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Office of River Protection
Consent Decree
Monthly Report
July¹ 2017

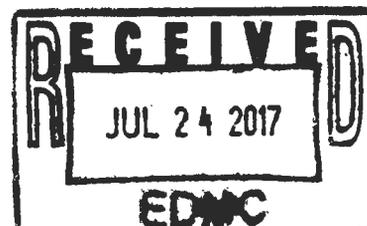
Consent Decree, *State of Washington v. Dept. of Energy*, Case No. 2:08-cv-05085-FVS
(October 25, 2010)

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

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

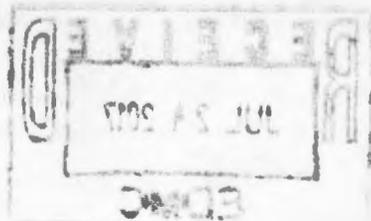
¹ The narrative descriptions of progress in this report cover the period from June 01–30, 2017. Earned Value Management System data and descriptions cover the period of May 01–31, 2017; this includes the facility completion percentage estimates included at various locations in the Waste Treatment and 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.



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Acronyms and Abbreviations

BNI	Bechtel National, Inc.
BOF	Balance of Facilities
C#V	ventilation system for potential contamination zones C#
CD	Consent Decree (<i>State of Washington v. Dept. of Energy</i> , Case No. 2:08-cv-05085-FVS [October 25, 2010]; as amended, Amended Consent Decree, Case No. 2:08-cv-05085-RMP [March 11, 2016]; as amended, Second Amended Consent Decree, Case No. 2:08-cv-05085-RMP [April 12, 2016])
CV	cost variance
D&O	design and operability
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
EMF	Effluent Management Facility
EVMS	Earned Value Management System
FY	fiscal year
HEPA	high-efficiency particulate air
HLW	High-Level Waste (Facility)
HVAC	heating, ventilation, and air-conditioning
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
PDSA	preliminary documented safety analysis
PJM	pulse-jet mixer
PT	Pretreatment (Facility)
SHSV	standard high-solids vessel
SV	schedule variance
WRPS	Washington River Protection Solutions LLC
WTP	Waste Treatment and Immobilization Plant

Consent Decree Milestone Statistics/Status

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2020				
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	12/31/2020		Notice given that a serious risk has arisen. See letter 16-ORP-0097.
Fiscal Year 2022				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	12/31/2022		On Schedule
Fiscal Year 2023				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	12/31/2023		On Schedule
Fiscal Year 2024				
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		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	03/31/2024		Notice given that a serious risk has arisen. See letter 16-ORP-0097.
Fiscal Year 2030				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		On Schedule

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2031				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels	12/31/2031		On Schedule
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		On Schedule
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		On Schedule
Fiscal Year 2032				
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		On Schedule
D-00A-06 Interim	Complete Methods Validations	06/30/2032		On Schedule
D-00A-15 Interim	Start PT Facility Cold Commissioning	12/31/2032		On Schedule
Fiscal Year 2033				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		On Schedule
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		On Schedule
D-00A-17	Hot Start of Waste Treatment Plant	12/31/2033		On Schedule
Fiscal Year 2036				
D-00A-01	Achieve Initial Plant Operations for the Waste Treatment Plant	12/31/2036		On Schedule

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

Consent Decree Reports/Reviews

D-16C-03 series, Submit to State of Washington and State of Oregon Quarterly Report,
Due: 45 days following after each calendar year quarter (August 14, 2017), 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, Status: Complete.

D-006-00-B, Meet Approximately Every Three Years after Entry of Decree to review requirements of the Consent Decree, Status: Complete (March 16, 2017)

Spare Reboiler Requirement Status**Tank Farms Assistant Manager:** Glyn Trenchard**Federal Program Manager:** Paul Hernandez

Milestone	Title	Due Date	Status
D-16E-01	DOE must purchase by December 31, 2016, a spare E-A-1 reboiler for the 242-A Evaporator	12/31/2016	Complete
D-16E-02	Have available spare E-A-1 reboiler for the 242-A Evaporator	12/31/2018	On Schedule

DOE = U.S. Department of Energy.

Description of activity and progress made for the spare E-A-1 reboiler for the 242-A Evaporator, including a description of cost and schedule performance

- Design of the new spare 242-A Evaporator reboiler with ABW Technologies is on hold until the new Finite Element Analysis associated with the proposed reboiler design has been completed and analyzed. The new Finite Element Analysis will include all nozzles and associated loads. Once the analysis is complete, ABW Technologies can move forward with the final design. This is not expected to impact the delivery date milestone of December 31, 2018. In addition, ABW Technologies will begin procurement of materials associated with fabrication of the reboiler.

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Glyn Trenchard

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	Notice given that a serious risk has arisen. See letter 16-ORP-0097.
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	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.	03/31/2024	Notice given that a serious risk has arisen. See letter 16-ORP-0097.

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

Significant Accomplishments for the Prior Three Months:

- Completed all pit clean outs associated with Tank AX-102 and Tank AX-104 (eight of eight pit clean outs completed)
- Completed foam and lead removal at Tank AX-103 and initiated cover block removal
- Removed three thermocouples from Tank AX-102 and Tank AX-104
- Completed major equipment installation for Tank C-105 third technology
- Initiated Tank C-105 third technology construction acceptance testing
- Completed planned Tank C-105 construction second shift work activities to mitigate schedule impacts
- Completed contract negotiations for the Tank C-105 third retrieval technology
- Completed 801A building demolition

- Removed eight hose-in-hose transfer lines from C Tank Farm and packaged them for disposal
- Installed two hot water skids and one cold water skid in the 285A water and chemical service building.

Significant Planned Activities in the Next Three Months:

- Remove legacy long-length equipment from Tank AX-102 and Tank AX-104
- Remove Tank AX-103 cover blocks in preparation for cleaning out pits
- Receive three extended reach sluicer systems for Tank AX-101
- Complete major equipment installation at 285A water and chemical service building
- Receive two exhausters (POR518/519) for the A Tank Farm
- Initiate video inspection of Tank A-104 and Tank A-105
- Complete Tank C-105 third technology testing and retrieval readiness activities
- Complete AX Tank Farm POR126 and POR127 portable exhauster readiness activities
- Initiate Tank C-105 third technology retrieval operations
- Complete the removal of 10 hose-in-hose transfer lines from C Tank Farm.

Issues:

- Reduced worker efficiencies associated with mandatory use of supplied air continues to impact work in the tank farms. With respect to ongoing litigation regarding chemical vapors, the parties have scheduled a 2-day mediation session for July 13 and 14, 2017.
- Installation of the A Tank Farm portable exhausters has been impacted by concerns with placement of the exhausters near the 242-A Evaporator stack. Exhaust stack modeling is underway to determine the dispersion pattern and impacts.

Tank Waste Retrieval Work Plan Status

Tank	TWRWP	Expected Revisions	Retrieval Technology		
			First	Second	Third
AX-101	RPP-RPT-58932, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-102	RPP-RPT-58933, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-103	RPP-RPT-58934, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-104	RPP-RPT-58935, Rev. 0	In Progress	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
C-101	RPP-22520, Rev. 8	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	–
C-102	RPP-22393, Rev. 7	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	–
C-104	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0018	–
C-105	RPP-22520, Rev. 8	Complete	MARS-V	MARS-V High-Pressure Water Spray	Chemical Dissolution Process with ERSS
C-107	RPP-22393, Rev. 7	Complete	MARS-S	MARS-S High-Pressure Water Spray	Water Dissolution
C-108	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0025	–

Tank	TWRWP	Expected Revisions	Retrieval Technology		
			First	Second	Third
C-109	RPP-21895, Rev. 5	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0037	–
C-110	RPP-33116, Rev. 3	Complete	Modified Sluicing	Mechanical Waste Conditioning with an In-Tank Vehicle	High Pressure Water
C-111	RPP-37739, Rev. 2	Complete	Modified Sluicing	High pressure water using the ERSS	Chemical Dissolution Process with ERSS
C-112	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process	–

ERSS = extended reach sluicer system.

MARS-S = Mobile Arm Retrieval System-Sluicing.

MARS-V = Mobile Arm Retrieval System-Vacuum.

TWRWP = tank waste retrieval work plan.

Significant Accomplishments:

- Incorporated third retrieval technology into the C-105 Tank Waste Retrieval Work Plan.

Significant Planned Activities in the Next Three Months:

- Finalize AX Tank Farm retrieval work plans.

Issues:

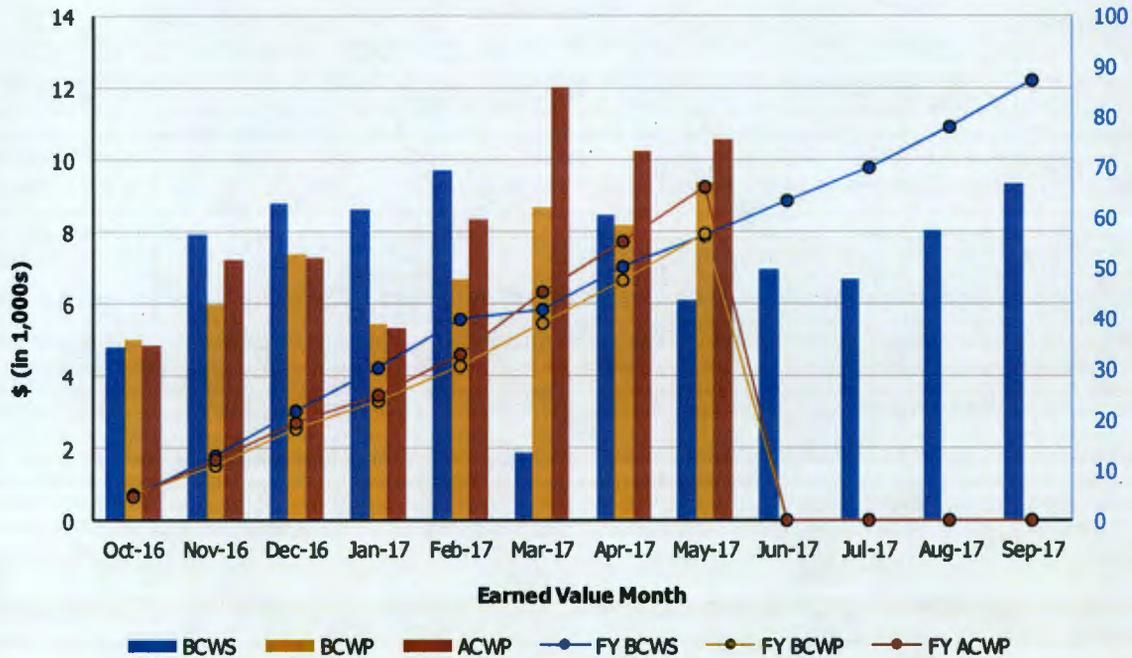
- None.

Earned Value Data: Fiscal Year 2017

May-17

Tank Farms ORP-0014
Selected WBS: 5.2 - Retrieve and Close SSTs

EVMS Monthly and Fiscal Year Values



Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2016	\$4,816	\$4,996	\$4,822	1.04	1.04	\$4,816	\$4,996	\$4,822	1.04	1.04
Nov 2016	\$7,924	\$5,969	\$7,241	0.75	0.82	\$12,740	\$10,965	\$12,063	0.86	0.91
Dec 2016	\$8,772	\$7,401	\$7,262	0.84	1.02	\$21,512	\$18,365	\$19,325	0.85	0.95
Jan 2017	\$8,646	\$5,422	\$5,360	0.63	1.01	\$30,158	\$23,787	\$24,685	0.79	0.96
Feb 2017	\$9,716	\$6,707	\$8,341	0.69	0.80	\$39,874	\$30,495	\$33,026	0.76	0.92
Mar 2017	\$1,903	\$8,675	\$12,056	4.56	0.72	\$41,777	\$39,170	\$45,082	0.94	0.87
Apr 2017	\$8,477	\$8,214	\$10,268	0.97	0.80	\$50,254	\$47,384	\$55,350	0.94	0.86
May 2017	\$6,110	\$9,406	\$10,604	1.54	0.89	\$56,364	\$56,790	\$65,954	1.01	0.86
Jun 2017	\$6,982	\$0	\$0	0.00	0.00	\$63,345	\$0	\$0	0.00	0.00
Jul 2017	\$6,664	\$0	\$0	0.00	0.00	\$70,010	\$0	\$0	0.00	0.00
Aug 2017	\$8,015	\$0	\$0	0.00	0.00	\$78,025	\$0	\$0	0.00	0.00
Sep 2017	\$9,314	\$0	\$0	0.00	0.00	\$87,339	\$0	\$0	0.00	0.00

CTD	\$765,531	\$754,839	\$786,627	0.99	0.96
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ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

CTD = contract to date.
 EVMS = earned value management system.
 FY = fiscal year.
 SPI = schedule performance index.

Retrieve and Close Single-Shell Tanks (5.02)³

The May 2017 **favorable** schedule variance (SV) of \$3,297K is due to:

- Schedule recovery: Procurement milestone payments were made for Tank AX-101 and Tank AX-103 extended reach sluicer systems and A Tank Farm exhausters during May as a result of a revised fabrication schedule; these payments were originally planned to be made in April.
- Schedule recovery: The hot and cold water skids to support A Tank Farm and AX Tank Farm retrieval were received onsite; these skids were originally planned to be delivered in fiscal year (FY) 2016, but were part of the FY 2016 scope deferrals. This deferral resulted from impacts to the A Tank Farm and AX Tank Farm retrieval schedule caused by several issues, including worker inefficiencies resulting from mandatory use of supplied air, funding issues caused by the Continuing Resolution, etc.
- Tank C-105 construction crews worked additional weekend shifts to complete major equipment installations by the end of May.

The May 2017 **unfavorable** cost variance (CV) of (\$1,197K) is due to:

- Additional costs were incurred due to the construction overtime/weekend work to complete major equipment installation in support of the restart Tank C-105 retrieval.

³ "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: Bill Hamel

Deputy Federal Project Director: Joni Grindstaff

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	On Schedule
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2036	On Schedule

WTP = Waste Treatment and Immobilization Plant.

The Waste Treatment and Immobilization Plant (WTP) Project currently employs approximately 2,860 full-time equivalent contractor, Bechtel National, Inc. (BNI), and subcontractor personnel. This includes 680 craft, 658 non-manual, and 133 subcontractor full-time equivalent personnel working at the WTP construction site (all facilities).

The 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 LAW [DFLAW] and LBL facility services). As of May 2017, total LBL facilities were 57 percent complete, design and engineering was 83 percent complete, procurement was 70 percent complete, construction was 74 percent complete, and startup and commissioning was 19 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 Three Months:

- Significant accomplishments during the prior three months are noted in project reports for the Pretreatment (PT) Facility, High-Level Waste (HLW) Facility, LAW Facility, BOF, and LAB.

Significant Planned Activities in the Next Three Months:

- Significant planned activities in the next three months 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 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$67,019	\$58,321	\$56,633	0.87	1.03	\$67,019	\$58,321	\$56,633	0.87	1.03
Nov 2016	\$59,361	\$55,681	\$56,299	0.94	0.99	\$126,379	\$114,002	\$112,932	0.90	1.01
Dec 2016	\$52,654	\$55,489	\$56,125	1.05	0.99	\$179,033	\$169,491	\$169,057	0.95	1.00
Jan 2017	\$52,807	\$46,077	\$40,881	0.87	1.13	\$231,840	\$215,568	\$209,938	0.93	1.03
Feb 2017	\$50,489	\$49,354	\$48,627	0.98	1.01	\$282,329	\$264,922	\$258,565	0.94	1.02
Mar 2017	\$78,183	\$72,145	\$75,415	0.92	0.96	\$360,512	\$337,067	\$333,981	0.93	1.01
Apr 2017	\$54,085	\$55,376	\$51,509	1.02	1.08	\$414,597	\$392,443	\$385,490	0.95	1.02
May 2017	\$13,975	\$39,451	\$41,659	2.82	0.95	\$428,572	\$431,894	\$427,148	1.01	1.01
Jun 2017	\$55,706									
Jul 2017	\$58,918									
Aug 2017	\$59,063									
Sep 2017	\$82,650									
PTD	\$10,256,687	\$10,232,903	\$10,157,237	1.00	1.01					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

PTD = project to date.
 EVMS = earned value management system.
 FY = fiscal year.
 SPI = schedule performance index.

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

Performance Tracking	SV	CV
Current Period (May 2017)	\$25,476	(\$2,208)
Fiscal Year 2017 to-date	\$3,322	\$4,746
Cumulative (through May 2017)	(\$23,784)	\$75,666

CV = cost variance.

SV = schedule variance.

Earned Value Management System Analysis

The Earned Value Management System (EVMS) is intended to provide a status of how the contractor is progressing against its planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. The project plan is measured by expressing the schedule in terms of dollars spread over the anticipated project duration, and then for each month, determining how much of the planned work was accomplished or “earned,” as measured in equivalent dollars. If more work is accomplished than planned, then the project is ahead of schedule and has a favorable SV. Similarly, if less work is accomplished, the project is behind schedule and has an unfavorable SV. Accomplished work is reported in the month it was completed, which may not be when it was planned. For example, work completed in a month earlier than planned would be reported as a favorable SV for the month in which it was completed, but would be reported as an unfavorable SV in the month it was planned. The end result would be the overall cumulative SV netting out to zero over these months. Likewise, work completed late will recover an earlier reported unfavorable SV.

The CV measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 behind schedule [a negative or unfavorable SV: $\$8,000 - \$10,000 = (\$2,000)$], and has cost \$1,000 more [a negative or unfavorable CV: $\$8,000 - \$9,000 = (\$1,000)$] than was planned for completing that work scope. Likewise, a favorable or positive CV would be reported if it cost less to complete the work than the performed dollar value of the work.

The SV and CV are reported for each monthly period, fiscal year to-date, as well as for the project-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the fiscal year or cumulative-to-date report provides a better indicator of the overall project completion status, and can give a reasonable projection of how the project will finish, based on the progress-to-date.

For the May EVMS reporting period, a net **favorable** SV of approximately \$25.5 million was reported (meaning that a net of \$25.5 million more of work scope was reported as performed for the month than planned), primarily due to the following:

- LBL reported a net favorable SV of \$26.2 million, mostly due to implementation of LAW/DFLAW contract modifications resulting from Baseline Change Proposal 17-0049. This removed work scope no longer planned to be performed as part of the DFLAW initiative and provided a revised construction execution plan to proceed forward.

- PT reported a net unfavorable SV of (\$0.7 million), due to early completion of test operations, simulant procurement and analysis, and engineering design scope for the standard high-solids vessel (SHSV) concept design (T6) earned in prior periods.

For the May EVMS reporting period, a net **unfavorable** CV of approximately (\$2.2 million) was reported (meaning it cost a net of \$2.2 million more to complete the work than estimated), primarily due to the following:

- LBL reported a net unfavorable CV of (\$4.2 million), due in part to a diversion of resources from LAW to support BOF activities, primarily in testing, maintenance, and plant engineering. In addition, LAW engineering resources were charged to special purpose charge codes for the revised preliminary documented safety analysis (PDSA) execution strategy review. Construction subcontractor cost settlements related to LAW insulation requiring extensive preparation and delamination costs associated with special protective coatings, and a Request for Equitable Adjustment regarding BOF heat tracing also had an unfavorable impact on CV.
- Project Services reported a net favorable CV of \$1.1 million, primarily from site closure cost adjustments in Project and Business Management and construction subcontract costs previously attributed to Project Services that will be cost adjusted to LAW.

Through the current monthly reporting period, there are no SVs or CVs impacting current Consent Decree milestones.

Pretreatment Facility*Federal Project Director:* Bill Hamel*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 in PT Facility	12/31/2031	On Schedule
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels	12/31/2031	On Schedule
D-00A-14	PT Facility Construction Substantially Complete	12/31/2031	On Schedule
D-00A-15	Start PT Facility Cold Commissioning	12/31/2032	On Schedule
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2033	On Schedule

PT = pretreatment.

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, with engineering design 85 percent complete, procurement 56 percent complete, construction 43 percent complete, and startup and commissioning 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 as described in the Amended Consent Decree, which includes, “Ensuring Control of the Pulse Jet Mixers” (i.e., T4 in relation to pulse-jet mixer [PJM] vessel mixing and control); “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).

Work is also being performed to evaluate the facility design using the SHSV test design prototype (i.e., T6 in relation to design redundancy and in-service inspection), and evaluating vessel and equipment structural integrity (i.e., T7 in relation to seismic ground motion criteria changes around 2005).

Full-scale testing is ongoing and significant progress has been made in addressing the PJM controls and mixing issue. Test plans have been designed to demonstrate adequacy of the PJM control system and the vessel mixing to support resolution of PJM issues applicable to PT Facility vessels with high solids concentrations and non-Newtonian slurries. Test results will be used to support the PT Facility redesign with the SHSV design. ORP continues to work with

BNI to develop closure packages for each technical issue, defining work scope, required deliverables, and technical issue resolution criteria.

Significant Accomplishments during the Prior Three Months:

- BNI submitted a revised report to ORP in late May 2017 on spray leak methodology and sliding bed wear, incorporating issues identified by the Defense Nuclear Facilities Safety Board in its *26th Annual Report to Congress*, dated March 2016. The Defense Nuclear Facilities Safety Board was briefed on the revised report.
- ORP and BNI initiated testing of a proposed PJM SHSV design to replace a number of vessel designs in the PT Facility (this is in relation to resolving concerns over PJM vessel mixing and control [i.e., T4]). A prototype of the 16-foot-diameter SHSV was commissioned in December 2016. The testing results will provide the required design and operations information to support PT Facility design. Full-scale PJM controls testing was completed in April 2017. Mixing testing was initiated in late June 2017 and is expected to be completed in September 2017.

Significant Planned Activities in the Next Three Months:

- BNI will continue to work on issues related to spray leak methodology and sliding bed wear, and will respond to any concerns identified by the Defense Nuclear Facilities Safety Board during its review of the revised report noted above.
- BNI to complete the erosion/corrosion synergistic test simulant qualification and final recipe.
- BNI will continue full-scale testing of the SHSV design prototype, focusing on completion of the full-scale PJM mixing systems testing.
- BNI to complete non-Newtonian blend testing at the National Engineering Technology Laboratory supporting the full-scale PJM vessel testing.
- BNI to issue an update to the localized corrosion test basis document.

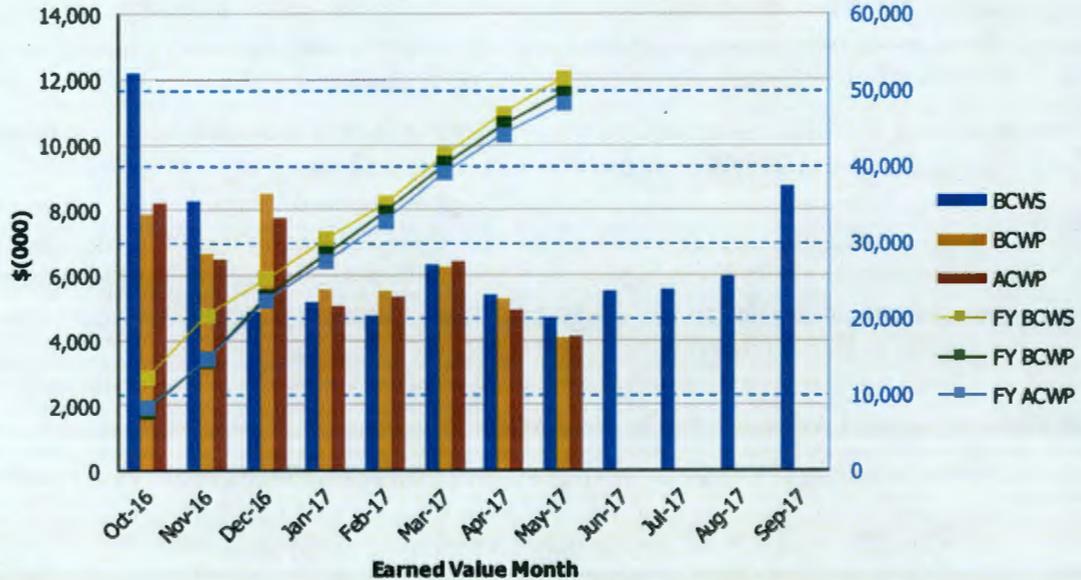
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$12,193	\$7,845	\$8,196	0.64	0.96	\$12,193	\$7,845	\$8,196	0.64	0.96
Nov 2016	\$8,254	\$6,654	\$6,487	0.81	1.03	\$20,447	\$14,500	\$14,684	0.71	0.99
Dec 2016	\$4,851	\$8,480	\$7,738	1.75	1.10	\$25,298	\$22,980	\$22,421	0.91	1.02
Jan 2017	\$5,139	\$5,539	\$5,024	1.08	1.10	\$30,437	\$28,519	\$27,445	0.94	1.04
Feb 2017	\$4,765	\$5,517	\$5,361	1.16	1.03	\$35,202	\$34,036	\$32,806	0.97	1.04
Mar 2017	\$6,333	\$6,286	\$6,455	0.99	0.97	\$41,535	\$40,322	\$39,261	0.97	1.03
Apr 2017	\$5,382	\$5,260	\$4,917	0.98	1.07	\$46,918	\$45,582	\$44,178	0.97	1.03
May 2017	\$4,718	\$4,057	\$4,110	0.86	0.99	\$51,635	\$49,639	\$48,288	0.96	1.03
Jun 2017	\$5,537									
Jul 2017	\$5,556									
Aug 2017	\$5,977									
Sep 2017	\$8,766									
PTD	\$1,899,912	\$1,899,880	\$1,875,861	1.00	1.01					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

PTD = project to date.
 EVMS = earned value management system.
 FY = fiscal year.
 SPI = schedule performance index.

High-Level Waste Facility

Federal Project Director: Bill Hamel

Facility Federal Project Director: Wahed Abdul

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

HLW = high-level waste.

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, with engineering design 89 percent complete, procurement 81 percent complete, construction 43 percent complete, and startup and commissioning 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 now being performed in accordance with the FY 2017–FY 2021 Interim Work Plan. BNI is still working under a limited construction and procurement authorization, and efforts are focused on completing activities required to obtain full-production authorization from ORP. BNI submitted a Facility Completion Plan identifying the strategy for obtaining full authorization to complete engineering, procurement, and construction of the HLW Facility. The final draft of the HLW Facility Completion Plan has been approved by ORP.

BNI Engineering is focused on activities to support implementation of technical core team recommendations and development of engineering studies and analysis to disposition design and operability (D&O) review comments. All of the planned engineering studies and individual comment dispositions in support of the resolution of the D&O comments have been issued. ORP has reviewed all disposition comments for adequacy, and BNI has finalized the D&O Report summarizing the issue resolutions and path forward recommendations to support ORP's authorization for full construction.

The HLW Facility PDSA update to align design and the safety basis was previously submitted to ORP. The ORP-chartered Safety Basis Review Team provided initial comments, and BNI

submitted responses to those comments along with a revised PDSA in early March 2017. This review and comment resolution process was impacted by resource constraints and has been delayed due to the ongoing LBL PDSA/documentated safety analysis review and approval, which is a higher WTP priority at this time. Subsequently, both ORP and BNI provided additional resources to support HLW PDSA approval. Once the HLW PDSA is approved, system design requirements will be confirmed to ensure facility design is aligned with the nuclear safety basis.

All testing at Mississippi State University of the high-efficiency particulate air (HEPA) filter “Design 4” for the safe-change and remote-change housings have been completed successfully. Underwriters Laboratories testing for flame and flammability resistance is underway. The final report from the results of the testing is expected to be issued in July 2017.

Significant Accomplishments during the Prior Three Months:

- BNI incorporated ORP comments into the final HLW Facility Completion Plan submittal, and ORP approved the HLW Facility Completion Plan.
- BNI issued the final D&O Report in late June 2017, summarizing the issue resolutions and path forward recommendations for D&O comments.
- Fabrication of RLD-7 and RLD-8 vessels continues.
- BNI transmitted the revised PDSA change package, incorporating responses to the ORP Safety Basis Review Team comments. ORP provided BNI with the balance of its comments in late June 2017.

Significant Planned Activities in the Next Three Months:

- BNI to perform comment resolution of the draft HLW PDSA update, with final approval anticipated in September 2017. BNI provided its initial response to the significant comments in early July 2017. BNI’s complete response to all comments is anticipated by the end of July 2017.
- BNI to issue reports associated with the full-scale testing and final selection of HEPA filters supporting the ventilation and offgas systems of HLW and LBL facilities.
- BNI to continue with facility preservation and maintenance activities.
- BNI will continue to update its long-range planning documents to support future rebaseline effort in FY 2018.

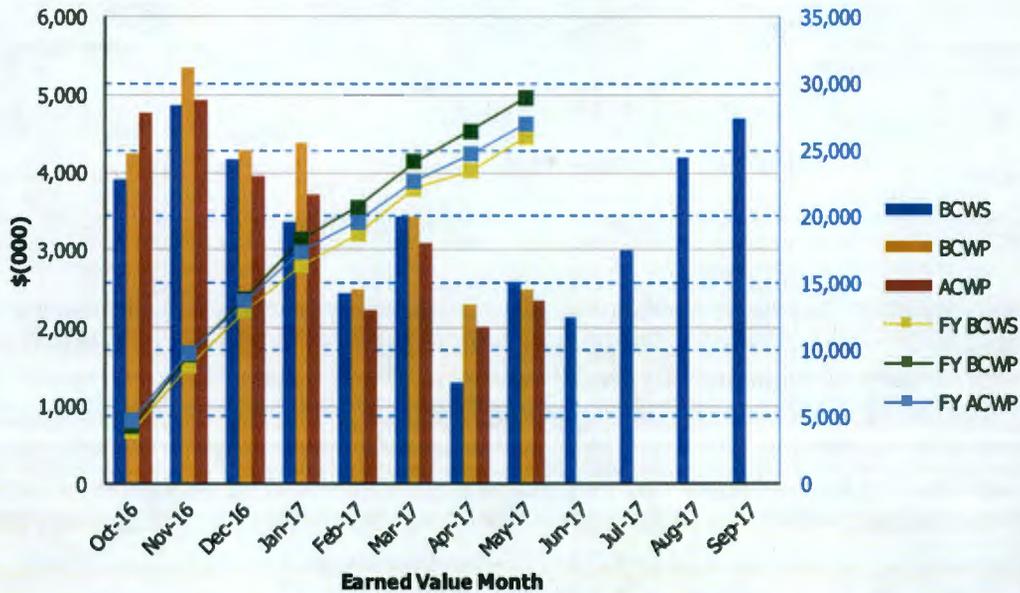
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$3,910	\$4,231	\$4,761	1.08	0.89	\$3,910	\$4,231	\$4,761	1.08	0.89
Nov 2016	\$4,855	\$5,337	\$4,930	1.10	1.08	\$8,766	\$9,568	\$9,692	1.09	0.99
Dec 2016	\$4,163	\$4,292	\$3,960	1.03	1.08	\$12,929	\$13,860	\$13,652	1.07	1.02
Jan 2017	\$3,343	\$4,387	\$3,702	1.31	1.19	\$16,271	\$18,247	\$17,354	1.12	1.05
Feb 2017	\$2,439	\$2,491	\$2,225	1.02	1.12	\$18,710	\$20,738	\$19,579	1.11	1.06
Mar 2017	\$3,425	\$3,427	\$3,098	1.00	1.11	\$22,135	\$24,165	\$22,676	1.09	1.07
Apr 2017	\$1,296	\$2,292	\$1,997	1.77	1.15	\$23,431	\$26,457	\$24,674	1.13	1.07
May 2017	\$2,594	\$2,492	\$2,345	0.96	1.06	\$26,025	\$28,949	\$27,018	1.11	1.07
Jun 2017	\$2,136									
Jul 2017	\$2,981									
Aug 2017	\$4,184									
Sep 2017	\$4,702									
PTD	\$1,309,056	\$1,310,530	\$1,288,014	1.00	1.02					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

PTD = project to date.
 EVMS = earned value management system.
 FY = fiscal year.
 SPI = schedule performance index.

Low-Activity Waste Facility

Federal Project Director: Bill Hamel

Facility Federal Project Director: Jeff Bruggeman

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 May 2017, the LAW Facility was 63 percent complete overall, with engineering design 84 percent complete, procurement 77 percent complete, construction 87 percent complete, and startup and commissioning 10 percent complete.

Significant Accomplishments during the Prior Three Months:

- ORP approved completion of Activity Milestone Low-Activity Waste A-2, *Complete Final Assembly of Melter #1*.
- BNI completed hydrostatic pressure testing on all process cell vessels requiring the assessment.
- BNI completed installation of the melter jack-bolts on melter No. 2.
- BNI continued assembly of cooling jackets for LAW Facility melter feed process vessels.
- BNI issued the 90 percent design review report for the uninterruptible power electrical system.
- BNI completed repairs for the LAW Facility primary offgas system wet electrostatic precipitator vessel nozzle welds.
- BNI installed and tested melter bubblers and completed welding on melter shield lids.
- BNI completed base frame modifications on both melters.

Significant Planned Activities in the Next Three Months:

- BNI to perform 90 percent design reviews of the primary and secondary offgas systems.

- BNI to move melter No. 1 into final position.
- BNI to complete installation of melter offgas pre-heaters.
- BNI to repair cracked melter refractory in the discharge chamber.
- BNI to install primary offgas spool fittings (hilltop fittings).
- BNI to perform initial system walkdowns for the following:
 - Direct current electrical system
 - Plant service air system.
- BNI scheduled to complete contractual interim milestone A-3 LBL construction complete performance based incentive fee associated with completing final assembly of melter No. 2 ahead of late-September 2017 contract date.
- BNI to reinstall wet electrostatic precipitator internals now that radiographic testing to verify adequacy of welds is complete.
- ORP to evaluate preliminary hazard category calculation for LAW Facility.
- BNI developing process hazard analysis events for accident scenarios to support PDSA update development.

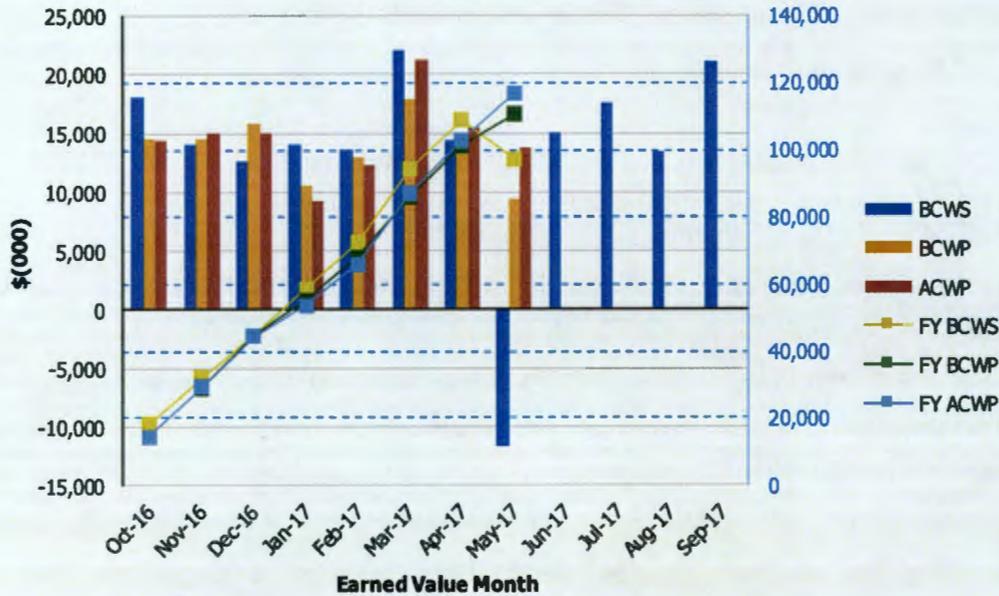
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$18,055	\$14,539	\$14,396	0.81	1.01	\$18,055	\$14,539	\$14,396	0.81	1.01
Nov 2016	\$14,013	\$14,564	\$15,062	1.04	0.97	\$32,068	\$29,102	\$29,458	0.91	0.99
Dec 2016	\$12,629	\$15,785	\$15,081	1.25	1.05	\$44,697	\$44,887	\$44,539	1.00	1.01
Jan 2017	\$14,122	\$10,498	\$9,286	0.74	1.13	\$58,818	\$55,386	\$53,825	0.94	1.03
Feb 2017	\$13,603	\$12,947	\$12,282	0.95	1.05	\$72,421	\$68,333	\$66,107	0.94	1.03
Mar 2017	\$22,131	\$17,933	\$21,287	0.81	0.84	\$94,552	\$86,266	\$87,395	0.91	0.99
Apr 2017	\$14,450	\$14,968	\$15,573	1.04	0.96	\$109,002	\$101,234	\$102,967	0.93	0.98
May 2017	(\$11,648)	\$9,459	\$13,678	-0.81	0.69	\$97,354	\$110,693	\$116,645	1.14	0.95
Jun 2017	\$15,084									
Jul 2017	\$17,582									
Aug 2017	\$13,506									
Sep 2017	\$21,029									
PTD	\$1,546,384	\$1,548,886	\$1,552,838	1.00	1.00					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

PTD = project to date.
 EVMS = earned value management system.
 FY = fiscal year.
 SPI = schedule performance index.

Balance of Facilities

Federal Project Director: Bill Hamel

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 2017, BOF was 68 percent complete overall, with engineering design 88 percent complete, procurement 81 percent complete, construction 92 percent complete, and startup and commissioning 28 percent complete.

Engineering activities continue to support the DFLAW initiative. Current efforts are focused on completing the design of Effluent Management Facility (EMF), supporting the EMF dangerous waste permit, supporting EMF procurement activities, and providing field support for BOF startup activities. Construction efforts are focused on formwork and rebar installation to support placement of the EMF walls, startup testing of the medium voltage systems in the BOF switchgear building, and system flushing in the water treatment facility. Additional construction punch list activities are underway to support testing of the cooling tower facility. The startup organization continued component-level testing for systems in the water treatment facility, the cooling tower facility, and BOF switchgear building.

Significant Accomplishments during the Prior Three Months:

- ORP formally submitted the EMF Underground Transfer Line Permit package to the Washington State Department of Ecology. The public comment period for the Class II change ended June 9, 2017. A total of five respondents provided approximately 60 comments that ORP is addressing.
- BNI completed EMF large slab concrete placements and continued rebar and formwork activities to support additional stem wall placements at EMF.
- BNI received temporary authorization for placement of EMF topping slabs and associated embedded steel.
- BNI awarded EMF evaporator fabrication.
- BNI completed energization of BOF switchgear Building 91 and functional testing is upcoming to support a turnover to operations.
- BNI initiated liquid effluent services (ICD-5) and performed functional tests of the nonradioactive, nondangerous liquid disposal system.
- BNI completed transfers from the WTP nondangerous liquid disposal system, to the off-construction site Mission Support Alliance, LLC Treated Effluent Disposal Facility.
- BNI initiated potable water services (ICD-2) from Mission Support Alliance, LLC to begin flushing and wetted testing of systems in the water treatment facility.

- BNI has energized both the original and the supplemental cathodic protection systems and system balancing is in progress.
- BNI installed the additional rotary screw compressor to support DFLAW.
- BNI issued steam plant DFLAW modification drawings for construction.
- BNI completed turnover of the following systems to its startup organization:
 - Chiller compressor plant fire detection and alarm system.
 - Water treatment facility domestic (potable) water system.
 - Cooling tower facility low-voltage electrical system.

Significant Planned Activities in the Next Three Months:

- BNI to complete balancing of the cathodic protection system.
- BNI to complete functional testing for BOF switchgear building.
- BNI to install ring beams and place topping slabs for EMF.
- BNI expects to complete turnover of the following systems to its startup organization:
 - Steam plant facility process control system
 - Steam plant facility fire detection and alarm system
 - Steam plant facility low-voltage electrical system
 - Cooling tower facility plant cooling water system
 - Chiller compressor plant low-voltage electrical system
 - Chiller compressor plant chilled water system
 - Chiller compressor plant process control system.

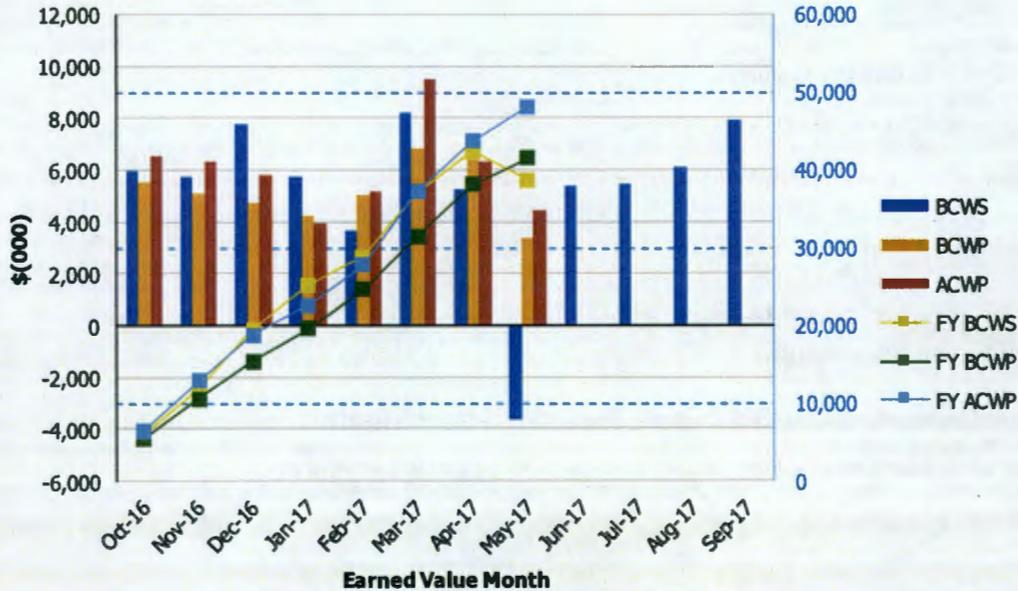
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$5,977	\$5,519	\$6,535	0.92	0.84	\$5,977	\$5,519	\$6,535	0.92	0.84
Nov 2016	\$5,773	\$5,120	\$6,338	0.89	0.81	\$11,751	\$10,640	\$12,874	0.91	0.83
Dec 2016	\$7,799	\$4,729	\$5,843	0.61	0.81	\$19,549	\$15,369	\$18,717	0.79	0.82
Jan 2017	\$5,754	\$4,219	\$3,918	0.73	1.08	\$25,304	\$19,588	\$22,634	0.77	0.87
Feb 2017	\$3,635	\$5,048	\$5,197	1.39	0.97	\$28,938	\$24,636	\$27,831	0.85	0.89
Mar 2017	\$8,237	\$6,862	\$9,546	0.83	0.72	\$37,175	\$31,498	\$37,378	0.85	0.84
Apr 2017	\$5,228	\$6,632	\$6,364	1.27	1.04	\$42,403	\$38,130	\$43,742	0.90	0.87
May 2017	(\$3,611)	\$3,405	\$4,480	-0.94	0.76	\$38,793	\$41,536	\$48,222	1.07	0.86
Jun 2017	\$5,387									
Jul 2017	\$5,470									
Aug 2017	\$6,091									
Sep 2017	\$7,940									
PTD	\$566,399	\$563,329	\$571,485	0.99	0.99					

ACWP = actual cost of work performed.
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Analytical Laboratory

Federal Project Director: Bill Hamel

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 2017, the LAB was 68 percent complete overall, with engineering design 85 percent complete, procurement 88 percent complete, construction 96 percent complete, and startup and commissioning 19 percent complete.

During this reporting period, efforts were focused on startup testing of the test engineer's workstation and procurement activities for the offsite laboratory.

Significant Accomplishments during the Prior Three Months:

- BNI submitted the LAB operating permit to ORP for approval.
- ORP formally submitted the LAB operating permit to the Washington State Department of Ecology.
- BNI completed LAB radioactive liquid waste disposal system 90 percent design review.
- BNI completed turnover of fire detection and alarm scoped systems to plant operations.
- BNI completed turnover of the sanitary disposal system.
- BNI completed turnover of the C1V system.
- BNI continued final wall and floor coatings.

Significant Planned Activities in the Next Three Months:

- BNI to begin leasing temporary laboratory space, which allows for earlier laboratory methods development and training to ensure laboratory staff are ready at the start of commissioning.
- BNI to complete 90 percent design review of ventilation systems (C1V, C2V, C3V, and C5V).
- BNI to complete turnover of the low-voltage electrical system to the startup organization.
- BNI to complete turnover of the grounding and lightning protection system to the startup organization.
- ORP and BNI to reach an agreement on proposed C5V modifications, if needed.
- BNI to continue testing control and monitoring systems in the test engineer's workstation.

- BNI to award procurement for toxicity refrigerant monitor needed for beneficial occupancy.
- BNI to install the replacement heating, ventilation, and air-conditioning condenser.

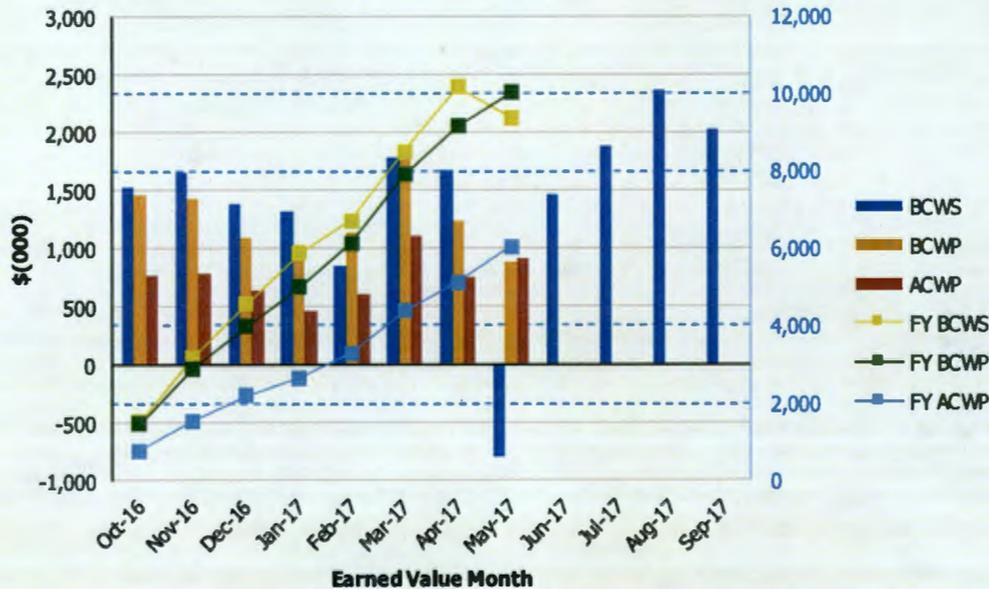
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Data Set: FY 2017 Earned Value Data

Data as of: May 2017

**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 2016	\$1,521	\$1,470	\$776	0.97	1.89	\$1,521	\$1,470	\$776	0.97	1.89
Nov 2016	\$1,661	\$1,426	\$777	0.86	1.83	\$3,182	\$2,896	\$1,553	0.91	1.86
Dec 2016	\$1,375	\$1,098	\$645	0.80	1.70	\$4,557	\$3,994	\$2,198	0.88	1.82
Jan 2017	\$1,309	\$1,008	\$466	0.77	2.16	\$5,866	\$5,001	\$2,664	0.85	1.88
Feb 2017	\$845	\$1,141	\$612	1.35	1.86	\$6,711	\$6,143	\$3,277	0.92	1.87
Mar 2017	\$1,791	\$1,774	\$1,109	0.99	1.60	\$8,502	\$7,916	\$4,385	0.93	1.81
Apr 2017	\$1,673	\$1,241	\$746	0.74	1.66	\$10,174	\$9,157	\$5,131	0.90	1.78
May 2017	(\$790)	\$887	\$909	-1.12	0.98	\$9,384	\$10,044	\$6,040	1.07	1.66
Jun 2017	\$1,456									
Jul 2017	\$1,876									
Aug 2017	\$2,359									
Sep 2017	\$2,029									

PTD	\$347,991	\$346,618	\$335,065	1.00	1.03
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ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

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Waste Treatment Plant Project Percent Complete Status (Table)

Waste Treatment Plant Project - (LBL/Project Services) Percent Complete Status
Through May 2017

(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	2,264.8	1,420.2	63%	550.0	461.6	84%	374.5	286.8	77%	686.2	600.3	87%	650.2	67.4	10%	4.0	4.0	100%
Balance of Facilities	742.3	501.2	68%	146.8	129.8	88%	72.4	58.3	81%	262.0	239.8	92%	260.6	72.8	28%	0.5	0.5	100%
Analytical Lab	509.7	346.6	68%	104.5	88.8	85%	65.5	57.5	88%	161.0	155.2	96%	165.6	32.1	19%	0.5	0.5	100%
Direct Feed LAW	392.0	116.4	30%	98.1	66.1	67%	55.9	7.1	13%	229.1	38.2	17%	0.0	0.0	0%	8.9	5.0	57%
LBL Facility Services	652.9	210.5	32%	0.0	0.0	0%	57.1	27.7	49%	135.8	53.4	39%	218.3	67.7	31%	241.6	61.7	26%
Total LBL	4,561.7	2,595.0	57%	899.3	746.3	83%	625.5	437.4	70%	1,474.2	1,087.0	74%	1,294.7	240.0	19%	255.4	71.7	28%
Project Services	1,015.0	451.3	44%	129.6	64.2	50%	72.9	39.6	54%	103.7	74.6	72%	1.7	1.7	100%	707.2	271.2	38%
Total Project Services	1,015.0	451.3	44%	129.6	64.2	50%	72.9	39.6	54%	103.7	74.6	72%	1.7	1.7	100%	707.2	271.2	38%
Total LBL, DFLAW & Project Services	5,576.7	3,046.3	55%	1,028.9	810.5	79%	698.3	477.0	68%	1,577.8	1,161.6	74%	1,296.4	241.7	19%	962.6	342.9	36%
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	14,299.5	9,011.5	63%	3,202.0	2,759.4	86%	2,263.8	1,601.8	71%	4,465.4	2,926.4	66%	2,054.9	384.9	19%	2,300.7	1,326.4	58%

Source: Preliminary WTP Contract Performance Report - Format 1, Data for May 2017

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 (tPSA), as shown on the CPR Format 1, is not added to LBL for percent complete purposes.