

**FINAL**

Office of River Protection  
Consent Decree 08-5085-FVS

Project Summary Report

October 25, 2011

## Office of River Protection

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## Project Summary Report

October 25, 2011

9:00 a.m. – 11:30 a.m.

| Page | Topic  | Leads                                    |
|------|--|--|
| 1    | Statistics / Status  | Woody Russell / Dan McDonald / Jeff Lyon |
| 5    | SST Retrieval and Closure<br>– D-00B-01, -02, -03, -04                       | Chris Kemp / Jeff Lyon                   |
| 7    | Tank Waste Retrieval Work Plan (TWRWP) Status<br>– Consent Decree Appendix C | Chris Kemp / Jeff Lyon                   |
| 8    | WTP - Immobilization Plant Project<br>– D-00A-06, D-00A-17, D-00A-01         | Delmar Noyes / Dan McDonald              |
| 10   | WTP Pretreatment (PT) Facility<br>– D-00A-18, -19, -13, -14, -15, 16         | Wahed Abdul / Dan McDonald               |
| 13   | High-Level Waste (HLW) Facility<br>– D-00A-20, -21, 02, 03                   | Gary Olsen / Dan McDonald                |
| 15   | Low-Activity Waste (LAW) Facility<br>– D-00A-07, -08, -09                    | Jeff Bruggeman / Dan McDonald            |
| 18   | Analytical Laboratory (LAB)<br>– D-00A-005                                   | Jason Young / Dan McDonald               |
| 20   | Balance of Facilities (BOF)<br>– 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 |                | X           |         |             |              |        |               |         |                     |             |                    |
| **D-00C-02M   | Submit to Ecology and Oregon Monthly Summary Reports  | 11/30/11 |                | X           |         |             |              |        |               |         |                     |             |                    |
| ** Future Monthly Reports will be added as necessary to maintain a two-months ahead activity. |   |          |                |             |         |             |              |        |               |         |                     |             |                    |
| D-00C-01D   | Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period | 01/31/12 |                | X           |         |             |              |        |               |         |                     |             |                    |
| D-00C-01E   | Submit to Ecology and Oregon Semi-Annual Report Documenting Progress During Previous 6 Month Period | 07/31/12 |                | X           |         |             |              |        |               |         |                     |             |                    |

## Reports

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

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

**D-006-00-A1, Provide State of Oregon notice of meetings in D-006-00-A, etc. no less than 30 days before they are scheduled, Due:** 9/25/2013, Status: On Schedule

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

## SST Retrieval and Closure Program

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

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

Pursuant to the requirement at IV(B)(5) of the Consent Decree (CD) DOE must submit to Ecology a written certification that DOE has completed retrieval of a tank in accordance with the requirements of Appendix "C", Part 1, of the CD. Tanks currently in retrieval status are C-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. Initiated retrieval activities in C-107 using the MARS retrieval system.
2. Completed startup of POR107 exhauster in support of C-107 MARS operation.
3. Completed construction and plant forces activities for C-108 equipment installation for Hard Heel Removal.
4. Continued design and procurement for C-109 Hard Heel Removal equipment.
5. Completed construction activities for the installation of the C-112 Modified Sluicing system.

### 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. Start up of retrieval activities for C-108 hard heel.
7. Complete hard heel retrieval of C-108.
8. Start up of C-112 Modified Sluicing Retrieval System.
9. 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                                    | MS-ITV               | -                |
| C-103 | RPP-21895 | Retrieval Completed           |  |                      |                  |
| C-104 | RPP-22393 | In Process                    | Modified Sluicing                                    | MS-ITV               | -                |
| C-105 | RPP-22520 | Projected revision early fall | MRS  | -                    | -                |
| C-106 |           | Retrieval Completed           |  |                      |                  |
| C-107 | RPP-22393 | In Process                    | MARS-S   |                      |                  |
| C-108 | RPP-22393 | In Process                    | Modified Sluicing                                    | Chemical Dissolution | MS-ITV           |
| C-109 | RPP-21895 | Following RPP-22393           | Modified Sluicing                                    | MS-ITV               | -                |
| C-110 | RPP-33116 | Following RPP-22393           | Modified Sluicing                                    | -                    | -                |
| C-111 | RPP-37739 | Following RPP-22393           | Modified Sluicing                                    | -                    | -                |
| C-112 | RPP-22393 | In Process                    | Modified Sluicing                                    | MS-ITV               | -                |

#### Significant Accomplishments:

- 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-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 3,300 Full-Time Equivalent (FTE) contractor (Bechtel National, Inc. [BNI]) and subcontractor personnel, including 1,300 craft, 570 non-manual, and about 205 subcontractor personnel FTEs working at the WTP construction site (all facilities). As of August 2011, the project is 61 percent complete, design and engineering is 83 percent complete, procurement is 64 percent complete, construction is 57 percent complete, and startup and commissioning is 13 percent complete.

The overall WTP Project schedule variance in August was a negative \$6.9M, the cost variance was a negative \$1.4M. The negative cost variance was due to Construction Piping and Engineering Design control accounts and the schedule variances came primarily from Plant Equipment.

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

**Significant Past Accomplishments:**

- Completed informational tests for the adequacy of Pulse Jet Mixers (PJM) mixing with various configurations to understand the impacts of these changes
- Mechanical systems design for the LAW facility is substantially complete.

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

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

**Issues:**

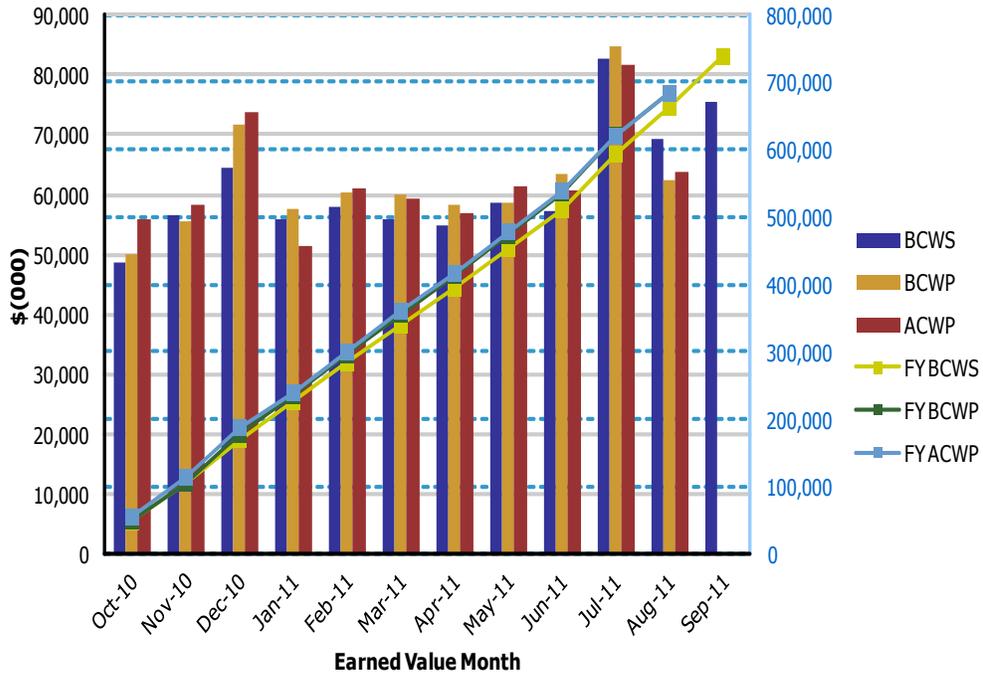
No significant issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$75,503    |             |             |      |      | \$737,972 |           |           |        |        |
| PTD                | \$6,391,495 | \$6,418,883 | \$6,442,003 | 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. The PT Facility is 49 percent complete overall, with engineering design 79 percent complete, procurement 46 percent complete, and construction 38 percent complete.

**Significant Past Accomplishments:**

Rebar and embed installation and fabrication of rebar wall curtains continues to support additional slab and wall placements at the 56ft to 98ft elevations. Construction completions for September include placement of four 5<sup>th</sup> lift (77ft to 98ft elevation) walls (total of 427 CY), and placement of the sanitary sewer encasement for the Control Building (50 CY).

On-going work includes 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 Design (P&ID) and piping isometric drawings (issued 236). Issued re-committed design packages for the Radioactive Liquid Waste Disposal (RLD) and Steam Condensate Water (SCW) systems. Awards were made for the Resin and Aerosol Testing, and the High Efficiency Mist Eliminator (HEME). Bechtel National Inc., (BNI) report for TPA Milestone M-62-49 (due October 31, 2011) was completed and delivered to DOE on September 28, 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 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. A new Integrated Project team (IPT) has been formed to support the resolution of the vessel mixing issue, and installation of vessels in the plant.

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

- Fabrication and delivery of initial hot cell equipment frames.

- Development of the PJM design and control strategy for resolving open issues with mixing and completion of vessel design.
- 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 Verification and Validation (V&V) of quantitative risk analysis for Hydrogen in Piping and Ancillary Vessels (HPAV).
- Install hot cell piping pulse jet ventilation header.
- Complete hazardous operations review for the Cesium Ion Exchange, Waste Feed Evaporator, and the HLW Lag Storage and Feed Blend Process systems.
- 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.

**Issues:**

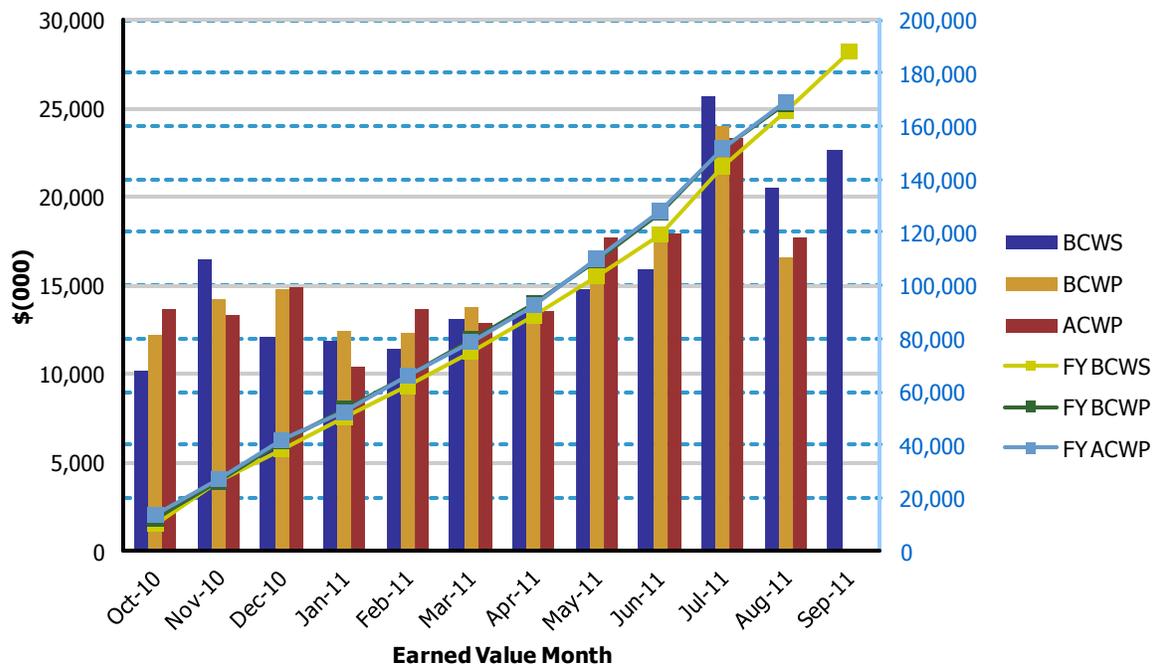
- Vessel Critical Path: Fabrication of vessel HLP-22 continues to be the primary critical path for the PT Facility. Recently a developing issue has prompted a redesign of PJM mounting hardware and a rework of the seismic analysis, which impacts critical path. BNI is applying focused management attention to meet the schedule.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$22,683    |             |             |      |      | \$188,180 |           |           |        |        |
| PTD                | \$1,221,689 | \$1,233,437 | \$1,202,695 | 1.01 | 1.03 |           |           |           |        |        |

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

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

The High Level Waste (HLW) Facility will receive the separated HLW 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 55 percent complete overall, with engineering design 86 percent complete, procurement 70 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 two of the twenty dampers installed and two staged. 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 are in the final stages of fabrication. With the completion of the C5V dampers, the same vendor will immediately begin fabrication of the Pulse Jet Ventilation (PJV) System and later the HLW Melter Offgas (HOP) System remote-operated dampers. The two south HOP HEPA housings will be the next units installed in mid-October. 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 333 cubic yards) were completed in September. The subcontractor has completed the roof and the insulated siding on the north face of the HLW Annex and is continuing the installation of siding of the west and south walls. It is expected the siding will be completed in November, a month ahead of plan. Electrical and piping commodities are progressing throughout the 21ft elevation and 0ft, 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) and fire protection piping, and liner plate installations.

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

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

**Issues:**

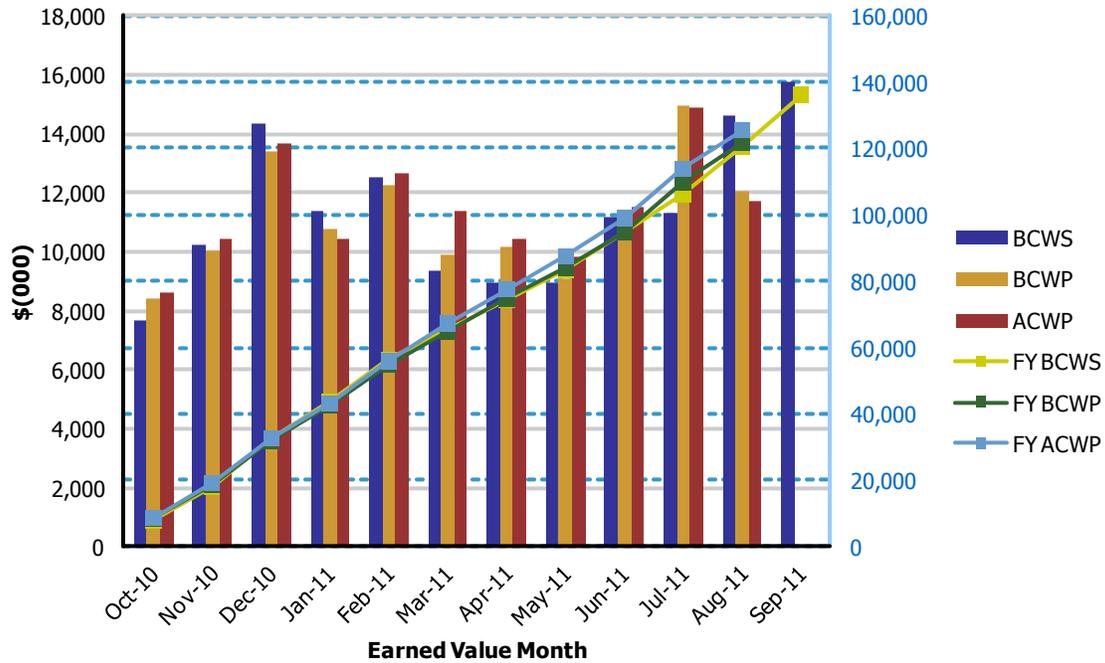
No significant issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$15,743  |           |           |      |      | \$136,270 |           |           |        |        |
| PTD                | \$815,155 | \$820,833 | \$814,663 | 1.01 | 1.01 |           |           |           |        |        |

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

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

The 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 85 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. A major emphasis currently for engineering is the review of vendor calculations and interactions for procurement of Secondary Offgas/Vessel Vent Process (LVP) system components. For example, this month Bechtel National Inc., (BNI) Engineering issued several control logic diagrams and functional diagrams for the LAW Container Receipt Handling (LRH), Primary Offgas Process (LOP), and Melter Equipment Support Handling (LSH) systems. Piping isometric drawings were issued for the Plant Cooling Water (PCW) and Carbon Dioxide Gas (CDG) systems. The east transformer concrete foundation plan and details drawing was issued. The 208/120-volt electrical distribution panel block diagram, termination/cable schedule, and power supply panel schedule was issued for the Uninterruptible Power Electrical (UPE) system.

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 offgas treatment system components to be delivered will be the Carbon Bed Adsorber (CBA).

The primary areas of construction focus currently are facility partition wall installation and equipment installation for the Container Finishing Handling (LFH) system. Other normal construction activities this month included installation of pipe and pipe hangers, sprinklers, electrical panels and grounding, scheduled cable tray and conduit, hatches and hatch covers, instrument enclosures, and lighting fixtures. For example, installation was completed on a hatch for the Melter Equipment Support Handling (LSH) system; construction continued with installation of the fire alarm system, Low-Voltage Electrical (LVE) equipment, air-handling units, humidifiers for the C2V ventilation system, bogie recovery equipment for the Container Finishing Handling (LPH) system, cranes for the LSH system, and inert fill hoppers, 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)
- Container Receipt Handling (LRH)
- Melter Equipment Support Handling (LSH)
- Melter Process (LMP)
- Container Export Handling (LEH)
- Primary Offgas Process (LOP)
- Secondary Offgas/Vessel Vent Process (LVP)

Plant-installed-software (PISW) system design documents were issued for the LOP and LMP systems.

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

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

**Issues:**

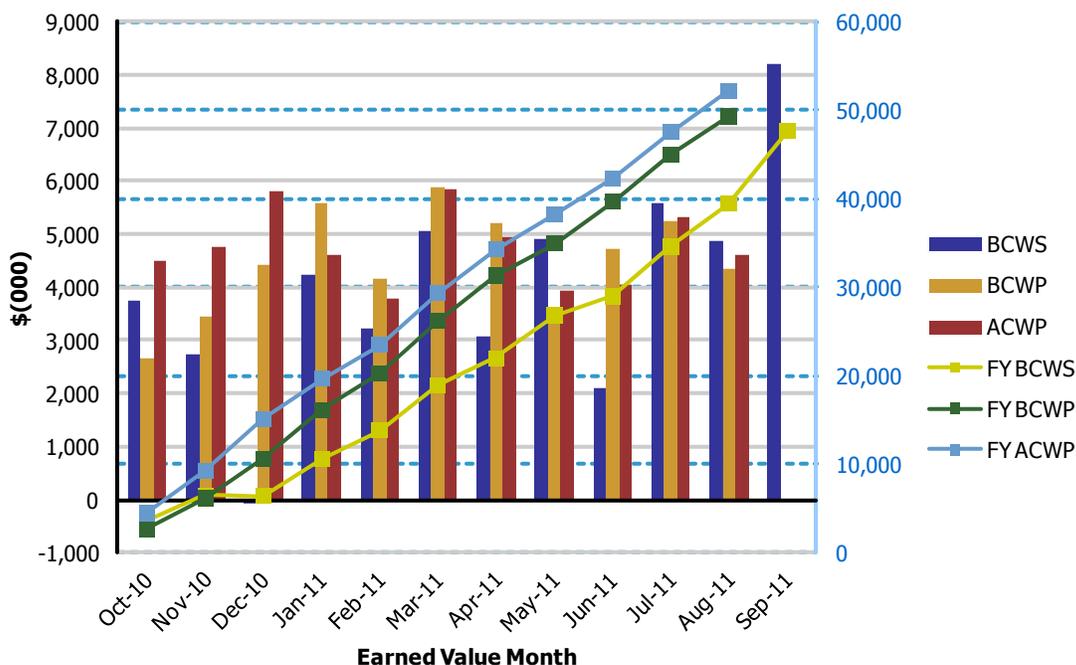
No major issues at this time.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$8,214   |           |           |        |      | \$47,624 |          |          |        |        |
| PTD                | \$628,014 | \$630,203 | \$675,259 | 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 47 percent complete overall, with engineering design 78 percent complete, procurement 74 percent complete, and construction 66 percent complete.

**Significant Past Accomplishments:**

Efforts at the LAB are focused on the successful completion of the LAB Construction Complete Milestone in December 2012. Installation of partition walls is currently in progress and installation of the autosampling system continues.

As the LAB is being constructed progress continues to be made in how the LAB will function during operations, and what capabilities are required. To further this knowledge Savannah River National Laboratory (SRNL) proposed some potential streamlining opportunities from reviews performed during feed qualification studies. Currently the baseline analytical methods for waste pre-qualification are being established. Identification of existing methods for analyses required by the Waste Feed Acceptance Criteria (WAC) Data Quality Objectives (DQO) document is complete. The identified methods and gaps are being reviewed by SRNL staff for applicability and methods development needs. The LAB team provided Operations' input to the *Laboratory Development of LAW-PTF Feed Base Simulant for Cold Commissioning* document. Specifically requesting an additional Objective and Criteria be added establishing the stability of the simulant. This is important because of the extended period that the simulant may be stored while the total volume needed is prepared.

**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:**

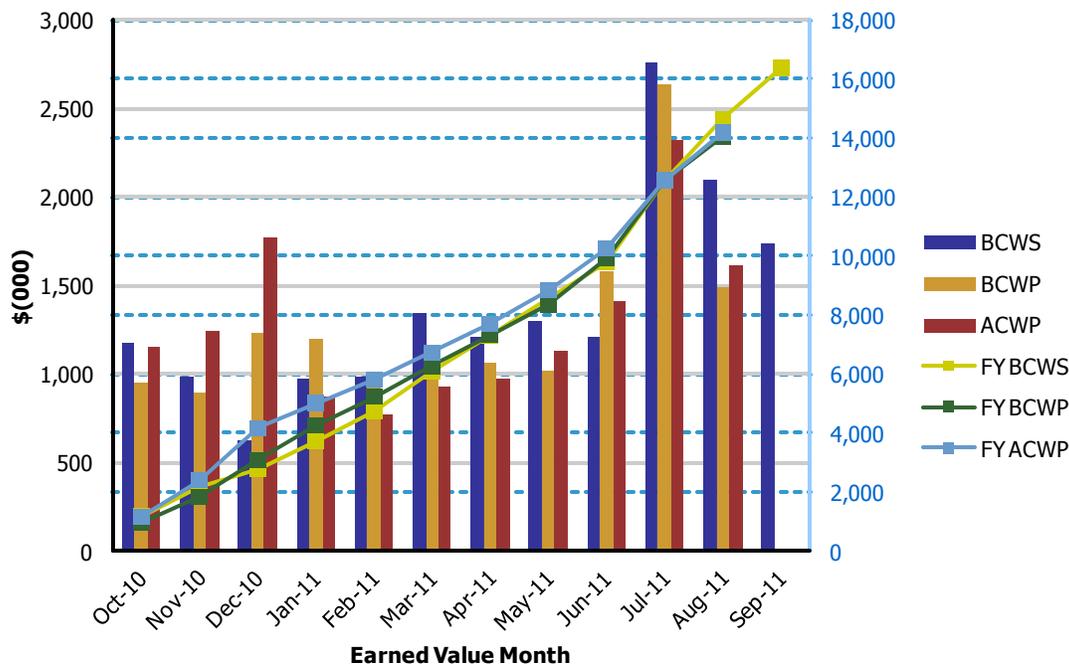
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$1,735   |           |           |      |      | \$16,393 |          |          |        |        |
| PTD                | \$167,935 | \$166,434 | \$178,862 | 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 73 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. This goal was progressed by commencing placement of the base slab for anhydrous ammonia storage and continued commodity installation in the Glass Former Storage Facility, Chiller Compressor Plant, and Diesel Fuel Oil facility. The framework and precedence for facility turnover will be established following completion of the Switchgear Building (B87). Meetings are being held bimonthly to facilitate an efficient completion, testing, and turnover plan.

Bechtel National Inc., (BNI) continues to work closely with the Emergency Turbine Generator (ETG) vendor. The first steps in the process, which clarify the contract scope and identify safety functions and age related failure mechanisms, have been completed. Over the next several months the BNI engineering team will continue working with the vendor to identify code, standard, and specification requirements.

The Defense Nuclear Facilities Safety Board (DNFSB) recently issued a letter concerning the hazards and controls associated with the anhydrous ammonia system. Responses to the Board's questions are currently being generated by BNI. The ammonia vessel and vaporizer skid are currently being manufactured and are scheduled to be on site before the end of December 2011.

**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:**

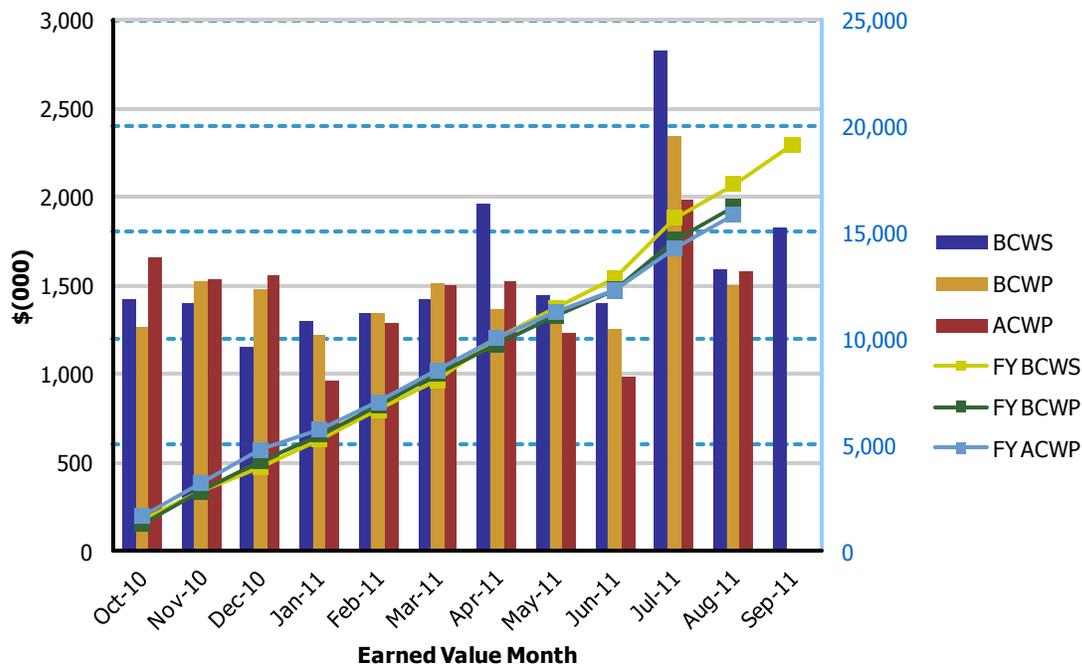
No major issues.

Data Set: FY 2011 Earned Value Data

Data as of: August 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           | \$1,830   |           |           |      |      | \$19,106 |          |          |        |        |
| PTD                | \$252,543 | \$250,537 | \$247,736 | 0.99 | 1.01 |          |          |          |        |        |

| Waste Treatment Plant Project - Percent Complete Status<br>Through August 2011 |  |   |               |   |   |               |   |   |               |   |   |               |   |   |               |
|--|--|---|---------------|---|---|---------------|---|---|---------------|---|---|---------------|---|---|---------------|
| (Dollars - Millions)   | Overall Facility Percent Complete<br>Unallocated Dollars |   |               | Design/Engineering<br>Unallocated Dollars       |   |               | Procurement<br>Unallocated Dollars              |   |               | Construction<br>Unallocated Dollars             |   |               | Startup & Commissioning<br>Unallocated Dollars  |   |               |
|  | Performance<br>Measurement<br>Baseline<br>(PMB)          | Budgeted<br>Cost of Work<br>Performed<br>(BCWP) | %<br>Complete | Performance<br>Measurement<br>Baseline<br>(PMB) | Budgeted<br>Cost of Work<br>Performed<br>(BCWP) | %<br>Complete | Performance<br>Measurement<br>Baseline<br>(PMB) | Budgeted<br>Cost of Work<br>Performed<br>(BCWP) | %<br>Complete | Performance<br>Measurement<br>Baseline<br>(PMB) | Budgeted<br>Cost of Work<br>Performed<br>(BCWP) | %<br>Complete | Performance<br>Measurement<br>Baseline<br>(PMB) | Budgeted<br>Cost of Work<br>Performed<br>(BCWP) | %<br>Complete |
| Facilities   |  |   |               |   |   |               |   |   |               |   |   |               |   |   |               |
| Low-Activity Waste   | 955.2  | 630.2   | 66%           | 229.6   | 203.1   | 88%           | 235.0   | 199.6   | 85%           | 342.5   | 221.1   | 65%           | 148.1   | 6.4   | 4%            |
| Analytical Lab   | 351.2  | 166.4   | 47%           | 55.0  | 43.0  | 78%           | 56.1  | 41.8  | 74%           | 104.9   | 69.5  | 66%           | 135.2   | 12.1  | 9%            |
| Balance of Facilities  | 530.2  | 250.5   | 47%           | 84.3  | 61.2  | 73%           | 80.9  | 37.7  | 47%           | 229.0   | 141.6   | 62%           | 136.1   | 10.0  | 7%            |
| High-Level Waste   | 1,488.6  | 820.8   | 55%           | 342.5   | 294.6   | 86%           | 454.5   | 317.5   | 70%           | 573.8   | 204.3   | 36%           | 117.8   | 4.4   | 4%            |
| Pretreatment   | 2,495.0  | 1,233.4   | 49%           | 698.0   | 549.3   | 79%           | 715.7   | 332.2   | 46%           | 898.7   | 345.8   | 38%           | 182.6   | 6.0   | 3%            |
| Shared Services  | 4,747.0  | 3,317.4   | 70%           | 1,052.2   | 895.9   | 85%           | 467.7   | 365.6   | 78%           | 1,421.6   | 1,046.7   | 74%           | 455.8   | 116.8   | 26%           |
| <b>Total WTP w/o UB</b>  | <b>10,567.2</b>  | <b>6,418.9</b>                                  | <b>61%</b>    | <b>2,461.6</b>                                  | <b>2,047.2</b>                                  | <b>83%</b>    | <b>2,009.8</b>                                  | <b>1,294.3</b>                                  | <b>64%</b>    | <b>3,570.5</b>                                  | <b>2,029.1</b>                                  | <b>57%</b>    | <b>1,175.6</b>                                  | <b>155.8</b>                                    | <b>13%</b>    |
| Undistributed Budget   | 0.0  | n/a   | n/a           | n/a   | n/a   | n/a           |
| <b>Total WTP</b>   | <b>10,567.2</b>  | <b>6,418.9</b>                                  | <b>61%</b>    | <b>2,461.6</b>                                  | <b>2,047.2</b>                                  | <b>83%</b>    | <b>2,009.8</b>                                  | <b>1,294.3</b>                                  | <b>64%</b>    | <b>3,570.5</b>                                  | <b>2,029.1</b>                                  | <b>57%</b>    | <b>1,175.6</b>                                  | <b>155.8</b>                                    | <b>13%</b>    |

Source: WTP Contract Performance Report - Format 1, Data for August 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 EPPC; 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.