNI continued to focus on ongoing asset maintenance at the HLW Facility to protect equipment and structures and ensure design documents are maintained.
- BNI continued fabrication of RLD-7 and RLD-8 vessels to support expected delivery by early 2019. These vessels are to be installed in the wet process cell to allow concrete slab placement above the wet cell. This activity supports roof installation and building enclosure.

Significant Planned Activities in the Next Month:

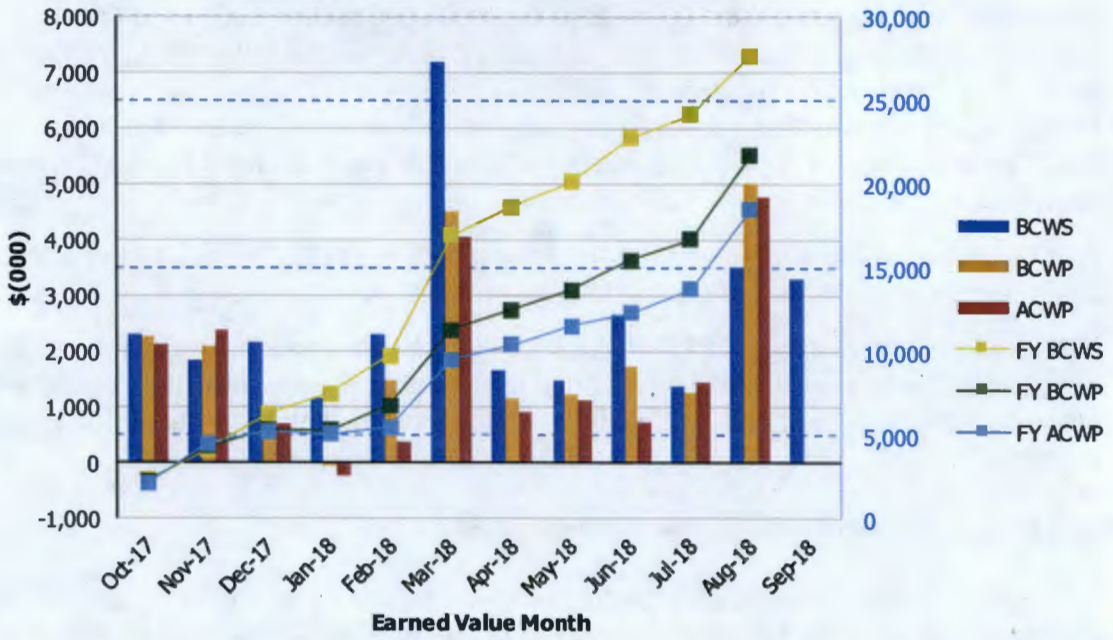
- In accordance with the additional funding received for the HLW Facility in the FY 2018 congressional appropriation (noted above), BNI will continue to ramp-up engineering design activities on key mechanical and process systems for the HLW Facility in FY 2019 utilizing the carry-over of additional funds received in the FY 2018 appropriation. Engineering resources from DFLAW/LBL modifications will be transitioned to support production engineering efforts for the HLW Facility as they become available.
- BNI will continue to focus on ongoing asset maintenance at the HLW Facility to protect equipment and structures and ensure design documents are maintained.
- BNI will continue to update its long-range planning documents to support a future rebaseline effort as resources become available.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2018 Earned Value Data Data as of: August 2018

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 2017	$2,303	$2,268	$2,151	0.98	1.05	$2,303	$2,268	$2,151	0.98	1.05
Nov 2017	$1,848	$2,091	$2,396	1.13	0.87	$4,151	$4,360	$4,547	1.05	0.96
Dec 2017	$2,160	$976	$714	0.45	1.37	$6,311	$5,336	$5,261	0.85	1.01
Jan 2018	$1,164	($32)	($209)	-0.03	0.16	$7,475	$5,304	$5,053	0.71	1.05
Feb 2018	$2,310	$1,477	$396	0.64	3.72	$9,785	$6,780	$5,449	0.69	1.24
Mar 2018	$7,188	$4,514	$4,061	0.63	1.11	$16,974	$11,294	$9,510	0.67	1.19
Apr 2018	$1,684	$1,179	$916	0.70	1.29	$18,658	$12,473	$10,426	0.67	1.20
May 2018	$1,492	$1,240	$1,129	0.83	1.10	$20,150	$13,713	$11,555	0.68	1.19
Jun 2018	$2,659	$1,743	$745	0.66	2.34	$22,809	$15,456	$12,300	0.68	1.26
Jul 2018	$1,381	$1,282	$1,455	0.93	0.88	$24,190	$16,738	$13,755	0.69	1.22
Aug 2018	$3,523	$5,009	$4,775	1.42	1.05	$27,712	$21,747	$18,530	0.78	1.17
Sep 2018	$3,319									
PTD	$1,360,384	$1,353,882	$1,326,922	1.00	1.02					

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 Facility[7]

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-07	LAW Facility Construction Substantially Complete	12/31/2020	On Schedule
D-00A-08	Start LAW Facility Cold Commissioning	12/31/2022	On Schedule
D-00A-09	LAW Facility Hot Commissioning Complete	12/31/2023	On Schedule

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 August 2018, the LAW Facility was 73 percent complete overall, engineering design was 92 percent complete, procurement was 86 percent complete, construction was 94 percent complete, and startup and commissioning was 24 percent complete.

Significant Accomplishments during the Prior Month:

- BNI's Startup organization accepted turnover of the miscellaneous gases system (MXG-L-01) from the Construction organization.
- BNI Construction completed the follow-on, 3-week walkdowns before turning the following systems and building areas over to the Startup organization:
  - B20-L-06 (LAW Facility annex)
  - Plant cooling water systems 3, 4, and 5 (PCW-L-03, PCW-L-04, and PCW-L-05)
  - B24-L-01 (Building 24)
  - Radioactive liquid waste disposal system (RLD-L-01).
- BNI Construction installed the uninterruptible power electrical transformers in the battery room.

[7] Please note that 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.

Significant Planned Activities in the Next Month:

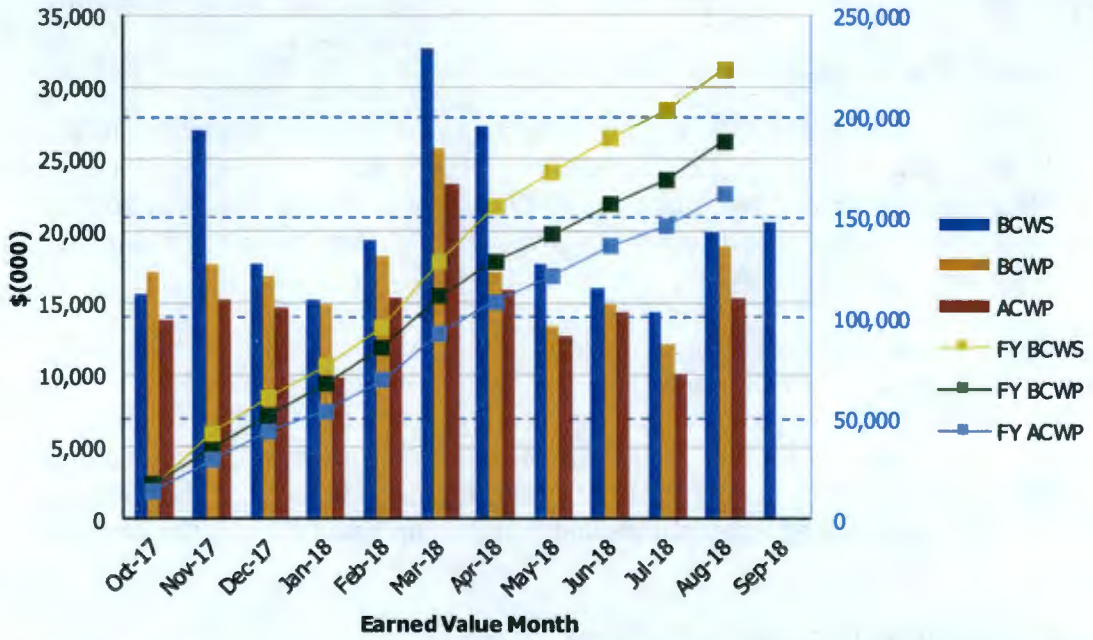
- BNI, in conjunction with ORP, is continuing to develop a modified program for performing commercial grade dedication to better align with the approved LAW Facility Documented Safety Analysis. Currently, the pilot program is being reviewed on sample equipment before full implementation expected by the end of October 2018.
- BNI Construction is expected to complete the 3-week walkdowns before turning the following systems over to the Startup organization:
  - LAW Facility melter handling system (LMH-L-01)
  - LAW Facility melter equipment support handling system (LSH-L-01)
  - Process and mechanical handling of closed-circuit television system (PTJ-L-01)
  - Radioactive solid waste handling system (RWH-L-01).
- BNI's Startup organization expects to accept the following systems and building areas turned over from the Construction organization:
  - B20-L-07 (Building 24)
  - LAW Facility container receipt handling system (LRH-L-01)
  - LAW Facility container finishing handling systems 1 and 2 (LFH-L-01 and LFH-L-02)
  - C5 ventilation system (C5V-L01)
  - Plant cooling water systems 3, 4, and 5 (PCW-L-03, PCW-L-04, and PCW-L-05)
  - Glass formers reagent system (GFR-L-01)
  - Mechanical handling control system (MHJ-L-01)
  - LAW Facility melter handling system (LMH-L-01)
  - Autosampling system (ASX-L-01).
- BNI is expected to receive the following procurements from various vendors:
  - Process gas analyzers and continuous emissions monitoring system
  - Safety-significant function temperature elements
  - Instrument tube fittings
  - Input switchgear cabinets for melter power supply.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2018 Earned Value Data Data as of: August 2018

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 2017	$15,716	$17,201	$13,802	1.09	1.25	$15,716	$17,201	$13,802	1.09	1.25
Nov 2017	$27,014	$17,698	$15,292	0.66	1.16	$42,730	$34,898	$29,095	0.82	1.20
Dec 2017	$17,686	$16,865	$14,665	0.95	1.15	$60,416	$51,763	$43,760	0.86	1.18
Jan 2018	$15,226	$15,023	$9,821	0.99	1.53	$75,641	$66,786	$53,580	0.88	1.25
Feb 2018	$19,349	$18,243	$15,413	0.94	1.18	$94,990	$85,029	$68,993	0.90	1.23
Mar 2018	$32,761	$25,728	$23,335	0.79	1.10	$127,750	$110,757	$92,328	0.87	1.20
Apr 2018	$27,269	$17,227	$15,923	0.63	1.08	$155,019	$127,984	$108,251	0.83	1.18
May 2018	$17,765	$13,420	$12,803	0.76	1.05	$172,784	$141,405	$121,054	0.82	1.17
Jun 2018	$16,038	$14,943	$14,382	0.93	1.04	$188,822	$156,348	$135,437	0.83	1.15
Jul 2018	$14,445	$12,116	$10,154	0.84	1.19	$203,267	$168,464	$145,591	0.83	1.16
Aug 2018	$19,975	$19,028	$15,442	0.95	1.23	$223,242	$187,492	$161,033	0.84	1.16
Sep 2018	$20,661									
PTD	$1,951,466	$1,913,927	$1,891,640	0.98	1.01					

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 August 2018, BOF was 74 percent complete overall, engineering design was 93 percent complete, procurement was 87 percent complete, construction was 83 percent complete, and startup and commissioning was 48 percent complete. Design of the EMF was 93 percent complete.

BNI Engineering efforts are focused on completion of the EMF design, supporting EMF procurement activities, and providing field support for BOF startup activities. BNI Construction is focused on the installation of pipe rack; piping; heating, ventilation, and air-condition ducting; and cable tray within EMF. In parallel, BNI Construction is preparing for a significant number of equipment lifts at EMF. Startup testing for BOF systems remains focused on the cooling tower facility medium-voltage cooling water pumps and major equipment in the chiller compressor and steam plants.

Significant Accomplishments during the Prior Month:

- BNI completed installation of the stainless steel liner plate for the EMF evaporator feed tank area.
- BNI completed application of protective coatings for the EMF evaporator (C5) area.
- BNI completed placement of racks 1 and 4 for the EMF evaporator (C5) area.
- BNI completed turnover of the ammonia reagent (AMR-B-01) system for startup testing.
- BNI completed turnover of the glass former (GFR-B-01) system for startup testing.
- BNI initiated protective coatings application for the low-point drain vessel area.
- BNI completed the installation of structural steel to support the roof of the EMF secondary reboiler and condenser area.
- BNI continued installation of the waste transfer line between the LAW Facility and EMF.

Significant Planned Activities in the Next Month:

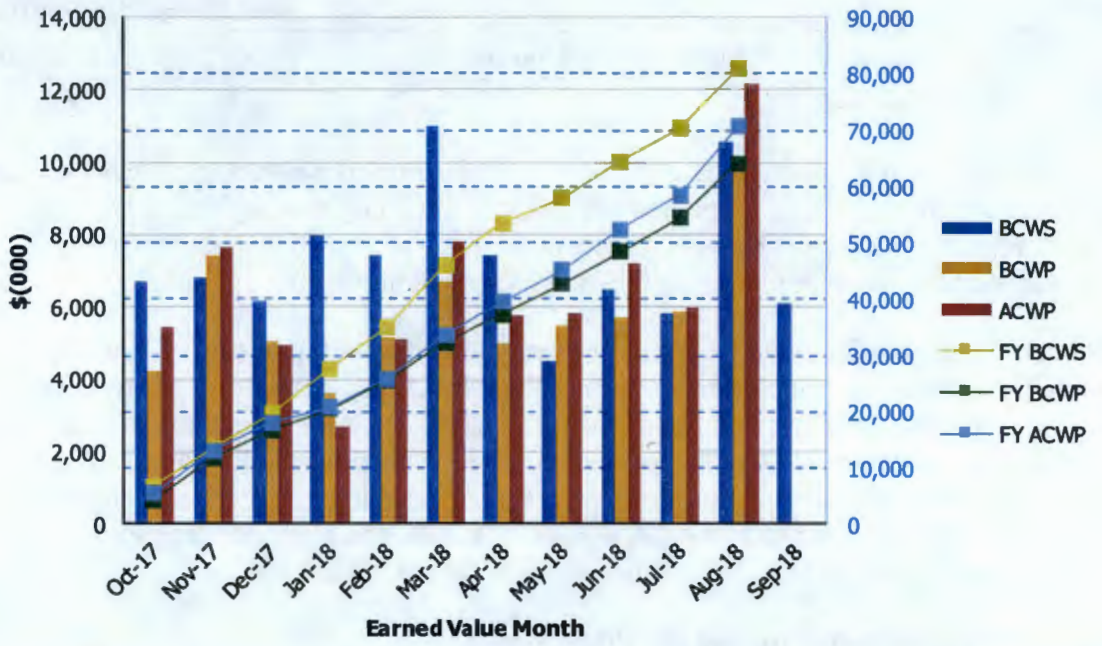
- BNI Construction is expected to place the EMF evaporator and tower assembly.
- BNI Construction is expected to place the EMF secondary reboiler in the C3 area.
- BNI Construction is expected to place the roof assembly over the EMF C3 area.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2018 Earned Value Data Data as of: August 2018

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 2017	$6,686	$4,211	$5,450	0.63	0.77	$6,686	$4,211	$5,450	0.63	0.77
Nov 2017	$6,823	$7,436	$7,658	1.09	0.97	$13,509	$11,647	$13,108	0.86	0.89
Dec 2017	$6,146	$5,033	$4,931	0.82	1.02	$19,655	$16,679	$18,039	0.85	0.92
Jan 2018	$7,999	$3,629	$2,707	0.45	1.34	$27,654	$20,308	$20,746	0.73	0.98
Feb 2018	$7,399	$5,164	$5,092	0.70	1.01	$35,052	$25,472	$25,838	0.73	0.99
Mar 2018	$10,993	$6,722	$7,817	0.61	0.86	$46,045	$32,195	$33,655	0.70	0.96
Apr 2018	$7,447	$5,012	$5,759	0.67	0.87	$53,492	$37,207	$39,414	0.70	0.94
May 2018	$4,485	$5,514	$5,826	1.23	0.95	$57,976	$42,721	$45,240	0.74	0.94
Jun 2018	$6,515	$5,700	$7,228	0.87	0.79	$64,492	$48,421	$52,468	0.75	0.92
Jul 2018	$5,800	$5,871	$6,001	1.01	0.98	$70,292	$54,292	$58,469	0.77	0.93
Aug 2018	$10,572	$9,813	$12,154	0.93	0.81	$80,864	$64,105	$70,622	0.79	0.91
Sep 2018	$6,128									
PTD	$753,208	$729,614	$745,366	0.97	0.98					

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.

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 August 2018, the LAB was 74 percent complete overall, engineering design was 91 percent complete, procurement was 90 percent complete, construction was 96 percent complete, and startup and commissioning was 35 percent complete.

Activities in the LAB are focused on system turnovers to begin startup testing of LAB systems. BNI is focused on completing the turnover of all LAB systems from construction to startup in 2018. To date, BNI has completed the turnover of 28 LAB systems for startup testing. BNI has relocated personnel and equipment into an offsite laboratory facility, and analytical method procedure development is in progress. The servers used to operate the test engineers' workstation have been transferred to the LAW Facility annex, and startup testing support is now provided from the permanent DFLAW control room in the LAW Facility.

Significant Accomplishments during the Prior Month:

- BNI completed turnover of the auto-sampling control system for startup testing.
- BNI continued review of the analytical methods procedures.

Significant Planned Activities in the Next Month:

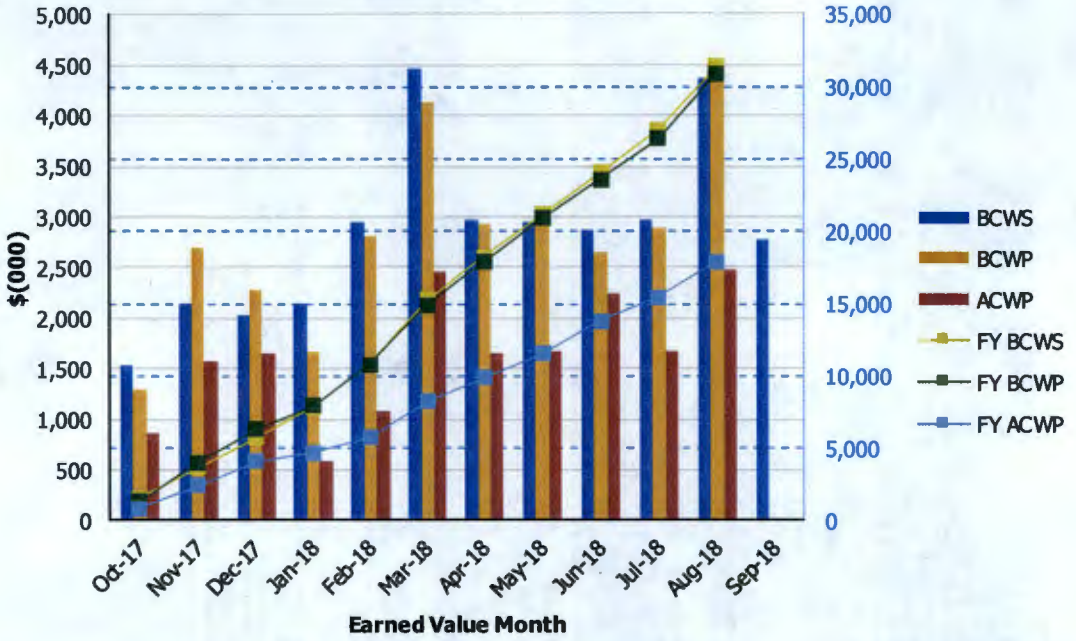
- BNI is expected to continue turnover of LAB systems and startup testing of systems as they become available.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2018 Earned Value Data Data as of: August 2018

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 2017	$1,538	$1,298	$861	0.84	1.51	$1,538	$1,298	$861	0.84	1.51
Nov 2017	$2,135	$2,694	$1,578	1.26	1.71	$3,673	$3,992	$2,438	1.09	1.64
Dec 2017	$2,029	$2,286	$1,660	1.13	1.38	$5,702	$6,278	$4,098	1.10	1.53
Jan 2018	$2,139	$1,678	$586	0.78	2.86	$7,841	$7,956	$4,684	1.01	1.70
Feb 2018	$2,950	$2,806	$1,082	0.95	2.59	$10,791	$10,762	$5,766	1.00	1.87
Mar 2018	$4,477	$4,134	$2,463	0.92	1.68	$15,268	$14,896	$8,229	0.98	1.81
Apr 2018	$2,966	$2,938	$1,649	0.99	1.78	$18,234	$17,833	$9,878	0.98	1.81
May 2018	$2,950	$3,067	$1,666	1.04	1.84	$21,184	$20,901	$11,544	0.99	1.81
Jun 2018	$2,876	$2,656	$2,242	0.92	1.18	$24,060	$23,557	$13,786	0.98	1.71
Jul 2018	$2,972	$2,888	$1,668	0.97	1.73	$27,033	$26,445	$15,454	0.98	1.71
Aug 2018	$4,367	$4,458	$2,471	1.02	1.80	$31,399	$30,903	$17,924	0.98	1.72
Sep 2018	$2,776									
PTD	$392,608	$388,759	$362,042	0.99	1.07					

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.

Waste Treatment Plant Project Percent Complete Status (Table)

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

Through August 2018

(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		
Facilities	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
Low-Activity Waste	2,289.8	1,671.3	73%	566.0	519.8	92%	366.5	316.7	86%	728.1	683.0	94%	625.1	147.8	24%	4.0	4.0	100%
Balance of Facilities	786.6	585.6	74%	149.5	139.2	93%	71.2	82.3	87%	317.0	264.0	83%	248.4	119.6	48%	0.5	0.5	100%
Analytical Lab	499.3	370.3	74%	102.9	93.9	91%	66.5	59.6	90%	164.9	158.6	96%	164.5	57.8	35%	0.5	0.5	100%
Direct Feed LAW	424.0	222.2	52%	108.4	92.0	85%	68.0	34.0	50%	236.0	88.7	38%	0.0	0.0	0%	11.6	7.4	64%
LBL Facility Services	755.1	358.3	47%	0.0	0.0	0%	69.3	45.9	66%	100.3	90.9	91%	326.1	110.2	34%	259.5	111.2	43%
Total LBL	4,754.8	3,207.8	67%	926.8	844.9	91%	641.6	518.6	81%	1,546.3	1,285.2	83%	1,364.1	435.5	32%	276.1	123.6	45%
Project Services	931.0	593.6	64%	92.3	81.0	88%	65.6	47.8	73%	106.8	84.9	79%	1.7	1.7	100%	664.7	378.3	57%
Total Project Services	931.0	593.6	64%	92.3	81.0	88%	65.6	47.8	73%	106.8	84.9	79%	1.7	1.7	100%	664.7	378.3	57%
Total LBL, DFLAW & Project Services	5,685.9	3,801.4	67%	1,019.1	925.9	91%	707.2	566.3	80%	1,653.1	1,370.1	83%	1,365.8	437.2	32%	940.8	501.9	53%
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	14,408.7	9,766.6	68%	3,192.2	2,874.8	90%	2,272.7	1,691.1	74%	4,540.7	3,134.9	69%	2,124.3	580.4	27%	2,278.9	1,485.4	65%

Source: Preliminary WTP Contract Performance Report - Format 1, Data for August 2018

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.