

**FINAL**

Office of River Protection  
Consent Decree 08-5085-FVS

Project Summary Report

May 19, 2011

## Office of River Protection

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## Project Summary Report

May 19, 2011

8:30 a.m. – 11:00 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 - TWRWP Status	Chris Kemp / Jeff Lyon
8	WTP - Immobilization Plant Project - D-00A-06, D-00A-17, D-00A-01	Wahed Abdul / Jeff Trent / 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	Jason Young / Dan McDonald
15	Low-Activity Waste (LAW) Facility - D-00A-07, -08, -09	Gary Olsen / Dan McDonald
17	Analytical Laboratory (LAB) - D-00A-005	
19	Balance of Facilities (BOF) - D-00A-12	

**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		X									
**D-00C-02H	Submit to Ecology and Oregon Monthly Summary Reports	06/30/11		X									

\*\* Future Monthly Reports will be added as necessary to maintain a two-months ahead activity.

<b>Fiscal Year 2011 Consent Decree Milestone Status</b>
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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-01C	Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period	07/31/11		X									

**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.

**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 on December 13, 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 March 9, 2011. Further discussions are being planned. See discussion under "Issues" below.

**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 at C-104 using modified sluicing process.
2. Continued C-107 electrical upgrades and control trailer installation.
3. Continued construction activities for C-108 equipment installation for Hard Heel Removal.
4. Completed acceptance testing of the C-107 MARS arm.
5. Initiated installation of the MARS arm equipment in C Farm at C-107.
6. Completed retrieving the C-109 heel samples.
7. Continued design activities for C-112 sluicing system.
8. Initiated removal of legacy equipment at C-112.
9. Continued testing of a MARS sluice educator system at Columbia Energy in Pasco.

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

1. Complete the C-101 design, initiate long lead procurements and initiate legacy equipment removals.
2. Complete C-104 retrieval.
3. Complete construction/installation of MARs at C-107.
4. Complete startup of C-107 MARS retrieval.

5. Initiate construction of C-108 hard heel retrieval system, and start up of retrieval activities.
6. Replace the AN-106 supernatant pump to support C-108 and C-107 retrievals.
7. Complete C-112 design, initiate long lead procurements and initiate legacy equipment removals.
8. Finish testing of the MARS with the vacuum educator.

**Issues:**

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

ORP and Ecology began meeting on December 13, 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 March 9, 2011. Further discussions are being planned.

C-106 Closure Plan approval and SST radiological Categorical Notice of Construction (NOC) Phase 3 (closure) and a toxics categorical NOC application are pending completion of the Tank Closure and Waste Management Environmental Impact Statement (EIS) and associated Record of Decision (ROD); forecast completion for the final EIS ROD is in the winter of 2011.

## TWRWP Status

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

### Issues:

- Ecology requested a schedule for any future TWRWP changes.
- DOE wants to issue a revised Tank Retrieval Technology Roadmap Document and ORP want to resolve 1<sup>st</sup> and 2<sup>nd</sup> technology discussion.
- ORP wants to reopen discussion on end of retrieval discussions that include cost benefit analysis and how the finish of a retrieval decision occurs.

## **Hanford Waste Treatment and Immobilization Plant (WTP) Project**

**D-00A-06, Complete Methods Validations**, Due: 12/31/2017, Status: On Schedule

**D-00A-17, Hot Start of Waste Treatment Plant**, Due: 12/31/2019, Status: On Schedule

**D-00A-01, Achieve Initial Plant Operations for WTP**, Due: 12/31/2022, Status: On Schedule

There are about 3,284 FTE equivalent contractor [Bechtel National Inc. (BNI)] and subcontractor personnel working on the WTP Project, including 1,125 craft, 579 non-manual, and about 187 subcontractor personnel FTE equivalents working at the WTP construction site (all facilities). Overall project percent complete through March 2011 is 58%, design and engineering is 81% complete, procurement is 61% complete, construction is 54% complete and Start-Up and Commissioning is 12% complete.

The overall WTP Project Schedule Variance (SV) in March was a positive \$4.0M, the Cost Variance (CV) was a positive \$0.7M. The positive cost variance was due to Research and Technology and Commissioning control accounts and the schedule variances came primarily from the Plant Equipment and Commissioning control accounts.

Following is the status through the end of March for current project issues:

### **Significant Past Accomplishments:**

- Revised Project Execution Plan sent to HQ first week of March

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

- Complete analytical results from the Low Order Accumulation Model (LOAM) validation testing for the non-Newtonian vessel configuration
- Comment with Large Scale Integrated Testing
- Erection of PT 4<sup>th</sup> tier structural steel (77ft to 98ft elevation)
- Commence Siding and Roofing of HLW Annex
- Complete vendor fabrication of the LAW Carbon Bed Adsorber (CBA)
- Complete the BOF water treatment facility

### **Issues:**

No significant issues at this time.

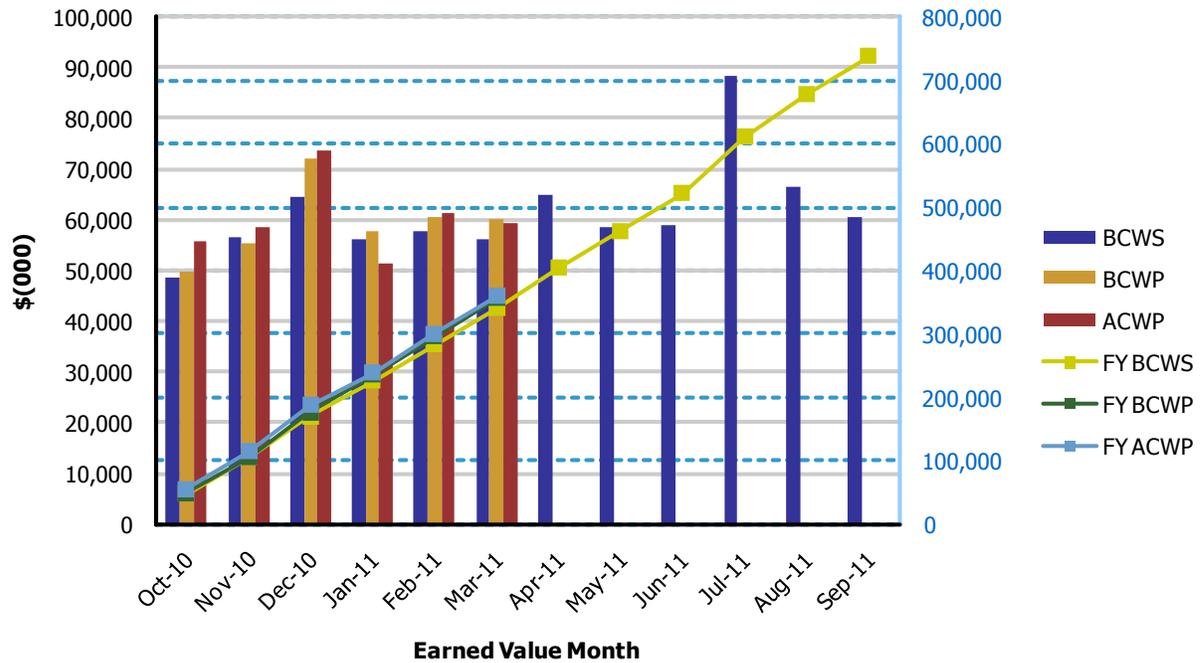
WTP – Fiscal Year To-Date Performance

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$64,783					\$404,412				
May 2011	\$58,696					\$463,108				
Jun 2011	\$59,092					\$522,200				
Jul 2011	\$88,480					\$610,680				
Aug 2011	\$66,582					\$677,262				
Sep 2011	\$60,343					\$737,605				
PTD	\$6,066,979	\$6,091,039	\$6,117,829	1.00	1.00					

## Pretreatment (PT) Facility

**D-00A-19, Complete Elevation 98' Concrete Floor Slab in PT Facility, Due: 12/31/2014, Status: On Schedule**

**D-00A-13, Complete Installation of Pretreatment Feed Separation Vessels, Due: 12/31/2015, Status: On Schedule**

**D-00A-14, PT Facility Construction Substantially Complete, Due: 12/31/2017, Status: On Schedule**

**D-00A-15, Start PT Facility Cold Commissioning, Due: 12/31/2018, Status: On Schedule**

**D-00A-16, PT Facility Hot Commissioning Complete, Due: 12/31/2019, Status: On Schedule**

### Significant Past Accomplishments:

The 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 April 2011, overall facility percent complete is 46%, engineering is 77% complete, procurement is 43% complete, and construction is 35% complete.

In April, overall construction continues to perform well. 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 April include placement of three 5<sup>th</sup> lift (77ft to 98ft elevation) walls for 356 CY.

On-going work includes fabrication of piping modules, installation of drain piping, service air piping, cable trays and supports, ductwork, and sparge tubing in the hot cell.

The permitting strategy for the on-site vessels modifications has been developed jointly with Ecology. The permitting strategy for the off-site vessels modifications has been agreed upon with Ecology, and is in the process of being finalized. Engineering continues to implement changes from the technical issue resolutions into Piping and Instrumentation Design (P&ID) and piping isometric drawings. PT engineering issued 52 piping isometric drawings and equipment lists for the Pretreatment Filter Cave Handling (PFH), Pretreatment In-cell Handling (PIH), Pulse Jet Ventilation (PJV), and Treated LAW Evaporation Process (TLP) systems, as well as issuing 57 hanger drawings, 20 utility rack electrical diagrams, and 35 circuits on consolidated block diagrams. Approved Request for Technology Development (RTD) for fire testing of ion exchange column resin for the Cesium Ion Exchange Process (CXP) system in support of the Pretreatment Vessel Vent Process (PVP)/Process Vessel Vent Exhaust (PVV) systems issue resolution.

Thirty jet pump pairs, six flow-indicator rotameters, and four decontamination heating deductors for the PIH system are ready for shipping. Procurement issued material requisitions for quote on plant wash, fluidic, and utility racks, and the vessel vent carbon bed absorber.

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

- Complete analytical results from the Low Order Accumulation Model (LOAM) validation testing for the non-Newtonian vessel configuration
- Complete planning and initiate fabrication and testing for the Large Scale testing for the validation of vessel mixing
- Issue the revised P&ID's for the PVP system and the PVV system

- Complete placement of one 56-ft elevation slab, completion of the basemat slab, two 4<sup>th</sup> lift (56ft to 77ft) walls, twenty seven 5<sup>th</sup> lift walls, one 98ft slab, and initial placements of the Control Building slab, totaling approximately 4,314 CY
- Complete erection of 4<sup>th</sup> tier structural steel (77ft to 98ft elevation)
- Award contract for High Efficiency Mist Eliminator (HEME)
- Award contract for on-site vessel modifications

**Issues:**

- **Vessel Critical Path:** Fabrication of vessel HLP-22 continues to be the critical path for the PT Facility. The fabrication of the vessel is in progress and on track to complete as planned by October 2012. Efforts are also ongoing for the analysis of the on-site vessels in order to support the vessel modifications. Initial site work and pre-modification preparation work has begun. Schedules for the vessel modifications and permit needs have been provided to Ecology. The current plan is to award the first set of vessels modifications in June 2011. Ecology authorization is required to proceed with the vessel alteration for Waste Feed Receipt Process (FRP) vessels 2A/B/C/D. Ecology is being briefed routinely on the status of vessel design, fabrication and permitting schedule, due to the critical nature of this activity.
- **LOAM Test Results:** The physical benchmark testing of the LOAM for application to the 5 non-Newtonian vessels is complete. The test report has been issued for DOE review, and scheduled to be finalized on May 20, 2011.
- **PVP/PVV System Upgrades:** The PVP/PVV systems were upgraded from passive to active safety systems to maintain negative pressure during all normal, off-normal, and Design Basis Earthquake (DBE) conditions. Changes in the requirement of the Entrainment factor, the postulated aerosol loading was increased by several orders of magnitude. This affected PVP/PVVs ability to meet functional requirements during off-normal condition. The execution strategy issued identifies the following actions to ensure that the system design meets the functional criteria:
  1. Develop an improved aerosol model based on testing that is aligned with the physical plant configuration. Preliminary indications are that this would lower the aerosol loading significantly.
    - a. Draft aerosol testing strategy has been issued.
  2. Evaluate alternative operating scenarios to reduce aerosol generation.

Procure the long-lead equipment (Scrubber and HEME) as SC-1 to mitigate schedule constraint.

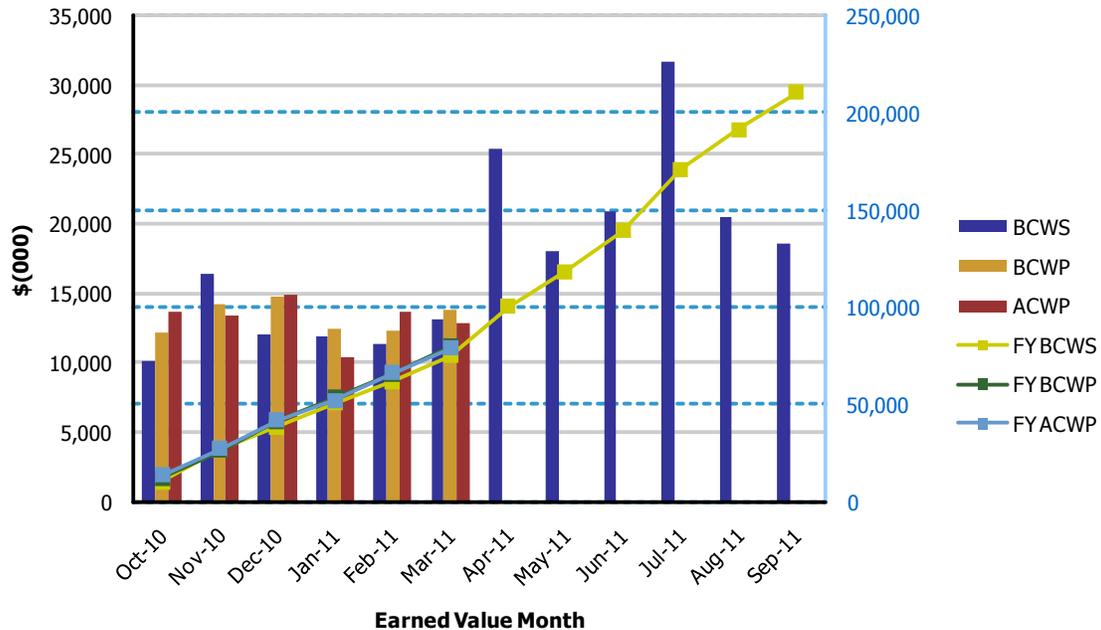
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$25,435					\$100,628				
May 2011	\$17,988					\$118,615				
Jun 2011	\$20,895					\$139,511				
Jul 2011	\$31,672					\$171,182				
Aug 2011	\$20,486					\$191,668				
Sep 2011	\$18,585					\$210,253				

PTD	\$1,131,097	\$1,144,894	\$1,112,457	1.01	1.03
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## High-Level Waste (HLW) Facility

**D-00A-21, Complete Construction of Structural Steel to 37' in HLW Facility, Due:** 12/31/2012, Status: On Schedule

**D-00A-02, HLW Facility Construction Substantially Complete, Due:** 12/31/2016, Status: On Schedule

**D-00A-03, Start HLW Facility Cold Commissioning, Due:** 6/30/201, Status: On Schedule

**D-00A-04, HLW Facility Hot Commissioning Complete, Due:** 12/31/2019, Status: On Schedule

The 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 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 53% complete overall, with engineering design 86% complete, procurement 65% complete, and construction 33% complete.

### Significant Past Accomplishments:

The majority of HLW Filter Cave activities have transitioned from procurement to the installation phase. Installation of the C5V supply header and exhaust headers are finishing, and work will begin on the vertical risers. Additional activities include the installation of support steel to the +8ft elevation and layout of large-bore piping by direct-hire craft. Installation of steel and piping will continue to the +14ft elevation to coordinate with upcoming filter housing installations.

Fabrication of the final C5V filter housing is complete, and vendor efforts are focused on the HOP and PJV filter housings to support the HLW schedule. Filter housings and dampers will be installed sequentially starting from the outermost units and working in towards the center of the Filter Cave starting with the first C5V filter housing in mid-August. All of the C5V housing and remote-operated damper installations are scheduled for completion in December 2011. The remaining piping and installation of plate steel decking will be complete in April 2012.

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

- Receive Canister Decontamination Vessels and Canister Rinse Vessel
- Set Shielded Personnel Access Door RWH-DOOR-20 in the Waste Drum Swabbing and Monitoring Area
- Complete Fabrication and Delivery of C5V Dampers
- Complete Siding of Annex
- Receipt of Melter Cave 1 and 2 Feed and Feed Prep vessels

### Issues:

The fabrication and delivery of HLW vessels is being monitored closely due to long lead times and construction acceleration. Vessel status and progress is reported weekly to ensure completion and delivery prior to the scheduled installation dates.

Unit Rates for commodity installation are below expectations resulting in reduced cost performance. Performance Improvement Plans are being developed to improve communications and efficiency throughout engineering, procurement and construction.

Weld quality issues with the C5V Supply and Exhaust Header supports (i.e., saddles) required temporary repositioning of the 60" Exhaust header in the filter cave to support repair and re-examination. However, the project remains on schedule with no impact to the HLW critical path.

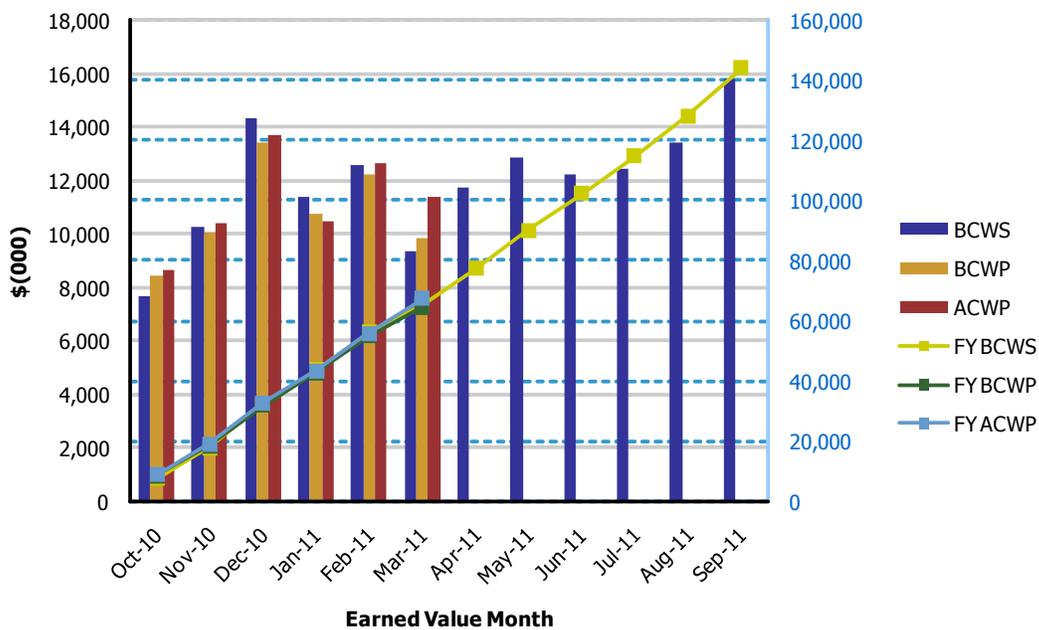
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$11,756					\$77,298				
May 2011	\$12,848					\$90,146				
Jun 2011	\$12,220					\$102,366				
Jul 2011	\$12,471					\$114,836				
Aug 2011	\$13,392					\$128,228				
Sep 2011	\$15,817					\$144,045				
PTD	\$759,962	\$763,904	\$756,353	1.01	1.01					

## Low-Activity Waste (LAW) Facility

**D-00A-07, LAW Facility Construction Substantially Complete**, Due: 12/31/2014, Status: On Schedule

**D-00A-08, Start LAW Facility Cold Commissioning**, Due: 12/31/2018, Status: On Schedule

**D-00A-09, LAW Facility Hot Commissioning Complete**, Due: 12/31/2019, Status: On Schedule

### Significant Past Accomplishments:

The LAW Facility will vitrify low-activity waste from the PT Facility. Waste will be mixed with glass formers, vitrified into glass at an average daily rate of 30 metric tons, and placed in stainless-steel canisters that will be disposed on site in the Integrated Disposal Facility. Overall facility percent complete is 65%, engineering is 90% complete, procurement is 82% complete, and construction is 62% complete.

LAW secondary offgas treatment systems component procurement activities continued. Vendor activities are progressing as scheduled for all offgas system components with the exception of the carbon bed adsorber (see “issues” below). Other procurement activities included issuance of a material requisition for the purchase of jet-pump-pair mixers for the LAW feed preparation vessels and the release for shipment of a container decontamination refrigeration unit.

BNI completed installation of all the cooling panels in the pour caves that are essential to maintaining safe operating temperatures. Installation was completed also on the personnel elevator, the pour cave steel thresholds, the conduit in the LAW switchgear building, and an air handling unit on the top floor of the facility. Thermite welding of rails in the North finishing line continued, as well as installation of the ASX auto-sampling system, fire alarm system, Low-Voltage Electrical (LVE) system equipment, cask handling area door electrical components, container finishing line hoists, and stairs over the roof pipe rack. Other normal activities continued, including installation of piping for the Non-Radioactive Liquid Waste Disposal (NLD), Radioactive Liquid Waste Disposal (RLD), and plant cooling water systems within the LAW, as well as installation of cable tray, conduit and wiring, instrument enclosures, lighting fixtures, partition wall framing, gypsum wallboard, and coatings.

Integrated Control Network (ICN) development for LAW systems continued with software reviews related to the primary offgas process and container export handling systems. The radioactive liquid waste disposal system control software was accepted. Commissioning Operations personnel are working with BNI Engineering to resolve carbon bed adsorber guard bed life and media replacement safety concerns.

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

- Complete vendor fabrication of the Carbon Bed Adsorber (CBA)
- Complete installation of container handling line shield doors

### Issues:

Carbon Bed Adsorber fabrication difficulties have been encountered related to welding warpage. Additional Bechtel personnel have been deployed to the vendor facility including welding engineers to resolve the issue and maintain the current ship date of November 2011. Revision of

assembly techniques and attention to all aspects of quality control are in place to help ensure success and preserve the schedule.

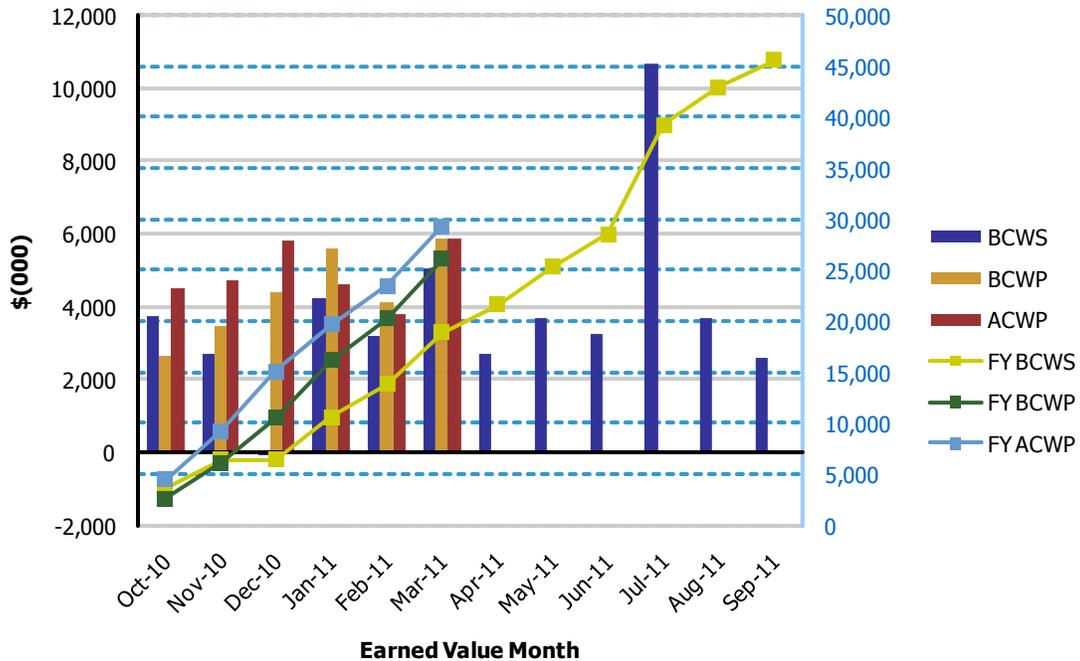
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$2,725					\$21,624				
May 2011	\$3,698					\$25,321				
Jun 2011	\$3,260					\$28,581				
Jul 2011	\$10,689					\$39,271				
Aug 2011	\$3,690					\$42,960				
Sep 2011	\$2,610					\$45,570				

PTD	\$607,369	\$607,090	\$652,423	1.00	0.93
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## Analytical Laboratory

**D-00A-05, LAB Construction Substantially Complete, Due: 12/31/2012, Status: On Schedule**

### **Significant Past Accomplishments:**

The LAB will support WTP operations by analyzing feed, vitrified waste, and effluent streams. Overall facility complete for LAB is 46%, engineering is 80% complete, procurement is 74% complete, and construction is 65% complete.

On-going construction work includes: the installation of piping in the C2V/C3V system pits, autosampler equipment above the hot cells, trolleys in the hot cells, bulk piping/hanger installation, and conduit in various planning areas. Construction completed installation of the grout covers in the area of the hot cells.

Engineering completed scoping of 15 medium-voltage electrical drawings, all mechanical handling, "M7", drawings for in-cell handling and radioactive solid waste handling, and system block diagram, "J1", drawings for all lab systems. Material requisitions for jet-pump-pair fluidic devices were issued.

As construction and engineering continue commissioning personnel are diligently working on procedure development for caustic and/or oxidative leach during the batch processing of the feed slurry, as well incorporating comments to the Waste Acceptance Criteria Data Quality Objective Report. The operations team is inquiring about the date the LAB will have its environmental permits to allow for methods validation. The operations staff accepted proposed vendor cost savings measures to replace drawer slides and counter top fixtures, other suggestions were either denied or referred to the design authority.

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

- Install fume hoods (Forecast July 2011)
- Install LAB waste drum bogie transfer port (Forecast June 2011)
- Install Autosampler HEPA filter housings (Forecast June 2011)
- Install hot cell monorail airlocks (Forecast August 2011)
- Complete installation of Autosampler System (Milestone date of October 2011)

### **Issues:**

No major issues.

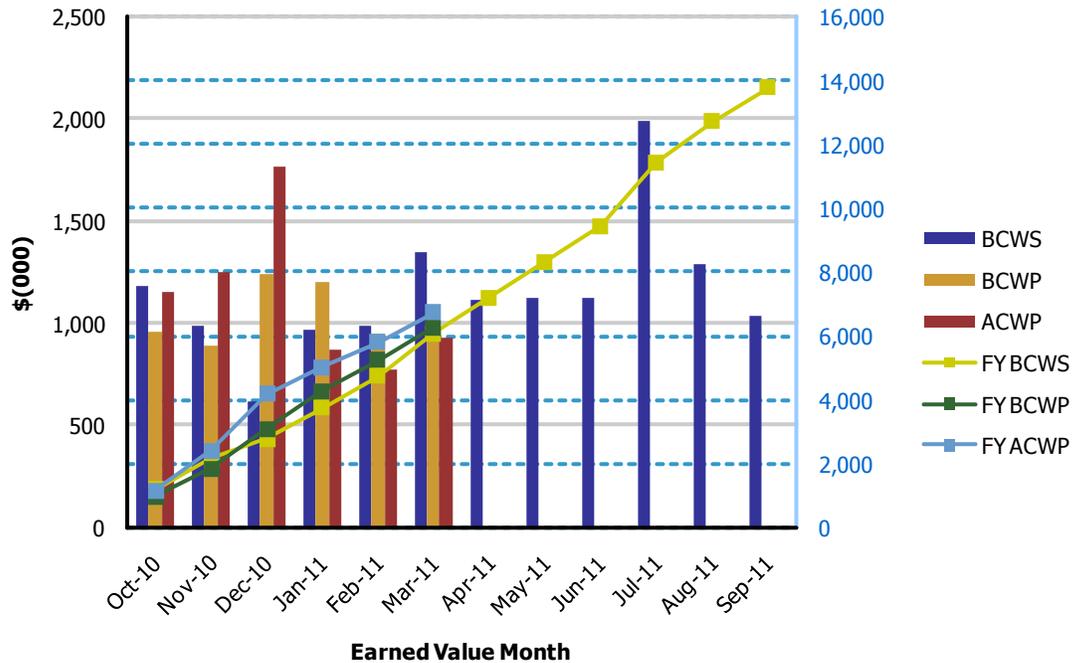
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$1,116					\$7,204				
May 2011	\$1,128					\$8,332				
Jun 2011	\$1,125					\$9,456				
Jul 2011	\$1,986					\$11,442				
Aug 2011	\$1,289					\$12,730				
Sep 2011	\$1,038					\$13,768				

PTD	\$159,302	\$158,655	\$171,407	1.00	0.93
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## **Balance of Facilities (BOF)**

**D-00A-12, Steam Plant Construction Complete, Due: 12/31/2012, Status: On Schedule**

### **Significant Past Accomplishments:**

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 46%, engineering is 77% complete, procurement is 46% complete, and construction is 60% complete.

Construction of BOF is progressing, and systems are being completed as demonstrated by the completion of the water treatment facility. Progress continues in the areas of plant service air for the glass former facility, fire detection equipment for the T-52 building, and cable, electrical terminations, and pressure safety valve instrumentation for the plant cooling water system in the chiller compressor plant.

The operations staff continues to evaluate facilities as they are constructed and turned over, and proposed a field change to add low point drains to the domestic water system, and concerns with the fact that the glass former facility does not have a redundant air dryer. They are also actively involved in evaluating the requirements of the emergency turbine generators.

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

- Complete construction of cooling tower (Forecast June 2011)
- Complete construction of fuel oil pumphouse (Forecast August 2011)
- Substantially complete construction of main switchgear building (Forecast June 2011)
- Complete construction of BOF switchgear building (Forecast July 2011)
- Install structural steel for anhydrous ammonia facility (Forecast August 2011)
- Emergency turbine generator supplier selection and notice to proceed (Forecast July 2011)
- Award hi-purity gas subcontract (Forecast May 2011)

### **Issues:**

- Welding of anhydrous ammonia vessel
- Evaluation, selection, and procurement of emergency turbine generator

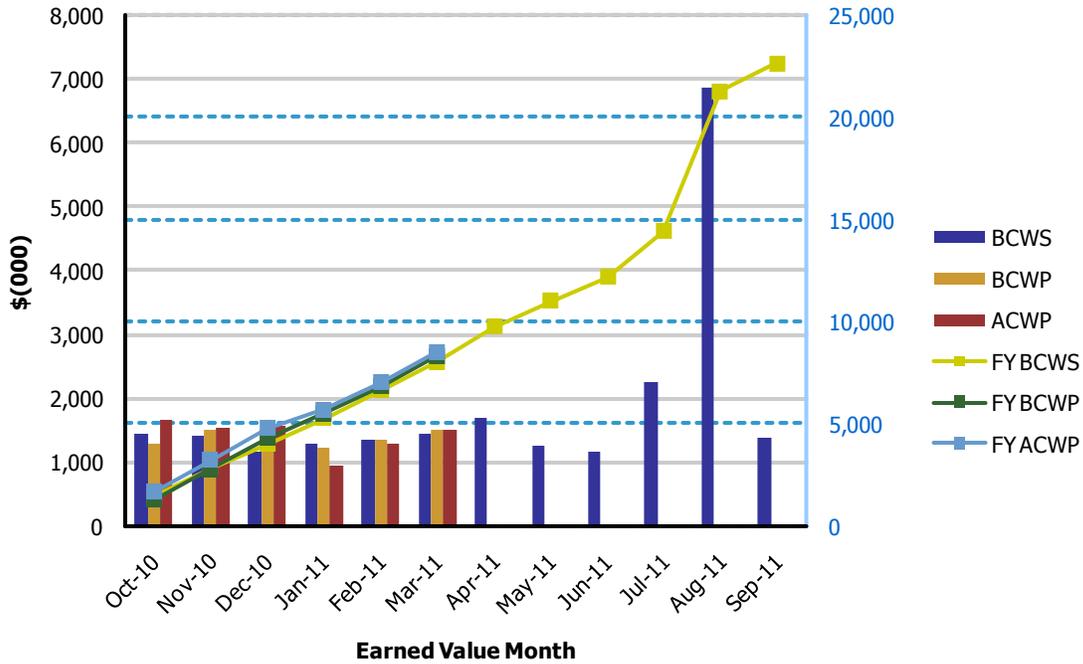
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: March 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	\$1,698					\$9,752				
May 2011	\$1,264					\$11,017				
Jun 2011	\$1,168					\$12,185				
Jul 2011	\$2,239					\$14,424				
Aug 2011	\$6,854					\$21,278				
Sep 2011	\$1,384					\$22,661				
PTD	\$243,248	\$242,721	\$240,425	1.00	1.01					

Waste Treatment Plant Project - Percent Complete Status Through March 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	941.0	607.1	65%	222.5	199.4	90%	235.1	193.0	82%	335.2	208.5	62%	148.1	6.2	4%
Analytical Lab	342.0	158.7	46%	52.2	42.0	80%	55.9	41.5	74%	98.7	63.6	65%	135.2	11.6	9%
Balance of Facilities	523.4	242.7	46%	77.2	59.6	77%	81.2	37.5	46%	228.8	137.2	60%	136.1	8.4	6%
High-Level Waste	1,450.9	763.9	53%	332.5	287.0	86%	450.3	291.0	65%	550.3	181.7	33%	117.8	4.2	4%
Pretreatment	2,465.3	1,144.9	46%	682.4	524.0	77%	708.5	304.7	43%	891.8	310.5	35%	182.6	5.7	3%
Shared Services	4,781.1	3,173.8	66%	1,092.9	872.2	80%	467.2	342.6	73%	1,421.0	1,002.1	71%	455.6	106.8	23%
<b>Total WTP w/o UB</b>	<b>10,503.6</b>	<b>6,091.0</b>	<b>58%</b>	<b>2,459.8</b>	<b>1,984.2</b>	<b>81%</b>	<b>1,998.3</b>	<b>1,210.2</b>	<b>61%</b>	<b>3,525.8</b>	<b>1,903.6</b>	<b>54%</b>	<b>1,175.4</b>	<b>142.9</b>	<b>12%</b>
Undistributed Budget	5.8	n/a	n/a	n/a	n/a	n/a									
<b>Total WTP</b>	<b>10,509.4</b>	<b>6,091.0</b>	<b>58%</b>	<b>2,459.8</b>	<b>1,984.2</b>	<b>81%</b>	<b>1,998.3</b>	<b>1,210.2</b>	<b>61%</b>	<b>3,525.8</b>	<b>1,903.6</b>	<b>54%</b>	<b>1,175.4</b>	<b>142.9</b>	<b>12%</b>

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

1

<sup>1</sup> Note: EVMS data is through March 2011.