

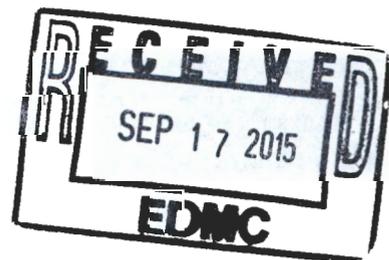
1231018  
[0080150H]

**FINAL**

Office of River Protection  
Consent Decree 08-5085-FVS

Monthly Summary Report

September 2015



**Office of River Protection****Consent Decree 08-5085-FVS  
Monthly Summary Report****September 2015 (Monthly Summary Report/Project Earned Value Management System  
reflects July 2015 information)**

<b>Page</b>	<b>Topic</b>	<b>Leads</b>
3	CD Milestone Statistics/Status	Bryan Trimmerger/Dan McDonald/Jeff Lyon
4	Single-Shell Tank Retrieval Program • D-00B-01, D-00B-02, D-00B-03, D-00B-04	Chris Kemp/Jeff Lyon
5	Tank Waste Retrieval Work Plan Status • Consent Decree Appendix C	Chris Kemp/Jeff Lyon
8	Waste Treatment and Immobilization Plant Project • D-00A-06, D-00A-17, D-00A-01	Joni Grindstaff/Dan McDonald
11	Pretreatment Facility • D-00A-18, D-00A-19, D-00A-13, D-00A-14, D-00A-15, D-00A-16	Wahed Abdul/Dan McDonald
14	High-Level Waste Facility • D-00A-20, D-00A-21, D-00A-02, D-00A-03	Wahed Abdul/Dan McDonald
17	Low-Activity Waste Facility • D-00A-07, D-00A-08, D-00A-09	Jeff Bruggeman/Dan McDonald
19	• Balance of Facilities • D-00A-12	Jason Young/Dan McDonald
21	Analytical Laboratory • D-00A-005	
23	Waste Treatment Plant Project Percent Complete Status (Table)	

**CD Milestone Statistics/Status**

Milestone	Title	Due Date	Completion Date	Status
<b>Fiscal Year 2014</b>				
D-00B-01	Complete Retrieval of Tank Waste from 10 SSTs in WMA-C	09/30/2014		Past Due
D-00B-02	Advise Ecology of the Nine SSTs Waste will be Retrieved by 2022	09/30/2014	08/24/2011	Completed
<b>Fiscal Year 2015</b>				
D-00A-07	LAW Facility Construction Substantially Complete	12/31/2014		Past Due
D-00A-19	Complete elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2014		Past Due

Ecology = Washington State Department of Ecology.

SST = single-shell tank.

LAW = low-activity waste.

WMA-C = C Farm waste management area.

PT = pretreatment.

**Consent Decree Reports/Reviews**

**D-00C-01 series, Submit to State of Washington and State of Oregon Semi-Annual Report, Due: Semiannually – January 31 and July 31 of each year, Status: Ongoing.** The July 2015 Semiannual Report was issued on July 31, 2015, via U.S. Department of Energy (DOE), Office of River Protection (ORP) letter 15-ECD-0037, “July 2015 Semi-Annual Report for State of Washington vs. U.S. Department of Energy, Case No. 08-5085-FVS, for Waste Treatment and Immobilization Plant Construction and Startup Activities and Tank Retrieval Activities – November 1, 2014, thorough April 30, 2015.”

**D-00C-02 series, Submit to State of Washington and State of Oregon Monthly Summary Reports, Due: End of each month, Status: Ongoing.**

**D-006-00-A, Meet Approximately Every Three Years after Entry of Decree to review requirements of the Consent Decree, Held: December 10, 2013, Status: Completed.**

**D-006-00-A1, Provide State of Oregon notice of meetings in D-006-00-A, etc. no less than 30 days before they are scheduled, Sent: November 8, 2013, Status: Completed.**

### Single-Shell Tank Retrieval Program

Milestone	Title	Due Date	Status
D-00B-01	Complete Retrieval of Tank Wastes from 10 Remaining SSTs in WMA-C	September 30, 2014	Past Due
D-00B-01A through D-00B-01J	Submit Tank Retrieval Complete Certification	One year following each retrieved tank retrieval completion report <sup>a</sup>	Ongoing
D-00B-02	Advise Ecology of the Nine SSTs from which Waste Will Be Retrieved by 2022	September 30, 2014	Completed
D-00B-03	Initiate Startup of Retrieval in At Least 5 of 9 SSTs in D-00B-02	December 31, 2017	Ongoing*
D-00B-04	Complete Retrieval of Tank Wastes from the nine SSTs in D-00B-02	September 30, 2022	Ongoing*
D-00B-04A through D-00B-04I	Submit Tank Retrieval Complete Certification	TBD	TBD

- a. Pursuant to Section IV-B-5 of the Consent Decree, the U.S. Department of Energy (DOE) must submit to the Washington State Department of Ecology (Ecology) a written certification that DOE has completed retrieval of a tank in accordance with the requirements of Appendix C, Part 1, of the Consent Decree.  
Completed for Single-Shell Tank (SST) C-104 on March 21, 2013, via DOE Office of River Protection (ORP) letter 13-TF-0018. Completed for SST C-108 on May 1, 2013, via ORP letter 13-TF-0025. Completed for SST C-109 on June 4, 2013, via ORP letter 13-TF-0037. Completed for SST C-110 on January 29, 2014, via ORP letter 14-TF-0007. Completed for SST C-107 on September 30, 2014, via ORP letter 14-TF-0114. Completed for SST C-112 on September 30, 2014, via ORP letter 14-TF-0115.

TBD = to be determined.  
WMA-C = C Farm waste management area.

#### Significant Past Accomplishments:

- Completed draft practicability evaluation request to forego a third retrieval technology in C-102.
- Resumed operation of C-105 Mobile Arm Retrieval System – Vacuum (MARS V) retrieval system using high-pressure water, volume retrieved is approximately 23 percent.
- Temperature concerns for the primary transfer hose (induced by the hydraulic hoses) has delayed installation activities for C-111 extended reach sluicer system (ERSS) sluicers. Engineering calculations are being conducted, for these temperature issues prior to installation of the sluicers. Crews were able to remove and replace the existing caustic hoses in preparation of installing the new ERSS.

#### Significant Planned Activities in the Next Six Months:

- Finish a C-105 systems engineering evaluation of the current retrieval method; will potentially need a revised tank waste retrieval work plan
- Continue retrieval of C-105 using MARS-V
- Begin startup of hard heel retrieval in C-111 using high-pressure water, with caustic/water dissolution available.

**Issues:**

\*DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone.

**Tank Waste Retrieval Work Plan Status**

Tank	TWRWP	Expected Revisions	First Retrieval Technology	Second Technology	Third Technology
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	-
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	-
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.

TWRWP = Tank Waste Retrieval Work Plan.  
 V = vacuum.

**Significant Accomplishments:**

None.

**Significant Planned Activities in the Next Six Months:**

- Develop AX Farm tank waste retrieval work plans.

**Issues:**

None.

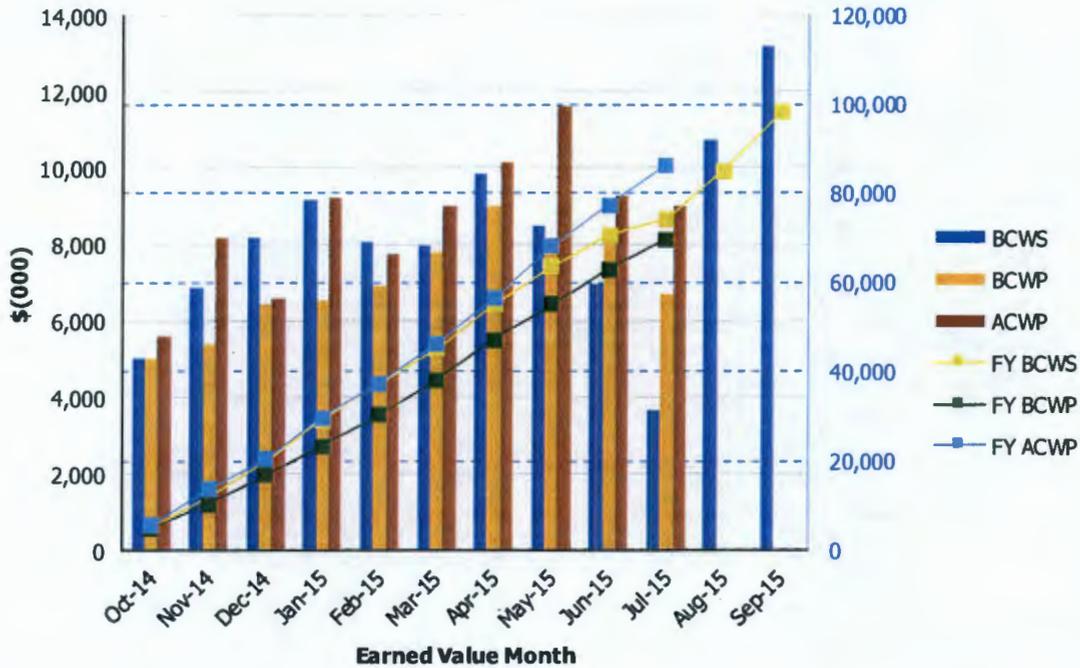
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$5,024	\$5,011	\$5,609	1.00	0.89	\$5,024	\$5,011	\$5,609	1.00	0.89
Nov 2014	\$6,852	\$5,392	\$8,174	0.79	0.66	\$11,876	\$10,403	\$13,783	0.88	0.75
Dec 2014	\$8,171	\$6,453	\$6,612	0.79	0.98	\$20,047	\$16,856	\$20,395	0.84	0.83
Jan 2015	\$9,167	\$6,524	\$9,195	0.71	0.71	\$29,215	\$23,380	\$29,589	0.80	0.79
Feb 2015	\$8,075	\$6,924	\$7,719	0.86	0.90	\$37,290	\$30,304	\$37,309	0.81	0.81
Mar 2015	\$7,971	\$7,801	\$9,009	0.98	0.87	\$45,261	\$38,105	\$46,318	0.84	0.82
Apr 2015	\$9,818	\$9,019	\$10,148	0.92	0.89	\$55,079	\$47,124	\$56,466	0.86	0.83
May 2015	\$8,475	\$7,830	\$11,613	0.92	0.67	\$63,554	\$54,954	\$68,079	0.86	0.81
Jun 2015	\$6,981	\$8,021	\$9,247	1.15	0.87	\$70,535	\$62,975	\$77,326	0.89	0.81
Jul 2015	\$3,666	\$6,714	\$8,983	1.83	0.75	\$74,201	\$69,689	\$86,309	0.94	0.81
Aug 2015	\$10,714					\$84,915				
Sep 2015	\$13,179					\$98,094				
CTD	\$579,699	\$565,108	\$595,652	0.97	0.95					

- ACWP = actual cost of work performed
- BCWS = budgeted cost of work scheduled
- BCWP = budgeted cost of work performed
- CPI = cost performance index
- EVMS = Earned Value Management System
- SPI = schedule performance index

***Retrieve and Close Single-Shell Tanks***

The current month favorable schedule variance (SV) of \$3,049K is due to:

- Received final materials for the POR127 Work Platform (schedule recovery as this material was originally planned to be delivered in May).
- Retrieval operation was sporadic at Tank 241-C-105 due a work stoppage related to a potential hose cage temperature issue (AN-06 Red Arrow). Retrieval operations resumed on July 16 and an estimate 6000 gallons of waste has been retrieved since the last reporting period.
- Reprioritized scope (A-Farm SEG, A/AX Farm Direct Push, A/AX Personnel Office Trailers and A/AX Steam Line Removal) to better align with fiscal year (FY) budget. Many of the scope deferrals resulted in negative budge cost of work scheduled (BCWS), which produced a positive schedule variance for the current period.

The current month unfavorable cost variance (CV) of (\$2,269K) is due to:

- Limited amount of waste was retrieved from Tank 241-C-105 during July due to a work stoppage related to a potential hose cage temperature issue (AN-06 Red Arrow). The project team was required to carry the full retrieval crew during this work stoppage.
- Increased/Additional subcontractor utilization related to field activities for the caisson excavation due to higher than expected contamination levels (the soil is being drummed by hand during excavation), and additional crane usage for exhauster installation, tower/stack extension & platform installations.

### Waste Treatment and Immobilization Plant Project

Number	Title	Due Date	Status
D-00A-06	Complete Methods Validations	12/31/2017	Ongoing*
D-00A-17	Hot Start of Waste Treatment Plant	12/31/2019	Ongoing*
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2022	Ongoing*

WTP = Waste Treatment and Immobilization Plant.

The Waste Treatment and Immobilization Plant (WTP) Project currently employs approximately 2,958 full-time equivalent contractor (Bechtel National, Inc. [BNI]) and subcontractor personnel. This includes 607 craft, 400 non-manual, and 157 subcontractor full-time equivalent personnel working at the WTP construction site (all facilities).

In October 2012, the percent-complete values for Pretreatment (PT) and High-Level Waste (HLW) facilities were frozen at the September 2012 rate. Construction, procurement, and production engineering activities were placed on hold for PT and significantly slowed down for HLW. In August 2014, DOE approved continuation of production engineering activities for HLW. Subsequently, DOE has approved the fiscal year (FY) 2015 and FY 2016 2-Year Interim Work Plan. In April 2015, a three-year Interim Work Plan for the PT Facility was implemented emphasizing prioritization of technical issue resolution activities. The WTP Project is focused on resolving PT Facility technical issues and finalizing HLW Facility design.

The WTP Project continues to focus on completion of the Low-Activity Waste (LAW) Facility, Analytical Laboratory (LAB), and Balance of Facilities (BOF) (collectively LBL). As of July 2015, LBL facilities were 49 percent complete, design and engineering was 80 percent complete, procurement was 71 percent complete, construction was 77 percent complete, and startup and commissioning was 7 percent complete.

In July 2015, the cumulative to-date WTP Project schedule variance was a negative \$17.0 million, and the cumulative to-date WTP Project cost variance was a positive \$52.1 million. The cumulative to-date cost and schedule variance is based on the progress of the LBL internal forecast.

The following is the project status through the end of July 2015.

#### Significant Past Accomplishments:

- Completed Effluent Management Facility hazard analysis (BOF)
- Installed over 200 linear feet of process piping and hydro-tested 150 linear feet of piping on the LAW Concentrate Receipt Process System (LCP) and the LAW Primary Offgas Process System (LOP) (LAW)
- Installed over 920 linear feet of conduit and pulled approximately 28,030 linear feet of cable (LAW)
- Completed Phase II platform modifications and start Phase II controls testing (PT)

- Completed five concrete placements (walls 3122, 3124, and 4105; slabs 4033 and 4020) (HLW)
- Installed 23 tons of structural steel (HLW).

**Significant Planned Actions in the Next Six Months:**

- Complete the LAW Facility design and operability review (LAW)
- Receive caustic scrubber (LAW)
- Perform multi-discipline review of Effluent Management Facility design (BOF)
- Turnover all major systems of the Nonradioactive Liquid Waste Disposal Facility, WTP switchgear, and BOF switchgear buildings for component level testing (BOF)
- DOE approval of the radioactive liquid waste disposal (RLD) safety basis change package (HLW)
- Complete vendor documentation reviews in preparation for the installation of autosampling system (ASX) framing (HLW)
- Complete modification at Full-Scale Vessel Testing Facility to continue testing for the pulse-jet mixer (PJM) control system (PT)
- Finalize standard high solids vessels design vessel testing planning, test specification/plan, and define simulate and supplemental mixing engineering study (PT)
- Begin LAB system walk downs in support of direct feed LAW modifications (LAB).

**Issues:**

\*DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone. Technical issues related to WTP include, among others, PJMs, corrosion/erosion in piping and vessels, hydrogen accumulation, criticality, and ventilation.

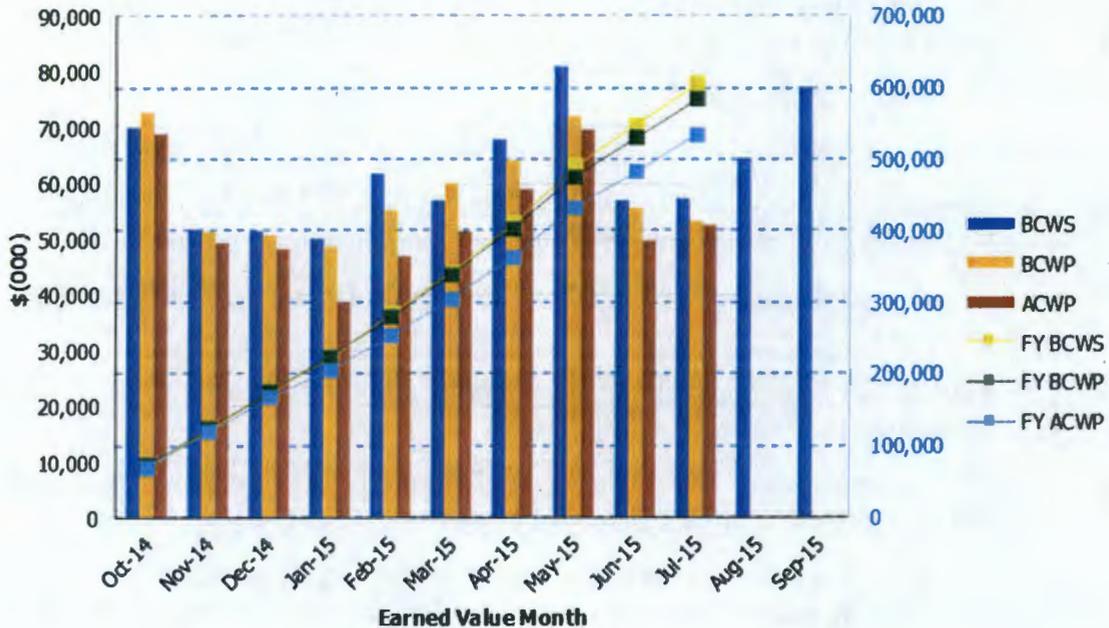
**EXC-01a: Fiscal Year Cost and Schedule Report**

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$69,893	\$72,879	\$69,039	1.04	1.06	\$69,893	\$72,879	\$69,039	1.04	1.06
Nov 2014	\$51,713	\$51,323	\$49,300	0.99	1.04	\$121,606	\$124,202	\$118,339	1.02	1.05
Dec 2014	\$51,573	\$50,885	\$48,245	0.99	1.05	\$173,179	\$175,087	\$166,583	1.01	1.05
Jan 2015	\$50,143	\$48,696	\$38,818	0.97	1.25	\$223,323	\$223,783	\$205,401	1.00	1.09
Feb 2015	\$61,729	\$55,235	\$46,859	0.89	1.18	\$285,052	\$279,018	\$252,260	0.98	1.11
Mar 2015	\$56,799	\$59,925	\$51,563	1.06	1.16	\$341,850	\$338,942	\$303,823	0.99	1.12
Apr 2015	\$67,809	\$64,010	\$58,892	0.94	1.09	\$409,659	\$402,952	\$362,716	0.98	1.11
May 2015	\$80,875	\$72,114	\$69,468	0.89	1.04	\$490,534	\$475,066	\$432,184	0.97	1.10
Jun 2015	\$56,972	\$55,423	\$49,685	0.97	1.12	\$547,506	\$530,489	\$481,869	0.97	1.10
Jul 2015	\$57,131	\$53,298	\$52,407	0.93	1.02	\$604,637	\$583,787	\$534,276	0.97	1.09
Aug 2015	\$64,446									
Sep 2015	\$77,081									
PTD	\$8,976,117	\$8,959,125	\$8,907,061	1.00	1.01					

- ACWP = actual cost of work performed
- BCWS = budgeted cost of work scheduled
- BCWP = budgeted cost of work performed
- CPI = cost performance index
- EVMS = Earned Value Management System
- SPI = schedule performance index

### Pretreatment Facility

Number	Title	Due Date	Status
D-00A-19	Complete Elevation 98' Concrete Floor Slab in PT Facility	12/31/2014	Past Due
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels	12/31/2015	Ongoing*
D-00A-14	PT Facility Construction Substantially Complete	12/31/2017	Ongoing*
D-00A-15	Start PT Facility Cold Commissioning	12/31/2018	Ongoing*
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2019	Ongoing*

PT = pretreatment.

The Pretreatment Facility (PT) will separate radioactive tank waste into HLW and LAW 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. Construction, procurement, and production engineering activities remain on hold, resulting in no change to the percent-complete status since September 2012. BNI and DOE continue to focus on resolving technical issues, performing hazard analyses, and completing safety evaluations for process systems in accordance with the revised PT Facility three-year Interim Work Plan

BNI has submitted resolution plans for eight technical issues: T1, Hydrogen in Vessels; T2, Criticality; T3, Hydrogen in Piping and Ancillary Vessels (HPAV); T4, Mixing; T5, Erosion Corrosion; T6, PT Facility Optimization; T7, Vessel Analysis; and T8, Ventilation. Phase 1 of the Full-Scale Vessel Testing is continuing for the PJM controls utilizing the RLD-8T vessel. Technical review teams continue to evaluate open PT Facility technical issues. An evaluation is ongoing relative to a standardized design for high-solids vessels within the PT Facility. With primary emphasis on design and fabrication of hold point releases supporting procurement, fabrication and delivery of the standardized high solids vessel design (SHSVD)-T16ft vessel.

#### Significant Past Accomplishments:

- Release holds on SHSVD test PJM dimension, vessel skirt, anchorage and tailing lugs
- Completed Phase II platform modifications and start Phase II controls testing
- Issue simulant basis for engineering document review (EDR)

#### Significant Planned Actions in the Next Six Months:

- Complete technical work plan for hydrogen gas release T1
- Conduct H2 control gap analysis for T1
- Receive criticality report for final review for T2
- Receive technical issue closure work package
- Issue Phase 1 PJM controls study
- Complete SHSVD info test and identify design features

**Issues:**

\*DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone. Technical issues related to WTP include, among others, PJMs, corrosion/erosion in piping and vessels, hydrogen accumulation, criticality, and ventilation.

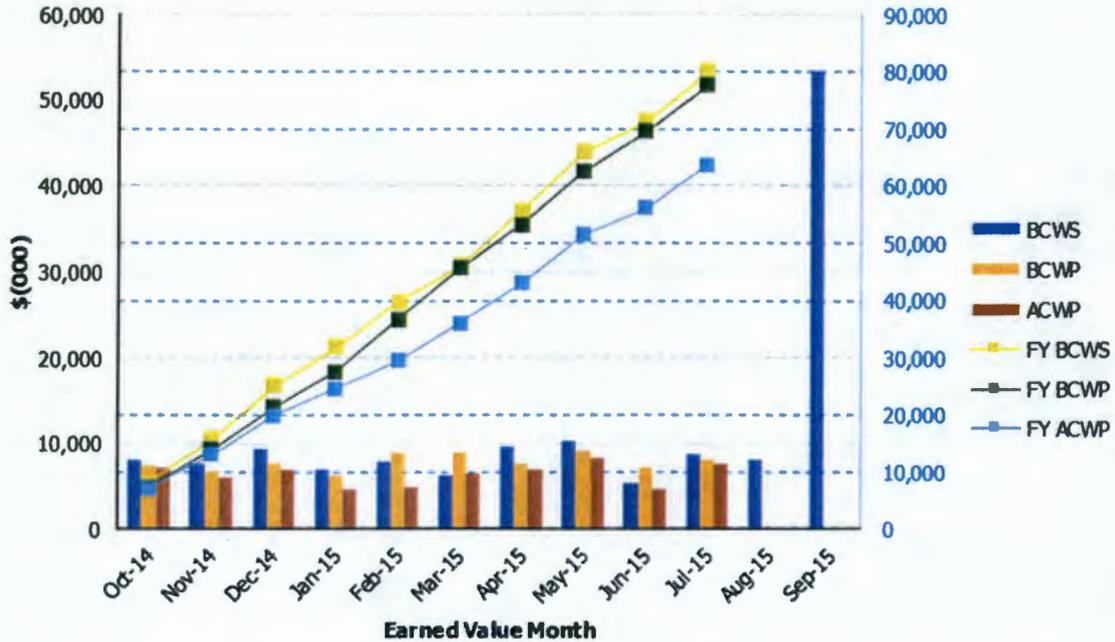
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$8,100	\$7,285	\$7,050	0.90	1.03	\$8,100	\$7,285	\$7,050	0.90	1.03
Nov 2014	\$7,582	\$6,657	\$5,917	0.88	1.13	\$15,682	\$13,942	\$12,967	0.89	1.08
Dec 2014	\$9,361	\$7,472	\$6,841	0.80	1.09	\$25,043	\$21,414	\$19,808	0.86	1.08
Jan 2015	\$6,819	\$6,293	\$4,765	0.92	1.32	\$31,862	\$27,707	\$24,574	0.87	1.13
Feb 2015	\$7,877	\$9,034	\$4,869	1.15	1.86	\$39,740	\$36,742	\$29,442	0.92	1.25
Mar 2015	\$6,180	\$8,917	\$6,567	1.44	1.36	\$45,920	\$45,659	\$36,009	0.99	1.27
Apr 2015	\$9,661	\$7,631	\$7,008	0.79	1.09	\$55,581	\$53,290	\$43,017	0.96	1.24
May 2015	\$10,243	\$9,161	\$8,322	0.89	1.10	\$65,823	\$62,451	\$51,340	0.95	1.22
Jun 2015	\$5,406	\$7,122	\$4,769	1.32	1.49	\$71,229	\$69,573	\$56,109	0.98	1.24
Jul 2015	\$8,740	\$8,112	\$7,602	0.93	1.07	\$79,970	\$77,685	\$63,710	0.97	1.22
Aug 2015	\$7,966									
Sep 2015	\$53,484									

PTD \$1,686,641 \$1,684,304 \$1,670,337 1.00 1.01

ACWP = actual cost of work performed  
 BCWS = budgeted cost of work scheduled  
 BCWP = budgeted cost of work performed

CPI = cost performance index  
 EVMS = Earned Value Management System  
 SPI = schedule performance index

### High-Level Waste Facility

Number	Title	Due Date	Status
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	12/31/2016	Ongoing*
D-00A-03	Start HLW Facility Cold Commissioning	6/30/2018	Ongoing*
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2019	Ongoing*

HLW = high-level waste.

The HLW Facility will receive the separated HLW concentrate from the PT Facility. This concentrate will be blended with glass formers, converted into molten glass in one of the two HLW 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. Construction, procurement, and production engineering activities have been significantly slowed down, resulting in minimal change to the percent completion status since September 2012.

Currently, all activities are being performed in accordance with the FY 2015/FY 2016 two-year Work Plan. Efforts are focused on completing activities required to obtain full production authorization by DOE. Limited construction is continuing with the concrete placements, installation of support steel, and crane rails in the canister decontamination cave and melter cave.

To support construction, engineering continues to execute detailed evaluations to release wall and slab placements and installation of heating, ventilation, and air-conditioning (HVAC); fire protection; process piping; and electrical commodities. Engineering also continues to review vendor documentation to support receipt and future installation of auto-sampler system (ASX) units. Preparation is underway for the first preliminary design review, being accomplished on the plant cooling water system.

Development of system design descriptions (SDD) in accordance with the implementation of the Systems Engineering Management Plan is nearing completion. Other than the construction support, design activities are focused to support safety design strategy gap analysis, technical core team recommendations, and studies to resolve design and operability review. Studies are being performed to determine the ventilation system capability, waste handling capability, etc. Hazard and accident analyses have been initiated, to support the Preliminary Documented Safety Analysis (PSDA) update to align design and the safety basis.

Test strategy and test plan have been issued and are being implemented for the ventilation and off-gas system high-efficiency particulate air (HEPA) filter testing and qualification. Multiple filter media designs will be tested to ensure that the qualified filters support the needs for HLW and LBL facilities.

Design is progressing for RLD vessels 7 and 8. PDSA change packages for these vessel designs have been submitted to DOE for approval and comment resolution is ongoing.

**Significant Past Accomplishments:**

- Issued two system design descriptions this month for a total of 20 (two remaining to go)
- Issued HEPA filter testing strategy and test plan documents
- Continuing vendor documentation reviews in preparation for the delivery and future installation of ASX framing
- Progressed plant cooling water system design review preparations
- Completed five concrete placements (walls 3122, 3124, and 4105; and slabs 4033 and 4020)
- Installed 23 tons of structural steel

**Significant Planned Actions in the Next Six Months:**

- DOE approval of the RLD safety basis change package
- Complete vendor documentation reviews in preparation for the delivery and installation of ASX framing
- Complete installation of crane rails and supports in the canister decontamination cave
- Issue remaining system design descriptions
- Issue personnel access door and HVAC system evaluation report
- Begin HEPA filter testing in accordance with the HEPA Filter Test Plan at the Mississippi State University facility
- Initiate the preliminary design review of the plant cooling water system.

**Issues:**

\*DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone. Technical issues related to the WTP include, among others, PJMs, corrosion/erosion in piping and vessels, hydrogen accumulation, criticality, and ventilation.

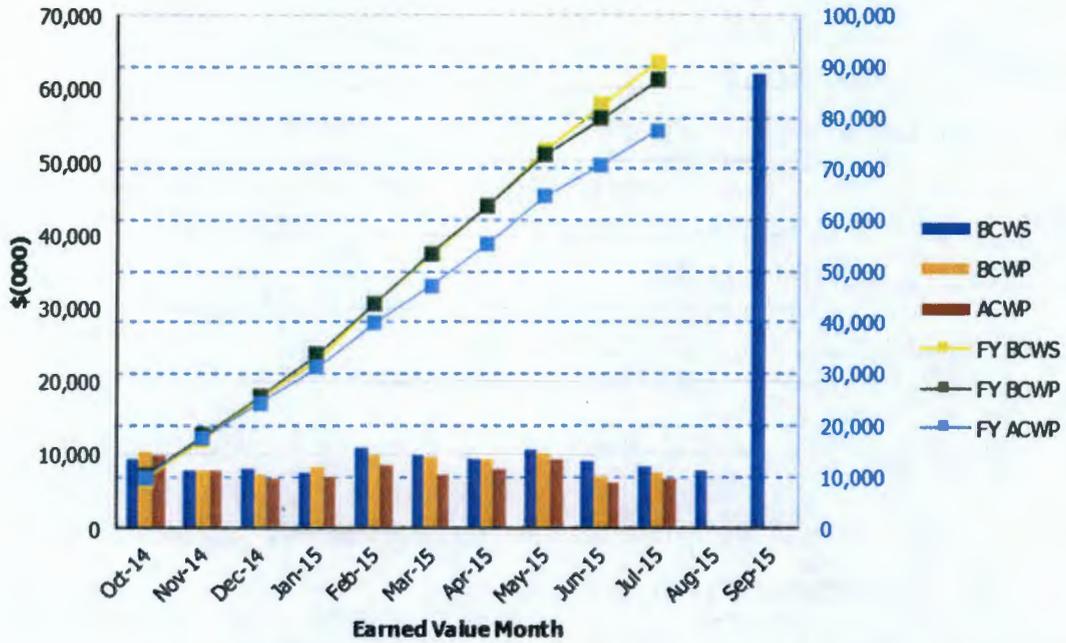
**EXC-01a: Fiscal Year Cost and Schedule Report**

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$9,449	\$10,367	\$9,783	1.10	1.06	\$9,449	\$10,367	\$9,783	1.10	1.06
Nov 2014	\$7,743	\$7,833	\$7,880	1.01	0.99	\$17,192	\$18,200	\$17,663	1.06	1.03
Dec 2014	\$7,973	\$7,359	\$6,631	0.92	1.11	\$25,165	\$25,559	\$24,294	1.02	1.05
Jan 2015	\$7,490	\$8,342	\$6,994	1.11	1.19	\$32,655	\$33,901	\$31,288	1.04	1.08
Feb 2015	\$10,995	\$9,796	\$8,662	0.89	1.13	\$43,650	\$43,698	\$39,949	1.00	1.09
Mar 2015	\$9,792	\$9,760	\$7,295	1.00	1.34	\$53,442	\$53,458	\$47,244	1.00	1.13
Apr 2015	\$9,391	\$9,411	\$8,115	1.00	1.16	\$62,834	\$62,868	\$55,359	1.00	1.14
May 2015	\$10,774	\$10,029	\$9,242	0.93	1.09	\$73,608	\$72,897	\$64,601	0.99	1.13
Jun 2015	\$9,004	\$6,949	\$6,124	0.77	1.13	\$82,611	\$79,846	\$70,725	0.97	1.13
Jul 2015	\$8,380	\$7,599	\$6,797	0.91	1.12	\$90,991	\$87,445	\$77,522	0.96	1.13
Aug 2015	\$7,833									
Sep 2015	\$61,995									
<b>PTD</b>	<b>\$1,145,104</b>	<b>\$1,141,816</b>	<b>\$1,131,584</b>	<b>1.00</b>	<b>1.01</b>					

ACWP = actual cost of work performed  
 BCWS = budgeted cost of work scheduled  
 BCWP = budgeted cost of work performed

CPI = cost performance index  
 EVMS = Earned Value Management System  
 SPI = schedule performance index

### Low-Activity Waste Facility

Number	Title	Due Date	Status
D-00A-07	LAW Facility Construction Substantially Complete	12/31/2014	Past Due
D-00A-08	Start LAW Facility Cold Commissioning	12/31/2018	Ongoing*
D-00A-09	LAW Facility Hot Commissioning Complete	12/31/2019	Ongoing*

LAW = low-activity waste.

The LAW Facility will process LAW that will be mixed with glass formers, vitrified into glass at a design capacity of 30 metric tons per day and placed in stainless steel containers anticipated to be disposed of on the Hanford Site in the Integrated Disposal Facility. As of July 2015, the LAW Facility was 53 percent complete overall, with engineering design 79 percent complete, procurement 74 percent complete, construction 76 percent complete, and startup and commissioning 4 percent complete.

#### Significant Past Accomplishments:

- Installed over 200 linear feet of process piping and hydro-tested 150 linear feet of piping on the LAW Concentrate Receipt Process System (LCP) and the LAW Primary Offgas Process System (LOP)
- Installed over 920 linear feet of conduit and pulled approximately 28,030 linear feet of cable
- Installed 168 pen seals comprised of 84 conduit/steel, 28 spares, 50 pipe and 6 HVAC duct penetrations
- Completed heater inlet and outlet duct transition insulation on the thermal catalytic oxidizer (TCO)
- Started shooting insulation pins and studs onto the heat exchanger on the TCO
- Continued installation of HVAC transfer ducts, test ports, instrument taps, grilles, registers, diffusers, transfer ducts, and closure angle

#### Significant Planned Actions in the Next Six Months:

- Complete subcontractor work scope in the annex
- Complete Nuclear Safety Engineering Hazards Analysis of C3V/C2V
- Receive caustic scrubber
- Assemble and install wet electrostatic precipitator internals

#### Issues:

\*DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone.

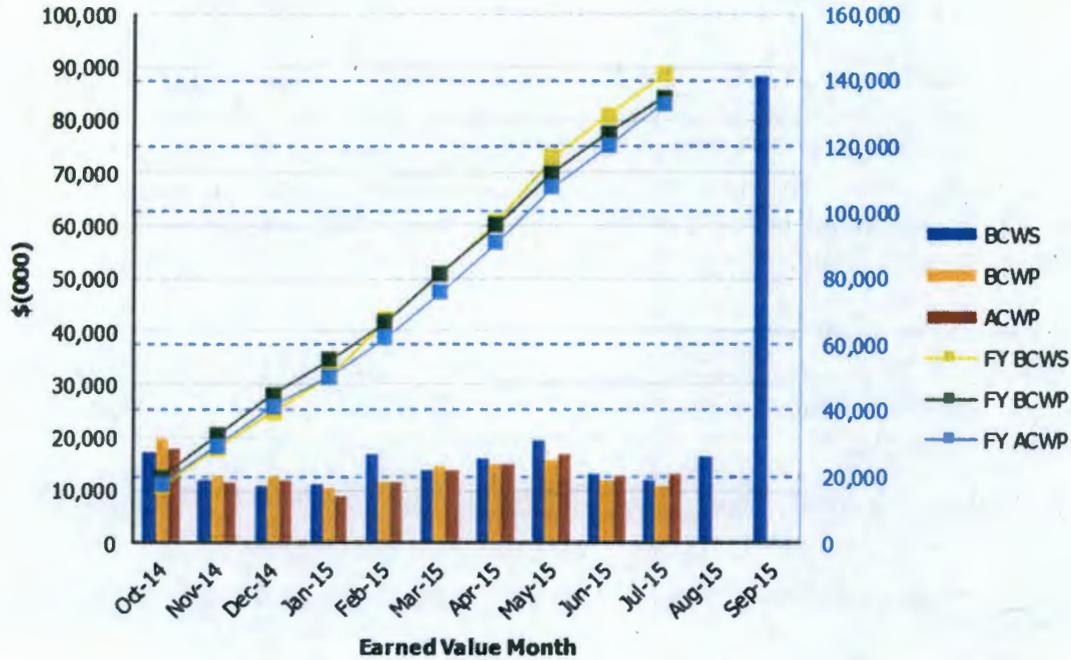
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$16,994	\$19,896	\$17,781	1.17	1.12	\$16,994	\$19,896	\$17,781	1.17	1.12
Nov 2014	\$11,700	\$12,666	\$11,597	1.08	1.09	\$28,694	\$32,562	\$29,378	1.13	1.11
Dec 2014	\$10,760	\$12,499	\$11,927	1.16	1.05	\$39,454	\$45,061	\$41,305	1.14	1.09
Jan 2015	\$11,248	\$10,387	\$9,033	0.92	1.15	\$50,702	\$55,448	\$50,338	1.09	1.10
Feb 2015	\$16,654	\$11,341	\$11,676	0.68	0.97	\$67,356	\$66,789	\$62,014	0.99	1.08
Mar 2015	\$13,681	\$14,539	\$13,778	1.06	1.06	\$81,037	\$81,329	\$75,792	1.00	1.07
Apr 2015	\$16,031	\$14,925	\$15,002	0.93	0.99	\$97,068	\$96,254	\$90,794	0.99	1.06
May 2015	\$19,533	\$15,802	\$16,674	0.81	0.95	\$116,601	\$112,056	\$107,468	0.96	1.04
Jun 2015	\$12,899	\$11,881	\$12,626	0.92	0.94	\$129,500	\$123,936	\$120,094	0.96	1.03
Jul 2015	\$12,044	\$10,770	\$12,910	0.89	0.83	\$141,543	\$134,707	\$133,004	0.95	1.01
Aug 2015	\$16,309									
Sep 2015	\$88,142									

PTD \$1,112,757 \$1,108,726 \$1,108,037 1.00 1.00

ACWP = actual cost of work performed  
 BCWS = budgeted cost of work scheduled  
 BCWP = budgeted cost of work performed

CPI = cost performance index  
 EVMS = Earned Value Management System  
 SPI = schedule performance index

### Balance of Facilities

Number	Title	Due Date	Status
D-00A-12	Steam Plant Construction Complete	12/31/2012	Complete

The BOF will provide services and utilities to support operation of the main production facilities: PT, HLW, LAW, and LAB. As of July 2015, BOF was 55 percent complete overall, with engineering design 82 percent complete, procurement 71 percent complete, construction 80 percent complete, and startup and commissioning 13 percent complete.

Engineering activities are in progress to develop the preliminary design for BOF systems in support of direct-feed LAW (DFLAW). Current efforts are focused on progressing the design of the Effluent Management Facility, defining the required BOF system isolations, preparing procurements, and initiating the hazard analysis process. Construction efforts are focused on initiation of BOF system isolations and completion of the remaining punch list items required to support turnover of all major systems within the Nonradioactive Liquid Waste Disposal Facility, WTP switchgear, and BOF switchgear buildings for component level testing.

#### Significant Past Accomplishments:

- Completed Effluent Management Facility hazard analysis
- Installed 1,270 lf of heat trace, 190 lf of pipe insulation and 110 insulating blankets primarily on the steam condensate water system (SCW) condensate pumping stations
- Continued coating applications on work-to-go and punch list items for the Non-Dangerous/Non-Rad Effluent Pumphouse #54, the Fuel Oil Facility #81, and the Water Treatment Facility #86 (1,415 total sf)
- Installed 35 linear feet of conduit and pulled 5,370 lf of cable

#### Significant Planned Actions in the Next Six Months:

- Perform multi-discipline review of Effluent Management Facility design
- Complete Effluent Management Facility PDSA
- Turnover all major systems of the Nonradioactive Liquid Waste Disposal Facility, WTP switchgear, and BOF switchgear buildings for component level testing

#### Issues:

No major issues at this time.

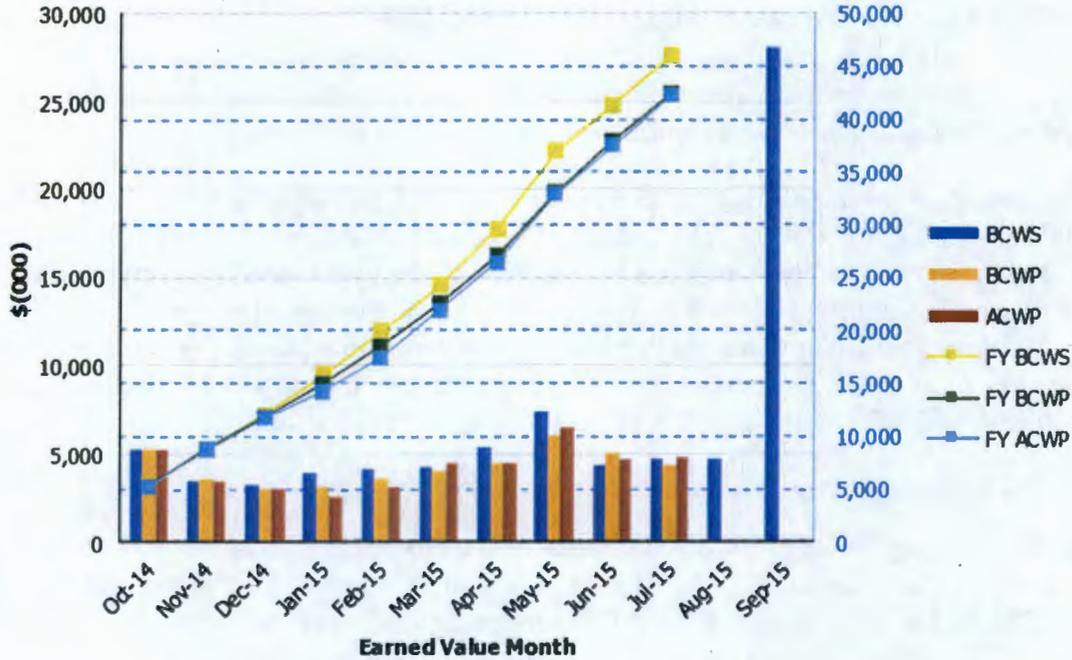
**EXC-01a: Fiscal Year Cost and Schedule Report**

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$5,300	\$5,238	\$5,223	0.99	1.00	\$5,300	\$5,238	\$5,223	0.99	1.00
Nov 2014	\$3,429	\$3,578	\$3,454	1.04	1.04	\$8,729	\$8,816	\$8,677	1.01	1.02
Dec 2014	\$3,240	\$3,023	\$2,976	0.93	1.02	\$11,969	\$11,839	\$11,653	0.99	1.02
Jan 2015	\$3,885	\$3,098	\$2,584	0.80	1.20	\$15,854	\$14,937	\$14,237	0.94	1.05
Feb 2015	\$4,074	\$3,578	\$3,151	0.88	1.14	\$19,928	\$18,515	\$17,388	0.93	1.06
Mar 2015	\$4,270	\$4,016	\$4,491	0.94	0.89	\$24,198	\$22,531	\$21,879	0.93	1.03
Apr 2015	\$5,384	\$4,497	\$4,491	0.84	1.00	\$29,582	\$27,029	\$26,370	0.91	1.02
May 2015	\$7,347	\$6,027	\$6,470	0.82	0.93	\$36,930	\$33,056	\$32,841	0.90	1.01
Jun 2015	\$4,403	\$4,990	\$4,649	1.13	1.07	\$41,333	\$38,046	\$37,489	0.92	1.01
Jul 2015	\$4,638	\$4,339	\$4,769	0.94	0.91	\$45,971	\$42,386	\$42,259	0.92	1.00
Aug 2015	\$4,725									
Sep 2015	\$28,022									

PTD \$392,638 \$389,484 \$389,389 0.99 1.00

- ACWP = actual cost of work performed
- BCWS = budgeted cost of work scheduled
- BCWP = budgeted cost of work performed
- CPI = cost performance index
- EVMS = Earned Value Management System
- SPI = schedule performance index

### Analytical Laboratory

Number	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 July 2015, the LAB was 59 percent complete overall, with engineering design 84 percent complete, procurement 84 percent complete, construction 95 percent complete, and startup and commissioning 9 percent complete.

During this reporting period engineering efforts are focused on LAB system reviews to evaluate potential modifications or isolations in support of direct feed of LAW. Closure of nonconformance reports and construction deficiency reports continued. Construction efforts within the LAB are minimal. The remaining construction work scope will be completed in parallel with system modifications and construction activities required to support the direct feed of LAW.

#### Significant Past Accomplishments:

- Pulled 260 linear feet of cable (98 percent complete)
- Completed perimeter joint seals, seven additional as low as reasonably achievable (ALARA) zone seals along the west exterior wall and eight additional/new air seals were completed

#### Significant Planned Actions in the Next Six Months:

- Initiate component level testing of select LAB systems
- Begin LAB system walk downs in support of DFLAW modifications.

#### Issues:

No major issues at this time.

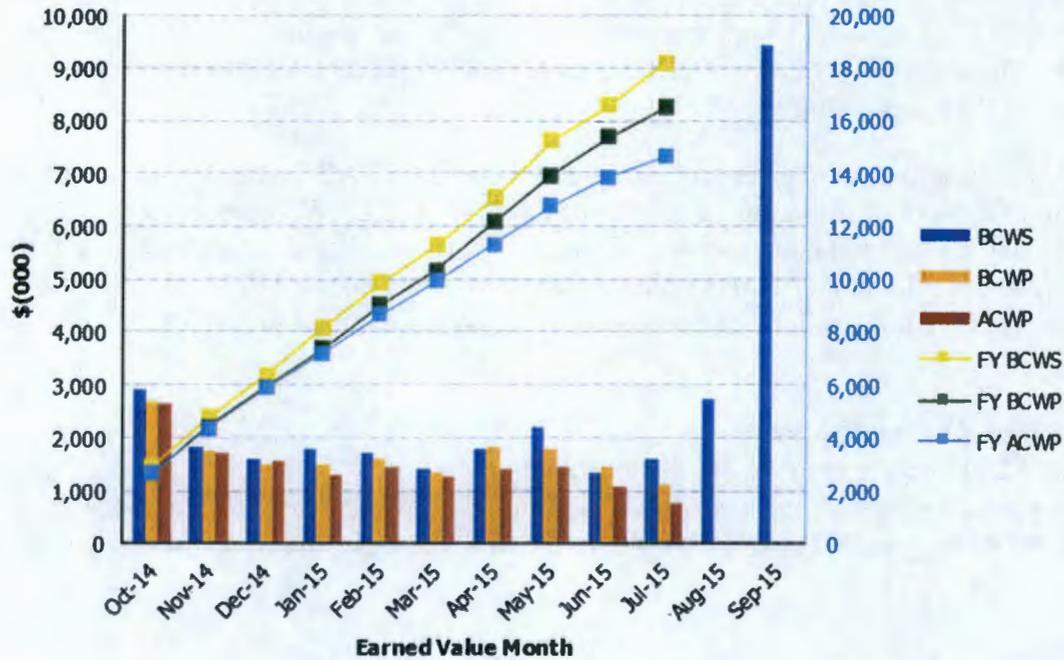
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2015 Earned Value Data

Data as of: July 2015

**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 2014	\$2,920	\$2,670	\$2,645	0.91	1.01	\$2,920	\$2,670	\$2,645	0.91	1.01
Nov 2014	\$1,827	\$1,748	\$1,695	0.96	1.03	\$4,747	\$4,418	\$4,340	0.93	1.02
Dec 2014	\$1,614	\$1,482	\$1,552	0.92	0.95	\$6,361	\$5,900	\$5,892	0.93	1.00
Jan 2015	\$1,788	\$1,490	\$1,304	0.83	1.14	\$8,149	\$7,390	\$7,196	0.91	1.03
Feb 2015	\$1,716	\$1,618	\$1,447	0.94	1.12	\$9,865	\$9,008	\$8,643	0.91	1.04
Mar 2015	\$1,413	\$1,322	\$1,266	0.94	1.04	\$11,278	\$10,330	\$9,909	0.92	1.04
Apr 2015	\$1,781	\$1,833	\$1,407	1.03	1.30	\$13,059	\$12,163	\$11,316	0.93	1.07
May 2015	\$2,186	\$1,773	\$1,459	0.81	1.21	\$15,245	\$13,936	\$12,775	0.91	1.09
Jun 2015	\$1,338	\$1,453	\$1,077	1.09	1.35	\$16,584	\$15,390	\$13,852	0.93	1.11
Jul 2015	\$1,608	\$1,130	\$777	0.70	1.45	\$18,192	\$16,520	\$14,629	0.91	1.13
Aug 2015	\$2,730									
Sep 2015	\$9,427									
PTD	\$300,605	\$299,349	\$297,683	1.00	1.01					

ACWP = actual cost of work performed  
 BCWS = budgeted cost of work scheduled  
 BCWP = budgeted cost of work performed

CPI = cost performance index  
 EVMS = Earned Value Management System  
 SPI = schedule performance index

## Waste Treatment Plant Project Percent Complete Status (Table)

Waste Treatment Plant Project - (LBL/Project Services) Percent Complete Status																		
Through July 2015																		
(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
<b>Facilities</b>																		
Low-Activity Waste	2,096.6	1,108.7	53%	451.6	356.3	79%	337.3	250.6	74%	626.0	472.7	76%	677.6	25.2	4%	4.0	4.0	100%
Balance of Facilities	712.1	389.5	55%	126.5	103.2	82%	75.7	53.8	71%	246.7	197.2	80%	262.6	34.8	13%	0.5	0.5	100%
Analytical Lab	504.0	299.3	59%	91.3	76.9	84%	65.7	55.4	84%	155.8	148.6	95%	190.7	18.0	9%	0.5	0.5	100%
LBL Facility Services	423.8	43.3	10%	0.0	0.0	0%	42.8	8.5	20%	30.7	1.7	6%	241.7	14.7	6%	108.7	18.39	17%
<b>Total LBL</b>	<b>3,736.5</b>	<b>1,840.8</b>	<b>49%</b>	<b>669.5</b>	<b>536.4</b>	<b>80%</b>	<b>521.5</b>	<b>368.3</b>	<b>71%</b>	<b>1,059.2</b>	<b>820.2</b>	<b>77%</b>	<b>1,372.6</b>	<b>92.6</b>	<b>7%</b>	<b>113.7</b>	<b>23.4</b>	<b>21%</b>
Direct Feed LAW	67.2	13.3	20%	80.5	12.4	15%	1.87	0.00	0%	1.6	0.2	11%	0.0	0.0	0%	4.6	0.74	16%
Project Services	362.5	176.3	49%	0.0	0.0	0%	0.0	0.0	0%	0.0	0.0	0%	0.0	0.0	0%	0.0	0.0	0%
<b>Total DF LAW &amp; PS</b>	<b>429.7</b>	<b>189.6</b>	<b>44%</b>	<b>80.5</b>	<b>12.4</b>	<b>15%</b>	<b>1.9</b>	<b>0.0</b>	<b>0%</b>	<b>1.6</b>	<b>0.2</b>	<b>11%</b>	<b>0.0</b>	<b>0.0</b>	<b>0%</b>	<b>4.6</b>	<b>0.7</b>	<b>16%</b>
<b>Total LBL, DF LAW &amp; Project Services</b>	<b>4,166.2</b>	<b>2,030.5</b>	<b>49%</b>	<b>750.0</b>	<b>548.8</b>	<b>73%</b>	<b>523.4</b>	<b>368.3</b>	<b>70%</b>	<b>1,060.9</b>	<b>820.4</b>	<b>77%</b>	<b>1,372.6</b>	<b>92.6</b>	<b>7%</b>	<b>118.3</b>	<b>24.1</b>	<b>20%</b>
<b>PT/HLW/SS Percent Complete Status Frozen as of September 2012 (due to project rebaselining efforts)</b>																		
High-Level Waste	1,478.6	922.1	62%	364.4	325.2	89%	433.9	349.4	81%	561.1	243.2	43%	119.2	4.4	4%	n/a	n/a	n/a
Pretreatment	2,517.3	1,410.5	56%	761.7	645.8	85%	679.9	380.4	56%	890.0	378.6	43%	185.8	5.6	3%	n/a	n/a	n/a
Shared Services	4,726.9	3,632.6	77%	1,047.0	977.9	93%	451.7	395.0	87%	1,436.5	1,143.0	80%	453.5	133.2	29%	1,338.1	983.5	73%
<b>Total HLWPT/SS</b>	<b>8,722.8</b>	<b>5,965.2</b>	<b>68%</b>	<b>2,173.1</b>	<b>1,948.9</b>	<b>90%</b>	<b>1,565.5</b>	<b>1,124.8</b>	<b>72%</b>	<b>2,887.6</b>	<b>1,764.8</b>	<b>61%</b>	<b>758.5</b>	<b>143.2</b>	<b>19%</b>	<b>1,338.1</b>	<b>983.5</b>	<b>73%</b>
Undistributed Budget	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total WTP</b>	<b>12,889.0</b>	<b>7,995.7</b>	<b>62%</b>	<b>2,923.1</b>	<b>2,497.7</b>	<b>85%</b>	<b>2,088.9</b>	<b>1,493.1</b>	<b>71%</b>	<b>3,948.5</b>	<b>2,585.2</b>	<b>65%</b>	<b>2,131.1</b>	<b>235.8</b>	<b>11%</b>	<b>1,456.4</b>	<b>1,007.6</b>	<b>69%</b>
<small>Source: Preliminary WTP Contract Performance Report - Format 1, Data for July 2015</small>																		
<small>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. July 2015 LBL percent complete data is a total of LAW-BOF-LAB 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.</small>																		