

**FINAL**

Office of River Protection  
Consent Decree 08-5085-FVS

Project Summary Report

September 27, 2011

## Office of River Protection

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## Project Summary Report

September 27, 2011

9:00 a.m. – 11:30 a.m.

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1	Statistics / Status	Woody Russell / Dan McDonald / Jeff Lyon
5	SST Retrieval and Closure - D-00B-01, -02, -03, -04 - TWRWP Status	Chris Kemp / Jeff Lyon
8	WTP - Immobilization Plant Project - D-00A-06, D-00A-17, D-00A-01	Wahed Abdul / Jason Young / Gary Olsen / Dan McDonald
10	WTP Pretreatment (PT) Facility - D-00A-18, -19, -13, -14, -15, 16	Wahed Abdul / Dan McDonald
13	High-Level Waste (HLW) Facility - D-00A-20, -21, 02, 03	Gary Olsen / Dan McDonald
15	Low-Activity Waste (LAW) Facility - D-00A-07, -08, -09	Jeff Bruggeman / Dan McDonald
18	Analytical Laboratory (LAB) - D-00A-005	Jason Young / Dan McDonald
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**Fiscal Year 2011 Consent Decree Milestone Status**

Milestone No.	Description	Due Date	Date Completed	On Schedule	At Risk	Recoverable	To Be Missed	Missed	In Litigation	Deleted	In Program Planning	In Abeyance	Dispute Resolution
D-00A-20	Complete Construction of Structural Steel to Elevation 14' in HLW Facility	12/31/10	01/31/10										
D-00C-01B	Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period	01/31/11	01/25/11										
D-00C-02D	Submit to Ecology and Oregon Monthly Summary Reports	02/28/11	2/25/11										
D-00C-02E	Submit to Ecology and Oregon Monthly Summary Reports	03/31/11	03/24/11										
D-00C-02F	Submit to Ecology and Oregon Monthly Summary Reports	04/30/11	04/29/11										
D-00C-02G	Submit to Ecology and Oregon Monthly Summary Reports	05/31/11	05/25/11										
D-00C-02H	Submit to Ecology and Oregon Monthly Summary Reports	06/30/11	06/30/11										
D-00C-02I	Submit to Ecology and Oregon Monthly Summary Reports	07/31/11	07/26/11										

**Fiscal Year 2011 Consent Decree Milestone Status**

Milestone No.	Description	Due Date	Date Completed	On Schedule	At Risk	Recoverable	To Be Missed	Missed	In Litigation	Deleted	In Program Planning	In Abeyance	Dispute Resolution
D-00C-02J	Submit to Ecology and Oregon Monthly Summary Reports	08/31/11	08/24/11										
**D-00C-02K	Submit to Ecology and Oregon Monthly Summary Reports	09/31/11		X									
** Future Monthly Reports will be added as necessary to maintain a two-months ahead activity.													
D-00C-01C	Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period	07/31/11	07/27/11										

**Fiscal Year 2012 Consent Decree Milestone Status**

Milestone No.	Description	Due Date	Date Completed	On Schedule	At Risk	Recoverable	To Be Missed	Missed	In Litigation	Deleted	In Program Planning	In Abeyance	Dispute Resolution
D-00C-02L	Submit to Ecology and Oregon Monthly Summary Reports	10/31/11		X									
**D-00C-02M	Submit to Ecology and Oregon Monthly Summary Reports	11/30/11		X									
** Future Monthly Reports will be added as necessary to maintain a two-months ahead activity.													
D-00C-01D	Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period	01/31/12		X									
D-00C-01E	Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period	07/31/12		X									

## Reports

**D-00C-01 series, Submit to Ecology & State of Oregon Semi-Annual Report**, Due: Semi-Annually – January 31<sup>st</sup> and July 31<sup>st</sup> of each year. Status: On Schedule

**D-00C-02 series, Submit to Ecology & State of Oregon Monthly Summary Report Documenting Progress During Previous Month**, Due: End of Each Month, Status: On Schedule

**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**, Due: 9/25/2013, Status: On Schedule

**D-006-00-A, Meet Approximately Every Three Years After Entry of Decree to review requirements of the Consent Decree**, Due: 10/25/2013, Status: On Schedule

## SST Retrieval and Closure Program

**D-00B-01, Complete Retrieval of Tank Wastes from 10 Remaining SSTs in WMA-C, Due: 9/30/2014, Status: On Schedule**

**D-00B-01A thru J, Submit Tank Retrieval Complete Certification, Due: TBD**

Pursuant to the requirement at IV(B)(5) of the Consent Decree (CD) DOE must submit to Ecology a written certification that DOE has completed retrieval of a tank in accordance with the requirements of Appendix "C", Part 1, of the CD. Tanks currently in retrieval status are C-108, C-109, C-110, C-104, and C-111.

**D-00B-02, Advise Ecology of the 9 SST's from which Waste Will Be Retrieved by 2022,**

Due: 9/30/2014, Status: On Schedule. ORP and Ecology began meeting in December 2010 to discuss the selection of the next nine tanks to be retrieved and why ORP believes those nine tanks should be in A/AX Farms. The last meeting was held on August 24, 2011. At this meeting, Ecology provided ORP with the guidance that Ecology believes the requirements of Project B-2 of the Consent Decree have been met.

**D-00B-03, Initiate Startup Retrieval in At Least 5 of 9 SSTs in D-00B-02, Due: 12/31/2017, Status: On Schedule**

**D-00B-04, Complete Retrieval of Tank Wastes from the 9 SSTs in D-00B-02, Due: 9/30/2022, Status: On Schedule**

**D-00B-04A thru I, Submit Tank Retrieval Complete Certification, Due: TBD**

### Significant Past Accomplishments:

1. Completed in-tank video and riser inspections of C-101 to support design activities.
2. Completed Construction Acceptance Testing (CAT) of the MARS arm system.
3. Initiated Operations Acceptance Testing (OAT) of the MARS arm system.
4. Continued construction and plant forces activities for C-108 equipment installation for Hard Heel Removal.
5. Completed CAT testing of the POR107 exhauster.
6. Initiated OAT testing of the POR107 exhauster.
7. Continued design and procurement for C-109 Hard Heel Removal equipment.
8. Completed installation of the C-112 slurry pump and one of two sluicers for the retrieval system.
9. Completed phase II testing of the MARS eductor.

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

1. Complete the C-101 design, initiate long lead procurements and initiate legacy equipment removals.

2. Continue with C-102 design development for removal of legacy equipment and installation of Modified Sluicing System.
3. Complete startup of C-107 MARS retrieval.
4. Start up of retrieval activities for C-108 hard heel.
5. Complete hard heel retrieval of C-108.
6. Complete C-112 design, initiate long lead procurements.

**Issues:**

None.

## TWRWP Status

<b>Tank</b>	<b>TWRWP</b>	<b>Expected Revisions</b>	<b>Retrieval Technology</b>	<b>Second Technology</b>	<b>Third Technology</b>
C-101	RPP-22520	Projected revision early fall	MRS (per 10/7/10 agreement, to be Modified Sluicing)	-	-
C-102	RPP-22393	In Process	Modified Sluicing	MS-ITV	-
C-103	RPP-21895	Retrieval Completed			
C-104	RPP-22393	In Process	Modified Sluicing	MS-ITV	-
C-105	RPP-22520	Projected revision early fall	MRS	-	-
C-106		Retrieval Completed			
C-107	RPP-22393	In Process	MARS-S		
C-108	RPP-22393	In Process	Modified Sluicing	Chemical Dissolution	MS-ITV
C-109	RPP-21895	Following RPP-22393	Modified Sluicing	MS-ITV	-
C-110	RPP-33116	Following RPP-22393	Modified Sluicing	-	-
C-111	RPP-37739	Following RPP-22393	Modified Sluicing	-	-
C-112	RPP-22393	In Process	Modified Sluicing	MS-ITV	-

### Significant Accomplishments:

### Issues:

- Resolution and approval of TWRWP 2011-2, RPP-22393. Ecology letter 11-NWP-085, dated 8/12/11, disapproved 2011-2, RPP-22393 and provided Review Comment Record for resolution of comments.

**WASTE TREATMENT AND IMMOBILIZATION PLANT (WTP) PROJECT**

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

The WTP Project currently employs about 3,500 full-time equivalent (FTE) contractor (Bechtel National, Inc. [BNI]) and subcontractor personnel, including 1,300 craft, 590 non-manual, and about 205 subcontractor personnel FTEs working at the WTP construction site (all facilities). As of July 2011, the project is 60 percent complete, design and engineering is 83 percent complete, procurement is 64 percent complete, construction is 56 percent complete, and Startup and Commissioning is 13 percent complete.

The overall WTP Project schedule variance in July was a positive \$2.2M, the cost variance was a positive \$3.3M. The positive cost variance was due to Plant Equipment and Engineering control accounts and the schedule variances came primarily from Plant Material and Construction control accounts.

Following is the status through the end of July for current project issues.

**Significant Past Accomplishments:**

- Completed the analytical results from the Low Order Accumulation Model validation testing for the non-Newtonian vessel configuration.
- Completed installation of the hot cell monorail airlocks in the Analytical Laboratory.

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

- Complete erection of 4<sup>th</sup>-tier structural steel (77-ft to 98-ft elevation).
- Perform Large Scale Integrated Testing (LSIT) in 4-ft and 8-ft vessels for resolving mixing issues.
- Complete fabrication and delivery of C5 Ventilation System (C5V) dampers.
- Complete siding of High-Level Waste (HLW) Facility Annex.
- Complete installation of the Low-Activity Waste (LAW) Facility and Analytical Laboratory (Lab) Autosampler systems.
- Complete construction of the Balance of Facilities (BOF) cooling tower.
- Complete construction of BOF switchgear building.

**Issues:**

No significant issues at this time.

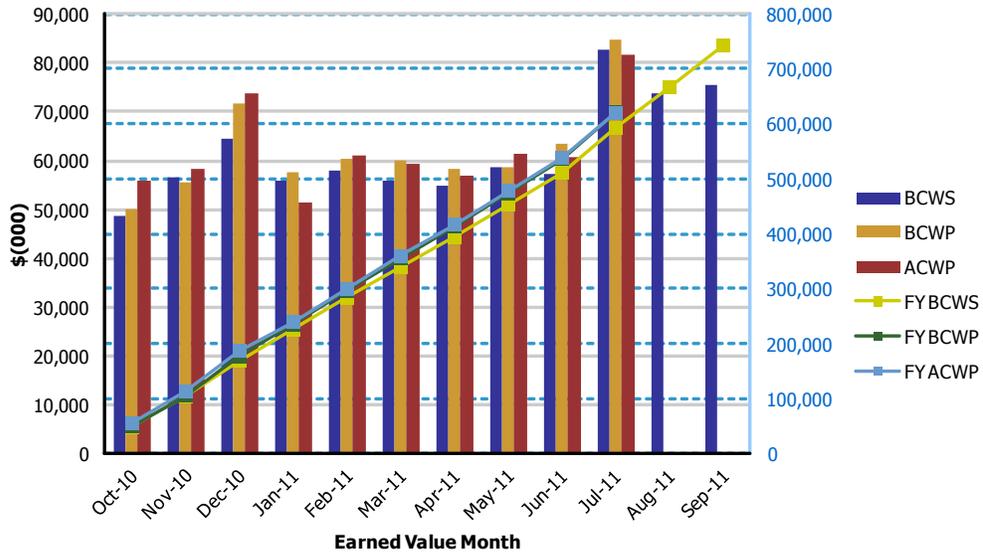
**WTP – Fiscal Year-to-Date Performance.**

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection  
01-D-416 - Waste Treatment Plant (WTP) Project**

Monthly 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 2010	\$48,550	\$49,962	\$55,880	1.03	0.89	\$48,550	\$49,962	\$55,880	1.03	0.89
Nov 2010	\$56,608	\$55,427	\$58,449	0.98	0.95	\$105,158	\$105,389	\$114,329	1.00	0.92
Dec 2010	\$64,533	\$71,852	\$73,610	1.11	0.98	\$169,691	\$177,241	\$187,939	1.04	0.94
Jan 2011	\$55,988	\$57,756	\$51,327	1.03	1.13	\$225,679	\$234,997	\$239,266	1.04	0.98
Feb 2011	\$57,941	\$60,462	\$61,199	1.04	0.99	\$283,620	\$295,459	\$300,465	1.04	0.98
Mar 2011	\$56,009	\$60,032	\$59,335	1.07	1.01	\$339,629	\$355,491	\$359,800	1.05	0.99
Apr 2011	\$54,890	\$58,438	\$56,937	1.06	1.03	\$394,519	\$413,929	\$416,737	1.05	0.99
May 2011	\$58,530	\$58,722	\$61,263	1.00	0.96	\$453,049	\$472,651	\$478,000	1.04	0.99
Jun 2011	\$57,334	\$63,340	\$60,603	1.10	1.05	\$510,383	\$535,991	\$538,603	1.05	1.00
Jul 2011	\$82,643	\$84,827	\$81,479	1.03	1.04	\$593,026	\$620,818	\$620,082	1.05	1.00
Aug 2011	\$73,717					\$666,743				
Sep 2011	\$75,503					\$742,246				

PTD	\$6,322,053	\$6,356,366	\$6,378,112	1.01	1.00					
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**PRETREATMENT (PT) FACILITY**

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

The PT Facility will separate radioactive tank waste into HLW and LAW fractions and transfer each waste type to the respective vitrification facility for immobilization. Through July 2011, the PT Facility is 49 percent complete overall, engineering is 78 percent complete, procurement is 46 percent complete, and construction is 38 percent complete.

**Significant Past Accomplishments:**

Rebar and embed installation and fabrication of rebar wall curtains continues to support additional slab and wall placements at the 56-ft to 98-ft elevations. Construction completions for August include placement of five 5<sup>th</sup>-lift (77-ft to 98-ft elevation) walls for a total of 423 cubic yards. Set into place the stainless steel decontamination booth and two hot cell shield doors. Ongoing work includes fabrication of piping modules and installation of drain piping, service air piping, cable trays and supports, ductwork, conduit, wall liner plates, sparge tubing in the hot cell, and structural steel at the northwest corner of the facility at the 77-ft elevation.

Engineering continues to implement changes from the technical issue resolutions into piping and instrumentation diagrams and piping isometric drawings. Instrumentation location drawings and piping isometric drawings were issued for the 56-ft elevation.

Evaluations of the Pretreatment Vessel Vent Process/Process Vessel Vent Exhaust System to validate the ability to meet functional requirements during an off-normal condition is ongoing, including the performance testing of High Efficiency Mist Eliminator (HEME) and scrubber. Vendor award for the aerosol testing to determine entrainment factor for the WTP-specific conditions is in progress.

Re-committed design packages were issued for the cesium ion exchange, waste feed evaporator waste feed receipt, the demineralized water and pulse jet ventilation process systems. Approved BNI request for the Justification for Continued Design Procurement and Installation needed to

award HEME procurement. BNI has awarded the LSIT contract for the PJM mixing in 4-ft, 8-ft, and 14-ft vessels.

ASX pneumatic transfer system and vacuum system HEPA filters were released to ship. Submitted to Ecology the IQRPE final report for approval of the permit modifications for Vessels UFP- 62 A/B. Vessel head welding for vessels UFP-27A and 27B are complete. Updated detailed execution plan for the design, procurement, and installation of liner plates, jumper frames and equipment pads have been developed for the hot cell.

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

- Removal of CXP-1 vessel, based on the CXP System design changes
- Fabrication and delivery of initial hot cell equipment frames.
- Development of the Pulse Jet Mixer (PJM) design and control strategy for resolving open issues with mixing and completion of vessel design.
- Perform Large Scale Integrated Testing in 4-ft and 8-ft vessels for resolving mixing issues.
- Award contract for HEME.
- Complete 5<sup>th</sup>-lift wall placements, make eight 98-ft slab placements, four 6<sup>th</sup>-lift wall placements, and make 6 of 8 placements for the Control Building basemat, totaling approximately 5,000 cubic yards of concrete.
- Set hot cell vertical door drive mechanism replacement gearbox and switch.
- Complete verification and validation of quantitative risk analysis for hydrogen in piping and ancillary vessels.
- Install hot cell piping pulse jet ventilation header.
- Make first 98-ft elevation slab concrete pour by end of 2011.
- Complete hazardous operations review for the cesium ion exchange, waste feed evaporator and the HLW lag storage and feed blend process systems.
- Complete 19 mechanical systems re-committed design packages.
- Complete erection of 4<sup>th</sup>-tier structural steel (77-ft to 98-ft elevation).
- Ecology approval of the permit packages is required to proceed with the alteration of the on-site vessels FRP -2A/B/C/D and UFP-62A/B/C in December 2011. These packages are scheduled to begin a public comment period in October 2011.

#### **Issues:**

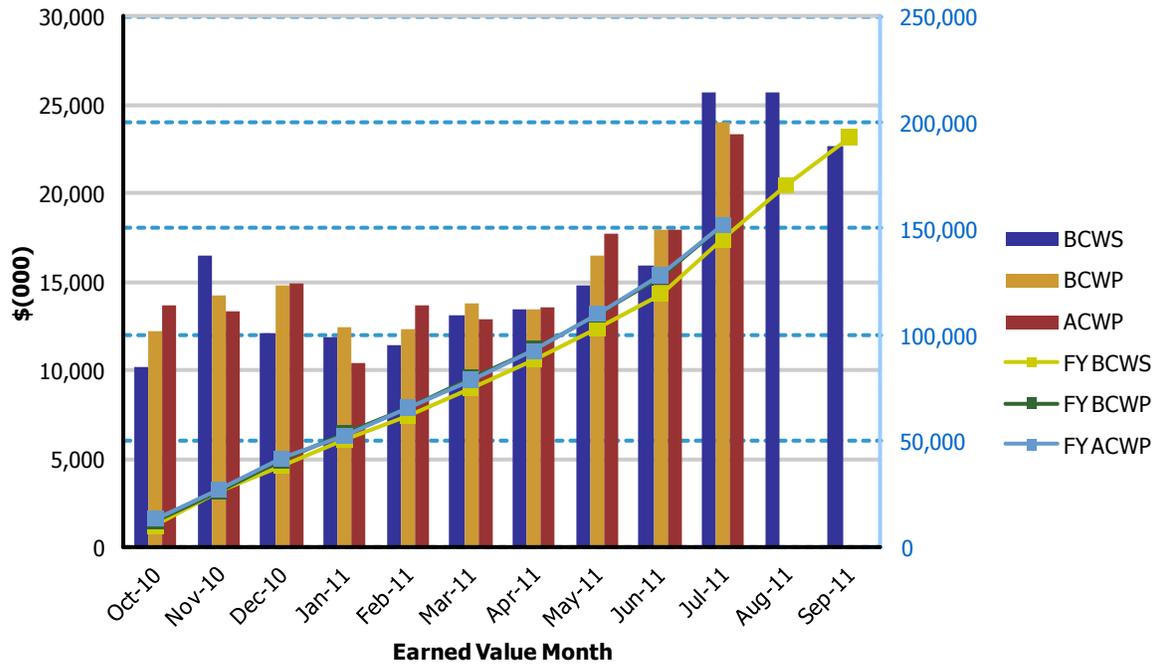
- Vessel Critical Path: Fabrication of vessel HLP-22 continues to be the primary critical path for the PT Facility. The fabrication of the vessel is in progress, but the completion date has slipped from October to December 2012. This is still ahead of the construction need date of February 2013. However, the fabricator is pursuing opportunities to improve the HLP-22 completion date.

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection  
01-D-16E - Pretreatment Facility**

Facility Specific (unallocated) Monthly and Fiscal-Year-to-Date (FY-TD) EVMS Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2010	\$10,196	\$12,179	\$13,730	1.19	0.89	\$10,196	\$12,179	\$13,730	1.19	0.89
Nov 2010	\$16,462	\$14,257	\$13,360	0.87	1.07	\$26,658	\$26,436	\$27,090	0.99	0.98
Dec 2010	\$12,060	\$14,788	\$14,869	1.23	0.99	\$38,718	\$41,224	\$41,959	1.06	0.98
Jan 2011	\$11,902	\$12,449	\$10,403	1.05	1.20	\$50,620	\$53,673	\$52,362	1.06	1.03
Feb 2011	\$11,428	\$12,373	\$13,692	1.08	0.90	\$62,048	\$66,046	\$66,054	1.06	1.00
Mar 2011	\$13,145	\$13,809	\$12,923	1.05	1.07	\$75,193	\$79,855	\$78,977	1.06	1.01
Apr 2011	\$13,444	\$13,497	\$13,533	1.00	1.00	\$88,637	\$93,352	\$92,510	1.05	1.01
May 2011	\$14,789	\$16,506	\$17,668	1.12	0.93	\$103,426	\$109,858	\$110,178	1.06	1.00
Jun 2011	\$15,909	\$17,928	\$17,968	1.13	1.00	\$119,335	\$127,786	\$128,146	1.07	1.00
Jul 2011	\$25,653	\$23,993	\$23,391	0.94	1.03	\$144,988	\$151,779	\$151,537	1.05	1.00
Aug 2011	\$25,646					\$170,634				
Sep 2011	\$22,683					\$193,317				
PTD	\$1,201,180	\$1,216,818	\$1,185,017	1.01	1.03					

**HIGH-LEVEL WASTE (HLW) FACILITY**

<b>Number</b>	<b>Title</b>	<b>Due Date</b>	<b>Status</b>
D-00A-21	Complete Construction of Structural Steel to 37' in HLW Facility	12/31/2012	On schedule
D-00A-02	HLW Facility Construction Substantially Complete	12/31/2016	On schedule
D-00A-03	Start HLW Facility Cold Commissioning	6/30/2018	On Schedule
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2019	On schedule

The HLW Facility will receive the separated HLW from the PT Facility. The concentrate is blended with glass formers and converted into molten glass in one of the two HLW melters and then poured into cylindrical stainless steel canisters. After cooling, the canisters are sealed and decontaminated prior to shipment to interim storage. The HLW Facility is 55 percent complete overall, with engineering design 85 percent complete, procurement 69 percent complete, and construction 36 percent complete.

**Significant Past Accomplishments:**

The build-out of the Filter Cave is critical path for HLW. The first of five C5V filter housing was set in place on August 31; the remaining four were set in place as of September 12, allowing for the following placement of dampers in pairs. This sequencing allows for slight adjustments to optimize the alignment of the housings, dampers, and headers and to maintain the spacing requirements between housings before welding the assemblies and finalizing the installations. The first set of remote-operated dampers was received in August and damper deliveries continue in lots of two each week. The schedule for equipment installations and deliveries is being maintained and support a completion of the Filter Cave build-out in May 2012.

Five concrete placements (for a sum of 607 cubic yards) were completed in August, and with the placement of walls 2146 and 2147 on September 8, all of the 14-ft to 37-ft elevation walls have been placed with the exception of two exterior walls along the Canister Export Bay. For the HLW Annex, the parapet walls have been completed and the subcontractor is continuing the installation of siding and roofing. Electrical and piping commodities are progressing throughout the 21-ft elevation, including cooling water, cable trays and supports, and fire protection piping. Vendors are also continuing with special coatings, HVAC, and liner plate installations.

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

- Complete fabrication and delivery of C5V dampers.
- Complete siding of HLW Annex.
- C5V housing and remote-operated damper installations.
- Receive major components of Melters 1 and 2.

- Receive RLD-VSL-8.

**Issues:**

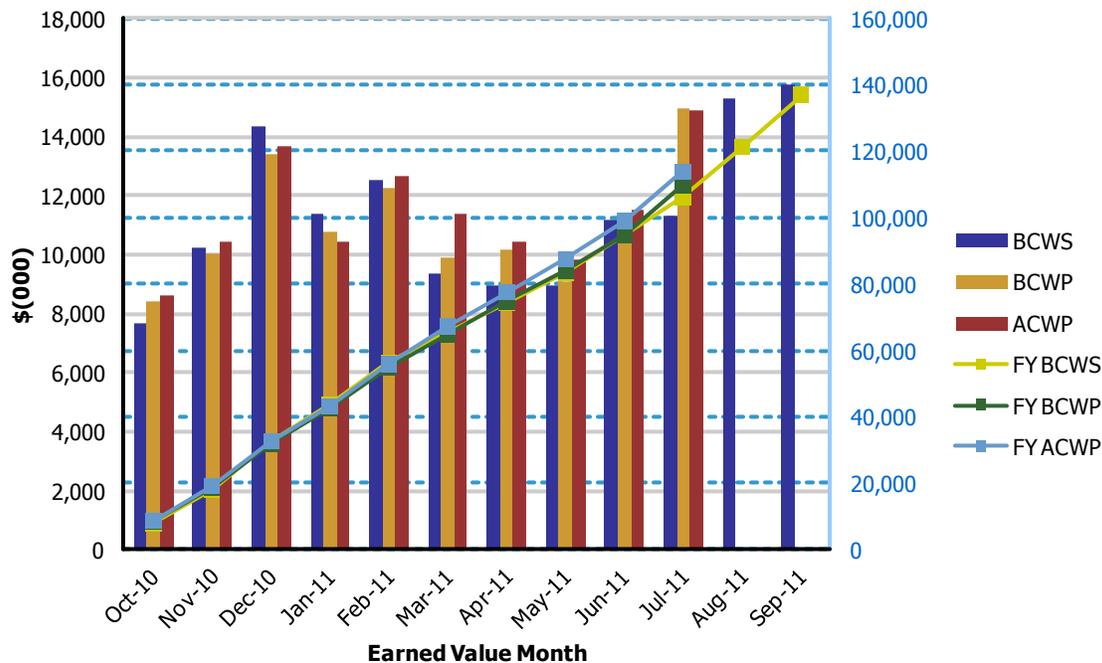
No significant issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection**  
**01-D-16D - High-Level Waste Facility**

Facility Specific (unallocated) Monthly and Fiscal-Year-to-Date (FY-TD) EVMS Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2010	\$7,653	\$8,413	\$8,615	1.10	0.98	\$7,653	\$8,413	\$8,615	1.10	0.98
Nov 2010	\$10,239	\$10,032	\$10,434	0.98	0.96	\$17,892	\$18,445	\$19,049	1.03	0.97
Dec 2010	\$14,364	\$13,384	\$13,697	0.93	0.98	\$32,256	\$31,829	\$32,746	0.99	0.97
Jan 2011	\$11,360	\$10,767	\$10,461	0.95	1.03	\$43,616	\$42,596	\$43,207	0.98	0.99
Feb 2011	\$12,550	\$12,224	\$12,651	0.97	0.97	\$56,166	\$54,820	\$55,858	0.98	0.98
Mar 2011	\$9,376	\$9,860	\$11,369	1.05	0.87	\$65,542	\$64,680	\$67,227	0.99	0.96
Apr 2011	\$8,930	\$10,154	\$10,445	1.14	0.97	\$74,472	\$74,834	\$77,672	1.00	0.96
May 2011	\$8,919	\$9,075	\$9,806	1.02	0.93	\$83,391	\$83,909	\$87,478	1.01	0.96
Jun 2011	\$11,189	\$10,734	\$11,504	0.96	0.93	\$94,580	\$94,643	\$98,982	1.00	0.96
Jul 2011	\$11,311	\$14,941	\$14,846	1.32	1.01	\$105,891	\$109,584	\$113,828	1.03	0.96
Aug 2011	\$15,296					\$121,187				
Sep 2011	\$15,743					\$136,930				
PTD	\$800,519	\$808,808	\$802,955	1.01	1.01					

**LOW-ACTIVITY WASTE (LAW) FACILITY**

<b>Number</b>	<b>Title</b>	<b>Due Date</b>	<b>Status</b>
D-00A-07	LAW Facility Construction Substantially Complete	12/31/2014	On schedule
D-00A-08	Start LAW Facility Cold Commissioning	12/31/2018	On schedule
D-00A-09	LAW Facility Hot Commissioning Complete	12/31/2019	On schedule

The LAW Facility will vitrify LAW from the PT Facility. Waste 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 that will be disposed on the Hanford Site in the Integrated Disposal Facility. The LAW Facility is 66 percent complete, engineering is 88 percent complete, procurement is 85 percent complete, and construction is 64 percent complete.

**Significant Past Accomplishments:**

The LAW secondary off-gas treatment system component procurement activities continued. Vendor activities are progressing for all off-gas system components. The first of these secondary off-gas treatment system components to be delivered will be the carbon bed adsorber (CBA) in November 2011. The Annex Architectural Specialties subcontract was awarded. Other procurement activities included issuance of a material requisition for quotes on high-efficiency particulate air (HEPA) pre-heaters, a material acceptance plan for melter/component fabrication, and a release to ship a HEPA filter for the pneumatic transfer vacuum system.

BNI Design issued piping and instrumentation diagrams for the C2V and C3V systems for refrigerant lines serving safety air-conditioning units for the off-gas fan and battery rooms. An instrument rack general arrangement data sheet was issued for the LAW concentrate receipt process system. Several instrument data sheets were issued for the LAW primary off-gas process system. Piping isometric drawings were issued for the chilled water, plant cooling water, carbon dioxide gas, LAW primary off-gas process, and LAW melter process systems. Several equipment qualification and enclosure component data sheets were issued for the programmable protection system. Connection diagram data sheets were issued for the autosampling, LAW concentrate receipt process, programmable protection, and LAW secondary off-gas/vessel vent process systems. Initial Component Information System (CIS) equipment and component lists were issued for the plant service air and demineralized water systems. Updated CIS lists for equipment, in-line components, valves, and pipelines were issued for the carbon dioxide gas system.

BNI initiated installation of the container inert fill hoppers for the container finishing handling system. Installation was completed for two moisture eliminators and HEPA filters for the C5V ventilation system, a mud mat for the east transformer foundation, hopper chutes for the glass

former reagent system, as well as the lidding equipment in the south line for the container finishing handling system. Construction continued with installation of the fire alarm system, low-voltage electrical equipment, medium voltage electrical equipment, air-handling units, fan coil units, and humidifiers for the C2V ventilation system, liner in the pour caves, cranes for the LAW melter equipment support handling system, and container receipt handling and finishing line hoists, hatches, and lidding equipment. Other normal activities continued, including installation of piping for the medium-voltage electrical, glass former reagent, and plant cooling water systems within the LAW, as well as installation of pipe and pipe hangers, sprinklers, electrical grounding, conduit and wiring, tubing for instrumentation, instrument enclosures, lighting fixtures, partition walls, and coatings.

Integrated Control Network development continued with software design and testing for the following systems: LAW melter feed process system, container receipt handling system, LAW melter equipment support handling system, primary off-gas process system, secondary off-gas/vessel vent process system, ASX system, and radioactive liquid waste disposal system.

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

- Complete vendor fabrication of the carbon bed adsorber.
- Install inert fill drop line.
- Install melter power supplies.
- Complete installation of the ASX system.

**Issues:**

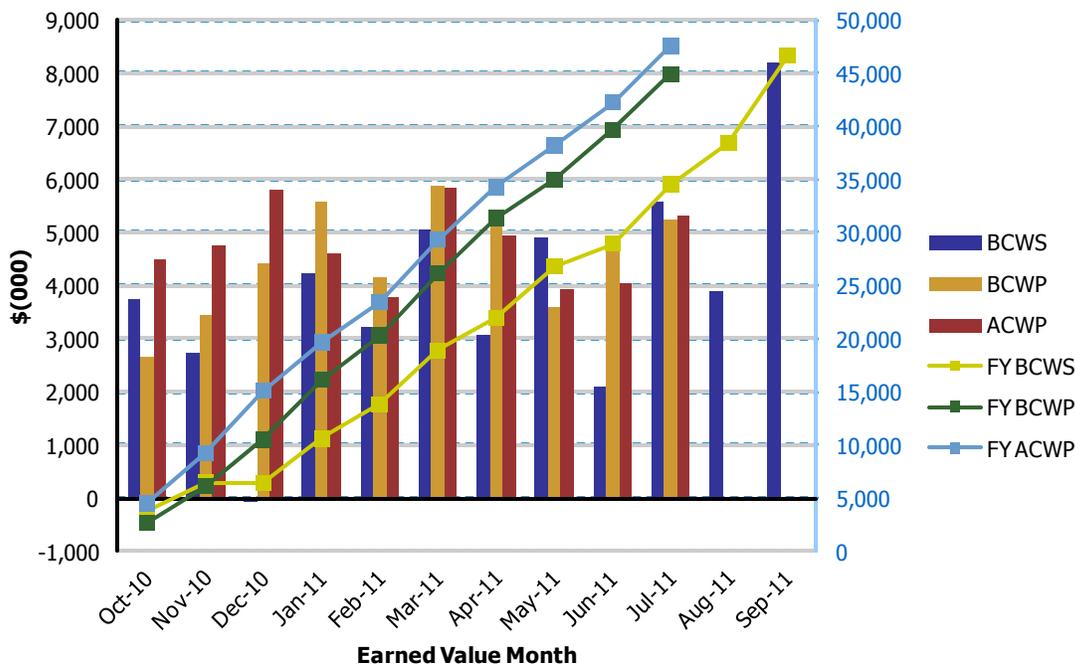
No major issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection**  
**01-D-16A - Low-Activity Waste Facility**

Facility Specific (unallocated) Monthly and Fiscal-Year-to-Date (FY-TD) EVMS Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2010	\$3,743	\$2,654	\$4,511	0.71	0.59	\$3,743	\$2,654	\$4,511	0.71	0.59
Nov 2010	\$2,732	\$3,462	\$4,752	1.27	0.73	\$6,475	\$6,116	\$9,263	0.94	0.66
Dec 2010	(\$84)	\$4,424	\$5,823	-52.67	0.76	\$6,391	\$10,540	\$15,086	1.65	0.70
Jan 2011	\$4,232	\$5,597	\$4,606	1.32	1.22	\$10,623	\$16,137	\$19,692	1.52	0.82
Feb 2011	\$3,222	\$4,153	\$3,778	1.29	1.10	\$13,845	\$20,290	\$23,470	1.47	0.86
Mar 2011	\$5,054	\$5,862	\$5,857	1.16	1.00	\$18,899	\$26,152	\$29,327	1.38	0.89
Apr 2011	\$3,062	\$5,210	\$4,930	1.70	1.06	\$21,961	\$31,362	\$34,257	1.43	0.92
May 2011	\$4,895	\$3,600	\$3,919	0.74	0.92	\$26,856	\$34,962	\$38,176	1.30	0.92
Jun 2011	\$2,089	\$4,713	\$4,057	2.26	1.16	\$28,945	\$39,675	\$42,233	1.37	0.94
Jul 2011	\$5,595	\$5,237	\$5,315	0.94	0.99	\$34,540	\$44,912	\$47,548	1.30	0.94
Aug 2011	\$3,895					\$38,435				
Sep 2011	\$8,214					\$46,649				
PTD	\$623,144	\$625,850	\$670,644	1.00	0.93					

**ANALYTICAL LABORATORY**

<b>Number</b>	<b>Title</b>	<b>Due Date</b>	<b>Status</b>
D-00A-05	LAB Construction Substantially Complete	12/31/2012	On Schedule

The Lab will support WTP operations by analyzing feed, vitrified waste, and effluent streams. The lab is 47 percent complete, engineering is 78 percent complete, procurement is 74 percent complete, and construction is 65 percent complete.

**Significant Past Accomplishments:**

Ongoing construction work includes installation of HEPA filters and tubing on top of the hot cells, piping, formwork, rebar, and embeds in C5 fan room for fireproofing slab, drop piping for the low pressure steam, steam condensate water, and chilled water system, domestic water piping, lower piping in C2V/C3V pit, bulk piping/hangers, electrical equipment, ballast enclosures, and scheduled/unscheduled conduit and raceway in the exterior hot cell, bulk piping/hangers in the radiological lab. Installation continues on the trolley covers/motor assemblies and north gamma probes in interior hot cell. Construction completed installation of structural steel in C5 fan room for fireproofing slab, electrical equipment in the maintenance/glovebox room, and installation of the hot cell monorail airlocks.

Engineering issued laboratory in-cell handling system software acceptance test, configuration data indices for low pressure steam, instrument data sheets for C2V, C3V, and C5V differential pressure transmitters, and instrument data sheets for environmental monitoring system ambient radiation detectors. Piping isometric drawings were issued for low-pressure steam and high-pressure steam.

The following were issued for the radioactive liquid waste disposal system: control logic and functional diagrams to support software testing, configuration data indices, data sheets for field bus pressure transmitters, data sheets for fieldbus temperature transmitters/switches, data sheets for resistance temperature detection elements, system block diagrams, and piping isometric drawings.

The following were issued for the ASX system: configuration data indices, sequential functional charts, control logic diagrams, system block diagrams, functional instrumentation diagrams, setroute layout, programmable protection system equipment qualification and enclosure data sheets, component identification system in-line/equipment lists, and piping isometric drawings.

The following were issued for the low voltage electrical system and the uninterruptable power electrical: 208-volt/120-volt distribution panel block diagrams and panel schedule, and termination/cable schedules. Drawings were issued for leak collections pans to support the architectural specialties subcontract work.

Procurement received three tons of structural steel, issued material requisitions for radiological monitoring instruments, specialty valves, process regulators, thermocouples/resistance

temperature detectors, important to safety programmable protection system components, breakers for load centers, and radar/radio frequency level instruments.

The operations staff performed a walkthrough of the Lab to follow the progress of the installation of the ASX sampling units and accessories. An agreement was made with Engineering with respect to operation of C3/C5 pumps to remove liquid from their respective tank sumps. The team is working on an evaluation to determine if all facilities require multiple weather protected loading bays/docks, and any required modifications that need to be made from the evaluation. The team completed the draft spreadsheet on waste feed acceptance criteria (WAC) data quality objectives (DQO) analytes. This spreadsheet listed the 258 WAC analytes along with sample size and analytical methods, and grouped the analytes into action limits, elemental, radiochemical, and organic categories. Additionally, baseline analytical methods for waste pre-qualification are being established. Identification of existing methods for analyses required by the WAC DQO document is complete. Gaps between analytical requirements and existing methods are being reviewed for methods development needs.

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

- Install waste drum bogie transfer port.
- Install Autosampler HEPA filter housings frames.
- Complete installation of Autosampler System.
- Install hot cell monorail recovery hoists.
- Install fireproofing slab in C5 fan room.

**Issues:**

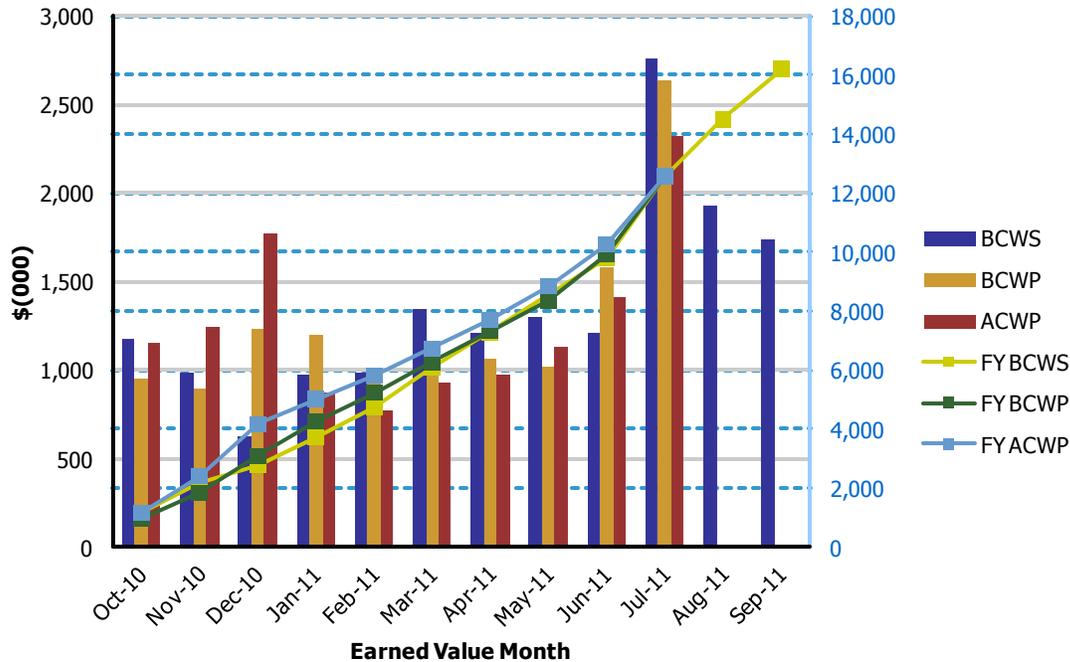
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection  
01-D-16B - Analytical Laboratory**

Facility Specific (unallocated) Monthly and Fiscal-Year-to-Date (FY-TD) EVMS Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2010	\$1,180	\$954	\$1,152	0.81	0.83	\$1,180	\$954	\$1,152	0.81	0.83
Nov 2010	\$984	\$893	\$1,245	0.91	0.72	\$2,164	\$1,847	\$2,397	0.85	0.77
Dec 2010	\$621	\$1,236	\$1,768	1.99	0.70	\$2,785	\$3,083	\$4,165	1.11	0.74
Jan 2011	\$971	\$1,198	\$869	1.23	1.38	\$3,756	\$4,281	\$5,034	1.14	0.85
Feb 2011	\$982	\$949	\$770	0.97	1.23	\$4,738	\$5,230	\$5,804	1.10	0.90
Mar 2011	\$1,350	\$1,039	\$924	0.77	1.12	\$6,088	\$6,269	\$6,728	1.03	0.93
Apr 2011	\$1,210	\$1,059	\$974	0.88	1.09	\$7,298	\$7,328	\$7,702	1.00	0.95
May 2011	\$1,299	\$1,018	\$1,133	0.78	0.90	\$8,597	\$8,346	\$8,835	0.97	0.94
Jun 2011	\$1,213	\$1,579	\$1,413	1.30	1.12	\$9,810	\$9,925	\$10,248	1.01	0.97
Jul 2011	\$2,755	\$2,634	\$2,325	0.96	1.13	\$12,565	\$12,559	\$12,573	1.00	1.00
Aug 2011	\$1,925					\$14,490				
Sep 2011	\$1,735					\$16,225				
PTD	\$165,842	\$164,945	\$177,251	0.99	0.93					

**BALANCE OF FACILITIES (BOF)**

<b>Number</b>	<b>Title</b>	<b>Due Date</b>	<b>Status</b>
D-00A-12	Steam Plant Construction Complete	12/31/2012	On Schedule

BOF provides services and utilities to support operation of the main production facilities – PT, HLW, LAW, and Lab. Overall facility percent complete for BOF is 47 percent, engineering is 72 percent complete, procurement is 47 percent complete, and construction is 62 percent complete.

**Significant Past Accomplishments:**

Ongoing construction work includes installation of plant service air (PSA) piping at the LAB, excavation for the PT control building and substation #1, water booster pump for the LAB's chilled water system, cable terminations at the main switchgear building, electrical equipment, conduit supports, and cable at the BOF switchgear building, tying in domestic water piping to west gate 23, backfilling/placing controlled density fill at the anhydrous ammonia storage facility and the water treatment facility, formwork/rebar and excavation at the LAW transformer pad, and installation of formwork/rebar and embeds for the carbon dioxide tank pad. At the glass former storage facility (GFSF) construction continued installation of lighting systems, PSA system piping, transport piping/supports, and scheduled/unscheduled conduit cable tray.

Construction completed installation of fire service water (FSW) system valves and coating bolts at the GFSF, and backfilling anchor thrust blocks at GFSF.

Engineering issued above ground raceway plans for the switchgear building, drawings for the plant cooling water (PCW) system, equipment qualification and enclosure data sheets for the ammonia reagent system, issued piping isometric drawings for the PCW system, released lube oil heat exchangers to ship for the PCW system, and drawings for interconnecting pipe spool for pump discharge at the water treatment facility. Engineering issued specifications for radiation monitors (continuous air monitors), liquid effluent gamma monitors, and area radiation monitors. Procurement awarded a purchase order for the communications equipment system, issued material requisition to award subcontract for the emergency turbine generators (ETG), and issued pre-award engineering services subcontract technical evaluation for the ETGs.

The operations staff participated in the ETG load list timing sequence discussion, walked through a portion of the steam plant to evaluate design and maintainability of the removable insulation pads as well as a condition assessment of the overall steam plant facility. Staff participated in a discussion with respect to operation requirements document need for weather protection of entry and egress doors.

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

- Complete construction of cooling tower.
- Complete construction of BOF switchgear building.

- Install structural steel for anhydrous ammonia facility.
- Receive anhydrous ammonia system.

**Issues:**

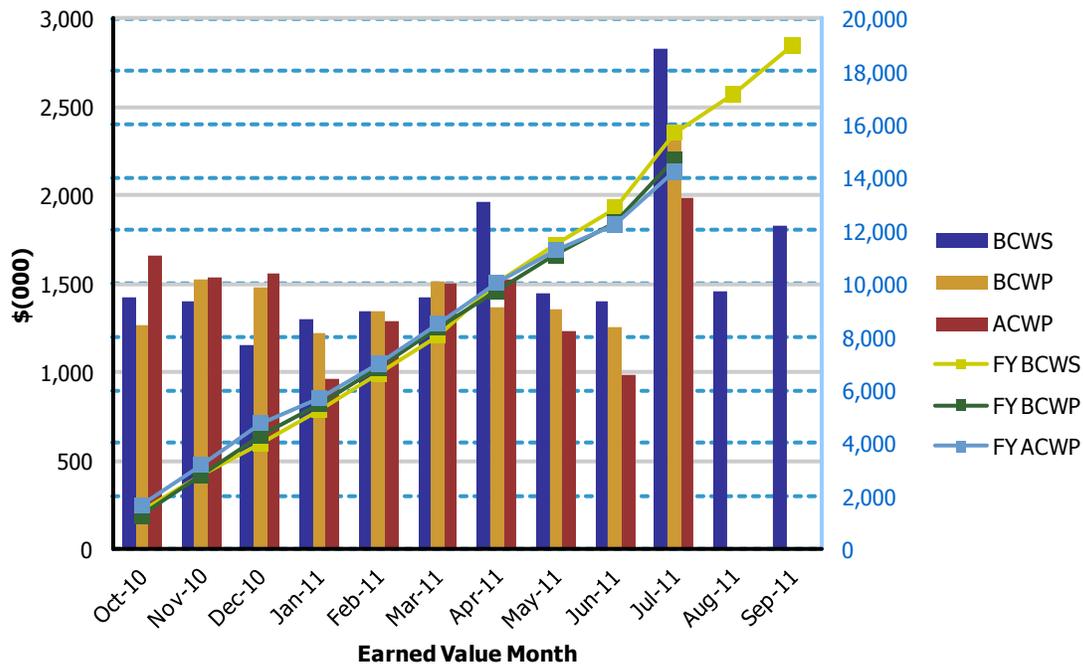
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: July 2011

**River Protection  
01-D-16C - Balance of Facilities**

Facility Specific (unallocated) Monthly and Fiscal-Year-to-Date (FY-TD) EVMS Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2010	\$1,428	\$1,272	\$1,660	0.89	0.77	\$1,428	\$1,272	\$1,660	0.89	0.77
Nov 2010	\$1,398	\$1,520	\$1,539	1.09	0.99	\$2,826	\$2,792	\$3,199	0.99	0.87
Dec 2010	\$1,150	\$1,475	\$1,558	1.28	0.95	\$3,976	\$4,267	\$4,757	1.07	0.90
Jan 2011	\$1,302	\$1,224	\$960	0.94	1.28	\$5,278	\$5,491	\$5,717	1.04	0.96
Feb 2011	\$1,347	\$1,346	\$1,288	1.00	1.05	\$6,625	\$6,837	\$7,005	1.03	0.98
Mar 2011	\$1,429	\$1,518	\$1,505	1.06	1.01	\$8,054	\$8,355	\$8,510	1.04	0.98
Apr 2011	\$1,962	\$1,363	\$1,524	0.69	0.89	\$10,016	\$9,718	\$10,034	0.97	0.97
May 2011	\$1,442	\$1,352	\$1,237	0.94	1.09	\$11,458	\$11,070	\$11,271	0.97	0.98
Jun 2011	\$1,400	\$1,253	\$980	0.90	1.28	\$12,858	\$12,323	\$12,251	0.96	1.01
Jul 2011	\$2,824	\$2,347	\$1,984	0.83	1.18	\$15,682	\$14,670	\$14,235	0.94	1.03
Aug 2011	\$1,462					\$17,144				
Sep 2011	\$1,830					\$18,974				

PTD	\$250,950	\$249,036	\$246,150	0.99	1.01
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Waste Treatment Plant Project - Percent Complete Status Through July 2011															
(Dollars - Millions)	Overall Facility Percent Complete Unallocated Dollars			Design/Engineering Unallocated Dollars			Procurement Unallocated Dollars			Construction Unallocated Dollars			Startup & Commissioning 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
Facilities															
Low-Activity Waste	951.8	625.9	66%	229.6	202.4	88%	234.2	198.2	85%	339.8	218.9	64%	148.1	6.4	4%
Analytical Lab	351.2	164.9	47%	55.0	42.8	78%	56.1	41.7	74%	104.9	68.4	65%	135.2	12.0	9%
Balance of Facilities	529.0	249.0	47%	84.3	61.0	72%	80.9	37.8	47%	227.7	140.7	62%	136.1	9.6	7%
High-Level Waste	1,487.9	808.8	54%	342.1	293.1	86%	454.3	311.5	69%	573.7	199.8	35%	117.8	4.4	4%
Pretreatment	2,494.1	1,216.8	49%	697.2	544.5	78%	715.6	326.8	46%	898.8	339.5	38%	182.6	6.0	3%
Shared Services	4,745.6	3,290.9	69%	1,051.5	892.2	85%	467.7	360.9	77%	1,421.4	1,038.1	73%	455.8	115.1	25%
<b>Total WTP w/o UB</b>	<b>10,559.6</b>	<b>6,356.3</b>	<b>60%</b>	<b>2,459.7</b>	<b>2,036.0</b>	<b>83%</b>	<b>2,008.8</b>	<b>1,276.9</b>	<b>64%</b>	<b>3,566.3</b>	<b>2,005.4</b>	<b>56%</b>	<b>1,175.6</b>	<b>153.5</b>	<b>13%</b>
Undistributed Budget	0.0	n/a	n/a	n/a	n/a	n/a									
<b>Total WTP</b>	<b>10,559.6</b>	<b>6,356.3</b>	<b>60%</b>	<b>2,459.7</b>	<b>2,036.0</b>	<b>83%</b>	<b>2,008.8</b>	<b>1,276.9</b>	<b>64%</b>	<b>3,566.3</b>	<b>2,005.4</b>	<b>56%</b>	<b>1,175.6</b>	<b>153.5</b>	<b>13%</b>

Source: WTP Contract Performance Report - Format 1, Data for July 2011

Note: Starting with the June 2009 report, facility Construction percent complete values decreased significantly, and a couple of Design/Engineering facility percent complete values went down as well. The decrease in values was tied to Phase I of BNI's elimination of WBS 1.08, Plant Wide EPCC; scope from WBS 1.08 was moved to facilities as appropriate or to WBS 1.90, Shared Services. This resulted in an increase in the facility construction budgets, which has correspondingly reduced the to-date percent complete values. In July 2010 the allocation of 1.90 to the facilities was removed to show true facility percent complete.