

FINAL

**Office of River Protection
Consent Decree
Monthly Report
November¹ 2016**

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 October 1–31, 2016. Earned Value Management System data and descriptions cover the period of September 1–30, 2016; 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
C5V	ventilation system for potential contamination zones C5
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
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
EMF	Effluent Management Facility
ERSS	extended reach sluicer system
FY	fiscal year
HAMTC	Hanford Atomic Metals Trades Council
HEPA	high-efficiency particulate air
HLW	High-Level Waste (Facility)
HPAV	hydrogen in piping and ancillary vessels
LAB	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LBL	Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
MARS-V	Mobile Arm Retrieval System-Vacuum
NQA-1	Nuclear Quality Assurance-1
ORP	U.S. Department of Energy, Office of River Protection
PDSA	preliminary documented safety analysis
PJM	pulse-jet mixer
PT	Pretreatment (Facility)
RLD	Radioactive Liquid Waste Disposal System
SHSVD	standard high-solids vessel design
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		On Schedule
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		On Schedule
Fiscal Year 2030				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		On Schedule
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

Milestone	Title	Due Date	Completion Date	Status
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: End of month following each calendar year quarter, 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: November 10, 2016, Status: On Schedule.

D-006-00-B, Meet Approximately Every Three Years after Entry of Decree to review requirements of the Consent Decree,
Due: December 10, 2016, Status: On Schedule.

Spare Reboiler Requirement Status

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	On Schedule
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:

- Since issuance of the March 11, 2016, Amended Consent Decree and the April 12, 2016, Second Amended Consent Decree, the U.S. Department of Energy (DOE) has provided the Washington River Protection Solutions, LLC (WRPS) with funding to accelerate the planned fiscal year (FY) 2017 work to design and procure the spare E-A-1 reboiler. The DOE Office of River Protection (ORP) authorized WRPS to proceed by awarding a not-to-exceed design/build contract no later than December 21, 2016.
- WRPS has received proposals for the design/build of the new spare 242-A Evaporator reboiler technically evaluated them and selected a vendor. The vendor is currently on the Mission Support Alliance, LLC evaluated supplier list. Mission Support Alliance, LLC is now performing an assessment to ensure that the vendor is in full compliance with the quality assurance requirements associated with the design/build specification. The outcome of this assessment will likely be the development of a supplier quality assurance program implementation plan. Upon completion of the supplier quality assurance program, WRPS will award the contract currently scheduled for December 7, 2016.

Single-Shell Tank Retrieval Program

Facility Project Director: Ben Harp

Facility Operations Activity Manager: Chris Kemp

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	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	On Schedule

SST = single-shell tank.

WMA-C = C Farm waste management area.

Significant Accomplishments during the Prior Three Months:

- Removed and disposed of 19 hose-in-hose transfer lines from C Farm to the Environmental Restoration Disposal Facility
- Submitted the C-102 Retrieval Data Report to the Washington State Department of Ecology (Ecology)
- Completed C-105 proof of concept for in-tank equipment (Mobile Arm Retrieval System-Vacuum [MARS-V] modification)
- Completed C-105 MARS-V disassembly to support modifications for installation of the slurry pump
- Removed C-105 C pit upper and lower cover blocks
- Received two of three extended reach sluicer systems (ERSS) for installation in Tank C- 105
- Submitted C-111 Retrieval Completion Certification report to Ecology
- Completed an additional AX Farm pit clean out (AX-02C), five of eight pit clean outs completed
- Completed AX Farm air and water service building exterior construction
- Completed POR126 and POR127 ventilation installation and initial testing

- Received AX-102 and AX-104 ERSS and slurry pumps
- Completed AX Farm ingress and egress change trailers
- Completed A Farm ventilation design.

Significant Planned Activities in the Next Three Months:

- Negotiate contract proposal for installing and performing the third retrieval technology at Tank C-105
- Complete Tank C-105 modified sluicing system design
- Clean and prepare C-105 A and C pits for ERSS installation
- Receive the spare C-105 ERSS
- Complete AX Farm air and water service building major utilities installation
- Complete AX Farm ventilation installation and readiness/turnover at portable exhausters POR126 and POR127
- Complete the three remaining AX-104 pit cleanouts.

Issues:

- On July 11, 2016, the Hanford Atomic Metal Trades Council (HAMTC), a labor organization composed of various unions working at Hanford, issued a “stop work” requiring mandatory use of supplied air within the perimeter fence lines of both single- and double-shell tank farms. This letter also included six other demands HAMTC expected WRPS to implement immediately. On August 31, 2016, WRPS and HAMTC signed a Memorandum of Agreement which documents HAMTC’s agreement to lift the stop work, based upon WRPS’s agreement to remain on supplied air until chemical cartridge testing is complete and reviewed by a third party selected by HAMTC. On July 21, 2016, the Washington State Attorney General and Citizens (Local Union 598 and Hanford Challenge) filed motions for preliminary injunction in federal court (Case 4:15-cv-05086-TOR) seeking, among other things, that all work inside the perimeter fences of any tank farm be performed while wearing *mandatory* supplied air. A hearing on the preliminary injunction motions was held on October 12, 2016 and the parties are awaiting a decision from the court. The stop work agreement and interim measures associated with the motions for preliminary injunction has slowed and/or delayed field work at the AX and C farms. For example the AX-102 and AX-104 retrieval construction (removal of legacy/long length equipment) is affected by not being able to operate the tank-specific ventilation system. DOE and WRPS continue to evaluate near-term and long-term impacts of these actions though at this time we have not determined the effect, if any, on Consent Decree milestones. Due to the prior technical challenges related to completing retrievals at Tank 241-C-102 and Tank 241-C-111, and the current modifications to Tank 241-C-105, funding will be needed to complete Tank 241-AX-102 and Tank 241-AX-104 tank retrieval system(s) installation through FY 2018 with

retrieval operations starting in FY 2019 to meet milestone D-16B-03 by December 31, 2020.

- ORP submitted letter 16-TF-0102, “Status Update Related to Tank Farm Vapors,” on September 15, 2016, to make certain Ecology is aware of several recent events regarding the Hanford tank farms retrieval activities, to pass along relevant information, and provide updates on the status of ongoing processes related to those vapor events and their mitigation. Ecology acknowledged receipt of this letter on October 17, 2016 and requested a copy of the WRPS response to ORP’s September 8, 2016 request for additional information. ORP and WRPS are continuing to assess these events for potential impacts to Consent Decree milestones.

Tank Waste Retrieval Work Plan Status

Tank	TWRWP	Expected Revisions	First Retrieval Technology	Second Technology	Third Technology
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	-
C-109	RPP-21895, Rev. 5	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0037	-

Tank	TWRWP	Expected Revisions	First Retrieval Technology	Second Technology	Third Technology
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 sluicing system.

MARS = Mobile Arm Retrieval System.

S = sluicing.

TBD = to be determined.

TWRWP = tank waste retrieval work plan.

V = vacuum.

Significant Accomplishments:

- AX Farm tank waste retrieval work plan drafts were reviewed by Ecology and are going through final revision at ORP.
- Modification to RPP-22520, *241-C-101 and 241-C-105 Tanks Waste Retrieval Work Plan* to include a third technology for Tank C-105 retrieval was approved by Ecology and is in the process of being revised.

Significant Planned Activities in the Next Three Months:

- Finalize AX Farm tank retrieval work plans.

Issues:

- None.

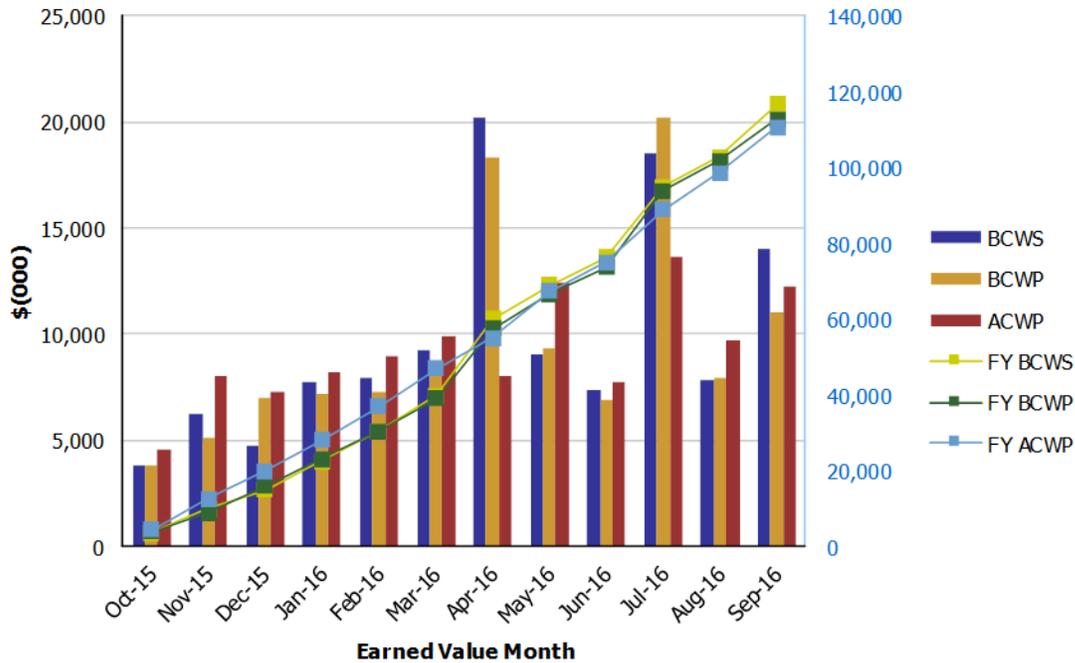
EXC-01a: Fiscal Year Cost and Schedule Report

Earned Value Data: Fiscal Year 2016

September-16

Tank Farms ORP-0014
Retrieve and Close SST's 5.02

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 2015	\$3,770	\$3,814	\$4,560	1.01	0.84	\$3,770	\$3,814	\$4,560	1.01	0.84
Nov 2015	\$6,282	\$5,131	\$8,006	0.82	0.64	\$10,052	\$8,946	\$12,566	0.89	0.71
Dec 2015	\$4,769	\$6,970	\$7,255	1.46	0.96	\$14,821	\$15,915	\$19,821	1.07	0.80
Jan 2016	\$7,702	\$7,214	\$8,233	0.94	0.88	\$22,522	\$23,130	\$28,053	1.03	0.82
Feb 2016	\$7,948	\$7,288	\$8,959	0.92	0.81	\$30,470	\$30,417	\$37,012	1.00	0.82
Mar 2016	\$9,249	\$8,693	\$9,857	0.94	0.88	\$39,719	\$39,111	\$46,869	0.98	0.83
Apr 2016	\$20,237	\$18,288	\$8,046	0.90	2.27	\$59,956	\$57,399	\$54,916	0.96	1.05
May 2016	\$9,013	\$9,299	\$12,417	1.03	0.75	\$68,970	\$66,698	\$67,333	0.97	0.99
Jun 2016	\$7,387	\$6,885	\$7,713	0.93	0.89	\$76,357	\$73,584	\$75,045	0.96	0.98
Jul 2016	\$18,511	\$20,234	\$13,683	1.09	1.48	\$94,867	\$93,817	\$88,728	0.99	1.06
Aug 2016	\$7,831	\$7,971	\$9,736	1.02	0.82	\$102,698	\$101,788	\$98,464	0.99	1.03
Sep 2016	\$13,992	\$11,034	\$12,237	0.79	0.90	\$116,690	\$112,823	\$110,701	0.97	1.02
CTD	\$709,167	\$698,049	\$720,674	0.98	0.97					

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)

The September variance does not impact the completion of the projects B-1 and B-3 of the Consent Decree.

The current month **unfavorable** schedule variance (SV) of (\$2,958K) is due to:

- AX-102/104 in-tank equipment removal has been delayed due to postponement of operation of the POR126 exhauster because active ventilation is required to remove long length in-tank equipment. In addition, AX Farm procurements, including hose-in-hose transfer lines, diversion boxes, splitter boxes, and shield plates have been replanned because field installation has been delayed due to the stop work agreement, interim measures associated with the motions for preliminary injunction and project funding challenges.

The current month **unfavorable** cost variance (CV) of (\$1,203K) is due to:

- Additional field support was required to complete POR127 testing (AX Farm) as a result of additional instrumentation recalibration and minor repairs required due to extensive equipment testing. In addition, AX Farm pit clean out activities were impacted by increased standby time as a result of health physicist technician and industrial hygienist technician staff supporting min-safe activities in double-shell farms and decreased labor efficiency due to self-contained breathing apparatus usage.

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 3,057 full-time equivalent contractor, Bechtel National, Inc. (BNI), and subcontractor personnel. This includes 636 craft, 533 non-manual, and 166 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 September 2016, LBL facilities were 50 percent complete, design and engineering was 76 percent complete, procurement was 65 percent complete, construction was 67 percent complete, and startup and commissioning was 13 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:

- ORP began presentations to the Energy System Acquisition Advisory Board for approval of the Baseline Change Proposal for LBL/DFLAW by the Chief Executive for Project Management.

Significant Planned Activities in the Next Three Months:

- Contract negotiations between ORP and BNI to define and finalize the new LBL/DFLAW scope into the contract have been ongoing and are expected to be completed by the end of the calendar year.
- ORP will continue presentations to the Energy System Acquisition Advisory Board and the Deputy Energy Secretary on the new Baseline Change Proposal for LBL/DFLAW for the WTP Project.

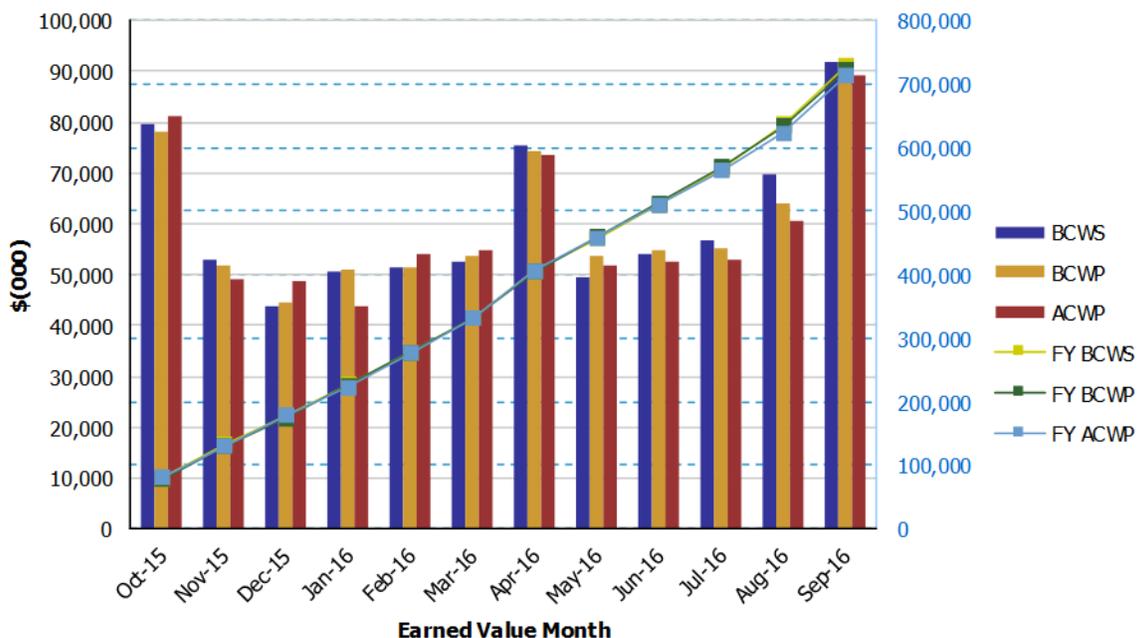
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$79,800	\$78,230	\$81,000	0.98	0.97	\$79,800	\$78,230	\$81,000	0.98	0.97
Nov 2015	\$52,815	\$51,614	\$49,184	0.98	1.05	\$132,615	\$129,844	\$130,184	0.98	1.00
Dec 2015	\$43,659	\$44,505	\$48,853	1.02	0.91	\$176,275	\$174,348	\$179,037	0.99	0.97
Jan 2016	\$50,515	\$51,167	\$43,662	1.01	1.17	\$226,790	\$225,515	\$222,699	0.99	1.01
Feb 2016	\$51,349	\$51,492	\$54,112	1.00	0.95	\$278,139	\$277,007	\$276,811	1.00	1.00
Mar 2016	\$52,395	\$53,645	\$54,896	1.02	0.98	\$330,533	\$330,653	\$331,707	1.00	1.00
Apr 2016	\$75,610	\$74,244	\$73,679	0.98	1.01	\$406,144	\$404,897	\$405,387	1.00	1.00
May 2016	\$49,478	\$53,800	\$51,914	1.09	1.04	\$455,622	\$458,697	\$457,300	1.01	1.00
Jun 2016	\$54,203	\$54,759	\$52,382	1.01	1.05	\$509,825	\$513,456	\$509,682	1.01	1.01
Jul 2016	\$56,934	\$55,273	\$52,892	0.97	1.05	\$566,759	\$568,728	\$562,574	1.00	1.01
Aug 2016	\$69,800	\$64,085	\$60,594	0.92	1.06	\$636,559	\$632,814	\$623,168	0.99	1.02
Sep 2016	\$91,793	\$88,649	\$89,119	0.97	0.99	\$728,352	\$721,463	\$712,287	0.99	1.01
PTD	\$9,828,115	\$9,801,009	\$9,730,089	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.

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

Project Schedule and Cost Variance Performance

Performance Tracking	SV (\$x1,000)	CV (\$x1,000)
Current Period (September 2016)	(\$2,934)	(\$261)
Fiscal Year 2016 to-date	(\$6,679)	\$9,386
Cumulative (through September 2016)	(\$26,896)	\$71,130

CV = cost variance.

SV = schedule variance.

Earned Value Management System Analysis

The earned value management system 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.

During the September reporting period, a net unfavorable SV of approximately (\$2.9 million) was reported (meaning that a net \$2.9 million of scheduled work scope was not completed), primarily due to the following:

- Planned work for LBL/DFLAW, at a net unfavorable SV of (\$4.6 million), was not completed due to unresolved issues with system testing work, such as the carbon media shakedown testing, vendor delays for commercial grade dedication procurements, delays in receipt of the LAW programmable protection system and DFLAW rotary screw compressor equipment deliverables, and installation of electrical fixtures due to delays in receipt of the fixtures.
- Engineering reported a delay in design calculations for the High-Level Waste (HLW) Facility because resources were supporting other activities, such as design and operability reviews. Construction reported delays in concrete placement. These delays were offset by early delivery of materials for civil construction and early approval of drawings for the cable reels.
- The Pretreatment (PT) Facility reported completion of a net \$1.7 million more scope than planned during the reporting period, resulting from early purchase of pipe materials and replanning and removal of work scope, which was offset by work having been completed in earlier reporting periods.

For the September reporting period, a net unfavorable CV of approximately (\$0.3 million) was reported (meaning that it cost \$0.3 million more than planned), primarily due to the following:

- LBL/DFLAW reported a net unfavorable CV of (\$0.95 million), resulting from the early purchase of software used for startup, more engineering hours spent on resolving commercial grade dedication procurements than planned, delays in the carbon media shakedown testing, and more procurement support hours being needed than planned. This was offset by construction craft taking less time than planned for site work and pipe rack piping installation.
- HLW Facility reported a net unfavorable CV of (\$0.2 million), resulting from early work associated with procurement of the Autosampling System, and higher Project Services support cost than planned. This was offset by lower cost in engineering support scope, construction support staff less than planned, and civil work scope completion taking less time than planned.
- PT Facility reported a net unfavorable CV of (\$0.3 million), resulting from additional technical team hours expended to support completion of deliverables and additional nuclear safety hours related to the technical issues. This was offset by less cost for gravel installation and Facility Services support staffing.
- Project Services reported a net favorable CV of \$1.2 million, primarily related to not being staffed to budgeted staffing levels. This was offset by higher labor rate charges and more subcontractor work being performed than planned.

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: None

Milestone	Title	Due Date	Status
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.

ORP continues to focus on resolving five outstanding WTP technical issues as described in the Amended Consent Decree (i.e., preventing potential hydrogen buildup, preventing criticality, ensuring control of the pulse-jet mixers [PJM], protecting against possible erosion and corrosion, and ensuring ventilation balancing), while performing hazards analyses, and completing safety evaluations for process systems in accordance with the revised PT Facility Three-Year Interim Work Plan.

The WTP Project has made sustained progress on resolution of the five outstanding technical issues. ORP expects to attain resolution and closure of the two nuclear safety technical issues, “Preventing Potential Hydrogen Build-Up” and “Preventing Criticality,” by the end of 2016. Work will continue past 2016 on resolving the remaining three issues. ORP has worked with BNI to develop closure packages for each technical issue, defining work scope, required deliverables, and technical issue closure criteria.

Significant Accomplishments during the Prior Three Months:

- BNI submitted PJM control logic diagrams to ORP for review.
- BNI submitted the test plan for the mixing requirements verification for the standard high solids vessel design (SHSVD) test to ORP for review.
- BNI installed the simulant mixing and storage facility storage tanks.

- ORP accepted the SHSVD test plan submitted by BNI.
- BNI submitted the hydrogen in piping and ancillary vessels (HPAV) preliminary documented safety analysis (PDSA) change package to ORP.

Significant Planned Activities in the Next Three Months:

- ORP to review and accept the engineering study on the resolution of hydrogen gas controls for PJM mixed vessels.
- ORP approval of BNI's response to the condition of approval for WTP's preliminary criticality safety evaluation report.
- ORP approval of HPAV PDSA change package and issuance of safety evaluation report.
- BNI to install PJM-level instrumentation.
- BNI to complete conceptual design plan and issue for ORP review.
- BNI to issue preliminary structural analysis of SHSVD plant study for complete conceptual design plan and issue for ORP review for design review notice.

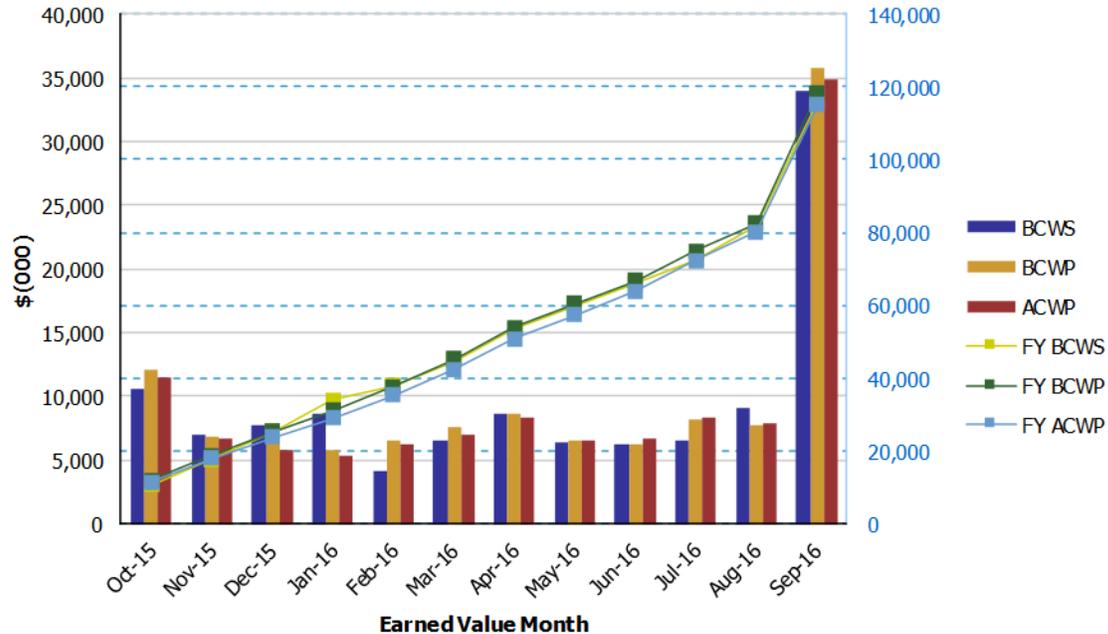
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$10,667	\$12,155	\$11,441	1.14	1.06	\$10,667	\$12,155	\$11,441	1.14	1.06
Nov 2015	\$7,074	\$6,836	\$6,648	0.97	1.03	\$17,741	\$18,991	\$18,089	1.07	1.05
Dec 2015	\$7,678	\$6,441	\$5,777	0.84	1.11	\$25,419	\$25,432	\$23,867	1.00	1.07
Jan 2016	\$8,595	\$5,853	\$5,332	0.68	1.10	\$34,014	\$31,285	\$29,199	0.92	1.07
Feb 2016	\$4,105	\$6,545	\$6,220	1.59	1.05	\$38,120	\$37,830	\$35,419	0.99	1.07
Mar 2016	\$6,588	\$7,604	\$6,979	1.15	1.09	\$44,708	\$45,434	\$42,398	1.02	1.07
Apr 2016	\$8,717	\$8,586	\$8,400	0.99	1.02	\$53,425	\$54,020	\$50,798	1.01	1.06
May 2016	\$6,434	\$6,485	\$6,523	1.01	0.99	\$59,859	\$60,506	\$57,321	1.01	1.06
Jun 2016	\$6,249	\$6,258	\$6,630	1.00	0.94	\$66,108	\$66,764	\$63,951	1.01	1.04
Jul 2016	\$6,618	\$8,129	\$8,311	1.23	0.98	\$72,726	\$74,893	\$72,262	1.03	1.04
Aug 2016	\$9,132	\$7,794	\$7,844	0.85	0.99	\$81,858	\$82,687	\$80,107	1.01	1.03
Sep 2016	\$34,019	\$35,721	\$34,906	1.05	1.02	\$115,877	\$118,408	\$115,013	1.02	1.03

PTD	\$1,848,277	\$1,850,241	\$1,827,573	1.00	1.01
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|------|---|----------------------------------|------|---|---------------------------------|
| ACWP | = | actual cost of work performed. | CTD | = | contract to date. |
| BCWP | = | budgeted cost of work performed. | EVMS | = | earned value management system. |
| BCWS | = | budgeted cost of work scheduled. | FY | = | fiscal year. |
| CPI | = | cost performance index. | SPI | = | schedule performance index. |

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. Physical percent complete for the HLW and PT facilities were frozen as of 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 five-year, FY 2017–FY 2021 Interim Work Plan. The WTP contractor is still working under a limited construction and procurement authorization. BNI efforts are focused on completing activities required to obtain full-production authorization from ORP. BNI has submitted a facility completion plan identifying the strategy for obtaining full authorization to complete engineering, procurement, and construction of the HLW Facility, which is currently under review 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 review comments. Phase II of the HLW Facility melter offgas treatment process/process vessel vent engineering study is underway and the contractor is evaluating options from the Phase I study to improve facility throughput and operability. Design of the remaining portions of the radioactive liquid disposal (RLD) system (Phase II), including engineering documents to support material procurement and fabrication of vessels RLD-7 and RLD-8, is in progress.

The HLW Facility PDSA update to align design and the safety basis is progressing well, and the final draft was submitted to ORP in October 2016. The ORP-chartered Safety Basis Review Team is in the process of reviewing the document, and will work with BNI over the next few months to resolve comments for formal submittal of the PDSA to DOE for approval. Once the PDSA is approved, system design requirements will be confirmed to ensure facility design is aligned with the nuclear safety basis.

High-efficiency particulate air (HEPA) filter media design is now complete. These filter designs were evaluated to ensure the qualified filters support the needs for the HLW Facility, along with LBL.

Nuclear Quality Assurance-1 (NQA-1) qualification testing of the full-scale filter designs at Mississippi State University is ongoing. All testing of the filter “Design 4” for the safe-change housings have been completed successfully. Testing for the remote-change filters is ongoing, with planned completion by the end of calendar year 2016.

Significant Accomplishments during the Prior Three Months:

- BNI completed NQA-1 HEPA filter qualification testing of the “Design 4” safe-change filters.
- BNI issued and implemented the HLW Facility Five-Year Work Plan.
- BNI issued the melter cave support handling engineering study.
- BNI submitted the HLW Facility Completion Plan to ORP for review.
- BNI completed HLW Facility melter handling system and HLW Facility off-gas process system Phase I engineering studies to disposition some of the design and operability issues and recommendations.
- ORP received draft HLW PDSA update submitted by BNI.
- BNI issued an engineering study detailing the potential addition of a melter assembly building/airlock and an additional import/export dock for waste handling.
- BNI released material procurement and fabrication of RLD-8. RLD-8 is located in the wet process cell and must be installed prior to concrete slab placement to support roof installation.

Significant Planned Activities in the Next Three Months:

- BNI to complete full-scale testing of remote-change HEPA filters supporting the ventilation and off-gas systems of HLW and PT facilities.
- BNI to release material procurement and fabrication for vessel RLD-7.
- BNI to issue the offgas treatment process Phase II engineering study.
- ORP to complete review of the draft PDSA update.

- BNI to complete the disposition of design and operability comments and issue final report to DOE.
- DOE to approve the HLW Facility completion plan.
- BNI to continue civil build-out of the HLW Facility focusing on weathering in the building.

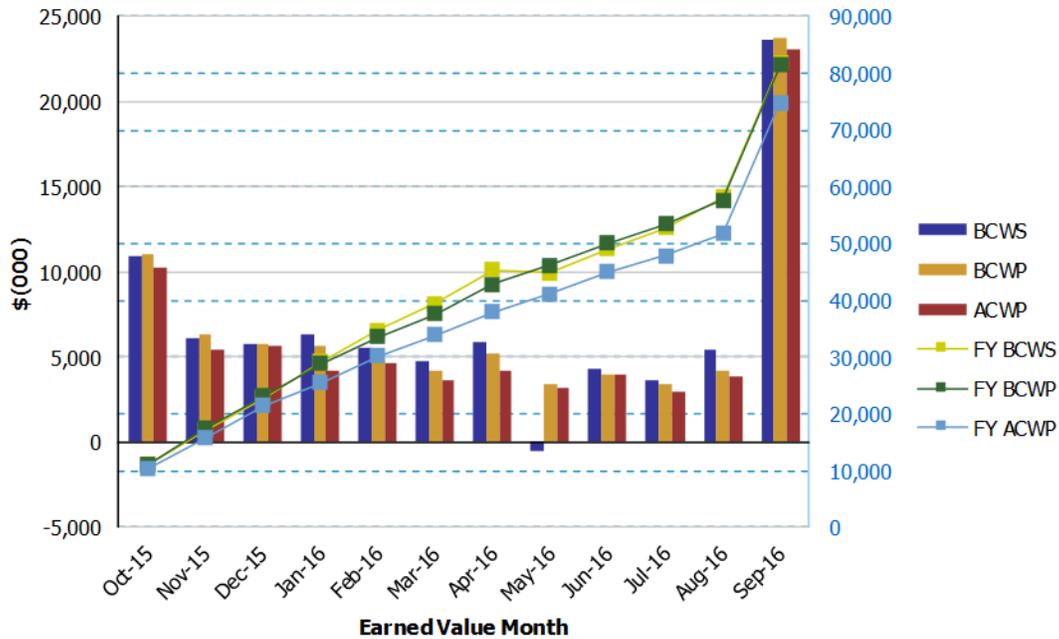
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$10,905	\$11,028	\$10,257	1.01	1.08	\$10,905	\$11,028	\$10,257	1.01	1.08
Nov 2015	\$6,103	\$6,326	\$5,452	1.04	1.16	\$17,008	\$17,355	\$15,708	1.02	1.10
Dec 2015	\$5,737	\$5,795	\$5,634	1.01	1.03	\$22,745	\$23,150	\$21,343	1.02	1.08
Jan 2016	\$6,368	\$5,591	\$4,174	0.88	1.34	\$29,113	\$28,741	\$25,517	0.99	1.13
Feb 2016	\$5,551	\$4,711	\$4,631	0.85	1.02	\$34,664	\$33,453	\$30,148	0.97	1.11
Mar 2016	\$4,740	\$4,169	\$3,673	0.88	1.14	\$39,405	\$37,622	\$33,821	0.95	1.11
Apr 2016	\$5,921	\$5,168	\$4,141	0.87	1.25	\$45,325	\$42,789	\$37,962	0.94	1.13
May 2016	(\$497)	\$3,353	\$3,116	-6.74	1.08	\$44,828	\$46,143	\$41,078	1.03	1.12
Jun 2016	\$4,259	\$3,918	\$3,904	0.92	1.00	\$49,087	\$50,060	\$44,982	1.02	1.11
Jul 2016	\$3,616	\$3,394	\$2,935	0.94	1.16	\$52,703	\$53,454	\$47,917	1.01	1.12
Aug 2016	\$5,413	\$4,167	\$3,879	0.77	1.07	\$58,116	\$57,622	\$51,796	0.99	1.11
Sep 2016	\$23,627	\$23,694	\$23,070	1.00	1.03	\$81,743	\$81,316	\$74,866	0.99	1.09

PTD	\$1,283,031	\$1,281,581	\$1,260,995	1.00	1.02
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|------|---|----------------------------------|------|---|---------------------------------|
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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, and 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 September 2016, the LAW Facility was 57 percent complete overall, with engineering design 78 percent complete, procurement 74 percent complete, construction 81 percent complete, and startup and commissioning 7 percent complete.

Significant Accomplishments during the Prior Three Months:

- BNI completed radiographic testing of nine Wet Electrostatic Precipitator nozzles to verify adequacy of welds.
- BNI temporarily installed bubbler in melter #1 to insure proper fit-up of melter shield lid.
- The 45-day public review comment period for the Dangerous Waste Permit for the LAW Facility melters concluded on September 30, 2016. BNI, ORP, and Ecology are working to resolve comments.
- BNI completed welding of shield lid onto melter #1.
- BNI installed 190 linear feet of process piping.
- BNI installed 840 linear feet of conduit and pulled 13,320 linear feet of cable.
- BNI installed 18 process area penetration seals.

Significant Planned Activities in the Next Three Months:

- BNI to weld shield lid onto melter #2.
- BNI to deliver and install melter off-gas caustic scrubber.

- ORP to evaluate preliminary hazard category calculation for LAW Facility.
- BNI to complete radiographic testing on remaining Wet Electrostatic Precipitator nozzle welds.
- ORP to continue the rebaselining review process.
- BNI to complete additional melter base welds to support seismic analysis.
- ORP and BNI to receive approval of melter dangerous waste permit from Ecology.
- BNI to continue installation of LAW Facility secondary off-gas/vessel vent process system pipe tie-ins between thermal catalytic oxidizer and ammonia skid.
- BNI to develop hazard identification checklist, what-if tables, and process hazard analysis events for accident scenarios to support PDSA update development.

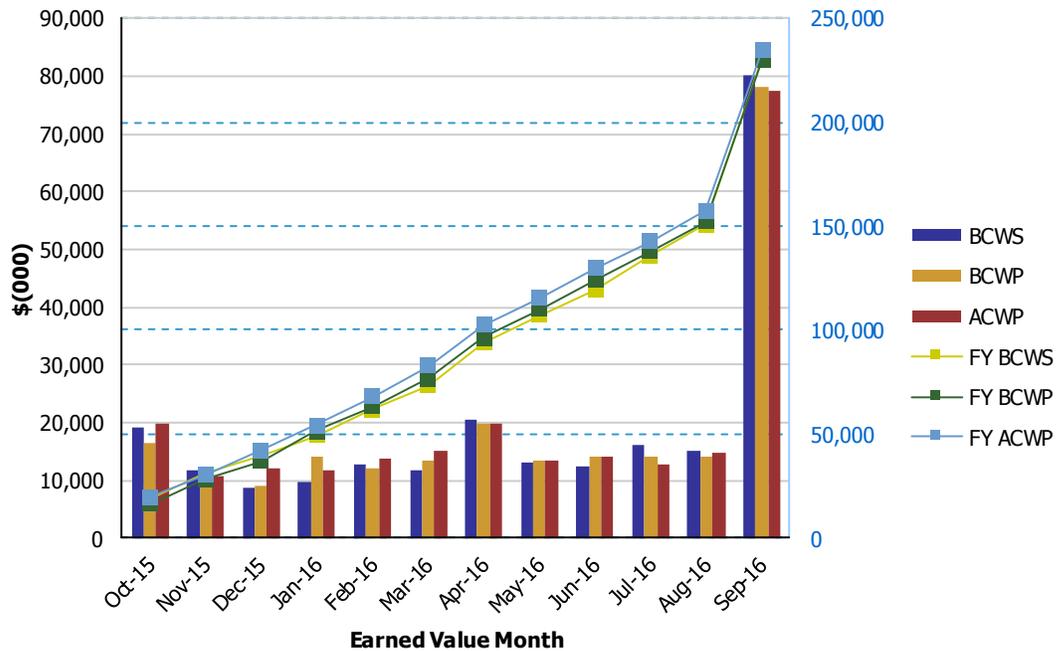
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$19,131	\$16,406	\$19,702	0.86	0.83	\$19,131	\$16,406	\$19,702	0.86	0.83
Nov 2015	\$11,764	\$11,637	\$10,735	0.99	1.08	\$30,896	\$28,043	\$30,436	0.91	0.92
Dec 2015	\$8,520	\$9,132	\$11,880	1.07	0.77	\$39,416	\$37,175	\$42,316	0.94	0.88
Jan 2016	\$9,694	\$14,071	\$11,790	1.45	1.19	\$49,110	\$51,245	\$54,105	1.04	0.95
Feb 2016	\$12,760	\$12,055	\$13,698	0.94	0.88	\$61,870	\$63,300	\$67,804	1.02	0.93
Mar 2016	\$11,541	\$13,513	\$14,986	1.17	0.90	\$73,411	\$76,814	\$82,790	1.05	0.93
Apr 2016	\$20,619	\$19,828	\$19,641	0.96	1.01	\$94,030	\$96,641	\$102,431	1.03	0.94
May 2016	\$13,012	\$13,289	\$13,364	1.02	0.99	\$107,042	\$109,930	\$115,795	1.03	0.95
Jun 2016	\$12,326	\$14,005	\$13,959	1.14	1.00	\$119,369	\$123,936	\$129,754	1.04	0.96
Jul 2016	\$16,183	\$13,956	\$12,866	0.86	1.08	\$135,552	\$137,891	\$142,620	1.02	0.97
Aug 2016	\$15,223	\$14,054	\$14,758	0.92	0.95	\$150,775	\$151,945	\$157,378	1.01	0.97
Sep 2016	\$80,056	\$77,992	\$77,326	0.97	1.01	\$230,831	\$229,938	\$234,704	1.00	0.98
PTD	\$1,449,030	\$1,438,193	\$1,436,193	0.99	1.00					

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

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 September 2016, BOF was 61 percent complete overall, with engineering design 80 percent complete, procurement 78 percent complete, construction 88 percent complete, and startup and commissioning 20 percent complete.

Engineering activities continue to support the DFLAW initiative. Current efforts are focused on progressing the design of the Effluent Management Facility (EMF), providing documents to support the EMF secondary containment permit, supporting EMF procurement activities, and providing field support for BOF startup activities. Construction efforts are focused on rebar placement for the EMF basemat, and completion of the remaining items required for energization of the BOF switchgear building from the WTP switchgear building. Additional construction punch list activities are underway to support turnover of the Water Treatment Facility and Cooling Tower Facility to the startup organization for component level testing.

Significant Accomplishments during the Prior Three Months:

- BNI completed initial energization of switchgear Building 87.
- BNI completed the acceptance test report for switchgear Building 87 and switchgear Building 91.
- BNI completed the functional review of installation of the fire detection and alarm system fire detection equipment in the Water Treatment Facility (Building 86) and Cooling Tower Facility (Building 83).
- BNI performed 60 percent design review of EMF, including representation from ORP and Ecology.
- BNI completed rectifier installation as part of the WTP cathodic protection system upgrade effort.
- BNI initiated startup testing for the cathodic protection system rectifiers.
- BNI initiated bid evaluations and the selection process for the EMF evaporator subcontract.
- ORP completed the informal review process for the EMF Secondary Containment Dangerous Waste Permit.

Significant Planned Activities in the Next Three Months:

- BNI to complete energized testing in support of Phase 2 energization to BOF switchgear Building 91.
- ORP to resolve comments and submit the EMF Secondary Containment Dangerous Waste Permit.
- BNI to implement PDSA Condition of Approval 2.
- BNI to begin placement of the construction aids (soldier piles) that support excavation of EMF low point drain.

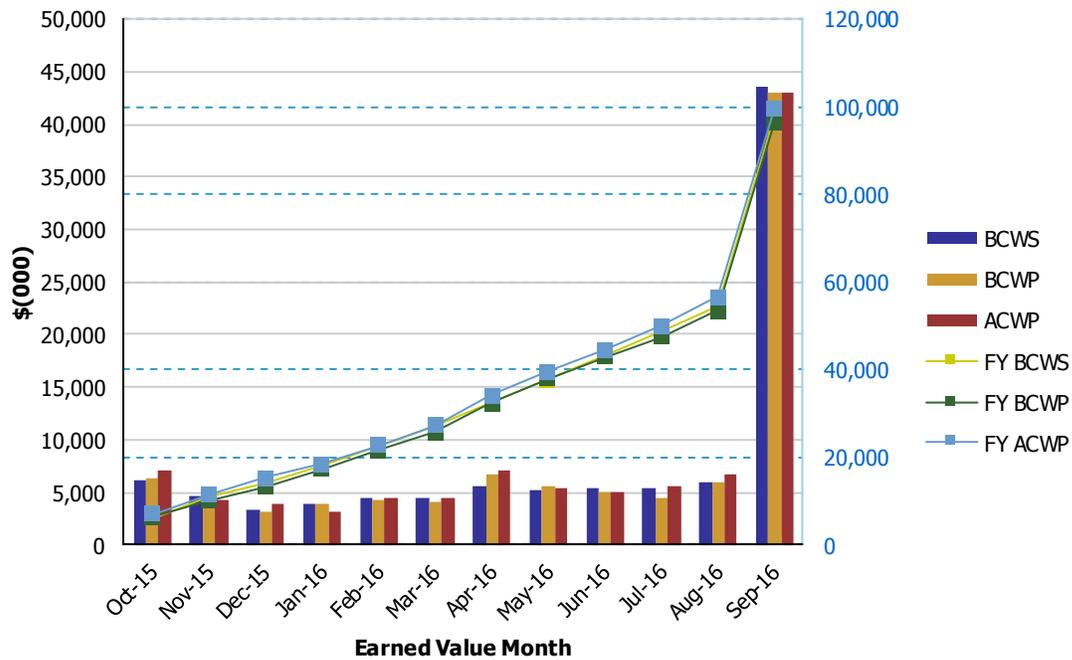
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$6,160	\$6,249	\$7,006	1.01	0.89	\$6,160	\$6,249	\$7,006	1.01	0.89
Nov 2015	\$4,555	\$3,913	\$4,344	0.86	0.90	\$10,715	\$10,162	\$11,350	0.95	0.90
Dec 2015	\$3,400	\$3,134	\$3,917	0.92	0.80	\$14,115	\$13,296	\$15,267	0.94	0.87
Jan 2016	\$3,874	\$3,917	\$3,108	1.01	1.26	\$17,989	\$17,214	\$18,375	0.96	0.94
Feb 2016	\$4,367	\$4,344	\$4,357	0.99	1.00	\$22,356	\$21,557	\$22,732	0.96	0.95
Mar 2016	\$4,492	\$4,111	\$4,381	0.92	0.94	\$26,848	\$25,668	\$27,113	0.96	0.95
Apr 2016	\$5,581	\$6,780	\$7,042	1.21	0.96	\$32,429	\$32,448	\$34,155	1.00	0.95
May 2016	\$5,233	\$5,511	\$5,307	1.05	1.04	\$37,662	\$37,959	\$39,461	1.01	0.96
Jun 2016	\$5,435	\$4,995	\$5,016	0.92	1.00	\$43,097	\$42,954	\$44,477	1.00	0.97
Jul 2016	\$5,446	\$4,537	\$5,483	0.83	0.83	\$48,543	\$47,491	\$49,960	0.98	0.95
Aug 2016	\$5,998	\$6,009	\$6,743	1.00	0.89	\$54,540	\$53,500	\$56,703	0.98	0.94
Sep 2016	\$43,572	\$43,093	\$42,938	0.99	1.00	\$98,112	\$96,592	\$99,641	0.98	0.97

PTD	\$527,607	\$521,794	\$523,263	0.99	1.00
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ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

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

Analytical Laboratory

Federal Project Director: Bill Hamel

Facility Federal Project Director: Jennifer Sands

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 September 2016, the LAB was 62 percent complete overall, with engineering design 80 percent complete, procurement 87 percent complete, construction 95 percent complete, and startup and commissioning 14 percent complete.

During this reporting period, efforts were focused on evaluating options for the C5 ventilation system (C5V) in the DFLAW configuration, location of in-town laboratory options, and finalizing the trend for delaying laboratory startup efforts.

Significant Accomplishments during the Prior Three Months:

- BNI completed installation of the test engineers' workstation and turned equipment over to startup.
- BNI completed turnover of the fire protection water system in support of the test engineers' workstation to startup.
- BNI completed turnover of the process control system in support of the test engineers' workstation to startup.
- BNI continued final wall and floor coatings.
- BNI continued development of procedures for the WTP analytical methods development process.
- BNI received the replacement heating, ventilation, and air-conditioning (HVAC) condenser.

Significant Planned Activities in the Next Three Months:

- ORP and BNI to reach an agreement on proposed C5V modifications.
- BNI to issue the temporary laboratory space request for proposal, which allows for earlier laboratory methods development and training to ensure laboratory staff are ready at the start of commissioning.
- BNI to load software and begin testing control and monitoring systems in the test engineers' workstation to support the nonradioactive liquid waste disposal system functional tests.

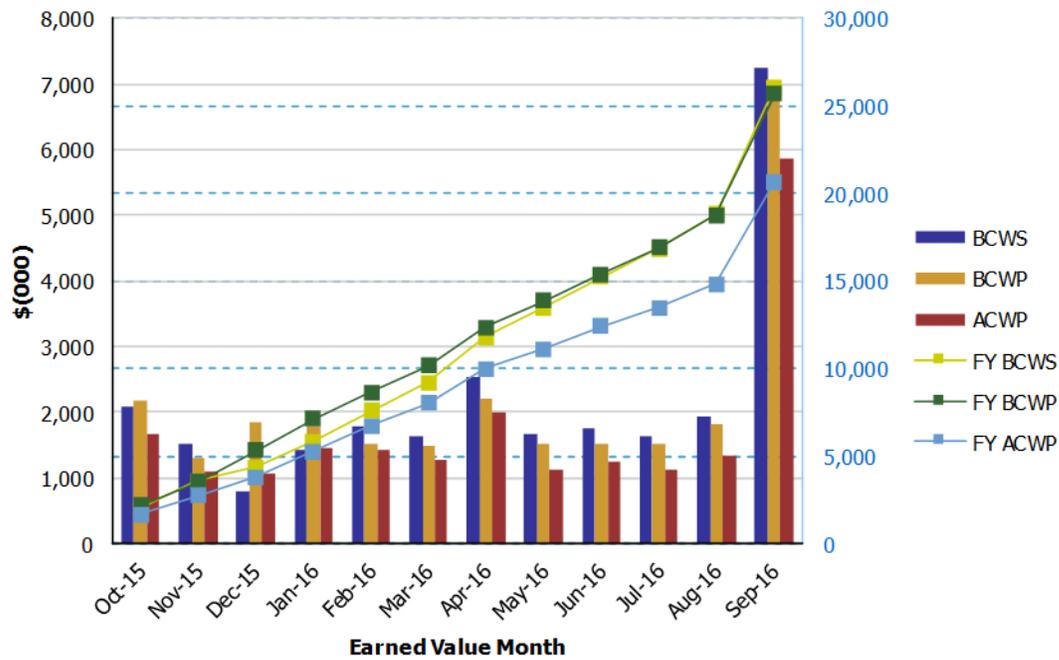
EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2016 Earned Value Data

Data as of: September 2016

**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 2015	\$2,083	\$2,188	\$1,674	1.05	1.31	\$2,083	\$2,188	\$1,674	1.05	1.31
Nov 2015	\$1,528	\$1,324	\$1,093	0.87	1.21	\$3,611	\$3,513	\$2,768	0.97	1.27
Dec 2015	\$789	\$1,844	\$1,060	2.34	1.74	\$4,399	\$5,356	\$3,827	1.22	1.40
Jan 2016	\$1,415	\$1,797	\$1,472	1.27	1.22	\$5,815	\$7,153	\$5,299	1.23	1.35
Feb 2016	\$1,786	\$1,511	\$1,438	0.85	1.05	\$7,601	\$8,665	\$6,738	1.14	1.29
Mar 2016	\$1,628	\$1,478	\$1,291	0.91	1.15	\$9,229	\$10,143	\$8,028	1.10	1.26
Apr 2016	\$2,541	\$2,223	\$1,990	0.87	1.12	\$11,770	\$12,366	\$10,019	1.05	1.23
May 2016	\$1,682	\$1,507	\$1,117	0.90	1.35	\$13,452	\$13,874	\$11,136	1.03	1.25
Jun 2016	\$1,745	\$1,520	\$1,249	0.87	1.22	\$15,197	\$15,394	\$12,385	1.01	1.24
Jul 2016	\$1,649	\$1,531	\$1,117	0.93	1.37	\$16,846	\$16,926	\$13,502	1.00	1.25
Aug 2016	\$1,943	\$1,816	\$1,326	0.93	1.37	\$18,790	\$18,742	\$14,827	1.00	1.26
Sep 2016	\$7,251	\$6,914	\$5,849	0.95	1.18	\$26,041	\$25,655	\$20,676	0.99	1.24

PTD	\$338,606	\$336,574	\$329,025	0.99	1.02
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|------|---|----------------------------------|------|---|---------------------------------|
| ACWP | = | actual cost of work performed. | CTD | = | contract to date. |
| BCWP | = | budgeted cost of work performed. | EVMS | = | earned value management system. |
| BCWS | = | budgeted cost of work scheduled. | FY | = | fiscal year. |
| CPI | = | cost performance index. | SPI | = | schedule performance index. |

Waste Treatment Plant Project Percent Complete Status (Table)

Waste Treatment Plant Project - (LBL/Project Services) Percent Complete Status																		
Through September 2016																		
(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	2,308.9	1,309.5	57%	549.6	428.6	78%	374.0	275.0	74%	683.1	551.5	81%	698.1	50.4	7%	4.0	4.0	100%
Balance of Facilities	758.3	459.7	61%	151.9	121.8	80%	72.5	56.9	78%	257.5	225.4	88%	275.9	55.2	20%	0.5	0.5	100%
Analytical Lab	524.9	324.0	62%	107.3	85.6	80%	65.6	57.4	87%	161.9	153.6	95%	189.6	26.9	14%	0.5	0.5	100%
Direct Feed LAW	392.4	73.5	19%	95.0	49.9	53%	56.6	2.5	4%	231.9	17.5	8%	0.0	0.0	0%	8.9	3.5	39%
LBL Facility Services	613.5	145.7	24%	0.0	0.0	0%	60.5	20.2	33%	132.0	32.6	25%	259.9	48.4	19%	161.1	44.5	28%
Total LBL	4,598.1	2,312.4	50%	903.8	685.9	76%	629.2	412.0	65%	1,466.4	980.7	67%	1,423.6	180.9	13%	175.1	53.0	30%
Project Services	1,020.5	368.1	36%	129.6	53.1	41%	74.2	34.7	47%	118.2	69.3	59%	1.7	1.7	100%	696.8	209.2	30%
Total Project Services	1,020.5	368.1	36%	129.6	53.1	41%	74.2	34.7	47%	118.2	69.3	59%	1.7	1.7	100%	696.8	209.2	30%
Total LBL, DF LAW & Project Services	5,618.6	2,680.4	48%	1,033.4	739.0	72%	703.4	446.6	63%	1,584.7	1,050.0	66%	1,425.3	182.6	13%	871.8	262.2	30%
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 HLWPT/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	14,341.4	8,645.6	60%	3,206.5	2,687.9	84%	2,268.9	1,571.4	69%	4,472.3	2,814.8	63%	2,183.8	325.8	15%	2,209.9	1,245.7	56%

Source: Preliminary WTP Contract Performance Report - Form 1, Data for September 2016

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.