

FINAL

Office of River Protection  
Consent Decree 08-5085-FVS

Project Summary Report

April 26, 2011

## Office of River Protection

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## Project Summary Report

April 26, 2011

9:00 a.m. – 12:00 p.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	Jeff Trent / Dan McDonald
15	Low-Activity Waste (LAW) Facility - D-00A-07, -08, -09	Gary Olsen / Dan McDonald
18	Analytical Laboratory (LAB) - D-00A-005	
21	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		X									
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:

- Restarted retrieval at C-104 using modified sluicing process.
- Operated hydraulic arm Articulating Mast System (AMS) in C-104 and moved the obstruction underneath slurry pump.
- Continued C-107 electrical upgrades and control trailer installation.
- Continued testing of the MARS sluicing system at Columbia Test Center (CTC) in Richland.
- Continued construction activities for C-108 equipment installation for Hard Heel Removal.
- Initiated design for C-110 Hard Heel Removal process.
- Continued design activities for C-112 sluicing system.
- Continued testing of a MARS sluice educator system at Columbia Energy in Pasco.

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

- Complete the C-101 design, initiate long lead procurements and initiate legacy equipment removals.
- Complete C-104 retrieval.
- Obtain C-109 heel samples.

- Complete acceptance testing of the C-107 MARS arm.
- Complete construction/installation of MARS at C-107.
- Complete startup of C-107 MARS retrieval.
- Initiate construction of C-108 hard heel retrieval system, and start up of retrieval activities.
- Replace the AN-106 supernatant pump to support C-108 and C-107 retrievals.
- Complete C-112 design, initiate long lead procurements and initiate legacy equipment removals.
- 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 2<sup>nd</sup> and 3<sup>rd</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 3,400 FTE equivalent contractor [Bechtel National Inc. (BNI)] and subcontractor personnel working on the WTP Project, including 1,178 craft, 556 non-manual, and about 178 subcontractor personnel FTE equivalents working at the WTP construction site (all facilities). Overall project percent complete through February 2011 is 57%, design and engineering is 80% complete, procurement is 60% complete and construction is 53% complete.

In February 2011, the facility percent complete values for Construction decreased. This decrease in values was tied to the incorporation of the final commodity changes included in the BNI Forecast Update Four EAC. This resulted in an increase in the facility construction budgets, which has correspondingly reduced the to-date percent complete values.

The overall WTP Project Schedule Variance (SV) in February was a positive \$1.8M, the Cost Variance (CV) was a positive (\$6.4M). Both the positive cost and schedule variances came primarily from the Construction and Plant Equipment control accounts.

Following is the status through the end of February 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:**

- There was a mini Construction Project Review in March 2011
- Complete analytical results from the Low Order Accumulation Model (LOAM) validation testing for the non-Newtonian vessel configuration
- 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

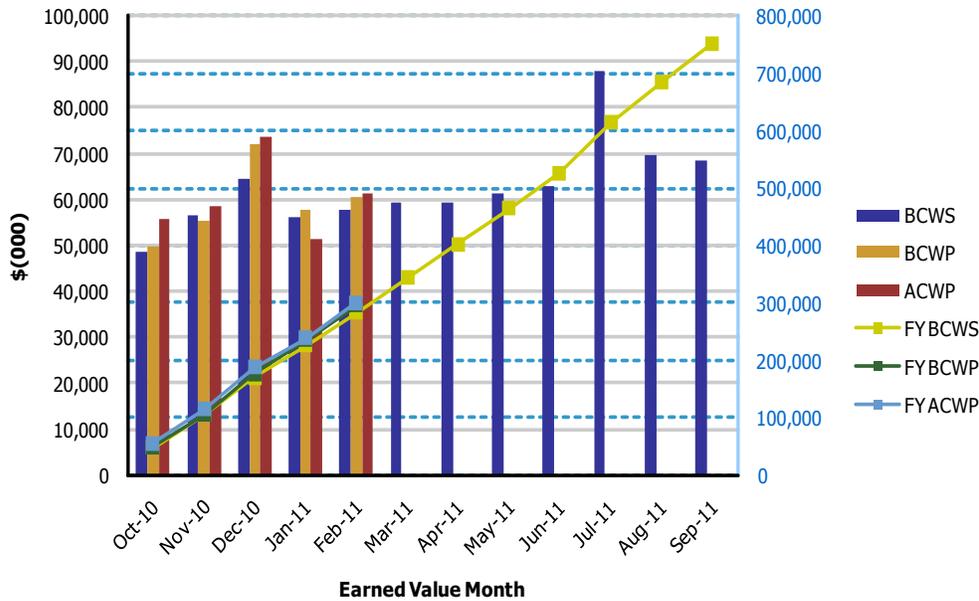
**EXC-01a: Fiscal Year Cost and Schedule Report**

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$48,551	\$49,961	\$55,881	1.03	0.89	\$48,551	\$49,961	\$55,881	1.03	0.89
Nov 2010	\$56,609	\$55,426	\$58,449	0.98	0.95	\$105,160	\$105,387	\$114,330	1.00	0.92
Dec 2010	\$64,534	\$71,853	\$73,609	1.11	0.98	\$169,694	\$177,240	\$187,939	1.04	0.94
Jan 2011	\$55,989	\$57,756	\$51,326	1.03	1.13	\$225,683	\$234,996	\$239,265	1.04	0.98
Feb 2011	\$57,941	\$60,463	\$61,199	1.04	0.99	\$283,624	\$295,459	\$300,464	1.04	0.98
Mar 2011	\$59,215					\$342,839				
Apr 2011	\$59,184					\$402,023				
May 2011	\$61,517					\$463,540				
Jun 2011	\$62,911					\$526,451				
Jul 2011	\$87,883					\$614,334				
Aug 2011	\$69,839					\$684,173				
Sep 2011	\$68,593					\$752,766				
PTD	\$6,010,970	\$6,031,008	\$6,058,494	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 March 2011, overall facility percent complete is 46%, engineering is 77% complete, procurement is 42% complete, and construction is 34% complete.

In March, 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 March include: placement of two 5<sup>th</sup> lift (77ft to 98ft elevation) walls for 247 CY.

On-going work includes: erection on the 4<sup>th</sup> tier structural steel on the northwest corner of the 77ft elevation; fabrication of piping modules; and installation of drain piping, service air piping, cable trays and supports, and ductwork.

Engineering continues to implement changes from the technical issue resolutions into Piping and Instrumentation Design (P&ID) and piping isometric drawings. PT engineering issued over 500 piping isometric drawings, two P&IDs for the Cesium Nitric Acid Recovery Process (CNP) system, and ten P&IDs for Plant Service Air (PSA) system racks associated with the Feed Evaporator Process (FEP) system. Analysis and design was completed for HLW Lag Storage and Feed Blending Process vessel HLP-22, and the Preliminary Coupled Dynamic Analysis for the Waste Feed (FEP) and Treated Law (TLP) evaporators was also completed – meeting two Contract fee milestones.

Material requisitions were issued for 4 Autosamplers and one mechanical agitator for a Cesium Resin Addition Process (CRP) system vessel. In addition, fabrication was completed on eight chilled water pumps, which were released to ship.

### 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 for the Large Scale testing for the validation of vessel mixing Scale-up

- Issue the revised design option and P&ID's for the Pretreatment Vessel Vent Process (PVP) system and the Process Vessel Vent (PVV) system
- Complete fabrication of four major Jumper frames
- Complete placement of one 56-ft elevation slab, completion of the basemat slab, three 4<sup>th</sup> lift (56ft to 77ft) walls, twenty-nine 5<sup>th</sup> lift walls, and initial placements of the Control Building slab, totaling approximately 5,200 CY
- 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
- Obtain Ecology authorization to proceed with the vessel alteration for Waste Feed Receipt Process (FRP) vessels 2A/B/C/D

**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. The permitting strategy for the on-site vessels to be modified has been developed jointly with Ecology. 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 by May 2011. Permitting strategy for the off-site vessel modifications are under discussions with Ecology for finalizing. 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 results of the testing are being evaluated to determine the validity of LOAM for the 5 non-Newtonian vessels.
- 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. As part of the changes from the Material-at-Risk (MAR) accident analysis, the postulated aerosol loading was increased by several orders of magnitude. This is affecting PVP/PVVs ability to meet functional requirements during off-normal condition. The WTP path forward is to perform the following evaluation to ensure that the system design meets the functional criteria:
  1. Develop an improved aerosol model based on testing that is more aligned with the physical plant configuration. Preliminary indications are that this would lower the aerosol loading significantly.
  2. Evaluate alternative operating scenarios to reduce aerosol generation.Execute performance testing for equipment currently in the system design to determine the full extent of their operating capability.

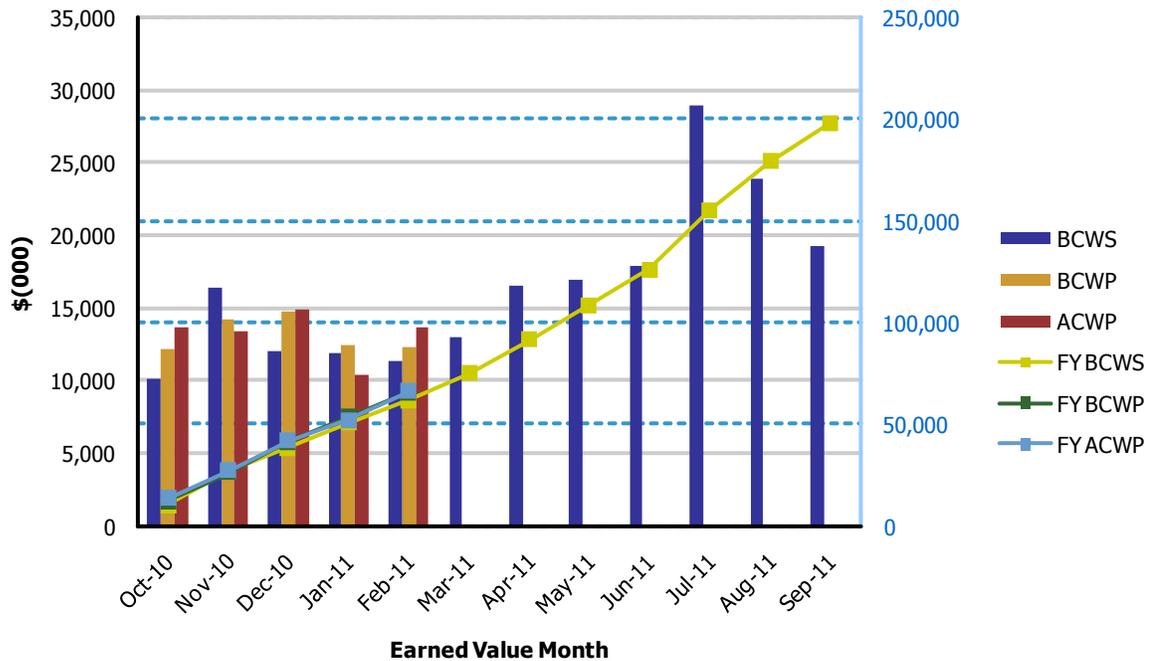
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$12,930					\$74,978				
Apr 2011	\$16,591					\$91,569				
May 2011	\$17,018					\$108,587				
Jun 2011	\$17,855					\$126,442				
Jul 2011	\$28,887					\$155,328				
Aug 2011	\$23,893					\$179,221				
Sep 2011	\$19,308					\$198,529				
PTD	\$1,117,952	\$1,131,084	\$1,099,538	1.01	1.03					

## High-Level Waste (HLW) Facility

BNI Engineering completed the Civil, Structural, and Architectural (CSA) Title II Design Complete Contract Milestone on February 17, 2011. This represents a definitive stage of design completion, signifying adequate maturity to support the specification, bidding, and procurement of all remaining CSA components. DOE-WTP reviewed the CSA design completion deliverables in accordance with the contract, and formally concurred on March 15, 2011.

The majority of HLW Filter Cave activities have transitioned from procurement to the installation phase. Installation of the C5V supply header is complete, and efforts continue on the exhaust header and vertical riser. Additional activities include the installation of support steel to the +8ft elevation and staging 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.

The first C5V filter housing is currently planned for installation in mid-June. Filter housings and dampers will be installed sequentially starting from the outermost units and working in towards the center of the Filter Cave. All of the housing and remote-operated damper installations are to be completed late November to early December 2011. The remaining piping and installation of plate steel decking will be completed in early April 2012.

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

- Receive Initial Delivery of C5V HEPA Filter Housings
- 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
- Commence Siding and Roofing of Annex

### Issues:

The limited number of pre-qualified ASME NQA-1 vendors and suppliers continues to cause difficulties in procuring nuclear-grade quality (i.e., "Q") instruments, components, and vessels. Delays to key Q deliveries have recently been experienced because of material supply issues that require special mill runs to resolve, Commercial-Grade-Dedication (CGD) implementation issues, and difficulties developing the commercial (CM) vendor quality programs to NQA-1 standards. These delays are requiring increased management focus and attention to maintain schedule. These delays have not yet affected the HLW critical path but the re-sequencing of work activities to coordinate with later-than-expected deliveries has negatively impacted performance and efficiency.

The fabrication and delivery of HLW vessels is also being monitored closely. Vessel status and progress is reported weekly to ensure completion and delivery prior to the scheduled installation dates.

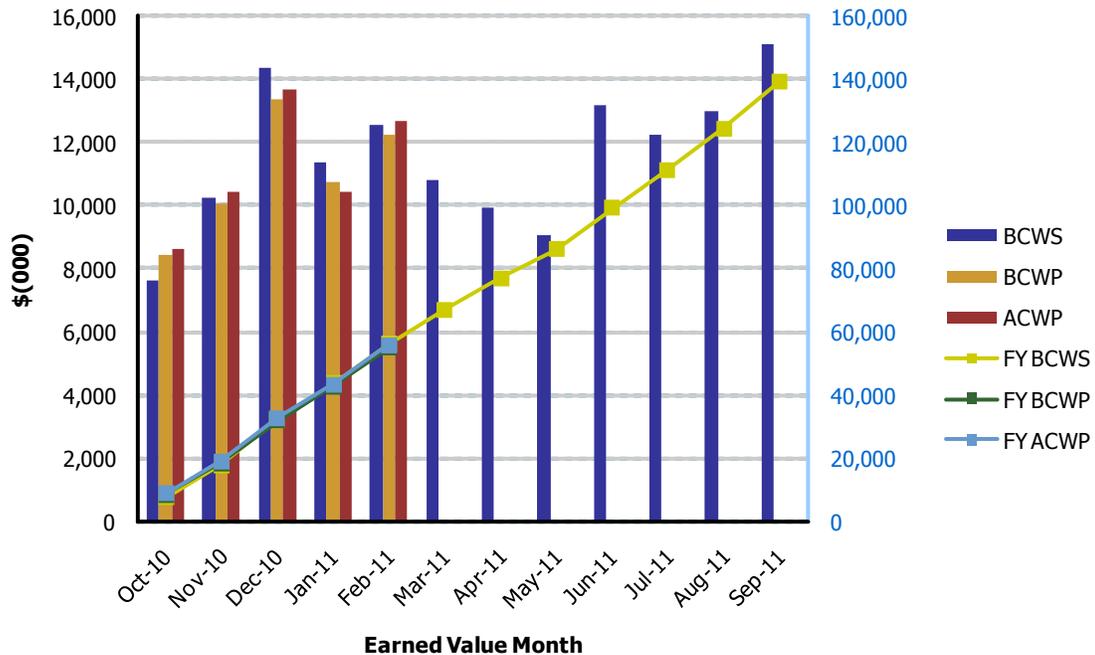
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$10,791					\$66,957				
Apr 2011	\$9,955					\$76,912				
May 2011	\$9,053					\$85,965				
Jun 2011	\$13,166					\$99,132				
Jul 2011	\$12,254					\$111,385				
Aug 2011	\$12,961					\$124,346				
Sep 2011	\$15,096					\$139,441				

PTD	\$750,586	\$754,045	\$744,986	1.00	1.01
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## 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 64%, engineering is 89%, procurement is 83%, and construction is 62%.

In December 2010, the facility percent complete values for Design/Engineering and Construction decreased. This decrease in values was tied to the incorporation of the remaining External Flowsheet Review Team (EFRT) Issues. This resulted in an increase in the facility engineering and construction budgets, which has correspondingly reduced the to-date percent complete values.

- Engineering

BNI Engineering issued Controls and Instrumentation (C&I) data sheets for LAW Important-to-Safety (ITS) control valves and regulators and a consumable change-out box data sheet for fire screens. Component Information System (CIS) equipment lists were issued for the LAW High-Pressure Steam (HPS), Low-Pressure Steam (LPS), and Steam Condensate Water (SCW) systems. Engineering also issued control logic diagrams for the LAW Direct Current Electrical (DCE), Low-Voltage Electrical (LVE), Medium-Voltage Electrical (MVE), and Uninterruptible Power Electrical (UPE) systems to support control software development. The LAW melter Equipment Support Handling (LSH) system engineering specification was issued.

- Procurement

LAW secondary offgas treatment systems component procurement activities continued. All major component procurements have been awarded. Vendor design analyses are being performed for the HEPA filter housings, the caustic scrubber, and the thermal catalytic oxidizer/reducer. The carbon bed adsorber and exhausters are being fabricated. Other procurement activities included issuance of a material requisition for the purchase of pressure/differential pressure temperature transmitters.

- Construction

BNI initiated installation of MVE equipment on the ground level of the LAW facility. Thermite welding of rails in the North finishing line continued, as well as installation of the ASX auto-

sampling system, fire alarm system, LVE system equipment, melter pour spout cooling panels, exterior melter bay door electrical components, finishing line hoists, and exterior egress stairs. Other normal activities continued, including installation of piping and hangers, cable tray, conduit and wiring, instrument enclosures, lighting fixtures, partition wall framing, gypsum wallboard, coatings, and perimeter sealants.

- Commissioning

Conducted a walk-down of the LAW facility to review the final placement of fan coil units and proposed changes that would allow easier operations access to these units for maintenance activities. Reviewed and provided comments on Communication Electrical System (CME) drawings for phone and card reader locations within the LAW facility. Integrated Control Network (ICN) development for LAW systems continued with software reviews related to the primary offgas process and radioactive liquid waste disposal systems. Drafting of the LAW training manual continued.

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

- Complete installation of LAW personnel elevator
- Complete vendor fabrication of the Carbon Bed Adsorber (CBA)

**Issues:**

No major issues.

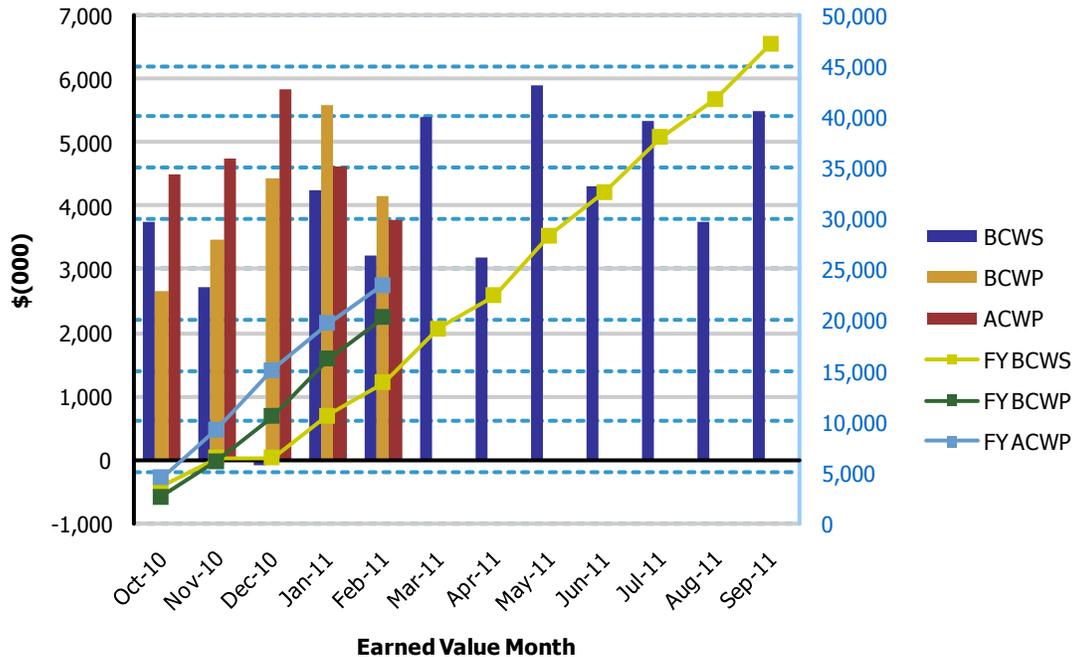
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$5,399					\$19,244				
Apr 2011	\$3,189					\$22,434				
May 2011	\$5,899					\$28,333				
Jun 2011	\$4,318					\$32,651				
Jul 2011	\$5,351					\$38,002				
Aug 2011	\$3,761					\$41,762				
Sep 2011	\$5,498					\$47,260				
PTD	\$602,315	\$601,228	\$646,588	1.00	0.93					

## 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%, procurement is 74%, and construction is 65%.

In December 2010, the facility percent complete values for Design/Engineering and Construction decreased. This decrease in values was tied to the incorporation of the remaining External Flowsheet Review Team (EFRT) Issues. This resulted in an increase in the facility engineering and construction budgets, which has correspondingly reduced the to-date percent complete values.

- Engineering

BNI engineering issued engineering specification for cryogenic tubing, welding, piping, and equipment for the high-purity gas system. BNI engineering also issued nine Controls and Instrumentation (C&I) data sheets for “CM” on/off valves, and seven Component Information System (CIS) equipment lists for the Low Pressure Steam (LPS) system. BNI engineering released 40 pressure differential transmitters, 10 A/D current to field bus converters, 36 temperature transmitters, 12 pressure transmitters, and 17 differential pressure flow transmitters to ship.

- Procurement

BNI procurement issued material requisitions to purchase pressure/differential pressure and temperature transmitters.

- Construction

BNI construction continued installation of piping, scheduled conduit, scheduled/unscheduled electrical raceway, bulk piping/hangers, the trolley, and the application of coatings in various planning areas. They also continued installation of piping in the C2V/C3V system pits. BNI construction completed aligning a fan in planning area 24 for the C5V system, and assembling shield plates in planning area 21.

- Commissioning

A report detailing Factory Acceptance Testing (FAT) of autosamplers (ASX) 12 & 13 was issued. The FAT demonstrated the capability of sample collection, autosampling reliability/repeatability, maintenance tasks, and the performance of the pneumatic transfer system. The ASX performed as expected, and all observations were resolved prior to issue of the report.

The draft Waste Acceptance Criteria (WAC) Data Quality Objective (DQO) report was updated to incorporate WTP internal comments. This updated draft was used during the meeting with the

DNFSB staff to discuss results of initial DQO development for WTP feed acceptance criteria parameters as described in ICD-19.

The Laboratory and Remotability teams reviewed the locations and orientations of several valves in the Radioactive Liquid Waste Disposal (RLD) system C3 Pump pit and provided Operations input for potential solutions to clear the interference problems identified by Field Engineering.

The Laboratory and Remotability teams participated in several teleconferences with the Equipment & Mechanical Handling Lead to provide background and Operations status on the LAB RLD C5 Valve Pit valve testing. Shop testing revealed several items that need to be modified for remote operations.

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

- Install LAB waste drum bogie shield door
- Complete LAB C5 ventilation filter room ceiling design

**Issues:**

No major issues.

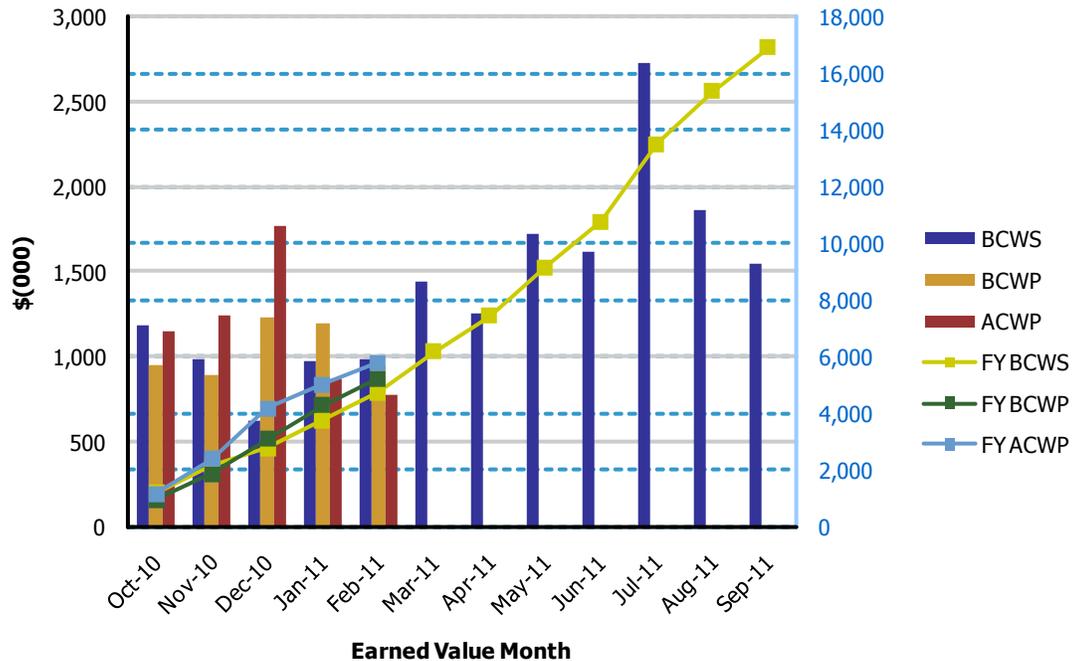
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$1,441					\$6,179				
Apr 2011	\$1,253					\$7,432				
May 2011	\$1,725					\$9,157				
Jun 2011	\$1,619					\$10,776				
Jul 2011	\$2,732					\$13,509				
Aug 2011	\$1,868					\$15,377				
Sep 2011	\$1,544					\$16,920				

PTD	\$157,952	\$157,617	\$170,483	1.00	0.92
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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%, procurement is 46%, and construction is 60%.

In December 2010, the facility percent complete values for Design/Engineering and Construction decreased. This decrease in values was tied to the incorporation of the remaining External Flowsheet Review Team (EFRT) Issues. This resulted in an increase in the facility engineering and construction budgets, which has correspondingly reduced the to-date percent complete values.

- Engineering

BNI engineering issued five mechanical systems component lists for the Steam Condensate Water (SCW) system, and completed scoping of SetRoute and TeamWorks for the switchgear building.

- Procurement

BNI procurement issued material requisition to purchase pressure/differential pressure temperature transmitters.

- Construction

BNI construction continued install of Plant Service Air (PSA) line/transport piping at the glass former facility, fire alarm detection equipment, pressure testing piping in the Water Treatment Facility (WTF), and working punchlist items for turnover of the WTF.

- Commissioning

A review was performed of BOF Non-Radioactive Liquid Waste Disposal (NLD) and Fire Service Water (FSW) graphics with Operations Controls Systems and Training personnel.

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

- Award EDG procurement
- Complete concrete placements for BOF Ammonia Facility
- Receive BOF ammonia vaporizer skid
- Complete water treatment facility

### **Issues:**

No major issues.

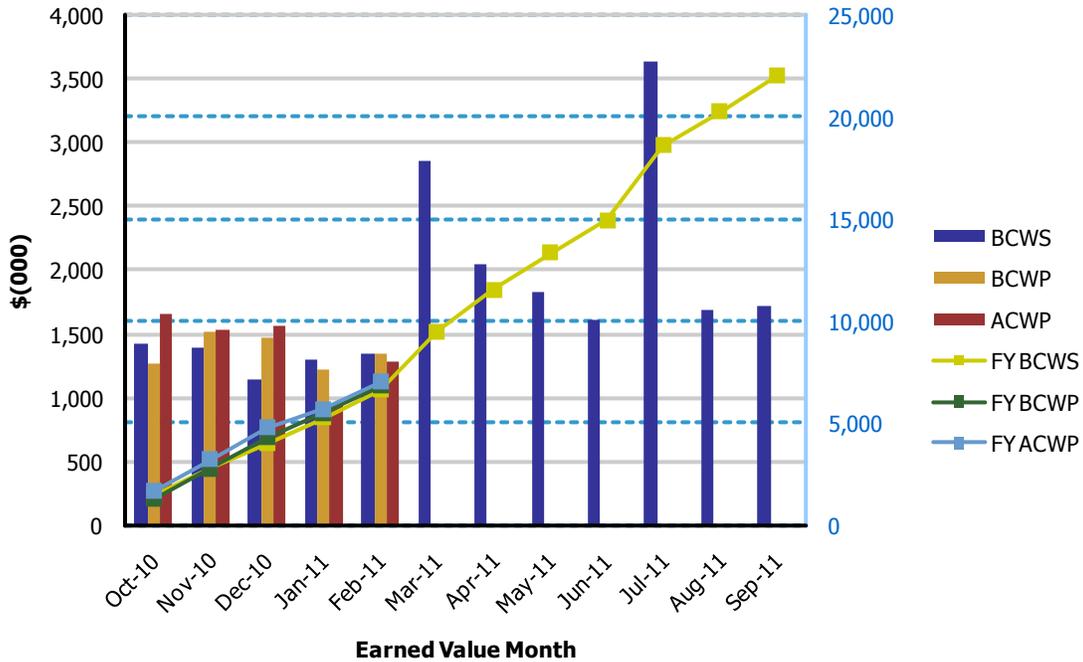
### EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2011 Earned Value Data

Data as of: Feb 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	\$2,864					\$9,489				
Apr 2011	\$2,047					\$11,536				
May 2011	\$1,823					\$13,359				
Jun 2011	\$1,607					\$14,966				
Jul 2011	\$3,630					\$18,596				
Aug 2011	\$1,694					\$20,290				
Sep 2011	\$1,723					\$22,013				

PTD	\$241,819	\$241,203	\$238,921	1.00	1.01
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**Waste Treatment Plant Project - Percent Complete Status**

Through February 2011

(Dollars - Millions)	Overall Facility Percent Complete Unallocated Dollars			Design/Engineering Unallocated Dollars			Procurement Unallocated Dollars			Construction 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
Low-Activity Waste	935.2	601.2	64%	222.5	198.7	89%	229.3	190.1	83%	335.3	206.3	62%
Analytical Lab	340.6	157.6	46%	52.2	41.8	80%	55.9	41.3	74%	97.3	63.0	65%
Balance of Facilities	523.4	241.2	46%	77.2	59.3	77%	81.2	37.3	46%	228.8	136.3	60%
High-Level Waste	1,451.2	754.0	52%	332.5	285.8	86%	450.6	285.6	63%	550.3	178.6	32%
Pretreatment	2,454.6	1,131.1	46%	669.5	518.5	77%	710.9	301.5	42%	891.6	305.4	34%
Shared Services	4,787.2	3,145.8	66%	1,101.9	866.8	79%	467.2	338.5	72%	1,418.3	994.0	70%
<b>Total WTP w/o UB</b>	<b>10,492.3</b>	<b>6,031.0</b>	<b>57%</b>	<b>2,455.9</b>	<b>1,970.8</b>	<b>80%</b>	<b>1,995.2</b>	<b>1,194.3</b>	<b>60%</b>	<b>3,521.6</b>	<b>1,883.6</b>	<b>53%</b>
Undistributed Budget	5.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total WTP</b>	<b>10,498.1</b>	<b>6,031.0</b>	<b>57%</b>	<b>2,455.9</b>	<b>1,970.8</b>	<b>80%</b>	<b>1,995.2</b>	<b>1,194.3</b>	<b>60%</b>	<b>3,521.6</b>	<b>1,883.6</b>	<b>53%</b>

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