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**FINAL**

Office of River Protection  
Consent Decree 08-5085-FVS

Project Summary Report

November 17, 2011

## Office of River Protection

## Consent Decree 08-5085-FVS

## Project Summary Report

November 17, 2011

8:30 a.m. – 10:30 a.m.

Page	Topic	Leads
1	Statistics / Status	Woody Russell / Dan McDonald / Jeff Lyon
5	SST Retrieval and Closure – D-00B-01, -02, -03, -04	Chris Kemp / Jeff Lyon
6	Tank Waste Retrieval Work Plan (TWRWP) Status – Consent Decree Appendix C	Chris Kemp / Jeff Lyon
7	WTP - Immobilization Plant Project – D-00A-06, D-00A-17, D-00A-01	Delmar Noyes / Dan McDonald
9	WTP Pretreatment (PT) Facility – D-00A-18, -19, -13, -14, -15, 16	Wahed Abdul / Dan McDonald
12	High-Level Waste (HLW) Facility – D-00A-20, -21, 02, 03	Gary Olsen / Dan McDonald
14	Low-Activity Waste (LAW) Facility – D-00A-07, -08, -09	Jeff Bruggeman / Dan McDonald
17	Analytical Laboratory (LAB) – D-00A-005	Jason Young / Dan McDonald
19	Balance of Facilities (BOF) – D-00A-12	Jason Young / Dan McDonald

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	09/27/11										
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	10/25/11										
D-00C-02M	Submit to Ecology and Oregon Monthly Summary Reports	11/30/11		X									
**D-00C-02N	Submit to Ecology and Oregon Monthly Summary Reports	12/31/11		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-107, 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: Complete.** 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. Continued retrieval activities in C-107 using the MARS retrieval system.
2. Initiated Hard Heel Removal activities by performing water rinses and water recirculation in C-108.
3. Continued design and procurement for C-109 Hard Heel Removal equipment.
4. Initiated Operation Acceptance Testing of the C-112 Modified Sluicing system.
5. Obtained Ecology approval of Modification Notice 2011-5 for TWRWP RPP-22393, on 10/11/11.

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

1. Complete the installation of the C-101 ventilation system and removal of legacy equipment.
2. Complete the installation of the C-102 ventilation system and removal of legacy equipment.
3. Continue with C-101 design development for installation of Modified Sluicing System.
4. Continue with C-102 design development for installation of Modified Sluicing System.
5. Complete C-107 bulk retrieval.

6. Complete hard heel retrieval of C-108.
7. Start up of C-112 Modified Sluicing Retrieval System.
8. Complete C-112 bulk retrieval.

**Issues:**

None.

**Tank Waste Retrieval Work Plan (TWRWP) Status**

Tank	TWRWP	Expected Revisions	Retrieval Technology	Second Technology	Third Technology
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	Chemical Dissolution	-
C-103	RPP-21895	Retrieval Completed			
C-104	RPP-22393	In Process	Modified Sluicing	Chemical Dissolution	-
C-105	RPP-22520	Projected revision early fall	MRS	-	-
C-106		Retrieval Completed			
C-107	RPP-22393	In Process	MARS-S	MARS-High Pressure	-
C-108	RPP-22393	In Process	Modified Sluicing	Chemical Dissolution	-
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	Chemical Dissolution	-

**Significant Accomplishments:**

- TWRWP Modification Notice 2011-3 for RPP-22393 was approved on 08/24/11.
- TWRWP Modification Notice 2011-2 for RPP-22393 was approved on 09/20/11.
- TWRWP Modification Notice 2011-5 for RPP-22393 was approved on 10/13/11.

**Issues:**

None.

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

<b>Number</b>	<b>Title</b>	<b>Due Date</b>	<b>Status</b>
D-00C-01D	Semi-Annual CD Report	01/31/2012	On schedule
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 3,561 Full-Time Equivalent (FTE) contractor (Bechtel National, Inc. [BNI]) and subcontractor personnel, including 1,263 craft, 500 non-manual, and about 240 subcontractor personnel FTEs working at the WTP construction site (all facilities). As of September 2011, the project was 61 percent complete, design and engineering was 84 percent complete, procurement was 65 percent complete, construction was 57 percent complete, and startup and commissioning was 13 percent complete.

The overall WTP Project schedule variance in September was a negative \$10.2M; the cost variance was a negative \$2M. The negative cost variance was due to Construction Distributions, Construction Piping and Plant Equipment, and the schedule variances primarily were related to Plant Equipment.

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

**Significant Past Accomplishments:**

- Awarded Resin Testing, Aerosol Testing, and fabrication of High Efficiency Mist Eliminator.
- Developed an updated detailed execution plan for the design, procurement, and installation of liner plates, jumper frames and equipment pads for the hot cell.
- Completed five concrete placements (for a total of 998 cubic yards) in October.
- Substantially completed mechanical systems design for the LAW facility.

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

- Complete erection of 4<sup>th</sup>-tier structural steel in PT(77ft to 98ft elevation).
- Perform Large Scale Integrated Testing in 4 ft and 8 ft vessels to resolve mixing issues for PT.
- Set in-place two piping modules (PA07 upper, PA01 lower) in the PT black cells.
- Receive Plant Wash and Drains vessel for HLW (RLD-VSL-8).
- Complete installation of the Low-Activity Waste Facility and LAB autosampler systems.
- Complete construction of the Balance of Facilities (BOF) cooling tower.
- Complete construction of BOF switchgear building.

**Issues:**

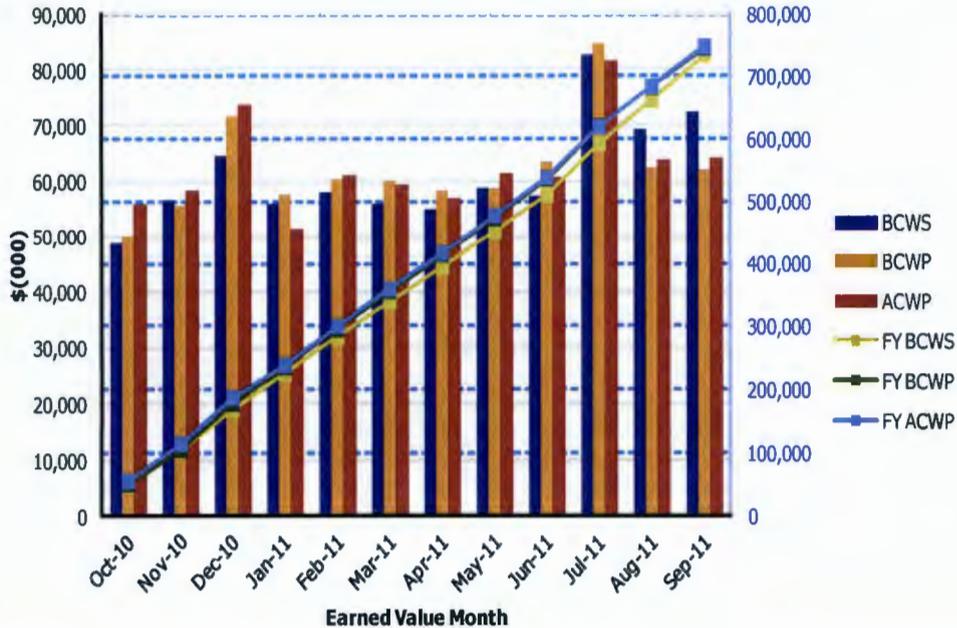
No significant issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$69,443	\$62,518	\$63,892	0.90	0.98	\$662,469	\$683,336	\$683,974	1.03	1.00
Sep 2011	\$72,253	\$62,071	\$64,022	0.86	0.97	\$734,722	\$745,407	\$747,996	1.01	1.00
PTD	\$6,463,748	\$6,480,955	\$6,506,025	1.00	1.00					

**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 Pretreatment (PT) Facility will separate radioactive tank waste into High Level Waste (HLW) and Low-Activity Waste (LAW) fractions and transfer each waste type to the respective vitrification facility for immobilization. Through September 2011, the PT Facility is 50 percent complete overall, with engineering design 78 percent complete, procurement 47 percent complete, and construction 39 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 56ft to 98ft elevations. Construction completions for October include placement of six 5<sup>th</sup> lift (77ft to 98ft elevation) walls (total of 970 CY), and placement of a mud mat (80 CY) and the Plant Wash & Disposal system encasement (22 CY) for the Control Building.

On-going work includes installation of rebar for the Control Building basemat, fabrication of piping modules, installation of drain piping, service air piping, cable trays and supports, ductwork, conduit, wall liner plates, and sparge tubing in the hot cell, and structural steel at the 77ft elevation.

Engineering continues to implement changes from the technical issue resolutions into Piping and Instrumentation Diagrams (P&ID) and piping isometric drawings (issued 309). Engineering has issued re-committed P&IDs for the Radioactive Liquid Waste Disposal (RLD) and Steam Condensate Water (SCW) systems, and completed re-analysis of the Lag Storage and Feed Blending Process (HLP) vessel HLP-28.

Awards were made for the Resin Testing, Aerosol Testing, and fabrication of the High Efficiency Mist Eliminator (HEME). The report for TPA Milestone M-62-49 certifying WTP design meets the mission need has been delivered to Ecology on October 27, 2011, ahead of the milestone completion date of October 31, 2011.

An updated detailed execution plan for the design, procurement and installation of liner plates, jumper frames and equipment pads has been developed for the hot cell. Informational tests for the adequacy of Pulse Jet Mixers (PJM) with various firing sequences and pump-out configurations have been completed to understand the impacts of those changes. A number of tests have yielded positive results for mixing. These tests will be further validated by NQA-1 tests in the 4ft, 8ft and 14ft vessels. Contracts for the procurement and testing of these platforms have been awarded. A dedicated Integrated Project Team (IPT) has been formed to support the

resolution of the vessel mixing issue, and installation of vessels in the plant. The PJM design and control strategy document has been issued by BNI and sent out for the External Review Team (ERT) review.

PT critical paths primarily flows through the vessel HLP-22 installation. The next critical path flows through CXP vessel alterations, followed by the hot cell vertical pumps, integrated pump frames, and rigid electrical jumpers. The tertiary critical path flows through installation of HVAC PVV fans and blowers, followed by completion of the Filter Cave.

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

- Start modification of the on-site process vessels to accommodate design changes from the seismic criteria changes and process changes.
- Complete fabrication of 3 black cell vessels.
- Set in-place 2 piping modules (PA07 upper, PA01 lower) in the black cells.
- Fabrication and delivery of initial hot cell equipment frames.
- Perform Large Scale Integrated Testing (LSIT) in 4ft and 8ft vessels for resolving mixing issues.
- Complete 5<sup>th</sup> lift wall placements, eight 98ft slab placements, two 6<sup>th</sup> lift wall placements, and placements of the Control Building basemat.
- Set Hot Cell Vertical door drive mechanism replacement gearbox and switch.
- Complete removal of the vessel CXP-001 from the black cell in accordance with the modified CXP system design.
- Complete Verification and Validation (V&V) of quantitative risk analysis for Hydrogen in Piping and Ancillary Vessels (HPAV).
- Complete nineteen mechanical systems re-committed design packages.
- Complete erection of 4<sup>th</sup> tier structural steel (77ft to 98ft elevation).
- Obtain Ecology approval of the permit packages 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.
- Complete aerosol testing to determine entrainment coefficient for the PVV system

**Issues:**

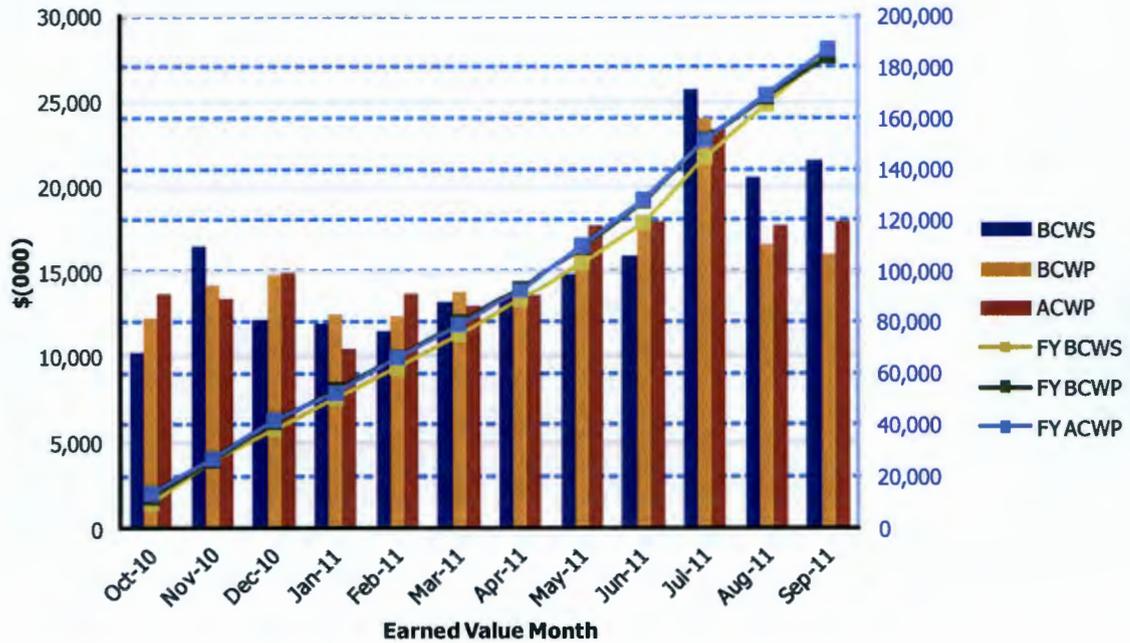
- **Vessel Critical Path:** An issue with the seismic supports of vessel HLP-22 has prompted a redesign of PJM mounting hardware and a rework of the seismic analysis, which impacts critical path by an estimated 7-8 weeks. BNI is applying focused management attention to meet the schedule, and will be looking at ways to mitigate the slip in the construction portion of the schedule.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$20,509	\$16,619	\$17,678	0.81	0.94	\$165,497	\$168,398	\$169,215	1.02	1.00
Sep 2011	\$21,485	\$16,059	\$17,920	0.75	0.90	\$186,982	\$184,457	\$187,135	0.99	0.99
PTD	\$1,243,173	\$1,249,496	\$1,220,615	1.01	1.02					

**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 High Level Waste (HLW) Facility will receive the separated high-level waste from the Pretreatment (PT) Facility. The concentrate is blended with glass formers and converted into molten glass in one of the two HLW melter 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 56 percent complete overall, with engineering design 86 percent complete, procurement 71 percent complete, and construction 36 percent complete.

**Significant Past Accomplishments:**

The build-out of the Filter Cave remains critical path for HLW. The five C5V filter housings were set in September, with eight of the twenty dampers installed this month. Two HLW Melter Offgas (HOP) and two Pulse Jet Ventilation (PJV) housings were also set into the filter cave. The final two HOP housings will be the final units installed in mid-November. Fabrication and installation of the transition spool pieces began in October. Sixteen of the twenty C5V dampers have completed fabrication at the vendor in Switzerland and have either been received or are in transit. The last four C5V dampers have been shipped from Switzerland. With the completion of the C5V dampers, the vendor will continue with fabrication of the PJV System and followed by the HOP System remote-operated dampers. The schedule for equipment installations and deliveries is being maintained and will support a completion of the Filter Cave build-out in May 2012.

Five concrete placements (for a sum of 998 cubic yards) were completed in October. The subcontractor has completed the roof and the insulated siding on the HLW Annex several months ahead of schedule. Electrical and piping commodities are progressing throughout the -21ft, 0ft and 14ft elevation, including cooling water, cable trays and supports, and fire protection piping. Sub-Contractors are also continuing with applying special coatings, installing Heating, Ventilation, and Air Conditioning (HVAC), fire protection piping, and liner plate installations.

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

- Complete siding of HLW Annex.
- C5V housing and remote-operated damper installations.
- Receive Melter Feed Preparation vessel.
- Receive Plant Wash and Drains vessel (RLD-VSL-8).

**Issues:**

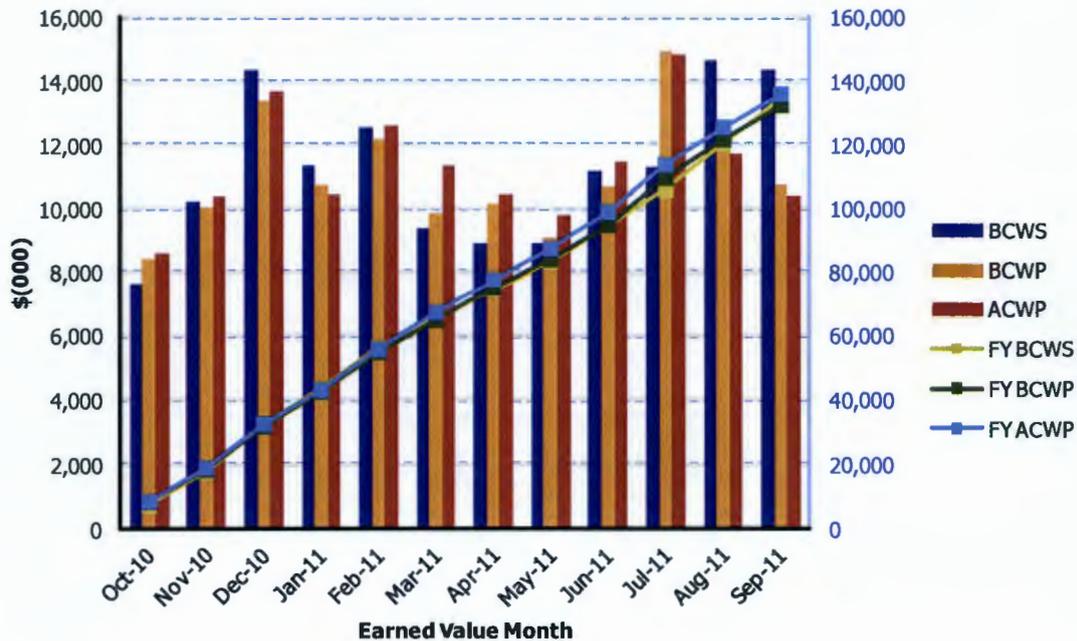
No significant issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$14,636	\$12,025	\$11,708	0.82	1.03	\$120,527	\$121,609	\$125,536	1.01	0.97
Sep 2011	\$14,339	\$10,792	\$10,394	0.75	1.04	\$134,866	\$132,401	\$135,930	0.98	0.97
PTD	\$829,494	\$831,625	\$825,057	1.00	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 Low-Activity Waste (LAW) Facility will vitrify LAW from the Pretreatment (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, with engineering design 88 percent complete, procurement 86 percent complete, and construction 65 percent complete.

**Significant Past Accomplishments:**

Mechanical systems design for the LAW facility is substantially complete. Electrical systems design continues in support of all equipment, controls, and lighting throughout the facility. For example, several electrical panel schedules were issued for the Low-Voltage Electrical (LVE) and Uninterruptible Power Electrical (UPE) systems. Engineering review of vendor calculations and interactions continues as a major emphasis during the ongoing procurement of Secondary Off-Gas/Vessel Vent Process (LVP) system components. For example, this month BNI Engineering issued several confirmed calculations including, *LAW Activated Carbon Bed Operation Conditions and Process Design Requirements*, *LAW Caustic Scrubber Process Operating Conditions and Design Requirements*, and *LAW Catalytic Oxidizer/Reducer Skid Inlet Operating Conditions and Design Requirements*, each for the LVP system, as well as *Overflow Drain Line Sizing* for the Primary Off-Gas Process (LOP) system and *Calculation for Evaluation of Off-Gas System in Case of Leakage in the LOP & LVP Vacuum Section*. Pipe support and piping isometric drawings were issued for the Radioactive Liquid Waste Disposal (RLD), Carbon Dioxide Gas (CDG), LAW Melter Feed Process (LFP), LAW Melter Process (LMP), LAW Primary Off-Gas Process (LOP), and Plant Service Air (PSA) systems.

Procurement activities for the LAW facility are currently focused on the LVP system components. The BNI/vendor interactions progressed well through the month. The first of these secondary off-gas treatment system components to be delivered will be the Carbon Bed Adsorber (CBA), which is currently expected by late November.

The primary areas of construction focus currently are facility partition wall installation and equipment installation for the Container Finishing Handling (LFH) system. Construction activities initiated this month included installation of the hoist for the Container Pour Handling (LPH) system and decontamination turntables for the LFH system. Installation was completed on the bogie recovery equipment for the LPH system and on the inert fill hoppers and drop lines for the LFH system; other normal construction activities continued with installation of the fire alarm system, Medium-Voltage Electrical (MVE) equipment, Low-Voltage Electrical (LVE) equipment, hoist for the LPH system, cranes for the Melter Equipment Support Handling (LSH) system, and south finishing line mono-rail hoist and dual-rail hoist for the LFH system.

Integrated Control Network (ICN) development continued with software design and testing for the following systems:

- Melter Feed Process (LFP)
- Melter Process (LMP)

The LMP (LAW Melter Process) System Software Acceptance Test Report was issued.

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

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

**Issues:**

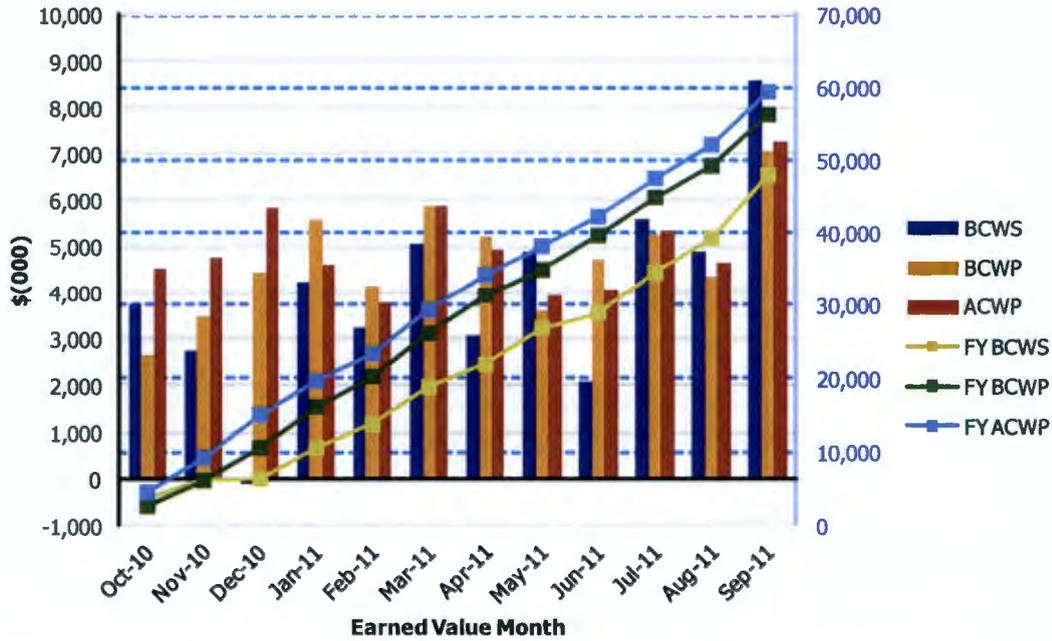
No major issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$4,870	\$4,353	\$4,615	0.89	0.94	\$39,410	\$49,265	\$52,163	1.25	0.94
Sep 2011	\$8,570	\$7,059	\$7,277	0.82	0.97	\$47,980	\$56,324	\$59,440	1.17	0.95
PTD	\$636,584	\$637,262	\$682,535	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 Analytical Laboratory (LAB) will support the Hanford Tank Waste Treatment and Immobilization (WTP) operations by analyzing feed, vitrified waste, and effluent streams. The LAB is 48 percent complete overall, with engineering design 78 percent complete, procurement 74 percent complete, and construction 68 percent complete.

**Significant Past Accomplishments:**

Efforts at the LAB are focused on the successful completion of the LAB Construction Substantially Complete Milestone in December 2012. Installation of partition walls is currently in progress. Installation of these walls defines individual work spaces and allows for easier visualization of the final product. Currently efforts are focused on the radiological laboratory area. BNI has refined the specifications for the fume hoods in these areas based on the processes that will be carried out by the technicians working in the LAB. In an effort to ensure personnel are appropriately qualified and trained once the LAB becomes operational, BNI has begun development of job descriptions for laboratory technicians.

In the last few months BNI has successfully resolved two daunting technical challenges in LAB. The first is the completion of the fireproofing slab in the C5 area, which prevented the installation of a new roof to meet fire safety concerns. The second is the remote maintenance of Radioactive Liquid Waste (RLD) valves in the C5 pit, which will reduce worker exposure during maintenance operations.

The LAB will typically receive samples from the other facilities via the autosampling system. Installation and testing of this system is currently in progress within LAB. Once the samples have arrived within LAB they will be analyzed for an array of different chemical and radiological properties. There is currently an evaluation in progress to determine if there are any gaps with regard to the required analyses and technology available for analysis.

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

- Install Autosampler HEPA filter housings frames.
- Complete installation of Autosampler System.
- Install can crusher
- Set pumps in C5 pit
- Install Hot Cell import/export motors

**Issues:**

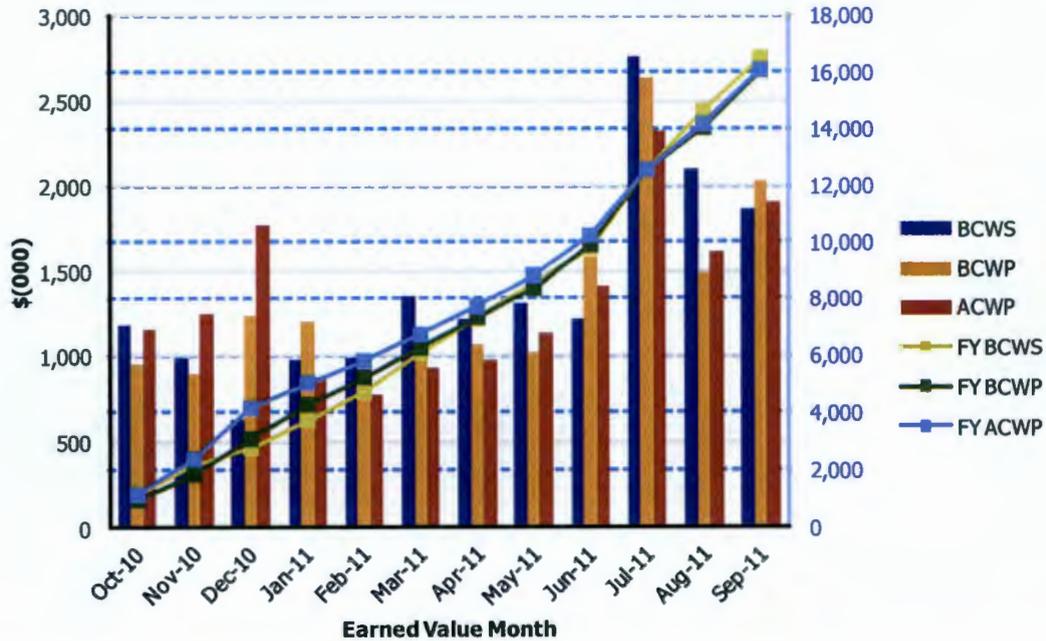
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$2,093	\$1,489	\$1,611	0.71	0.92	\$14,658	\$14,048	\$14,184	0.96	0.99
Sep 2011	\$1,867	\$2,035	\$1,907	1.09	1.07	\$16,525	\$16,083	\$16,091	0.97	1.00
PTD	\$169,802	\$168,469	\$180,769	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

The Balance of Facilities (BOF) provides services and utilities to support operation of the main production facilities – PT, HLW, LAW, and LAB. The BOF is 47 percent complete overall, with engineering design 69 percent complete, procurement 47 percent complete, and construction 62 percent complete.

**Significant Past Accomplishments:**

Construction efforts for the BOF facilities are focused on supporting turnover of the first facility in 2012, and numerous other facilities in 2013. The framework and precedence for facility turnover will be established following completion of the Switchgear Building (B87). In addition, to preparing for the turnover of the first facility, BNI is developing alternate plans for a temporary control room until the LAW control room becomes operational.

The selection of an Emergency Turbine Generator (ETG) manufacturer was a major stepping stone in the transition from an emergency diesel generator to an ETG. The challenging work continues with ensuring that the BNI and the ETG vendor are in alignment with the required performance of the ETG.

BNI continues to address all safety related concerns as they arise, and is in the final stages of a response to a letter issued by the Defense Nuclear Facilities Safety Board (DNFSB) with regard to the anhydrous ammonia system.

**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:**

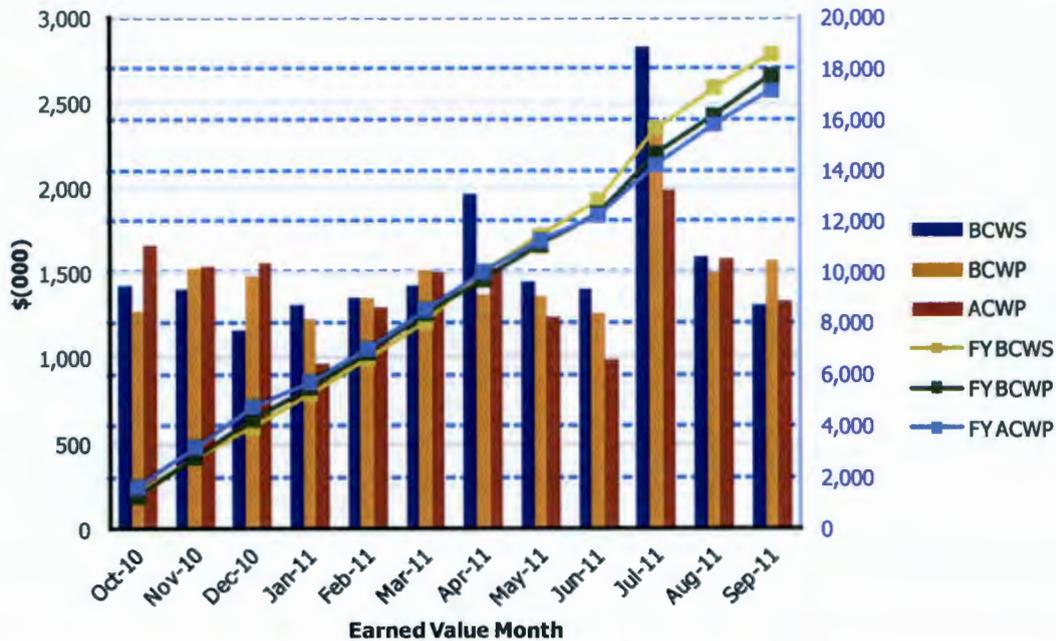
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: September 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	\$1,594	\$1,501	\$1,586	0.94	0.95	\$17,276	\$16,171	\$15,821	0.94	1.02
Sep 2011	\$1,300	\$1,575	\$1,321	1.21	1.19	\$18,576	\$17,746	\$17,142	0.96	1.04
PTD	\$253,843	\$252,112	\$249,056	0.99	1.01					

**Waste Treatment Plant Project - Percent Complete Status  
Through September 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
Low-Activity Waste	959.3	637.3	66%	231.2	203.7	88%	238.0	204.0	86%	342.0	223.1	65%	148.1	6.4	4%
Analytical Lab	350.6	168.5	48%	55.3	43.1	78%	56.2	41.8	74%	104.0	71.0	68%	135.2	12.3	9%
Balance of Facilities	535.7	252.1	47%	90.1	61.8	69%	80.9	37.7	47%	228.6	142.5	62%	136.1	10.2	7%
High-Level Waste	1,493.6	831.6	56%	345.9	296.0	86%	455.7	322.2	71%	574.3	208.9	36%	117.8	4.5	4%
Pretreatment	2,509.5	1,249.5	50%	710.3	553.4	78%	715.8	337.1	47%	900.9	352.9	39%	182.6	6.1	3%
Shared Services	4,715.6	3,342.0	71%	1,026.5	900.4	88%	467.6	369.3	79%	1,421.9	1,054.2	74%	455.8	118.3	26%
Total WTP w/o UB	10,564.4	6,481.0	61%	2,459.2	2,058.5	84%	2,014.0	1,312.1	65%	3,571.7	2,052.7	57%	1,175.6	157.7	13%
Undistributed Budget	0.0	n/a	n/a	n/a	n/a	n/a									
Total WTP	10,564.4	6,481.0	61%	2,459.2	2,058.5	84%	2,014.0	1,312.1	65%	3,571.7	2,052.7	57%	1,175.6	157.7	13%

Source: WTP Contract Performance Report - Format 1, Data for September 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.