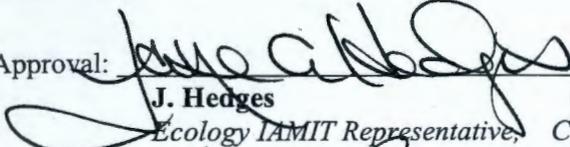


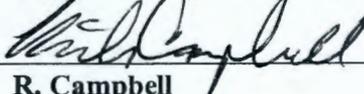
**Office of River Protection  
Tri-Party Agreement Milestone Review  
Meeting Minutes  
February 19, 2009**

Approval:   
**J. Hedges** (H0-57)  
*Ecology IAMIT Representative, Chairperson*

Date: 4/16/09

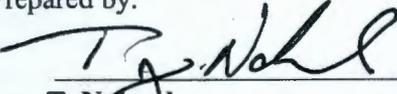
Approval:   
**J. Eschenberg/S. Charboneau** (H6-60)  
*DOE IAMIT Representative*

Date: 4/16/09

Approval:   
**R. Campbell** (B1-46)  
*EPA IAMIT Representative*

Date: 4/16/09

Minutes Prepared by:

  
**T. Noland** (H8-12)  
*Fluor Federal Services, Inc..*

Date: 4/16/09

Abdul, W.	ORP	Lyon, J.J.*	Ecology
Arnold, L.D.	FH	Niles, K.	OOE
Bohnee, G.	NPT	Nicoll, B.L.*	ORP
Brown, M.J.	Ecology	Noland, T.W.*	FFS
Caggiano, J.A.	Ecology	Noyes, D.L.	ORP
Charboneau, S.L.	ORP	Olinger, S.J.	ORP
Cimon, S.*	ODE	Olsen, G.B.*	ORP
Diediker, J.A.*	ORP	Patel, D.H.*	Ecology
Dixon, W.T.	WRPS	Pfaff, S.H.	ORP
Engelmann, R.H.	CHPRC	Rasmussen, J.E.*	YAH
Eschenberg, J.R.	ORP	Russell, R.W.*	ORP
Furlong, P.T.*	ORP	Salisbury, S.M.*	ORP
Fredenburg, E.A.*	Ecology	Skinnarland, R.R.*	Ecology
Harp, B.J.*	ORP	Taylor, H.N.	ORP
Harris, S.	CTUIR	Trenchard, G.D.*	ORP
Hedges, J.	Ecology	Uziemblo, N.H.	Ecology
Henry, D.	OOE	Vance, J.G.	FH
Hidden, F.B.*	ORP	Wang, O.S.*	Ecology
Huffman, L.A.	ORP	Weil, S.R.	RL
Jackson, Z.*	Ecology	Whalen, C.L.*	Ecology
Jim, R.	Yakama	Wiegman, R.S.*	PAC
Kemp, C.J.*	ORP	Administrative Record	
Knox, K.E.*	KCR		
Lober, R.W.*	ORP		
Lobos, R.A.*	EPA		
Long, J.D.*	ORP		
Luke, J.J.*	WRPS		

\*Attendees

**RECEIVED**  
 APR 22 2009  
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**Office of River Protection  
Tri-Party Agreement Quarterly Milestone Review  
Meeting Minutes  
February 19, 2009**

**Milestone M-45, -50, -60 Single-Shell Tank Corrective Action**

M-45-56E, Complete Implementation of Agreed to Interim Measures

ORP is working to interim barrier priority and evaluation criteria documentation for the July 31, 2009 deliverable. ORP is scheduled to provide Ecology a status on March 3, 2009.

M-45-60, Submit to Ecology for review and approval as an Agreement primary document DOE's Phase 2 RFI/CMS Work Plan and Sampling and Analysis Plan (SAP) for WMA C; Due 12/31/08

This milestone was completed December 19, 2008, and Ecology provided conditional approval and requested a 70-day extension to review and comment.

Significant Accomplishments

During the first of January 2009, there was a substantial rain and snowfall event. The interim barrier performed well, shedding approximately 190,000 gallons of water away from the tank farms.

Issues

Ecology inquired about a time frame for initiating discussion regarding the change proposal for M-45-60 and M-45-61. ORP responded that it will be conditional on the out year planning, which is currently under way. The goal is to have the baseline by June 2009, and initiation of discussion would follow. Ecology noted that ORP is creating a baseline which will likely require a change request. ORP responded that it had proposed alignment of the CMS with the closure plan time, which was rejected by Ecology.

**Milestone M-45-00, Complete Closure of All Single-Shell Tank Farms**

M-45-00B - Complete Specified "Near-Term" SST Waste Retrieval and Interim Closure Activities, to Result in the Retrieval of all Tank Wastes in WMA-C SSTs Pursuant to the Agreement Criteria in Milestone M-45-00

Ecology asked if ORP is planning to establish a goal, as identified in Appendix H in the TPA, for the end of retrieval. ORP noted that goals were one of the points discussed during recent negotiations, and it will follow up with a response to Ecology's inquiry.

### Significant Accomplishments

ORP reported that retrieval on C-110 restarted on January 22, 2009, and as of today (2/19/09) it is approximately 81 percent complete. Retrieval initially started in September 2008, and was halted due to sludge height in AN-106 requiring a changed supernatant pump height elevation, and replace the supernatant from AY-102 to AN-106. Retrieval is getting down into larger rocks and gravel that are more difficult for the pump to pick up. Ecology asked if characterization on the solid distribution in single-shell tanks is being done as part of characterization activity. ORP responded that there is a stretch goal to take a sample from C-108 this year, which will primarily be a physical property test to aid in defining the pumping system for the hard heels encountered at C Farm. Currently the large rocks and gravel that can't be picked up are being left in the tanks during retrieval. Ecology inquired about WTP's assumption on medial particle size of about 20 microns. Ecology understands that limits on particle size would be specified in ICD-19.

### Significant Planned Activities in the Next Six Months

Construction activities at Tank C-104 are ongoing, and startup is planned for July 22, 2009.

### Issues

Ecology formally requested restart dates for C-108, C-109, C-110 and S-102 in a letter dated October 13, 2008. Restart dates for these retrievals are in the process of being identified. Ecology asked when the retrieval dates for C-108 and C-109 will be identified, and ORP will follow up with a response for restart dates for C-108, C-109 and S-102.

### C-Farm Retrieval Summary Schedule Forecasts

Ecology inquired about the TBDs for tanks C-101 and C-111. ORP responded that the dates should be established by the June-July 2009 time frame, following completion of the baseline outyear planning.

### SST Retrieval Sequence Document

Ecology noted that M-45-02O requires the parties to meet annually to agree on retrieval from the tank pool, which hasn't occurred for some time, and suggested following up. ORP will schedule a meeting with Ecology to agree on the pool of tanks for consideration in the next retrieval sequence.

Tank Retrievals with Individual Milestones - Significant Planned Activities in the Next Six Months - Continue U.S. Nuclear Regulatory Commission (NRC) review of the C-106 exception request. A Request for Additional Information (RAI) is expected from the NRC in February 2009.

ORP reported that the RAI was received from the NRC on January 30, 2009, and a copy was sent to Ecology and the local EPA office. The questions posed in the RAI are not able to be answered

with the current knowledge base. However, the questions will be addressed in the upcoming C Farm tank residuals PA workshops. The first of the nine workshops is scheduled to start next Tuesday (2/24/09), and will continue over an 18- to 24-month period. ORP is drafting a response to the NRC.

### **Interim Stabilization Consent Decree**

Twenty-seven of the 29 tanks have been interim stabilized. Two tanks were pulled out for retrieval, and S-112 retrieval has been completed. A video of S-102 has been completed to quantify the amount of free liquid in the tank, and the results have not been received. ORP will provide a response to Ecology when the results of the video are available. Ecology asked when retrieval will be restarted in S-102. ORP responded that a date has not been scheduled, noting that it will not be this fiscal year. A plan is being developed for the technology to be used in the retrieval.

### **In Tank Characterization and Summary**

A status on accomplishments and planned actions was provided. Ecology again raised the question of particle size characterization, which will be discussed at the technical bi-weekly meeting.

### **Milestone M-47-00, Complete Work Necessary to Support Acquisition and Phase I Operations of Hanford Site High-Level Radioactive Waste Treatment, Storage and Disposal Facilities**

There was no change in the status of this milestone.

### **242-A Evaporator Status**

A table was provided for the 242-A Evaporator campaigns through FY10.

### **Milestone M-90-00, Complete Acquisition of New Facilities, Modifications of Existing Facilities, and/or Modifications of Planned Facilities, as Necessary for Storage of Hanford Site Immobilized High Level Waste (IHLW), Immobilized Low Activity Waste (ILAW), and Disposal of ILAW, and M-20-00, Submit Part B Permit Applications.**

There was no change in the status of this milestone.

### **M-62-08, M-62-11 Bulk Vitrification/Supplemental Technologies**

Demonstration Bulk Vitrification System (DBVS) project is not funded this fiscal year, and there is no stimulus money identified for bulk vit. ORP may decide to do more cold testing. Currently ORP is planning second LAW. Ecology inquired about the H-2 model runs. ORP responded that there are preliminary results which should be available to discuss with Ecology in about two weeks.

There is some work at the 222-S Lab on rotary microfilter. A 0.1 microfilter is going into the hot cell to do some testing. Degradation testing on the formaldehyde resin is being funded by ORP at Savannah River, which is associated with in-tank pretreatment. As a part of the national stimulus package, testing of in-tank pretreatment type systems may be restarted.

Ecology inquired about the study on upgrading the canister storage building versus a new facility in conjunction with shipping. ORP stated that it is developing its baseline and the assumption is to use the shipping facility and the 2000 canister facility, which is expandable to 12,000.

### **TPA Milestone Statistics**

A table on TPA milestone statistics was provided.

### **FY 2009 ORP TPA Cost & Schedule Performance (CHG)**

A status was provided relative to the earned value management system (EVMS) perspective and cost and schedule variance since the start of the new contract October 1, 2008. The new contractor is Washington River Protection Solutions (WRPS). A different format in work breakdown structure (WBS) was presented. WRPS was allowed to change their WBS to match their execution of the project, so when the total project perspective and project cost are reported, it can link WRPS's WBS to the prior contractor's WBS.

ORP stated that the reporting for base operations (5.01.01), level 4, reflects cost and schedule variances. Following a lengthy discussion, an action was taken for ORP to contact Ecology to discuss how Ecology would prefer the description of activities to be presented under 5.01.01, level 4.

### **BNI Cost & Schedule Performance; and M-62-00, Complete Pretreatment Processing and Vitrification of Tank Wastes**

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

As a result of contract negotiation starting in April 2007, Bechtel National, Inc. (BNI) and DOE signed a revised, performance-based contract in January 2009. DOE and ORP are currently reviewing BNI's replan. The November 2019 completion date for WTP is unchanged, and there is no increase to the total project cost. The funding for each fiscal year remains the same at \$690 million. BNI has projected the use of seven of its eleven-month schedule reserve, leaving only four months of remaining schedule reserve. If future schedule delays use up that reserve, the 2019 date could be impacted. Two technical teams were established to address issues raised during meetings among ORP, BNI, DOE and URS staff. One of the discussions centered around the material at risk (MAR), and a report has been issued. Ecology requested a copy of the report when it becomes available.

### Pretreatment Facility (PT)

Due to BNI's revised contract, extra engineering hours were added into the replan, and the design went from 68% complete last reported to 62% complete. Construction was not impacted, and increased from 26% to 27%. It was discovered that the hot cell crane rail supports had met one code requiring nondestructive testing, but another code had been overlooked. The crane rail supports were taken down and examined. The necessary repairs were made, and the crane rails have been staged back in the hot cell and are ready to place on the beam seats. The beam seats also underwent examination and were reworked. The welding performed by the subcontractor CB&I for the liner plates in the black cells had to be checked, due to procedural problems, and no deficiencies in the welding were found. Three procedures had to be requalified by CB&I for carbon steel, carbon to stainless steel, and stainless steel to stainless steel, and that work was completed successfully.

Ecology inquired about the status of the black cell Q piping issue. ORP stated that the reviews of the Q piping are almost complete. ORP will follow up to provide the status to Ecology.

### High Level Waste Facility (HLW)

Engineering is being reported at 73%, down from 86% reported previously. Again, this is due to BNI's revised contract and the extra engineering hours incorporated into the replan. The Workable Backlog Program (WBP) has been implemented and there is already a significant backlog of work packages and materials. However, the schedule is sequence constrained, so construction and engineering are coordinating to establish the best sequence. Construction sources are being held at lower levels until the backlog is in order. Delivery of the four dangerous waste process joggles (S-shaped wall penetration), which have been delayed, are due to arrive today (2/19/09). Receipt of the four joggles will allow placement of wall 1123, which is critical path. The installation of the bogie maintenance crane rails was completed January 23, 2009, after undergoing some technical difficulties.

### Low-Activity Waste (LAW) Facility

Several alternatives have been evaluated regarding the high temperature issue in the offgas exhausters exits, and a solution is expected within six weeks. In terms of overall work in LAW (and LAB), it is further along than HLW and Pretreatment and not on critical path.

### Analytical Laboratory (LAB)

The Automatic Sampling System (ASX) is undergoing testing and should be concluded in 2010. The ASX is not considered critical path.

### Balance of Facilities (BOF)

The cathodic protection system (CPX) is progressing well, and it is expected to be energized within a month. The CPX will protect underground piping and utilities from corrosion. Ecology

asked if the regulated underground waste transfer piping from tank farms to WTP will have cathodic protection. ORP will verify and provide a response to Ecology.

A recent issue concerns the electrical loads for WTP. The existing substation is rated for 55 megawatts and has two transformers. As the WTP design matures, the load growth has increased to an estimated 60 megawatts. ORP is working with the city of Richland and other Hanford contractors to determine electrical capabilities. The 60 megawatts does not encompass bulk vit or second LAW, but it is a consideration to the issue.



**Agenda**  
February 19, 2009

**Office of River Protection**  
**Quarterly Milestone Review Meeting**  
2440 Stevens Center, Room 2212A, Richland

**Chairperson: Ecology Representative**

9:00 a.m. – 11:00 a.m.

<b>Page</b>	<b>Topic</b>	<b>Leads</b>	<b>Time</b>
42	M-45, -50, -60 Single-Shell Tank Corrective Action	Bob Lober / Joe Caggiano	9:00
44	M-45-00, Complete Closure of All Single-Shell Tank Farms	Chris Kemp / Jeff Lyon	9:10
53	Interim Stabilization Consent Decree	John Long / Nancy Uziemblo	9:25
54	In Tank Characterization and Summary	John Long / Michael Barnes	9:35
55	M-47-00, Tank Waste Treatment, Storage and Disposal Facilities	Ben Harp / Les Fort	9:40
57	M-90-00, Complete Acquisition of Facilities for Interim Storage of IHLW and Storage/ Disposal of ILAW and M-20, Part B Permits	Ben Harp / Bud Derrick	9:45
58	M-62-08, M-62-11 Bulk Vitrification/Supplemental Technologies	Ben Harp / Ed Fredenburg	9:50
	<b>BREAK</b>		
3	TPA Milestone Statistics	Woody Russell Ed Fredenburg / Jeff Lyon	9:55
21	FY 2009 ORP TPA Cost & Schedule Performance (CHG)	Janet Diediker Ed Fredenburg / Jeff Lyon	10:00
60	BNI Cost & Schedule Performance and M-62-00, Complete Pretreatment Processing and Vitrification of Tank Wastes	Bruce Nicoll / Pete Furlong / Wahed Abdul / Gary Olsen/ Fred Hidden/ Ed Fredenburg	10:05

Tri-Party Agreement Major Milestone Management Review  
February 19, 2009

<u>Name</u>	<u>Organization</u>	<u>Mail Stop</u>	<u>Phone</u>
Terry Nolan	Fluor	E6-28	376-574
Kathy Knox	Knox Court Reporting		946-5535
Stacey Simon	ODOE		(541) 963-0853
Cheryl Whalen	Ecology		372-7972
Ron Skinnarland	Ecology		512-792A
Chris Kay	ORP	H6-60	373-0649
Jeff Lyon	Ecology		372-7914
Bob Lobos	ORP		
Woody Russell	ORP		373-5227
Jim Rasmussen	YAHSGS		376-0304
Ed Fredenburg	Ecology		372-7899
Betsy Wiegman	PAC		373-9443
Zelma Jackson	Ecology		372-7910
Oliver Wang	Ecology		372-7932
Shaun Salisbury	ORD		
Dimple Patel	ORP		<del>619</del> 3053
JOHN D LONG	ORP		376-5416
Rod Lobos	EPA		376-3749
Ben Harp	DOE-ORP		376-1462
GILIN TRENCHARD	ORP		373-4016
Bruce Nicoll	ORP		438-0456
Gary Olsen	ORP		438-4707
Fred Hadden	ORP		373-9393
Janet Diediker	ORP		372-3043
Pete Fenley	ORP		438-0472

**Office of River Protection**

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**Tri-Party Agreement  
Quarterly Milestone Review Meeting  
February 19, 2009**



U.S. Department of Energy  
U.S. Environmental Protection Agency  
Washington State Department of Ecology

January 2009

## Agenda

Office of River Protection  
 Tri-Party Agreement  
 Quarterly Milestone Review Meeting  
 2440 Stevens Center, Conference Room 2212A  
 February 19, 2009  
 9:00 a.m. – 11:30 a.m.

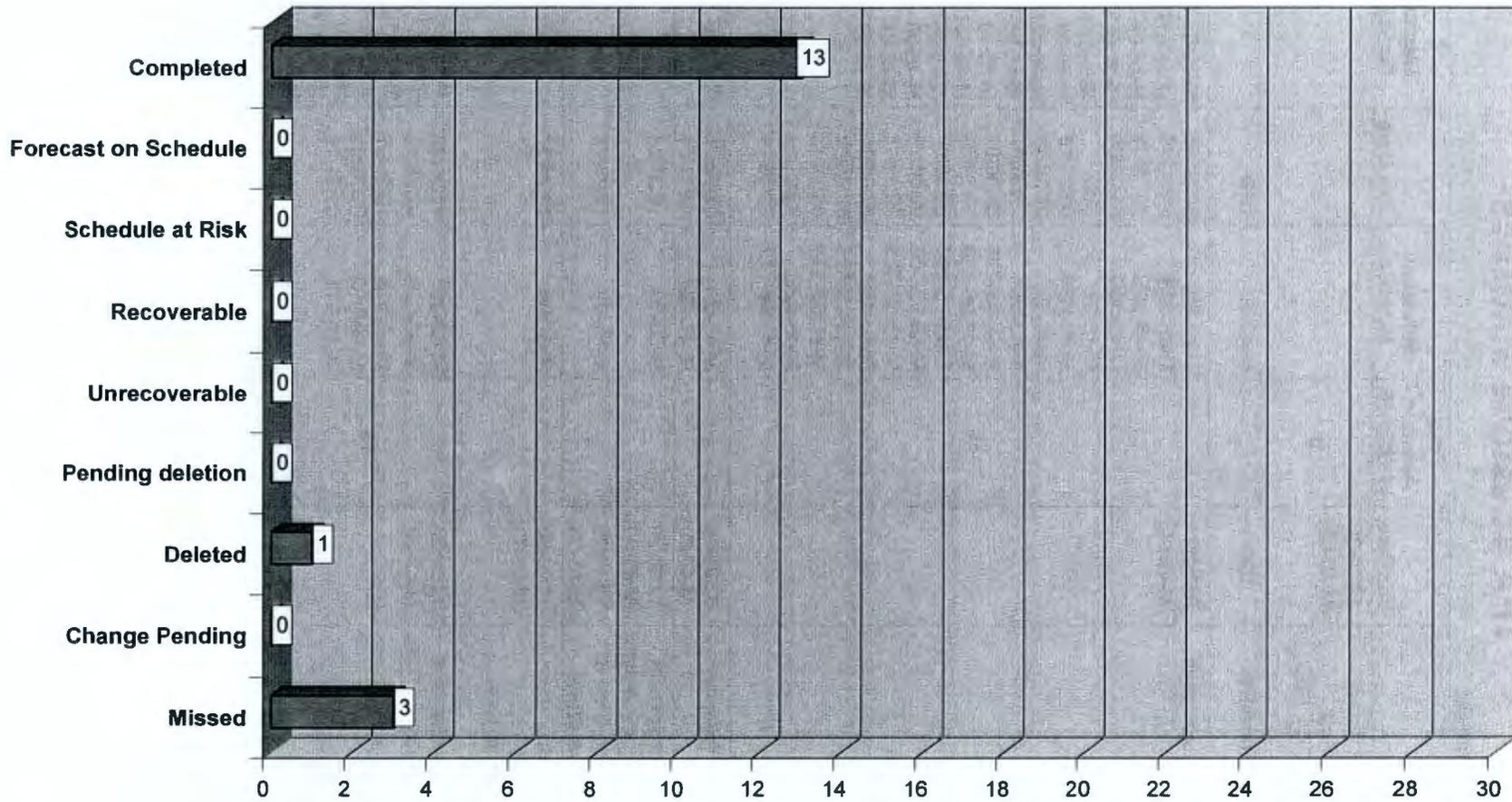
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60	BNI Cost & Schedule Performance and M-62-00, Complete Pretreatment Processing and Vitrification of Tank Wastes	Bruce Nicoll /Pete Furlong /Wahed Abdul /Gary Olsen/ Fred Hidden /Ed Fredenburg	10:05

## TPA Milestone Statistics

(Including target milestones)

Milestone	Due Date	Total Active as of 02/21/08	Milestone Number	Due Date	Milestone Number	Due Date
<b>M-20-00</b> , Submit Part B Permit Application on Closure/Post Closure Plans for all RCRA TSD Units	12/31/08 (M-20-00)	0				
<b>M-42-00</b> , Provide Additional DST Capacity	TBD	1	M-42-00	TBD		
<b>M-45-00</b> , Complete Closure of all SST Farms	09/30/24 (M-45-00)	35	M-45-00 M-45-00B M-45-00C M-45-00D M-45-02 M-45-02O M-45-05 M-45-05A M-45-05-T05 M-45-05-T06 M-45-05-T07 M-45-05-T08 M-45-05-T09 M-45-02P M-45-05-T10 M-45-05-T11 M-45-02Q M-45-05-T12	09/30/24 09/30/06 09/30/06 01/31/08 TBD 03/01/10 09/30/18 03/31/07 09/30/07 09/30/08 09/30/09 09/30/10 09/30/11 03/01/12 09/30/12 09/30/13 03/01/14 09/30/14	M-45-05-T13 M-45-02R M-45-05-T14 M-45-05-T15 M45-02S M-45-06 M-45-06-T03 M-45-06-T04 M-45-13 M-45-15 M-45-56 M-45-59 M-45-61 M-45-62	09/30/15 03/01/16 09/30/16 09/30/17 03/01/18 09/30/24 03/31/12 03/31/14 06/30/11 06/30/11 TBD TBD 12/31/10 07/31/12
<b>M-47-00</b> , Complete All Work for Phase 1 Operations	02/28/18 (M-47-00)	3	M-47-00 M-47-03A	02/28/18 03/31/09	M-47-06	06/30/10
<b>M-50-00</b> , Complete Pretreatment Processing of Hanford Tank Waste	12/31/28 (M-50-00)	1	M-50-00	12/31/28		
<b>M-51-00</b> , Complete Vitrification of Hanford High Level Tank Waste	12/31/28 (M-51-00)	1	M-51-00	12/31/28		
<b>M-61-00*</b> (alternate path), Complete Pretreatment & Immobilization of Hanford Low Activity Tank Waste	12/31/28 (M-61-00)	1	M-61-00	12/31/28		
<b>M-62-00</b> , Complete Pretreatment Processing and Vitrification of Tank Wastes	12/31/28 (M-62-00)	13	M-62-00 M-62-00A M-62-07B M-62-01S M-62-01T	12/31/28 02/28/18 12/31/07 07/31/09 01/31/10	M-62-08 M-62-09 M-62-01U M-62-01V M-62-10 M-62-01W M-62-11	06/30/06 02/28/09 07/31/10 01/31/11 01/31/11 07/31/11 06/30/07
<b>M-90-00</b> , Interim Storage and Disposal of LAW and Interim Storage of HLW	TBD (M-90-00)	2	M-90-00 M-90-11	TBD 08/31/10		
<b>Interim Stabilization Consent Decree</b>	09/30/04 (D-001-00)	1	D-001-00			
<b>Total Active Milestones:</b>		<b>59</b>				

### FY 2006 MILESTONE PERFORMANCE



### Fiscal Year 2006 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R26	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	10/31/05	10/31/05								
M-048-07A-A	Complete construction of the AZ-301 condensate return system and remove the AZ-151 catch tank system from service by October 31, 2005. This scheduled deliverable is a subset of M-48-07A, and thus labeled as M-48-07A-A.	10/31/05	10/24/05								
M-046-21	Complete Implementation Of Double Shell Tank Space Optimization Study Recommendations (Tank Space Options Report Document No. RPP-7702, April 12, 2001).	12/31/05	12/15/05								
M-062-01L	Submit Semi-Annual Project Compliance Report.	01/31/06	01/31/06								
M-045-02M	Submit biennial update to SST retrieval sequence document (agreement Appendix I, Section 2.1.2), double-shell tank space evaluation document and Ecology concurrence of additional tank acquisition.	3/1/06	3/13/06								

### Fiscal Year 2006 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-048-07A-B	Completion of construction for the 241-AP-106A central pump pit upgrade (remove existing equipment, evaluate pit integrity, and replace pit coating, if necessary). This scheduled deliverable is a subset of M-48-07A, and thus labeled as M-48-07A-B.	3/31/06	3/30/06								
M-048-14	Submit Written Integrity Report For The Double-Shell Tank System.	3/31/06	3/31/06								
M-047-05A	Complete startup and turnover activities for waste retrieval and mobilization systems for selected initial low-activity waste feed tank (other than AZ-101 or AZ-102).	4/30/06	12/29/04								
M-45-55-T04	Submit to Ecology for review and comment a draft Field Investigation Report combining the results of field investigations and analysis for WMAs A-AX, C and U. As part of the Phase 2 Vadose Zone project renegotiations being developed, this target milestone scope has been included in M-45-55 Phase 1 rollup documentation due in 1/08.	4/30/06								X	

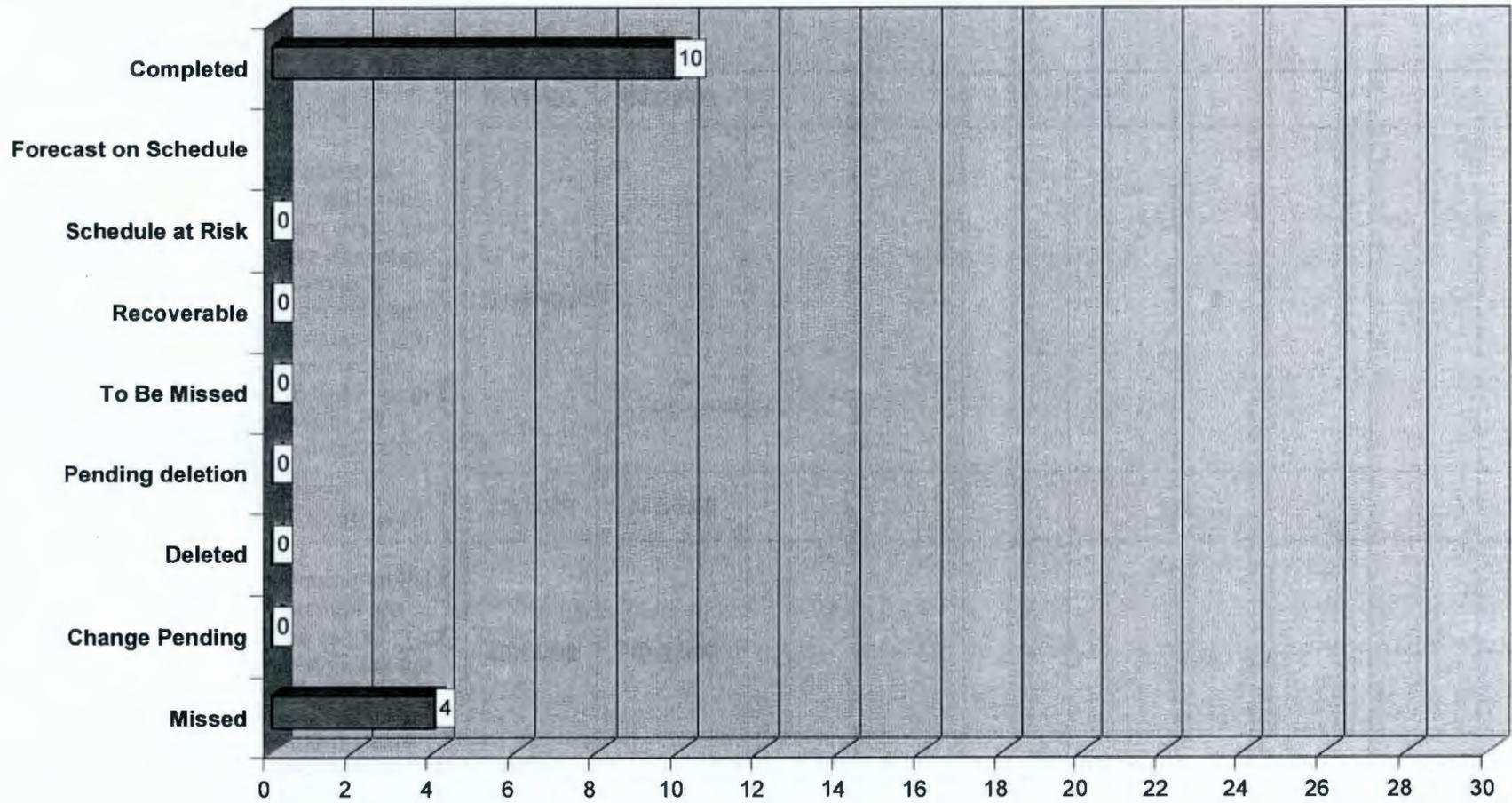
### Fiscal Year 2006 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-048-07A	Complete construction of the AZ-301 condensate return system and pit upgrades. This includes: 1) Complete construction of the AZ-301 condensate return system and remove the AZ-151 catch tank system from service [see M 45-07A-A]; 2) Complete construction of AP-106A Central Pump upgrade [M-48-07A-B]; and 3) complete construction of SY-B Valve Pit upgrade [see M 48-07A-C].	06/30/06	06/08/06								
M-048-07A-C	Completion of construction for the 241-SY-B valve pit upgrade (remove existing equipment, evaluate pit integrity, and replace pit coating, if necessary). This scheduled deliverable is a subset of M-48-07A, and thus labeled as M-48-07A-C.	06/30/06	06/08/06								
M-048-07B	The Disposition of all Double-Shell Tank Transfer System Components that will not remain in use beyond June 30, 2005.	06/30/06	6/22/06								
M-062-08	Submittal Of Hanford Tank Waste Supplemental Treatment Technologies Report, Draft Hanford Tank Waste Treatment Baseline, And Draft Negotiations Agreement In Principle (AIP).	06/3/06						X			

### Fiscal Year 2006 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-045-56B	Ecology and DOE agree, at a minimum, to meet yearly (by July or as needed to support annual budgeting) for the specific purpose of assessing the adequacy of information, and the need for the establishment of additional agreement interim measures.	07/01/06	07/01/06								
M-062-01M	Submit Semi-Annual Project Compliance Report.	07/31/06	07/31/06								
M-045-00B	Complete specified "near term" SST waste retrieval and interim closure activities, to result in the retrieval of all tank wastes in WMA-C SSTs pursuant to the agreement criteria in milestone M-45-00.	09/30/06						X			
M-045-00C	Initiate negotiation of SST waste retrieval and closure activities and associated schedules (for the period February 07 through August 08).	09/30/06						X			

### FY 2007 MILESTONE PERFORMANCE



### Fiscal Year 2007 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R30	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	10/31/06	10/31/06								
M-062-03	Submit DOE Petition for RCRA Delisting of Vitrified HLW.	12/31/06	12/22/06								
M-045-00C-A	Ecology and DOE negotiations under this milestone shall be completed within 120 days. In the event the parties do not reach agreement within timeframe, the negotiations will be resolved as a resolution of dispute via final determination. Unless otherwise agreed by Ecology and DOE, this final determination will be issued within 150 days of initiation of negotiations.	01/28/07						X			
M-062-01N	Submit Semi-Annual Project Compliance Report.	01/31/07	01/31/07								

### Fiscal Year 2007 Tri-Party Agreement Milestone Status

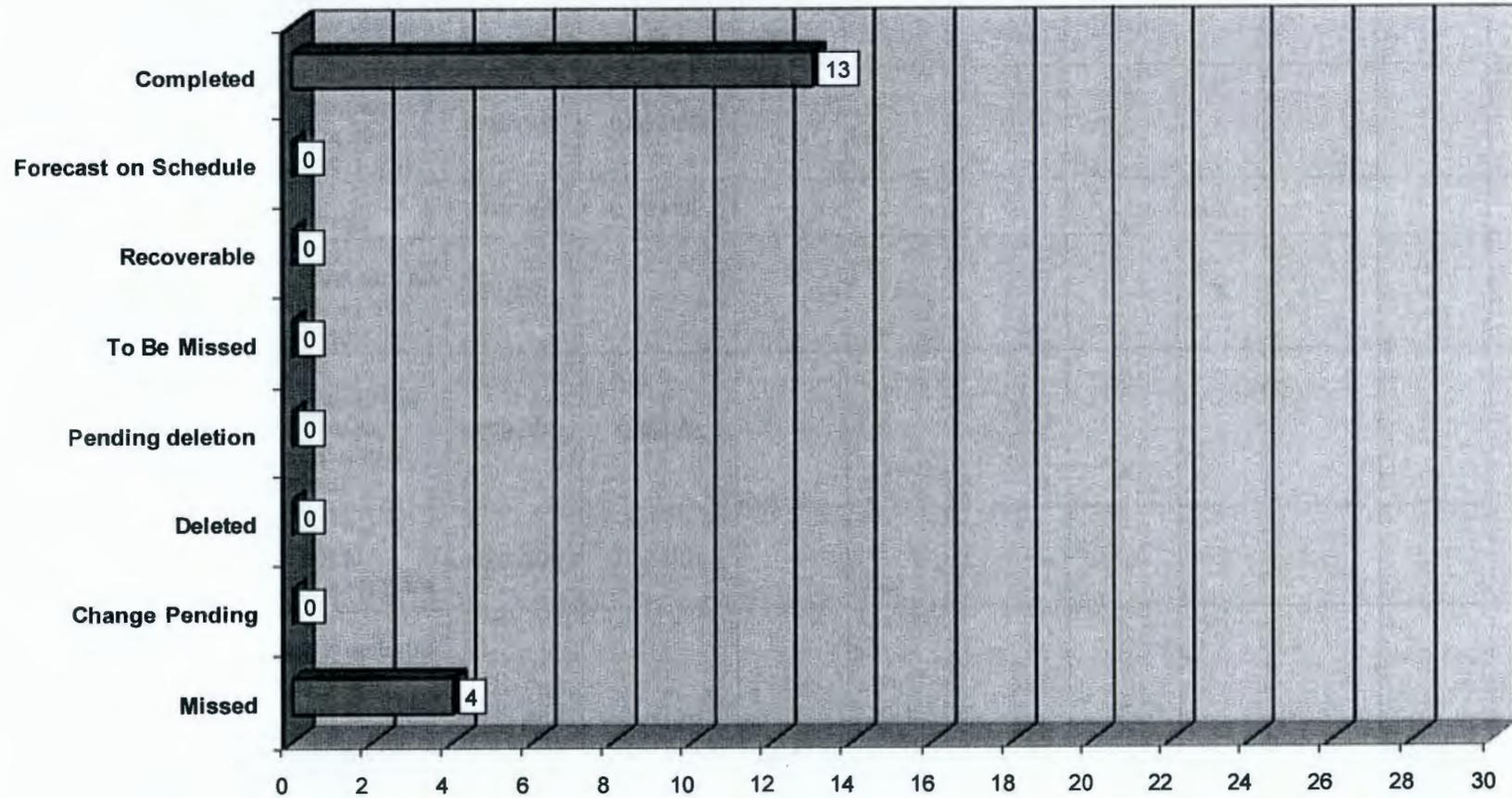
Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R31	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	01/31/07	01/26/07								
M-045-05A	Complete Waste Retrieval from S-102.	3/31/07						X			
D-001-00-R32	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	04/30/07	04/27/07								
M-062-11	Submit a Final Hanford Tank Waste Treatment Baseline. Following completion of negotiations required by M-62-08, DOE will modify its draft baseline as required and submit its revised, agreed-to baseline for treating all Hanford Tank Waste (HLW, LAW, and TRU) by 12/31/2028.	06/30/07						X			

### Fiscal Year 2007 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Unrecoverable	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-045-56C	Ecology and DOE agree, at a minimum, to meet yearly (by July or as needed to support annual budgeting) for the specific purpose of assessing the adequacy of information, and the need for the establishment of additional agreement interim measures.	07/31/07	07/24/07								
D-001-00-R33	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	07/31/07	07/30/07								
M-062-01O	Submit Semi-Annual Project Compliance Report.	07/31/07	07/31/07								
M-048-15	Submit a report to Ecology for the re-examination of six (6) DSTs by ultrasonic testing in all areas previously examined to provide comparative data from which to calculate corrosion rates in each of the six DSTs examined.	09/30/07	09/26/07								
M-045-05-T05	Initiate tank retrieval from five additional single-shell tanks.	09/30/07						X			
M-048-00	Complete Tank Integrity Assessment activities for Hanford's Double Shell Tank (DST) system.	09/30/07	09/26/07								

\* Milestone has been completed by ORP; Ecology has not yet concurred.

### FY 2008 MILESTONE PERFORMANCE



### Fiscal Year 2008 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R34	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	10/31/07	10/31/07								
M-045-13-A	Submit to Ecology a Retrieval Data Report for S-112 pursuant to Agreement Appendix I.	12/31/07	12/21/07								
M-045-13-B	Remaining waste has been adequately characterized, and a risk assessment completed for S-112 residuals that remain in the tank.	12/31/07	12/21/07								
M-062-07B	Complete Assembly of LAW Vitrification Facility melter #1 and complete move of #1 melter into the HLW Vitrification Facility	12/31/07						X			
M-062-01P	Submit Semi-Annual Project Compliance Report.	01/31/08	01/31/08								
M-045-55	Submit to Ecology a Phase 1 RFI report integrating results of data gathering activities and evaluations for all SST WMAs.	01/31/08	01/30/08								
D-001-00-R35	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	01/31/08	01/31/08								

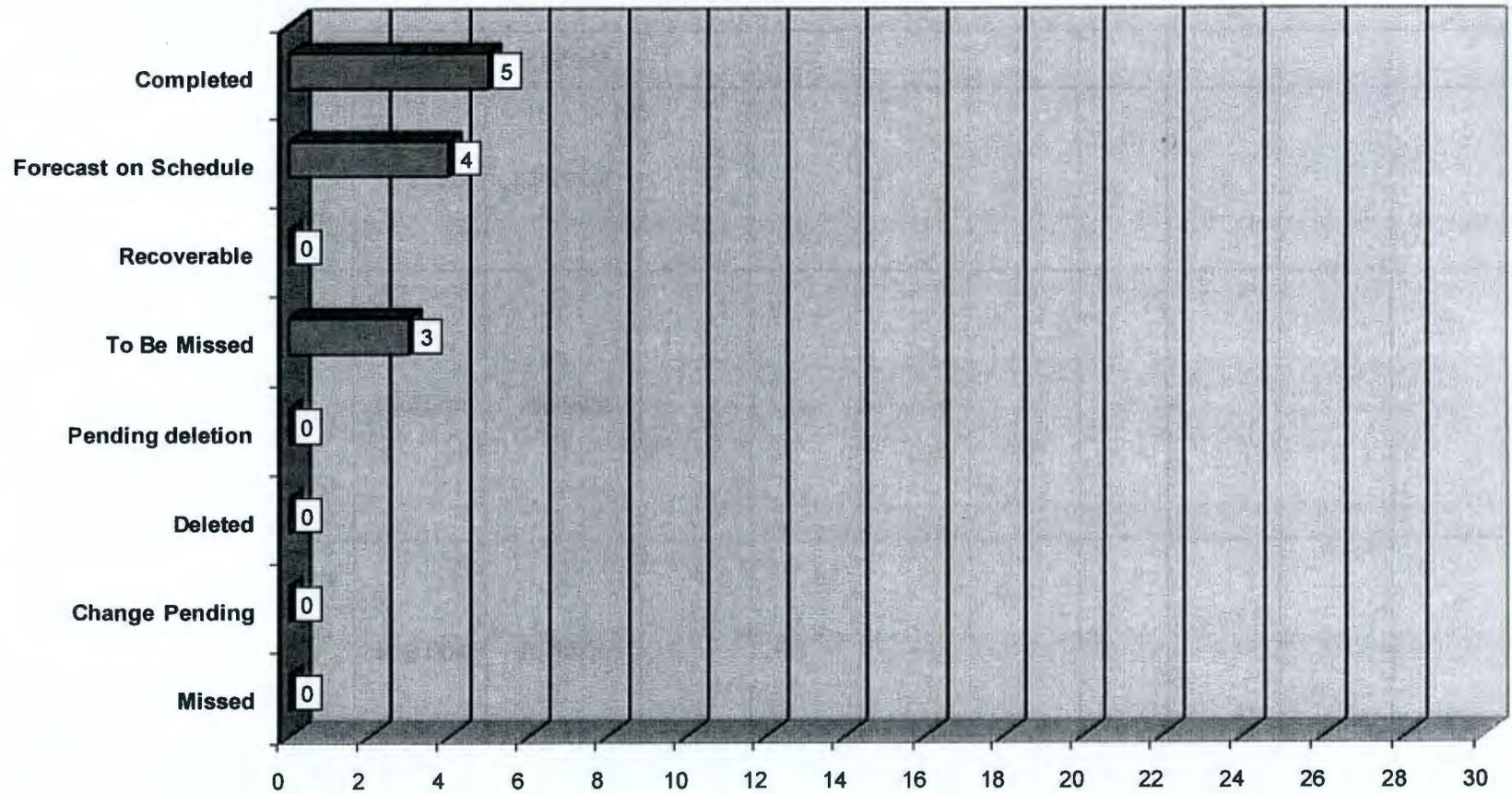
### Fiscal Year 2008 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-045-00D	Initiate negotiations of SST waste retrieval and closure for 2008-2013.	01/31/08						X			
M-045-02N	Submit Biennial Update.	03/01/08	02/29/08								
M-045-02N-A	Three Parties shall meet to establish new milestones within 60 days, if required, for acquisition of additional tanks.	06/02/08	01/22/09								
D-001-00-R36	DOE shall, on a quarterly basis, submit to ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	04/30/08	04/30/08								
M-045-00D-A	Negotiations shall be complete within 150 days.	06/29/08						X			
M-045-56D	Ecology and DOE agree, at a minimum, to meet yearly (by July or as needed to support annual budgeting) for the specific purpose of assessing the adequacy of information, and the need for the establishment of additional agreement interim measures.	07/31/08	07/22/08								
D-001-00-R37	DOE shall, on a quarterly basis, submit to ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	07/31/08	07/31/08								

### Fiscal Year 2008 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
M-062-01Q	Submit Semi-Annual Project Compliance Report.	07/31/08	07/30/08								
M-090-10	Ready to accept placement of ILAW in ILAW Disposal Facility.	08/31/08	02/13/07								
M-45-05-T06	Initiate tank retrieval from five additional SSTs.	09/30/08						X			

### FY 2009 MILESTONE PERFORMANCE



### Fiscal Year 2009 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R38	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	10/31/08	10/28/08								
M-045-58	Submit to Ecology for Review and Approval as an Agreement Primary Document Phase 2 Master Work Plan that describes the proposed approach for the completion of Corrective Action to meet final closure requirements in the Waste Management Areas as described in Appendix I, Section 2.3	12/31/08	12/18/08								
M-045-60	Submit to Ecology for review and approval as an agreement primary document, DOE's Phase 2 RFI/CMS Work Plan and Sampling and Analysis Plan (SAP) for WMA C.	12/31/08	12/18/08								
M-062-01R	Submit Semi-Annual Project Compliance Report	01/31/09	01/30/09								

### Fiscal Year 2009 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R39	DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	01/31/09	01/30/09								
M-062-09	Start Cold Commissioning – Waste Treatment Plant	02/28/09					X				
M-47-03A	Complete startup/turnover for waste retrieval mobilization systems for selected initial tank high-level waste feed tank	03/31/09					X				
D-001-00-R40	DOE shall, on a quarterly basis, submit to ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	04/30/09		X							
M-045-56E	Ecology and DOE agree, at a minimum, to meet yearly (by July or as needed to support annual budgeting) for the specific purpose of assessing the adequacy of information, and the need for the establishment of additional agreement interim measures.	07/31/09		X							

### Fiscal Year 2009 Tri-Party Agreement Milestone Status

Milestone No.	Description	Due Date	Completed	Forecast		Recoverable	Will Be Missed	Missed	Pending Deletion	Deleted	Change Pending
				On Schedule	Schedule at Risk						
D-001-00-R41	DOE shall, on a quarterly basis, submit to ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period.	07/31/09		X							
M-062-01S	Submit Semi-Annual Project Compliance Report	07/31/09		X							
M-045-05-T07	Initiate tank retrieval from 7 additional SSTs	09/30/09					X				

## Tank Farm Project Executive Summary December Reporting

### General

The earned value analysis is a comparison of cost and schedule performance to a one-year Interim Performance Measurement Baseline (IPMB). The one-year IPMB was developed as part of contract transition and is based on expected funding levels for fiscal year (FY) 2009. The earned value analysis is not intended to be a measurement of performance against existing Tri-Party Agreement Milestones.

The earned value performance reporting that follows reflects the format, Work Breakdown Structure (WBS) reporting levels, and variance thresholds that reflects agreement with the Tank Farms Operations Contractor (TOC) for monthly performance reporting. Generally, performance is reported at WBS level 3 with the exception of WBS 5.01.01, Base Operations, and WBS 5.01.05, Project Support, wherein reporting is at level 4 to provide additional visibility and analysis.

The schedule and cost variance analysis thresholds at the reporting levels are as follows:

Current Month (CM) = +/- 10% and \$150K

Cumulative to Date (CTD) = +/- 10% and \$500K

### Project Performance Summary

WRPS Project Performance - December (\$K)								
	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	15,862.9	15,199.7	15,980.1	-663.2	-4.2%	-780.5	-5.1%	
CTD	48,048.8	46,630.8	44,630.9	-1,418.1	-3.0%	1,999.9	4.3%	228,933.9

### PROJECT BASELINE PERFORMANCE STATUS

**Summary Assessment:** The current month (CM) schedule variance (SV) was -\$663.2K with a schedule performance index (SPI) of 0.96. The CM cost variance (CV) was -\$780.5K with a cost performance index (CPI) of 0.95.

The cumulative-to-date (CTD) SV was -\$1,418K with an SPI of 0.97 and the CTD CV was \$1,999.9K with a CPI of 1.04.

The primary contributors to the unfavorable CTD schedule variance of  $-\$1,418.1\text{K}$  are (1) Field Projects/Double-Shell Tank (DST) Life Extension related to AW-B valve funnel replacement; missing logic tie to be corrected by a baseline change request (BCR) and cathodic protection system; large volume of drawing updates and walkdowns); (2) Retrieval Technology Development due to conceptual design behind schedule; (3) C-104 Retrieval behind schedule on procurement and construction due to weather conditions and priority on C-110 Retrieval, which is partially offset by C-110 Retrieval (ahead of schedule on tank pump and distributor installation); and (4) 242-A Evaporator Operations and Maintenance due to Condenser Room decontamination.

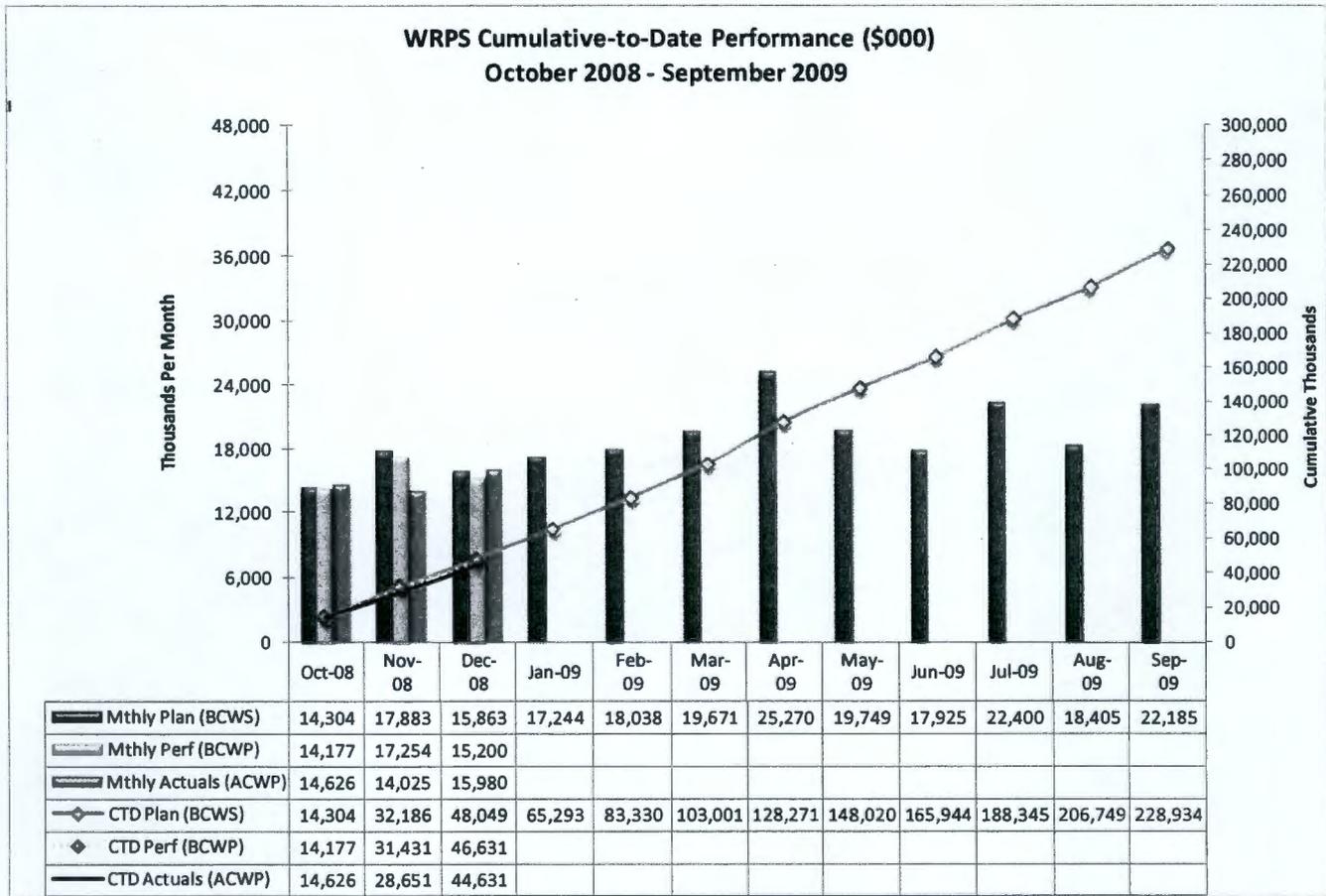
The primary contributors to the favorable CTD CV of  $\$1,999.9\text{K}$  are (1) Project Support underruns and efficiencies in Project Integration, Environmental Safety, Health, and Quality (ESH&Q), Workforce Resources and Business Services related to labor, subcontracts, material, tax and liability insurance payments, and Hanford Pension Fund payments and impacts resulting from time phasing of the work; (2) WTP Feed Delivery Program due to reduced staffing levels; and (3) TOC Facility Operations for efficiencies and underruns in the 222-S Laboratory Facility Support and Operations. The CTD CV is partially offset by unfavorable variances for (1) SST Retrieval East Area related to unplanned costs for C-110 Retrieval restart; and (2) Base Operations related to resource usage for Single-Shell Tank (SST) and DST Technical Safety Requirements (TSR)/Basic Maintenance.

The December 2008 CM and CTD earned value performance measurement data were impacted by approval and implementation of BCR RPP-09-001, "Fiscal Year (FY) 2009 Interim Performance Measurement Baseline (IPMB)," Revision 2. This BCR encompasses changes to the FY 2009 IPMB, made during the U.S. Department of Energy (DOE), Office of River Protection (ORP) meetings with the Washington River Protection Solutions, LCC (WRPS) control account managers to identify specific adjustments (additions and deletions) and/or resource optimizations, necessary to meet FY 2009 initiatives and close the gap between the anticipated budget and funds. In all, the BCR reduced the FY 2009 IPMB BCWS by  $\$16,684.7\text{K}$ .

The BCR changes were made to the baseline as of the end of November 2008. The changes discussed above resulted in a reduction to the CTD (October through November 2008) budgeted cost of work scheduled (BCWS) and budgeted cost of work performed (BCWP) of approximately  $\$2,057\text{K}$  as a CM point adjustment. This CM point adjustment resulted in an unfavorable impact to the CM and CTD cost variance in the accounts affected by the BCR.

The variances to date do not warrant a significant concern, as they will not impact the project critical path. Corrective actions are being implemented where necessary including the use of underruns for high-priority work or additional work and management reserve for risk mitigation and impacts.

The CM and CTD earned value performance data is shown on the graph below.



## CONTRACT-TO-DATE PERFORMANCE MEASUREMENT - 10/2008 - 12/2008

## BY WORK BREAKDOWN STRUCTURE

Dollars in Thousands

Cumulative Contract-To-Date

WBS	TITLE	Budgeted Cost			Variance				Budget at Completion (BAC)
		Work Scheduled	Work Performed	Actual Cost Work Performed	Schedule	SV%	Cost	CV%	
<b>5.1</b>	<b>BASE OPERATIONS</b>								
5.1.1	Base Operations	14,528.8	14,813.4	15,433.5	284.6	2.0%	-620.1	-4.2%	65,684.5
5.1.2	DST Space Management	1,289.3	1,013.7	1,294.5	(275.6)	-21.4%	-280.8	-27.7%	4,970.1
5.1.3	TOC Facility Operations	4,469.9	4,440.7	3,899.9	(29.2)	-0.7%	540.8	12.2%	19,567.9
5.1.4	Tank Farm Upgrades	973.4	285.6	206.6	(687.8)	-70.7%	79.0	27.7%	3,282.1
5.1.5	Project Support	<u>18,080.4</u>	<u>18,073.7</u>	<u>15,444.8</u>	<u>(6.7)</u>	0.0%	<u>2,628.9</u>	14.5%	<u>76,140.7</u>
	<b>TOTAL</b>	<b>39,341.8</b>	<b>38,627.1</b>	<b>36,279.3</b>	<b>(714.7)</b>	-1.8%	<b>2,347.8</b>	6.1%	<b>169,645.3</b>
<b>5.2</b>	<b>RETRIEVE AND CLOSE SSTs</b>								
5.2.1	Retrieval/Closure Program	3,765.8	3,399.7	3,693.1	(366.1)	-9.7%	-293.4	-8.6%	24,916.0
5.2.2	SST Retrieval East Area	2,471.7	2,256.2	3,149.9	(215.5)	-8.7%	-893.7	-39.6%	22,298.1
5.2.3	SST Retrieval West Area	34.7	43.1	41.8	8.4	24.2%	1.3	3.0%	137.3
5.2.4	Closure Program	368.1	328.0	129.9	(40.1)	-10.9%	198.1	60.4%	1,403.5
5.2.5	SST Closure	<u>210.7</u>	<u>113.3</u>	<u>37.2</u>	<u>(97.4)</u>	-46.2%	<u>76.1</u>	67.2%	<u>1,619.7</u>
	<b>TOTAL</b>	<b>6,851.0</b>	<b>6,140.3</b>	<b>7,051.9</b>	<b>(710.7)</b>	-10.4%	<b>-911.6</b>	-14.8%	<b>50,374.6</b>
<b>5.3</b>	<b>WFD/TREATMENT PLNG/DST RETRIEVAL/CLOSURE</b>								
5.3.1	WTP Feed Delivery Program	1,458.2	1,465.5	1,051.8	7.3	0.5%	413.7	28.2%	7,159.6
5.3.2	Construct DST Retrieval Systems	242.4	242.4	124.2	0.0	0.0%	118.2	48.8%	1,091.0
5.3.6	Immobilization Program	<u>155.3</u>	<u>155.4</u>	<u>123.8</u>	<u>0.1</u>	0.1%	<u>31.6</u>	20.3%	<u>663.4</u>
	<b>TOTAL</b>	<b>1,855.9</b>	<b>1,863.3</b>	<b>1,299.8</b>	<b>7.4</b>	0.4%	<b>563.5</b>	30.2%	<b>8,914.0</b>
<b>TFC TOTAL</b>		<b>48,048.8</b>	<b>46,630.8</b>	<b>44,630.9</b>	<b>(1,418.0)</b>	-3.0%	<b>1,998.9</b>	4.3%	<b>228,933.9</b>

**CURRENT MONTH PERFORMANCE MEASUREMENT - 12/2008**  
**BY WORK BREAKDOWN STRUCTURE**  
**Dollars in Thousands**

WBS	TITLE	Budgeted Cost		Current Month		Variance		
		Work Scheduled	Work Performed	Actual Cost Work Performed	Schedule	SV %	Cost	CV %
<b>5.1</b>	<b>BASE OPERATIONS</b>							
5.1.1	Base Operations	4,772.6	5,223.7	5,218.4	451.2	9.5%	5.3	0.1%
5.1.2	DST Space Management	294.2	285.6	506.1	(8.6)	-2.9%	(220.5)	-77.2%
5.1.3	TOC Facility Operations	1,592.2	1,554.9	1,494.3	(37.3)	-2.3%	60.7	3.9%
5.1.4	Tank Farm Upgrades	687.0	202.3	43.5	(484.7)	-70.6%	158.8	78.5%
5.1.5	Project Support	<u>5,055.7</u>	<u>5,052.7</u>	<u>5,259.1</u>	<u>(3.0)</u>	-0.1%	<u>(206.4)</u>	-4.1%
	<b>TOTAL</b>	<u>12,401.7</u>	<u>12,319.2</u>	<u>12,521.4</u>	<u>(82.4)</u>	<u>-0.7%</u>	<u>(202.1)</u>	<u>-1.6%</u>
<b>5.2</b>	<b>RETRIEVE AND CLOSE SSTs</b>							
5.2.1	Retrieval/Closure Program	1,661.5	1,323.8	1,322.2	(337.7)	-20.3%	1.6	0.1%
5.2.2	SST Retrieval East Area	1,422.9	1,059.8	1,603.4	(363.0)	-25.5%	(543.6)	-51.3%
5.2.3	SST Retrieval West Area	16.2	24.6	15.8	8.4	51.9%	8.8	35.8%
5.2.4	Closure Program	23.5	-29.0	40.3	(52.4)	-223.0%	(69.3)	239.0%
5.2.5	SST Closure	<u>-102.1</u>	<u>56.3</u>	<u>34.9</u>	<u>158.4</u>	<u>-155.1%</u>	<u>21.4</u>	<u>38.0%</u>
	<b>TOTAL</b>	<u>3,022.0</u>	<u>2,435.5</u>	<u>3,016.6</u>	<u>(586.3)</u>	<u>-19.4%</u>	<u>(581.1)</u>	<u>-23.9%</u>
<b>5.3</b>	<b>WFD/TREATMENT PLNG/DST RETRIEVAL/CLOSURE</b>							
5.3.1	WTP Feed Delivery Program	309.7	315.5	341.0	5.7	1.8%	(25.5)	-8.1%
5.3.2	Construct DST Retrieval Systems	86.3	86.2	45.6	(0.0)	0.0%	40.6	47.1%
5.3.6	Immobilization Program	<u>43.2</u>	<u>43.2</u>	<u>55.6</u>	<u>0.0</u>	<u>0.0%</u>	<u>(12.4)</u>	<u>-28.7%</u>
	<b>TOTAL</b>	<u>439.2</u>	<u>444.9</u>	<u>442.2</u>	<u>5.7</u>	<u>1.3%</u>	<u>2.7</u>	<u>0.6%</u>
<b>TOC TOTAL</b>		<u>15,862.9</u>	<u>15,199.7</u>	<u>15,980.1</u>	<u>(663.2)</u>	<u>-4.2%</u>	<u>(780.4)</u>	<u>-5.1%</u>

## 5.01.01-BASE OPERATIONS

### WBS 5.01.01.02 –TSR/Surveillance & Maintenance

This WBS element includes (1) Waste Feed Operations Safe Storage Surveillance and Monitoring activities for DST operations monitoring and response activities necessary to satisfy TSRs; (2) DST TSR/Basic Maintenance activities necessary to maintain DST Farms and the 242-A Evaporator; (3) DST Control Spare Parts, Materials and Tools; (4) Waste Feed Operations DST radiological surveys.

#### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	3,517.5	3,483.5	3,545.0	-34.1	-1.0%	-61.6	-1.8%	
CTD	9,858.0	9,789.8	10,826.9	-68.2	-0.7%	-1,037.1	-10.6%	41,882.3

#### Schedule and Cost Variance Analysis

The CM schedule and cost variances and the CTD schedule variance are within the reporting thresholds.

The CTD cost variance of -\$1,037.1K is reportable:

**Description/Cause:** The negative cost variance was the result of labor charges exceeding the planned level within the DST and SST TSR/Basic Maintenance accounts.

**Impact:** No impact is projected at fiscal year-end, as the variance will begin to decrease as other Base Operations activities ramp up, such as 242-A Evaporator maintenance, DST-to-DST Transfers, Tank Waste Sampling, and Catch Tank Pumping. Some DST Maintenance resources would be assigned to these activities.

**Corrective Action:** None required at this time.

## 5.01.01– Base Operations - CONTINUED

**WBS 5.01.01.05 – Tank Chemistry and Integrity**

This WBS element includes activities necessary to ensure that the waste within the DSTs complies with the chemistry control limits of Administrative Control (AC) 5.16, "Corrosion Mitigation Controls," of the HNF-SD-WM-TSR-006, *Tank Farm Technical Safety Requirements*. Activities are based on periodic assessments of the hydroxide and nitrite ion waste concentrations as part of the DST Chemistry Control Program, including engineering support; laboratory testing and analysis; DST chemistry and thermodynamic mixing modeling; DST chemistry optimization studies and corrosion expert panel support; development, testing, and deployment of new DST corrosion monitoring systems. Other activities include the DST Integrity Project to maintain and improve the longevity of the DST systems and SST Integrity Project.

**December 2008 (K\$)**

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	-25.1	482.5	563.2	507.6	-2018.3%	-80.7	-16.7%	
CTD	998.9	1,395.3	1,430.4	396.4	39.7%	-35.1	-2.5%	7,730.7

**Schedule and Cost Variance Analysis**

The CM cost variance and the CTD schedule and cost variances are within the reporting thresholds.

The CM schedule variance of \$507.6K is reportable:

**Description/Cause:** The CM favorable schedule variance within Tank Chemistry Control (+\$328K) is due to implementing BCR RPP-09-001, which allowed WRPS to break out the AY-101 Corrosion Probe Design and Fabrication activity (a \$941K activity) into two separate activities: (1) the Design and Engineering, which started in October 2008; and (2) the Corrosion Probe Fabrication starting in January 2009. In November, prior to implementing the BCR, the schedule level loaded the \$941K six-month long activity, which overstated the BCWS during the first two months. Performance was only taken on the Design and Engineering, thus, providing a false indication that this activity was behind schedule (-\$143K) in November 2008.

The CM favorable schedule variance within DST Integrity Project (+\$153K) is due to two things:

(1) It was originally scheduled to perform the Ultrasonic Test (UT) Device Testing first and then perform the UT examinations of the DSTs; however, it was determined that the UT Device Testing and the UT examinations can be performed in parallel. Therefore, the AW-101 UT examination is being performed ahead of schedule. (2) During the implementation of BCR RPP-09-001, the durations were modified on the UT Device Testing activity to be more reflective of the actual timing of the work.

**Impact:** None; these activities are being performed ahead of schedule and are expected to be within the reporting thresholds at year-end.

## 5.01.02 – DST SPACE MANAGEMENT

This WBS element includes activities necessary to evaluate the availability of DST space including issuing the annual DST Space Evaluation report, SST Retrieval Sequence, and Monthly Waste Tank Summary Reports. This also includes the development of the annual SST Retrieval Sequence, which is dependent on availability of DST space, is included in this activity.

### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	294.2	285.6	506.1	-8.6	-2.9%	-220.5	-77.2%	
CTD	1,289.3	1,013.7	1,294.5	-275.6	-21.4%	-280.8	-27.7%	4,970.1

### Schedule and Cost Variance Analysis

The CM schedule variance and the CTD schedule and cost variances are within the reporting thresholds.

The CM cost variance of -\$220.8K is reportable:

**Description/Cause:** The CM unfavorable cost variance within the 242-A Evaporator Operations and Maintenance (-\$170K) is due to unplanned maintenance costs associated with the decontamination of the condenser room and inspection/repair/replacement of the air compressors. The five-level condenser room was contaminated in late FY 2008. Decontamination efforts were initiated in FY 2009 and subsequently suspended when loose contamination continued to spread across "clean" areas; investigation revealed an unsealed penetration between the evaporator and condenser rooms that had allowed 30 years of loose contamination to accumulate inside the vapor line shield box. A contamination seal will be installed before resuming decontamination efforts. Additionally, screw-type electric air compressors were purchased in 2007, but not installed due to baseline constraints. A work-planning walkdown identified several potential National Electrical Code (NEC) issues; an independent NEC inspection was completed and repair work (\$30K) has been authorized.

**Impact:** This account will continue to reflect an unfavorable cost variance until opportunities to reduce costs in other areas can be achieved and/or a baseline change request can be implemented to capture the additional scope of work for these activities.

**Corrective Action:** Opportunities to reduce costs and/or recover the overrun associated with the decontamination of the condenser room and installation of a contamination seal, and inspection/repair of the replacement air compressors are being evaluated for a path forward. In addition, a BCR will be processed to capture the additional scope of work required to perform the decontamination of the condenser room and air compressor replacements.

### 5.01.03 – TOC FACILITY OPERATIONS

This work scope provides for the 222S Management, Analytical Process Development, Operations, Engineering, Maintenance, ESH&Q, Nuclear Safety, Radiological Controls, Laboratory Support Services, and Waste Handling necessary to operate the 222S Laboratory.

#### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	1,592.2	1,554.9	1,494.3	-37.3	-2.3%	60.7	3.9%	
CTD	4,469.9	4,440.7	3,899.9	-29.2	-0.7%	540.8	12.2%	19,567.9

#### Schedule and Cost Variance Analysis

The CM schedule and cost variances and the CTD schedule variance are within the reporting thresholds.

The CTD cost variance of \$540.8K is reportable:

**Description/Cause:** The 222S Laboratory 100-megabyte Hanford Local Area Network (HLAN) upgrade; procurement of analytical equipment (mercury analyzers, ion chromatography, gas chromatography); and annual renewal of analytical equipment service agreements are currently level-of-effort (LOE) activities being reported against a level-loaded budget. Also, the positive cost variance is associated with less than planned support from Fluor Hanford (FH) for corrective and preventative maintenance, including material procurements and contractor design and calculation support. The positive cost variance will diminish as the fiscal year progresses.

**Impact:** None.

**Corrective Action:** A Class 3 BCR (RPP-09-018) has been prepared to create a discrete activity for the 100-megabyte HLAN upgrade and another Class 3 BCR (RPP-09-019) has been prepared to redistribute budget to procure and install a Gamma Energy Analyzer (GEA) that will be capitalized. This redistribution of budget will align the planned budget with how the work will be performed

## 5.01.04– TANK FARM UPGRADES

This scope includes special administrative projects and field projects. Administrative projects include RPP planning and integration, Defense Nuclear Facilities Safety Board (DNFSB) liaison interaction, work force realignment and restructuring, and the Senior Safety Review Board. Field projects include completion of the Tank Farms Documented Safety Analysis (DSA) and implementation, Standard Hydrogen Monitoring System (SHMS) program, budget accounts for 242-A evaporator upgrades, and DST life extension projects.

### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	687.0	202.3	43.5	-484.7	-70.6%	158.8	78.5%	
CTD	973.4	285.6	206.6	-687.7	-70.7%	79.1	27.7%	3,282.1

### Schedule and Cost Variance Analysis

The CM cost and schedule variance is reportable:

**Description/Cause:** The CM unfavorable schedule variance is due to the AW-B Valve Funnel Replacement activity being behind schedule as a result of an error that was introduced into the PMB as part of BCR RPP-09-001. A logic tie was inadvertently omitted that held out the AW-B Pit Work until after the FY 2009 evaporator campaigns are completed (end of May 2009).

**Impact:** This account will continue to reflect an unfavorable schedule variance until the schedule can be corrected.

**Corrective Action:** BCR RPP-09-004 is in the review/approval process that will correct the logic tie and move the AW-B Field Work out to the May/June 2009 time frame.

The CM cost variance of \$158.8K is reportable:

**Description/Cause:** The CM favorable cost variance is due to vendor provided estimates coming in slightly less than expected for the month of December 2008.

**Impact:** None; the fiscal year to-date (FYTD) cost variance is within the reporting threshold.

**Corrective Action:** The vendors were notified to reiterate the importance of submitting accurate cost-to-date estimates.

The CTD schedule variance of -\$687.7K is reportable:

**Description/Cause:** The FYTD unfavorable schedule variance is due to (1) the AW-B Valve Funnel Replacement activity being behind schedule as a result of an error that was introduced into the PMB as part of BCR RPP-09-001. A logic tie was inadvertently omitted that held out the AW-B Pit Work until after

the FY 2009 evaporator campaigns are completed (end of May 2009); and (2) the Cathodic Protection System drawing updates being more difficult than initially anticipated. The volume of archived material is significantly more than anticipated, resulting in an increase in material reviews and field walkdowns being required to complete the FY 2009 work scope. As a result, some of the drawings may not be completed in FY 2009.

**Impact:** This account will continue to reflect an unfavorable schedule variance until the schedule can be corrected for the AW-B Valve Funnel Replacement and schedule recovered for the Cathodic Protection System.

**Corrective Action:** BCR RPP-09-004 is in the review/approval process that will correct the logic tie and move the AW-B Field Work out to the May/June 2009 time frame. Additionally, the following corrective actions are being taken to minimize schedule delays with the development of updated Cathodic Protection System drawings for AN, AW, AY, AZ, and SY Farms: (1) Archived materials for all other DST Farms is presently being requested as opposed to waiting until drawing preparation activities begin; and (2) ARES has assigned other existing staff to review the archived material as it is received. These actions should reduce the schedule variance to within reporting thresholds within two to three months

## 5.01.05– PROJECT SUPPORT

### WBS 5.01.05.01 – Project Integration

Project Integration provides Senior Management Oversight for integrated and consistent project programs, practices, and performance for the overall TOC Project and area engineering, procurement, construction, and commissioning (EPCC) projects. Project Integration also (1) maintains Earned Value Management System; (2) supports interface working group as applicable with other interface portfolio managers from Waste Treatment and Immobilization Plant (WTP) Contract, River Corridor Closure Contract (RCCC), Plateau Remediation Contract (PRC), Mission Support Contract (MSC), and other site contracts as needed to review and resolve interface issues; and (3) conducts periodic design, constructability, and operability reviews. Project Control will provide and maintain the PMB, WBS data, the Life-Cycle Baseline and BCRs, monthly performance, and risk management plans.

#### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	591.1	588.1	398.3	-3.0	-0.5%	189.8	32.3%	
CTD	1,879.2	1,872.5	1,450.5	-6.7	-0.4%	422.0	22.5%	7,939.5

#### Schedule and Cost Variance Analysis

The CM schedule variance and the CTD cost and schedule variances are within the reporting thresholds.

The CM cost variance of \$189.8K is reportable:

**Description/Cause:** A majority of the cost variance (\$122K) is in Construction/Commissioning Management due to vendor providing understated estimates, and fewer FTEs charging time than planned due to the holidays. Minor underruns in Project(s) Management labor and subcontracts (\$74K) also contribute to the variance.

**Impact:** None.

**Corrective Action:** Communications with the vendors will yield estimates that are more accurate in January 2009.

## 5.01.05– PROJECT SUPPORT - CONTINUED

**WBS 5.01.05.02 – Environmental, Safety, Health and Quality Assurance**

This function (1) provides management, oversight, and administration to the ESH&Q Assurance Functional Organization; (2) sets policy, establishes work objectives, and interfaces with TOC senior management; and (3) responds to requests from the Tank Farms line and support organizations to handle emergent work issues pertaining to environmental protection, industrial safety, environmental health, quality assurance (QA), radiation protection, event reporting, security, and emergency operations. Other activities include verification that regulatory compliance and best management practices are achieved. This element also provides Environmental Management (EM) core infrastructure for the TOC and environmental services to operations. General TOC environmental strategies, regulatory analyses, negotiations, permitting, and compliance oversight not specifically included in other WBS elements are part of this work scope.

**December 2008 (K\$)**

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	1,073.2	1,073.2	874.3	0.0	0.0%	198.9	18.5%	
CTD	3,429.1	3,429.1	2,964.9	0.0	0.0%	464.2	13.5%	14,526.1

**Schedule and Cost Variance Analysis**

The CM schedule variance and the CTD schedule and cost variances are within the reporting thresholds.

The CM cost variance of \$198.9K is reportable:

**Description/Cause:** A majority of the cost variance is in Radiation Protection (\$122K) and is due to an accrual adjustment made by Pacific Northwest National Laboratory (PNNL) in December 2008 for dosimetry services to bring costs in line with revised estimated CTD costs.

**Impact:** None.

**Corrective Action:** None required.

## 5.01.05 – PROJECT SUPPORT – CONTINUED

**WBS 5.01.05.05 – Workforce Resources**

This function serves as the central organization to provide Human Resources services in the areas of Staffing, Recruiting, and Workforce Restructuring; Compensation and Benefit Administration; Personnel Records; Diversity; Employee Relations; Employee Concerns; Human Resource Development to include Human Performance Improvement; and Labor Relations.

**December 2008 (K\$)**

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	453.2	453.2	402.0	0.0	0.0%	51.2	11.3%	
CTD	1,819.9	1,819.9	1,193.0	0.0	0.0%	627.0	34.5%	8,875.2

**Schedule and Cost Variance Analysis**

The CM schedule and cost variances and the CTD schedule variance are within the reporting thresholds.

The CTD cost variance of \$627.0K is reportable:

**Description/Cause:** The favorable cost variance is due to (1) Human Resources (\$271.3K) related to the level loading of the relocation budget (\$227K) across the year when most cost will be incurred in the last six months, and Labor Relations (\$70K), due to contract support for re-negotiation of the bargaining unit contract, which is also level loaded across the year, but the activity will not start until the January-February timeframe; and (2) TOC Training Program (355.7K) related to training class attendance through December being below planned levels, resulting in lower subcontracted tuition charges.

**Impact:** Human Resources costs related to re-negotiation of the labor contract will be monitored to identify possible cost impacts. The TOC Training Program positive cost trend had been expected to continue into December due to fewer classes being scheduled around the holidays, when compared to the plan. No impact is projected by the end of the fiscal year as a result of this cumulative underrun.

**Corrective Action:** For Human Resources, it may be necessary to submit a BCR to address any increased scope as a result of the contract negotiations. TOC Training Program actual monthly training class attendance is projected to increase after the holidays and this cumulative underrun, resulting from lower subcontracted tuition charges will begin to diminish throughout the fiscal year.

## 5.01.05 – PROJECT SUPPORT – CONTINUED

**WBS 5.01.05.06 – Business Services**

This element includes the management of (1) Procurement and Contracts to ensure that the TOC contracts and procurement functions are planned, budgeted, and controlled; (2) Office of the Chief Financial Officer, the Controller, to provide full range of financial services including accounts payable, accounts receivable, general accounting, general ledger, funds control, sight, and compliance; and (3) Information Resources Management to ensure appropriate computer-related technologies, systems, applications, data and information capabilities are in place to meet company mission, business, and administrative requirements.

**December 2008 (K\$)**

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	1,497.6	1,497.6	1,536.8	0.0	0.0%	-39.2	-2.6%	
CTD	5,257.6	5,257.6	4,579.3	0.0	0.0%	678.2	12.9%	20,608.5

**Schedule and Cost Variance Analysis**

The CM schedule and cost variances and the CTD schedule variance are within the reporting thresholds.

The CTD cost variance of \$678.2K is reportable:

**Description/Cause:** The favorable cost variance is due to (1) Facility and Property Management (\$381.0K) related to a positive labor variance (\$221K); occupancy costs not received (\$99K); and DOE contract costs not yet received (\$80K); and (2) Finance Support (\$253.3K) related to performing work with less staff than planned (\$45K); company travel BCWS being level loaded across the year (\$25K); and miscellaneous administrative expenses being less than planned (\$165.6). The miscellaneous administrative expenses cost variance is primarily driven by taxes and liability insurance payments being less than planned (\$108K) and contracts being underrun (\$38K). It is anticipated that this favorable cost variance will decrease as the year progresses.

**Impact:** None anticipated.

**Corrective Action:** For Facility and Property Management, expecting to receive late costs from DOE and Project Hanford Management Contract (PHMC) accounts. Labor will show increases due to new positions approved and the reduction of holiday and vacation for the next 90 days. Also, anticipate additional overtime work due to probable additional snow and ice conditions. For Finance Support, no corrective action is required.

## 5.01.05 – PROJECT SUPPORT – CONTINUED

**WBS 5.01.05.08 – Hanford Pension and Benefits**

This element provides the funding for WRPS active employees in the Hanford Site pension plan and the medical funding for retired employees eligible under the Hanford post-retirement medical benefits plan.

**December 2008 (K\$)**

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	756.6	756.6	1,353.5	0.0	0.0%	-596.9	-78.9%	
CTD	3,778.0	3,778.0	3,502.9	0.0	0.0%	275.1	7.3%	16,136.5

**Schedule and Cost Variance Analysis**

The CM schedule variance and the CTD schedule and cost variances are within the reporting thresholds.

The CM cost variance of -\$596.9K is reportable:

**Description/Cause:** The unfavorable cost variance is related to the Hanford Pension Fund and is due mainly to the CM point adjustment made during implementation of BCR RPP-09-001 (-\$913K change to December BCWS/BCWP). In addition, retiree insurance premiums continue to be less than planned.

**Impact:** None anticipated.

**Corrective Action:** None required.

## 5.02.01 – RETRIEVAL/CLOSURE PROGRAM

This work element provides support to the Retrieval and Closure projects that will retrieve waste from the tanks and close tank farm facilities. This work element also develops the common technology platforms and systems used by the retrieval and closure projects that include the new Mobile Retrieval System (MRS) development and Leak Detection Monitoring and Mitigation (LDMM) technology development. Finally, this work element includes the retrieval, deactivation, and/or closure of non-tank SST and DST facilities and inactive waste sites, including: (1) SST retrieval demonstration documentation, and procurement and testing of the MRS; (2) National Environmental Policy Act (NEPA), closure, and permitting documentation including the NEPA Environmental Impact Statement (EIS), Resource Conservation and Recovery Act (RCRA) closure plan updates, DOE O 435.1 documentation, and air permit applications; (3) Retrieval and closure technology development; (4) Cold Test Facility (CTF) management and maintenance; (5) Vadose zone investigations and risk assessments; (6) Engineering, design, construction and procurement, startup, testing, and turnover to operations of waste receiver facilities supporting SST retrieval; (7) Inactive waste site surveillance, maintenance, and management; and (8) Isolation of the 244-CR vault and disposition of hose-in-hose transfer line (HIHTL).

### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	1,661.5	1,323.8	1,322.2	-337.7	-20.3%	1.6	0.1%	
CTD	3,765.8	3,399.7	3,693.1	-366.1	-9.7%	-293.3	-8.6%	24,916.0

### Schedule and Cost Variance Analysis

The CM cost variance and the CTD schedule and cost variances are within the reporting thresholds.

The CM schedule variance of -\$337.7K is reportable:

**Description/Cause:** The primary contributors to the unfavorable schedule variance are Retrieval Technology Development (-\$374.5K), Direct Push Characterization and Sampling (\$142K), and Interim Barriers for TY Farm (-\$126K) as follows: (1) Retrieval Technology Development due to a level-loaded budget for 100 Series Arm/CEES (\$ 6,412,3K). In the performance measurement baseline (PMB), this activity is scheduled to start on October 20, 2008, and finish on September 30, 2009, with resources evenly spread. In the detailed working schedule, this scope has been broken out to discrete activities. The BCWP (\$892.K) is calculated on performance of these detailed activities and the distribution of resources contained in the Rules of Performance; (2) Direct Push Characterization and Sampling due to Direct Push fieldwork in TY-Farm proceeding ahead of schedule and nearing completion; and (3) Interim Barriers for TY Farm due to the total budget being reduced in BCR RPP-09-001, which was implemented in December 2008. The result was a CM downward point adjustment to BCWS and BCWP, resulting in negative BCWP for December.

**Impact:** For Retrieval Technology Development, monthly schedule variance explanations will be required. For Direct Push Characterization and Sampling, as funding allows, crews will be moved from TY Farm to C Farm to do additional direct push samples there. No impact for Interim Barriers as the FYTD BCWS and BCWP are correct and variances are within the reporting thresholds.

**Corrective Action:** Retrieval Technology Development will require a BCR to revise the PMB to reflect a more accurate time-phased budget spread for the remaining scope. No corrective actions are required for Direct Push Characterization and Sampling and Interim Barriers.

## 5.02.02 – SST RETRIEVAL EAST AREA

The WBS element includes activities to retrieve waste from the 200 East SSTs. Retrieval activities include design, procurement, construction, startup, readiness, and operation of SST waste retrieval systems.

### December 2008 (K\$)

	BCWS	BCWP	ACWP	SV	SV%	CV	CV%	BAC
CM	1,422.9	1,059.8	1,603.4	-363.0	-25.5%	-543.6	-51.3%	
CTD	2,471.7	2,256.2	3,149.9	-215.5	-8.7%	-893.8	-39.6%	22,298.1

### Schedule and Cost Variance Analysis

The CTD schedule variance is within the reporting thresholds.

The CM schedule variance of -\$363.0K is reportable:

**Description/Cause:** The primary contributors to the unfavorable schedule variance are C-104 Retrieval (-\$558K), C-110 Retrieval (\$319K), and C Farm Infrastructure (-\$124K) as follows: (1) The C-104 Retrieval variance is due to delays in removing water from the 04B-Pit, awarding of procurement and construction contracts, and technical issues related to the engineering standard for pumps. The variance is also influenced by resource priority being given to restarting C-110 Retrieval Operations; (2) The C-110 Retrieval variance is due to accelerating the C-110 construction activities to support restart of Retrieval Operations; and (3) The C Farm Infrastructure variance is influenced by resource priority being given to restarting C-110 Retrieval Operations.

**Impact:** The C-104 Retrieval impact is that delaying the water removal from the 04B-Pit delays the removal of the failed heel jet pump in riser 13 (04B-Pit). This ultimately delays installation of the new slurry pump in riser 13, and the final connection of HIHTL. The C-110 impact is that this will allow Retrieval Operations to restart ahead of schedule and help ensure completion of C-110 Retrieval this fiscal year. The C Farm Infrastructure impact is that current schedules still support completion of AN-01A pit modification to support C-104 Retrieval as planned.

**Corrective Action:** The C-104 corrective action is that efforts are underway to get the 04B-Pit pumping system installed and water removed by the end of December. This includes expediting changes to Engineering Standards 22 and 25, and ramping up Construction Resources. For C-110 Retrieval and C Farm Infrastructure, no corrective action is required.

The CM cost variance of -\$543.6K is reportable:

**Description/Cause:** The primary contributors to the unfavorable cost variance are C-110 Retrieval (-\$569K) and C Farm Infrastructure (-\$62K) partially offset by a favorable cost variance on C-104 Retrieval (\$88K) as follows: (1) The C-110 Retrieval variance is due to labor resources not planned but being expended on retrieval operations restart of this tank. Initial planning has no engineering, startup, and readiness activities planned since that work was complete in FY 2008. With shutdown of C-110 Retrieval operations in September 2008 and a new contractor in FY 2009, a new path forward was implemented to restart C-110 Retrieval operations. The re-performance of scope earned plus the readiness to serve charges in C-110 have contributed to this labor overrun. And (2) The C Farm Infrastructure variance is due to contracts for design and engineering that have received a front load of costs due to receipt of design media. The performance rules which drives earned value for BCWP were weighted evenly throughout the term of the activity.

**Impact:** The C-110 Retrieval impact is that additional budgeted labor resources and funding have been incorporated into the baseline via BCR RPP-09-001. There is no impact for C Farm Infrastructure because the variance will self-correct as work is completed in this area.

**Corrective Action:** The C-110 Retrieval corrective action is implementation of the BCR in December 2008 reporting period. Additionally, as work starts in C-104, we will see labor resources transition to this tank. The corrective action for C Farm Infrastructure is to review and possibly revise the rules of performance to coincide with the weighted value of the design and receipt of design media from the architect/engineer (A/E) vendor.

The CTD cost variance of -\$893.8K is reportable:

**Description/Cause:** The primary contributors to the unfavorable cost variance are C-110 Retrieval (-\$1094K) and C Farm Infrastructure (-\$196K) partially offset by a favorable variance for C-104 Retrieval (\$426K) as follows: (1) the C-110 variance is due to labor resources not planned but being expended on retrieval operations restart of this tank. Initial planning has no engineering, startup, and readiness activities planned since that work was complete in FY 2008. With shutdown of C-110 retrieval operations in September 2008 and a new contractor in FY 2009, a new path forward was implemented to restart C-110 retrieval operations. The re-performance of scope earned plus the readiness to serve charges in C-110 have contributed to this labor overrun; (2) the C Farm Infrastructure variance is due to contracts for design and engineering which have received a front load of costs due to receipt of design media. The performance rules which drives earned value for BCWP were weighted evenly throughout the term of the activity; and (3) the favorable variance for C-104 Retrieval is due to efficiencies realized in the procurement of fabricated construction equipment.

**Impact:** The impact for C-110 Retrieval was the additional budgeted labor resources and funding incorporated into the baseline via BCR RPP-09-001. There is no impact for C Farm Infrastructure as the variance will self correct as work is completed in this area. There is no impact for the C-104 variance.

**Corrective Action:** The corrective action for C-110 Retrieval is that as work starts in C-104 Retrieval, labor resources will transition to this tank. The corrective action for C Farm Infrastructure is to review and possibly revise the rules of performance to coincide with the weighted value of the design and receipt of design media from the A/E vendor. No corrective action is required for the C-104 Retrieval variance.

## Milestone M-45,-50,-60 Single-Shell Tank Corrective Action

### I. Near-Term Deliverables:

- **M-45-56E, Complete Implementation of Agreed to Interim Measures**  
Due: 07/31/09  
Status: On Schedule.
- **M-45-58, Submit to Ecology for review and approval as an Agreement primary document a Phase 2 Master Work Plan that describes the proposed approach for the completion of Corrective Action to meet Final Closure Requirements in the Waste Management Areas as described in Appendix I, Section 2.3**  
Due: 12/31/08  
Status: Complete. Report transmitted by ORP/Richland Operations Office (RL) to Ecology on December 23, 2008.
- **M-45-60, Submit to Ecology for review and approval as an Agreement primary document DOE's Phase 2 RFI/CMS Work Plan and Sampling and Analysis Plan (SAP) for WMA C**  
Due: 12/31/08  
Status: Complete. Report transmitted by ORP/RL to Ecology on December 19, 2008.
- **M-45-61, Submit to Ecology for review and approval as an Agreement primary document a Phase 2 RCRA Facility Investigation/Corrective Measures Study Report for WMA C**  
Due: 12/31/10  
Status: At Risk. See issues below.
- **M-45-62, Submit to Ecology for review and approval as an Agreement primary document a Phase 2 Corrective Measures Implementation Work Plan for WMA C**  
Due: 7/31/12  
Status: At Risk. See issues below.

### II. Significant Accomplishments:

- T-Farm interim barrier monitoring continues.
- Continued investigation for interim surface barrier in SX Tank Farm.
- Completed interim surface barrier direct push characterization in TY Tank Farm on January 30.
- Completed spectral gamma data collection in T Farm to support barrier effectiveness evaluation on January 30; data analysis is on track to be completed in March 2009.

- Completed field work, testing of surface geophysical exploration using deep electrodes in C Farm; preliminary results are encouraging.

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

- Initiate next phase of surface geophysical exploration in SX Farm.
- Initiate direct push characterization in C Farm per the Phase 2 RFI/CMS work plan and SAP for WMA C.

### **IV. Issues**

- The transmittal letter for M-45-50 (WMA C work plan and SAP) indicated that the scope of characterization activities identified in the plan could not be completed in time to support the currently scheduled dates for M-45-61 and M-45-62. Discussion of a change proposal will be initiated.
- There is no apparent maintenance plan for the ongoing maintenance of interim measures.

## **Milestone M-45-00, Complete Closure of All Single-Shell Tank Farms SST Retrieval and Closure Program**

### **I. Deliverables**

- **M-45-00, Complete Closure of all Single-Shell Tank Farms**  
Due: 9/30/24  
Status: To Be Missed (based on current DOE Baseline planning).
  
- **M-45-00B, Complete Specified "Near-Term" SST Waste Retrieval and Interim Closure Activities, to Result in the Retrieval of all Tank Wastes in WMA-C SSTs Pursuant to the Agreement Criteria in Milestone M-45-00**  
Due: 9/30/06 (Or as otherwise indicated within the descriptive text of this milestone.)  
Status: Missed.
  - Completion of four limits of technology retrieval demonstrations:
    - Saltcake dissolution (S-112): Completed (M-45-03C).
    - Modified sluicing (C-106): Completed.
    - Vacuum retrieval (C-200s): Completed; C-203 field retrieval operations completed on March 24, 2005; C-202 retrieval completed on August 11, 2005; C-201 retrieval completed on March 23, 2006; C-204 retrieval completed on December 11, 2006.
    - Mobile retrieval (C-101, C-105, or C-111): Not completed. C-101 start of retrieval is currently projected for FY 2011.
  
  - Implementation of full-scale leak detection monitoring and mitigation (LDMM) technologies for the first three 100-series tank retrievals following Tank S-112:
    - Tank S-102: High Resolution Resistivity System (HRR) installed; supporting retrieval operations.
    - Tank C-103: HRR demonstration complete.
    - Tank C-108: HRR installed; supporting retrieval operations.
    - Completed HRR injection tests at S-102.
    - Submitted HRR evaluation report and recommendation for further deployment.
  
  - Submittal of Tank Waste Retrieval Work Plans (TWRWP):
    - Tanks C-201, C-202, C-203, and C-204: Completed on April 8, 2004.
    - Two (2) 100-series tanks by July 31, 2004: Completed on July 29, 2004 (C-103 and C-109).
    - Four (4) 100-series tanks by 10/31/04: Completed on October 8, 2004 (C-102, C-104, C-107, C-108, and C-112).
    - Five (5) 100-series tanks by January 31, 2005: Completed on January 24, 2005 (C-101, C-105, C-110, and C-111).

- **M-45-00C, Initiate Negotiation of SST Waste Retrieval and Closure Activities and Associated Schedules (for the period February 2007 through August 2008)**  
Due: 9/30/06  
Status: Missed.
- **M-45-00D, Initiate Negotiation of the SST Waste Retrieval and Closure Activities (for the period September 2008 to September 2013)**  
Due: 1/31/08  
Status: Missed.
- **M-45-00E, Initiate Negotiation of SST Waste Retrieval and Closure Activities for the Remainder of the SST Program**  
Due: 10/31/12  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05, Retrieve Waste from all Remaining Single-Shell Tanks**  
Due: 9/30/18  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T05, Initiate Tank Retrieval from Five Additional Single-Shell Tanks**  
Due: 9/30/07  
Status: Missed.
- **M-45-05-T06, Initiate Tank Retrieval from Five Additional Single-Shell Tanks**  
Due: 9/30/08  
Status: Missed.
- **M-45-05-T07, Initiate Tank Retrieval from Seven Additional Single-Shell Tanks**  
Due: 9/30/09  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T08, Initiate Tank Retrieval from Eight Additional Single-Shell Tanks**  
Due: 9/30/10  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T09, Initiate Tank Retrieval from Ten Additional Single-Shell Tanks**  
Due: 9/30/11  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T10, Initiate Tank Retrieval from 12 Additional Single-Shell Tanks**  
Due: 9/30/12  
Status: To Be Missed (based on current DOE Baseline planning).

- **M-45-05-T11, Initiate Tank Retrieval from 14 Additional Single-Shell Tanks**  
Due: 9/30/13  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T12, Initiate Tank Retrieval from 17 Additional Single-Shell Tanks**  
Due: 9/30/14  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T13, Initiate Tank Retrieval from 20 Additional Single-Shell Tanks**  
Due: 9/30/15  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T14, Initiate Tank Retrieval from 20 Additional Single-Shell Tanks**  
Due: 9/30/16  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-05-T15, Initiate Tank Retrieval from 20 Additional Single-Shell Tanks**  
Due: 9/30/17  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-06, Complete Closure of all Single-Shell Tank Farms in Accordance with Approved Closure/Post Closure Plan(s)**  
Due: 9/30/24  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-06-T03, Initiate Closure Actions on a WMA Basis**  
Due: 3/31/12  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-45-06-T04, Complete Closure Actions on one WMA**  
Due: 3/31/14  
Status: To Be Missed (based on current DOE Baseline planning).

## II. Significant Accomplishments

- Retrieval was restarted on C-110 on January 22, 2009. Retrieval is approximately 70% to 75% complete.

## III. Significant Planned Activities in the Next Six Months

- Complete retrieval of Tank C-110.
- Initiate design of retrieval system for Tank C-111 (February 2009).
- Continue construction activities at Tank C-104.

## IV. Issues

- Milestones M-45-00B (retrieve all C Farm tanks), M-45-00C (initiate negotiations on SST retrievals for 2007-2008), and M-45-00D (initiate negotiations on SST retrievals for 2008-2013) were missed. TPA negotiations to address these and other milestones are ongoing.

- Ecology formally requested re-start dates for C-108, C-109, C-110, and S-102 in a letter dated October 13, 2008. Restart dates for these retrievals are in the process of being identified.

### **C-FARM RETRIEVAL SUMMARY SCHEDULE FORECASTS <sup>a</sup>**

Tank	Final Design Drawings complete	Construction Complete	Process Control Plan Complete	Start Retrieval	Complete Retrieval	TSAP Complete	Retrieval Data Report or Appendix H to Ecology/EPA
C-101	TBD	TBD	TBD	TBD	TBD	TBD	TBD
C-102	1/14/11	10/13/11	12/9/12	1/9/12	11/20/12	10/20/12	11/18/13
C-103	Complete	Complete	Complete	Complete	Complete	Complete	Complete
C-104 <sup>c</sup>	4/16/09	5/22/09	4/16/09	7/22/09	3/10/10	2/10/10	2/1/11
C-105	5/2/12	6/5/13	7/30/13	8/30/13	3/6/14	2/6/14	12/4/14
C-106	Complete	Complete	Complete	Complete	Complete	Complete	Complete
C-107	3/21/14	12/19/14	2/26/15	3/26/15	12/18/15	11/18/15	4/26/17
C-108 <sup>d</sup>	Complete	Complete	Complete	Complete	TBD	TBD	TBD
C-109 <sup>de</sup>	Complete	Complete	Complete	Complete	TBD	TBD	TBD
C-110 <sup>bc</sup>	Complete	Complete	Complete	Complete	9/30/09	8/30/09	7/6/10
C-111	TBD	TBD	TBD	TBD	TBD	TBD	TBD
C-112	10/18/13	7/23/14	9/9/14	10/9/14	3/25/15	2/25/15	3/1/17
C-201	Complete	Complete	Complete	Complete	Complete	Complete	Complete
C-202	Complete	Complete	Complete	Complete	Complete	Complete	Complete
C-203	Complete	Complete	Complete	Complete	Complete	Complete	Complete
C-204	Complete	Complete	Complete	Complete	Complete	Complete	Complete

- Completion dates are based on the statused January month-end Integrated Mission Execution Schedule (IMES) as of 1/28/09 and are subject to change as efforts continue to identify and implement schedule efficiencies.
- Projected dates for C-110 are based on utilizing modified sluicing technology and availability of acceleration funding.
- Schedules are being updated for inclusion of S-102 corrective actions and compensatory measures.
- Sluicing was performed to the limits of the sluicing system technology.
- Hard Heel Retrieval using MRT complete to limits of technology, not achieving less than 360 cu ft residual, awaiting future retrieval path forward.
- NOTE: For all tanks with a "TBD" in a column, dates will be identified for those "TBDs" following development of the PMB. The PMB will be based on the system plan, which will be approved by Ecology.

## SST RETRIEVAL SEQUENCE DOCUMENT

### I. Deliverables

- **M-45-02N, Submit Biennial Update of SST Retrieval Sequence Document (Agreement Appendix I, Section 2.1.2), and Double-Shell Tank Space Evaluation Document and Ecology Concurrence of Additional Tank Acquisition Within 60-days (see text of M-45-02N for further details)**  
Due: 3/1/08 (Parties to meet annually to agree on SSTs to be retrieved during the coming year from the tank pool.)  
Status: Complete.
  
- **M-45-02N-A, Embedded Milestone; Within 60 days of receiving the DST Space Evaluation Document, the Three Parties Shall meet to Establish New Milestones, If Required, for Acquisition of Additional Tanks**  
Due: 06/02/08  
Status: Complete. On May 15, 2008, Ecology transmitted comments on the M45-02N deliverable. On July 23, 2008, ORP transmitted letter 08-TF-049 to Ecology with a plan for responding to Ecology comments on and updating the Retrieval Sequence Document (RPP-21216). The revised document was submitted to Ecology on September 12, 2008, by letter 08-TF-062. Ecology approved the document on January 22, 2009, by letter 0900343.
  
- **M-45-02O, Submit Biennial Update of SST Retrieval Sequence Document (Agreement Appendix I, Section 2.1.2), and Double-Shell Tank Space Evaluation Document and Ecology Concurrence of Additional Tank Acquisition Within 60-days (see text of M-45-02M for further details)**  
Due: 3/1/10 (Parties to meet annually to agree on SSTs to be retrieved during the coming year from the tank pool.)  
Status: On schedule. Ecology has requested the Parties meet to discuss the methodology and contents of the next biennial update.
  
- **M-45-02P, Submit Biennial Update of SST Retrieval Sequence Document (Agreement Appendix I, Section 2.1.2), and Double-Shell Tank Space Evaluation Document and Ecology Concurrence of Additional Tank Acquisition Within 60-days (see text of M-45-02M for further details)**  
Due: 3/1/12 (Biennially thereafter. Parties to meet annually to agree on SSTs to be retrieved during the coming year from the tank pool.)  
Status: On schedule.
  
- **M-45-02P-A, Embedded Milestone; Within 60 days of receiving the DST Space Evaluation Document, the Three Parties Shall meet to Establish New Milestones, If Required, for Acquisition of Additional Tanks**  
Due: 4/30/12  
Status: On schedule.

**II. Significant Accomplishments**

- Ecology approved completion of M-45-02N on January 22, 2009.

**III. Significant Planned Activities in the Next Six Months**

- None.

**IV. Issues**

- None.

## TANK RETRIEVALS WITH INDIVIDUAL MILESTONES

### Tank 241-C-106

#### I. Deliverables

- **M-45-05M-T01, Submit C-106 Waste Retrieval Results, Analysis of Residual Waste(s), and (if appropriate) Request for Exception to the Criteria Pursuant to Agreement Appendix H**

Due: 2/27/04

Status: Complete.

#### II. Significant Accomplishments

- None.

#### III. Significant Planned Activities (PA) in the Next Six Months

- Continue U.S. Nuclear Regulatory Commission (NRC) review of the C-106 exception request. A Request for Additional Information (RAI) is expected from the NRC in February 2009.
- Begin PA workshops with Ecology, EPA, NRC, and DOE HQ focused on residual waste in C Farm tanks and pipelines following retrieval.

#### IV. Issues

- 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 2010.

### Tank 241-S-102

#### I. Deliverables

- **M-45-05A, Complete Waste Retrieval from Tank S-102**

Due: 3/31/07

Status: Missed. As a result of equipment failure on March 14, 2007, retrieval operations were suspended at Tank S-102 with retrieval approximately 91% complete and approximately 423,000 gallons total waste removed. Retrieval restarted on July 25, 2007, but suspended after a waste spill on July 27, 2007. The HRR is currently shut down.

- **M-45-15, Interim Completion of Tank S-102 SST Waste Retrieval and Closure Demonstration Project**

Due: 6/30/11

Status: On Schedule. Change Request M-45-07-01 approved by DOE and Ecology on December 4, 2007.

- **M-45-15A, Embedded Milestone, Submit a Retrieval Data Report Pursuant to Agreement Appendix I**  
Due: 6/30/11  
Status: On schedule.
- **M-45-15B, Embedded Milestone, Remaining Wastes have been adequately Characterized, and a Risk Assessment has been completed for residuals that remain in the tank**  
Due: 6/30/11  
Status: On schedule.
- **M-45-15C, Embedded Milestone, An update to the S-102 Component Closure Activity Plan has been submitted by DOE**  
Due: 6/30/11  
Status: On schedule.
- **M-45-15D, Embedded Milestone, if appropriate, DOE has requested an exception to waste retrieval criteria pursuant to Agreement Appendix H**  
Due: 6/30/11  
Status: On schedule.

## II. Significant Accomplishments

- None.

## III. Significant Planned Activities in the Next Six Months

- None.

## IV. Issues

- Retrieval of Tank 241-S-102 was not completed by TPA milestone date of March 31, 2007, due to pump failure.
- On July 27, 2007, a leak of up to 85 gallons of tank waste occurred from the S-102 pumping system. Operations were suspended and recovery actions started.

## Tank 241-S-112

### I. Deliverables

- **M-45-03C, Complete Full-Scale Saltcake Waste Retrieval Technology Demonstration at Single-Shell Tank S-112**  
Due: 6/30/05  
Status: Complete.

- **M-45-13, Interim Completion of Tank S-112 SST Waste Retrieval and Closure Demonstration Project**  
Due: 6/30/11  
Status: On Schedule. Change Request M-45-07-01 approved by DOE and Ecology on December 4, 2007.
  
- **M-45-13A, Embedded Milestone, Submit a Retrieval Data Report Pursuant to Agreement Appendix I**  
Due: 12/31/07  
Status: Completed (ORP letter, 07-TPD-066, dated December 21, 2007). Added by Change Request M-45-07-01 approved by DOE and Ecology on December 4, 2007.
  
- **M-45-13B, Embedded Milestone, Remaining Wastes have been adequately Characterized, and a Risk Assessment has been completed for residuals that remain in the tank**  
Due: 12/31/07  
Status: Completed (ORP letter, 07-TPD-066, dated December 21, 2007). Added by Change Request M-45-07-01 approved by DOE and Ecology on December 4, 2007.
  
- **M-45-13C, Embedded Milestone, An update to the S-112 Component Closure Activity Plan has been submitted by DOE**  
Due: 6/30/11  
Status: On schedule.
  
- **M-45-13D, Embedded Milestone, if appropriate, DOE has requested an exception to waste retrieval criteria pursuant to Agreement Appendix H**  
Due: 6/30/11  
Status: On schedule.

## II. Significant Accomplishments

- Ecology letter of August 28, 2008, concurred with ORP that retrieval of Tank S-112 is complete.

## III. Significant Planned Activities in the Next Six Months

- None.

## IV. Issues

- None.

## Interim Stabilization Consent Decree

### I. Near-Term Deliverables:

#### **D-001-00, Complete Interim Stabilization of all 29 SSTs**

Due: 09/30/04

Status: Completed on March 31, 2004, with discontinuation of pumping in U-108 and subsequent consultation with Ecology staff. Interim stabilization of S-102 and S-112 held in abeyance by third amendment to the Consent Decree; these two tanks are undergoing retrieval. ORP's obligation to interim stabilize S-102 and S-112 will be satisfied upon completion of retrieval operations. Retrieval of S-102 has been impacted by the spill at this tank.

### II. Significant Accomplishments:

- Completed video to quantify amount of free liquid in tank.
- Submitted Quarterly Interim Stabilization Report on January 30, 2009, letter 09-TPD-003.

### III. Significant Planned Actions in the Next 6 Months:

- None.

### IV. Issues

Tank S-102 retrieval not completed by milestone M-45-05A date of March 31, 2007. The spill at S-102 will continue to delay completion of this milestone.

## In Tank Characterization and Summary

For the period from January 1 – January 31, 2009:

### I. Accomplishments:

- Completed document RPP-PLAN-39549, *Sampling and Analysis Plan for Grab Samples From Tank 241-AN-106 During Retrieval of Tank 241-C-110*, Rev. 0, on December 19, 2008.

### II. Planned Action within the next Six Months:

- Tank Sampling
  - Tank 241-AZ-102 liquid grab samples scheduled for May 2009.
  - Tank 241-AP-107 liquid grab samples scheduled for April 2009.
  - Tank 241-AW-106 liquid grab samples scheduled for February 2009.
  - Tank 241-AN-106 liquid grab samples (mid C-110 retrieval) scheduled for February 2009.
  - 244-CR Vault grab samples scheduled for March 2009.
  - Tank 241-AY-101 liquid grab samples scheduled for March 2009.
  - Tank 241-AN-103 core samples scheduled for June 2009.
  - Tank 241-AN-101 grab samples (mid C-104 retrieval) scheduled for July 2009.
- BBI Updates
  - Eight tank updates were completed for the first quarter of FY 2009 and published to Tank Waste Information Network System (TWINS) on January 8, 2009.
    - Six updates are planned for the second quarter of FY 2009.
- Data Quality Objectives (DQO)
  - Complete SST Component Closure DQO, Rev. 4 in March 2009.
  - Complete Evaporator DQO Rev. 6 in August 2009.

### III. Issues:

- None.

## **Milestone M-47-00, Complete Work Necessary to Support Acquisition and Phase I Operations of Hanford Site High-Level Radioactive Waste Treatment, Storage, and Disposal Facilities**

### **I. Near-Term Deliverables:**

- **M-47-03A, Complete startup and turnover activities for waste retrieval and mobilization systems for selected initial high-level waste feed tank**  
Due: 03/31/09  
Status: Will Be Missed. Pending path forward with Ecology for renegotiation of new milestone commitments.
- **M-47-06, Complete negotiation of additional agreement requirements (milestones, target dates, and associated language) governing work necessary to support completion of treatment complex Phase I operations by 2018**  
Due: 06/30/10  
Status: Negotiations are not yet underway.

### **II. Significant Accomplishments:**

- None.

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

- None.

### **IV. Near-term Actions Needed by DOE or Ecology:**

- None.

### **V. Issues:**

- Nothing to report.

## 242-A Evaporator Status (previously reported under Milestone M-48, which has been closed out)

### EVAPORATOR CAMPAIGNS

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY08	08-CR	None	(AW-102/ AP-104)	A Cold Run to complete 242-A monitoring and control system (MCS) upgrades and equipment testing, and personnel training is underway. Flush water will be discharged to either AP-104 or AW-102.
FY09	09-01	AP-101/AP-105	AP-104	Previously planned as 08-01, this campaign has been deferred into February/March 2009 and will be performed as 09-01. This deferral is required to support the safe and orderly resumption of operations under the new Tank Operation Contract, and implementation of a new contract baseline.
FY09	09-02	AP-101/AP-105	AP-104/ AP-101	Previously planned as 08-02, this campaign has been deferred into March/April 2009 and will be performed as 09-02 immediately following 09-01. This deferral is required to support the safe and orderly resumption of operations under the new Tank Operation Contract, and implementation of a new contract baseline.
FY10	10-01	AW-106	AP-101	Detailed planning for FY10 and outyear campaigns subject to retrieval activities and Tank Operations Contractor commitments and requirements. Forecast FY10 campaigns are based on preliminary planning associated with blending AZ-102.
FY10	10-02	AP-107	AP-101/ AP-107	Detailed planning for FY10 and outyear campaigns subject to retrieval activities and Tank Operations Contractor commitments and requirements. Forecast FY10 campaigns are based on preliminary planning associated with blending AZ-102.

**Milestone M-90-00, Complete Acquisition of New Facilities, Modifications of Existing facilities, and/or Modifications of Planned Facilities, as Necessary for Storage of Hanford Site Immobilized High Level Waste (IHLW), Immobilized Low Activity Waste (ILAW), and Disposal of ILAW, and M-20-00, Submit Part B Permit Applications**

**I. Near-Term Deliverables:**

- **M-90-10, Ready to Accept Placement of ILAW Waste in ILAW Disposal Facility**  
Due: 8/31/08  
Status: Complete.
  
- **M-90-11, Complete Canister Storage Facility Construction**  
Due: 8/31/10  
Status: To Be Missed. To be renegotiated to align with WTP schedule.

**II. Significant Accomplishments:**

- None to report.

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

- None to report.

**IV. Issues**

- None to report.

## **Milestone M-62-00, Complete Pretreatment Processing and Vitrification of Hanford High-Level (HLW) and Low-Activity (LAW) Tank Wastes**

### **I. Near-Term Deliverables:**

- **M-62-00, Complete Pretreatment Processing and Vitrification of Hanford High-Level (HLW) and Low-Activity (LAW) Tank Wastes**  
Due: 12/31/2028  
Status: To Be Missed.
- **M-62-00A, Complete WTP Pretreatment Processing and Vitrification of Hanford HLW and LAW Tank Wastes**  
Due: 02/28/2018  
Status: To Be Missed.
- **M-62-01R, Submit Semi-Annual Project Compliance Report**  
Due: 01/31/2009  
Status: Complete.
- **M-62-01S, Submit Semi-Annual Project Compliance Report**  
Due: 07/31/2009  
Status: On Schedule.
- **M-62-07B, Complete Assembly of Low Activity Waste Vitrification Facility Melter #1 So That It Is Ready for Transport and Installation in the LAW Vitrification Building (BNI Baseline Schedule Activity 4DL321A200 as Part of DOE Contract No. DEAC27-01RV14136), and Complete Schedule Activity ID 4DH46102A2 – Move #1 Melter into the High Level Waste Vitrification Facility**  
Due: 12/31/2007  
Status: Missed.
- **M-62-08, Submittal of Hanford Tank Waste Supplement Treatment Technologies Report, Draft Hanford Tank Waste Treatment Baseline and Draft Negotiations Agreement in Principle**  
Due: 06/30/2006  
Status: Missed.
- **M-62-09, Start Cold Commissioning – Waste Treatment Plant**  
Due: 02/28/2009  
Status: To Be Missed (based on current DOE Baseline planning).

- **M-62-10, Complete Hot Commissioning – Waste Treatment Plant**  
Due: 01/31/2011  
Status: To Be Missed (based on current DOE Baseline planning).
- **M-62-11, Submit a Final Hanford Tank Waste Treatment Baseline**  
Due: 06/30/2007  
Status: Missed.

**II. Significant Accomplishments:**

- None to report.

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

- The Early LAW initiative is currently on hold, pending further funding for FY 2009. Should funding be made available, planned work scope will include Research and Development (R&D) testing of an in-tank alternative and a review of several configurations; i.e., vault system, in-tank system.

**IV. Issues:**

- None.

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

There are 1,415 people assigned to the WTP construction site (all facilities – 867 manual and 548 non-manual). Overall project percent complete through December is 45%. Design and engineering is 69% complete and construction is 41% complete.

Bechtel National Inc. (BNI) has re-planned all previously unscheduled activities. The revised schedule includes required engineering activities and mitigates past variances. Construction completion and commissioning milestones remain aligned with the contract.

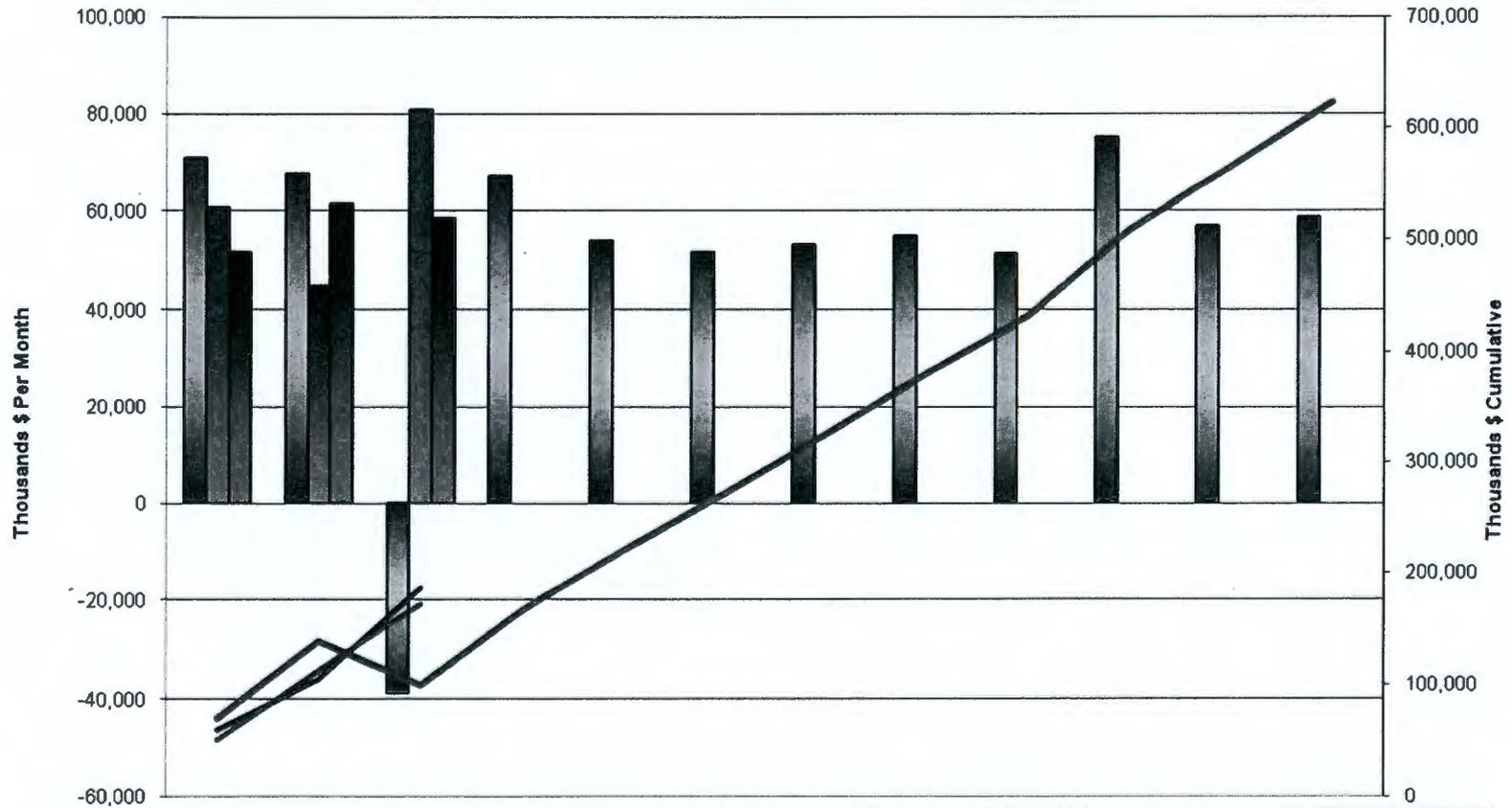
The re-plan resulted in the elimination of the cumulative SV – now at positive \$2.5 million. However, the re-plan did not affect the cumulative CV, which is negative \$55.9 million.

Detailed documentation to support the basis of the re-plan is expected from BNI in mid-February. A team, including staff from DOE, the Office of Engineering and Construction Management (OECM), and the Consolidated Business Center (CBC), will review the BNI internal re-plan in February 2009.

The revised contract between BNI and DOE was signed in January 2009. The revised contract includes a combination of fee milestones and award fee components. As a result, milestone status for the project will not be available until the February or March 2009 reporting period.

Two technical teams were established to address issues raised during meetings among ORP, EM-60, BNI, and URS staff. That meeting included discussions on material at risk (MAR); DOE-STD-1066, *Fire Protection Design Criteria*, design basis fire scenarios, and applicability to nuclear safety; and hydrogen in piping and ancillary vessels (HPAV) testing results and deterministic or risk acceptance strategies for mitigation. The WTP MAR Update Task Team completed their assessment and issued their final report on January 16, 2009. The team made five specific recommendations concerning the (1) conservatism in the waste feed acceptance criteria; (2) need for an integrated plan for Tank Farm configuration and capabilities; (3) re-evaluation of accident analyses assumptions and methods; (4) determination of operational control reductions and design feature changes, and (5) enhanced integration between the WTP and Tank Farms prime contractors, which balances requirements, cost, and operational issues. ORP is evaluating the MAR Task Team report to determine a path forward. The HPAV Task Team provided a briefing to ORP management on January 26, 2009, and provided summary recommendations. A final report will be available sometime in February. Following receipt of the final report and consideration of the recommendations, ORP will determine the path forward and actions to implement the recommendations.

### Total Project - WTP Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
█ Mthly Plan (BCWS)	70,758	67,578	-38,879	67,150	53,745	51,825	53,083	54,917	51,428	75,201	56,806	58,703
█ Mthly Perf (BCWP)	60,635	44,807	80,838									
█ Mthly Actuals (ACWP)	51,880	61,458	58,506									
— FY 08 TD Plan (BCWS)	70,758	138,337	99,458	166,608	220,354	271,879	325,042	379,959	431,388	506,589	583,395	622,098
— FY 08 TD Perf (BCWP)	60,635	105,442	186,279									
— FY 08 TD Actuals (ACWP)	51,880	113,138	171,644									

### **Pretreatment (PT) Facility**

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. Facility construction began in November 2002 with a scheduled construction completion date of October 2014. Overall percent complete is 40%, design is 62% complete, and construction is 27% complete.

BNI completed an internal re-planning effort and implemented the plan during December. This caused cost and schedule performance to be favorable during the last month due to point adjustments. The major changes BNI made included formation of a procurement team that included engineering, procurement, and construction personnel who report directly to the team lead; and additional senior managers with defined roles and responsibilities. A team, including staff from DOE, OECM, and CBC will review the BNI internal re-plan in February 2009.

Even though progress was slower than planned, BNI issued all calculations and piping and instrumentation diagrams (P&ID) required to support the PT Facility system committed design during the quarter. The completion of the P&IDs release allowed engineering to start work on the piping isometric drawings that form the basis for procuring the engineered piping segments. Material requisitions were issued for small-bore rigid process jumpers, jumper support frames, and nozzle frame fabrications. This will support mobilizing the jumper vendors to produce the support qualification documentation in advance of jumper and frame fabrication.

The manipulator storage rack has been shipped for onsite delivery.

Construction installations in the first quarter included over 2,500 ft<sup>2</sup> of metal decking, 1,070 yd<sup>3</sup> of concrete, 203 tons of rebar, and 102,300 lb of embeds. Over 230 tons of tier-2 and -3 structural steel were also erected.

Severe winter weather conditions at the construction site forced delays and site closures. This, combined with design changes to previously installed conduit and drain piping, resulted in the delaying of four planned concrete placements in December. In January, three concrete placements were made. Despite weather delays, some construction activities continued; e.g., staging of hot cell crane rails; preparing crane rail beam seats; assembling wall curtains with rebar and embeds north of the facility; installing shield doors No. 7 and 23; installing components and drain lines at the southeast corner; and abrasive blasting and applying coatings in the northeast corner. The subcontractor, CB&I, continues to install grillage for the installation of liner plates on the floor in the facility's south end, after the welding procedures were updated and approved by BNI. At the +28' elevation, crews are installing beam seats and

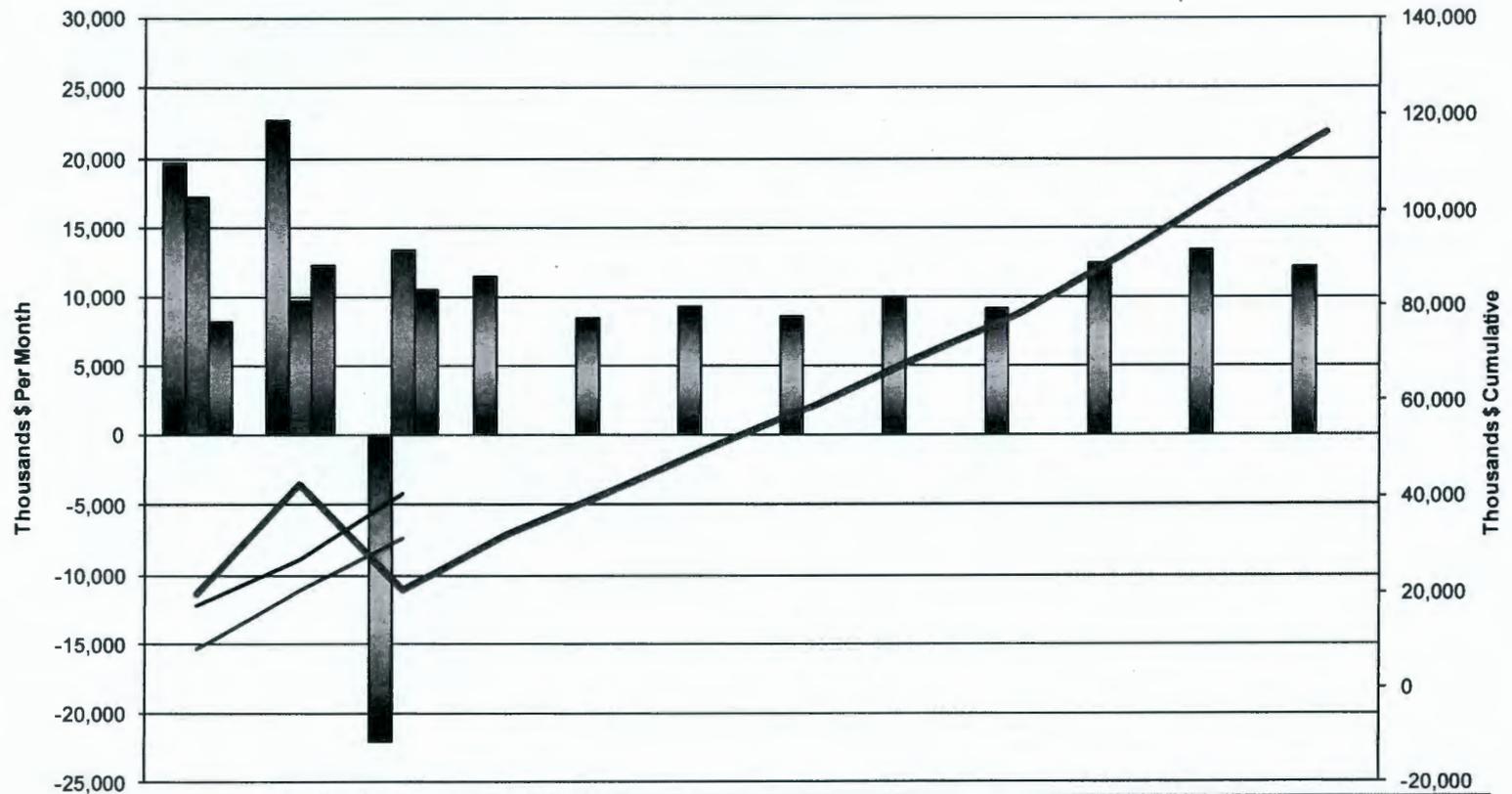
erecting structural steel at the southeast and installing containment at the north face ahead of coatings in the corridor. At the 56' elevation, crews are proceeding to install forms, rebar, and commodities for slabs and walls, and to perform abrasive blasting in the southeast.

The Pretreatment Engineering Platform (PEP), the prototypical equipment used to confirm the performance of the PT ultrafiltration system and leaching processes, completed simulant shakedown testing on January 11, 2009. Integrated testing activities were initiated by the end of January. PEP has been performing as expected during the early phase of the testing. Testing is expected to be complete by the end of March 2009. PEP activity is planned to resolve the External Flowsheet Review Team (EFRT) issue, M12.

Agreement on the details of the second phase of vessel mixing testing and Computational fluid dynamics (CFD) analysis have been reached by DOE and BNI to resolve EFRT issue M3. The Phase 1 testing report by PNNL is complete and is being reviewed by BNI. The 90% design review for the prototypic test stand for Phase 2 testing has been completed. Fabrication of the test stand for the phase 2 testing is continuing.

The revised contract between BNI and DOE was signed in January 2009. The revised contract includes a combination of fee milestones and award fee components.

### Pretreatment - Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
█ Mthly Plan (BCWS)	19,822	22,850	-21,942	11,504	8,529	9,381	8,678	9,937	9,221	12,594	13,460	12,314
▬ Mthly Perf (BCWP)	17,263	9,824	13,441									
█ Mthly Actuals (ACWP)	8,307	12,437	10,595									
— FYTD Plan (BCWS)	19,822	42,671	20,729	32,233	40,762	50,143	58,821	68,758	77,979	90,572	104,032	116,346
— FYTD Perf (BCWP)	17,263	27,087	40,527									
— FYTD Actuals (ACWP)	8,307	20,744	31,339									

### **High-Level Waste (HLW) Facility**

The HLW Facility will receive the high-level waste fraction from the PT Facility. The waste will be mixed with glass formers, converted to glass, and placed in stainless steel canisters that will initially be stored in the Hanford onsite Canister Storage Building. Final disposition is proposed to be at the national geologic repository. HLW design and construction completions are 73% and 22%, respectively. Overall, facility completion is 42%.

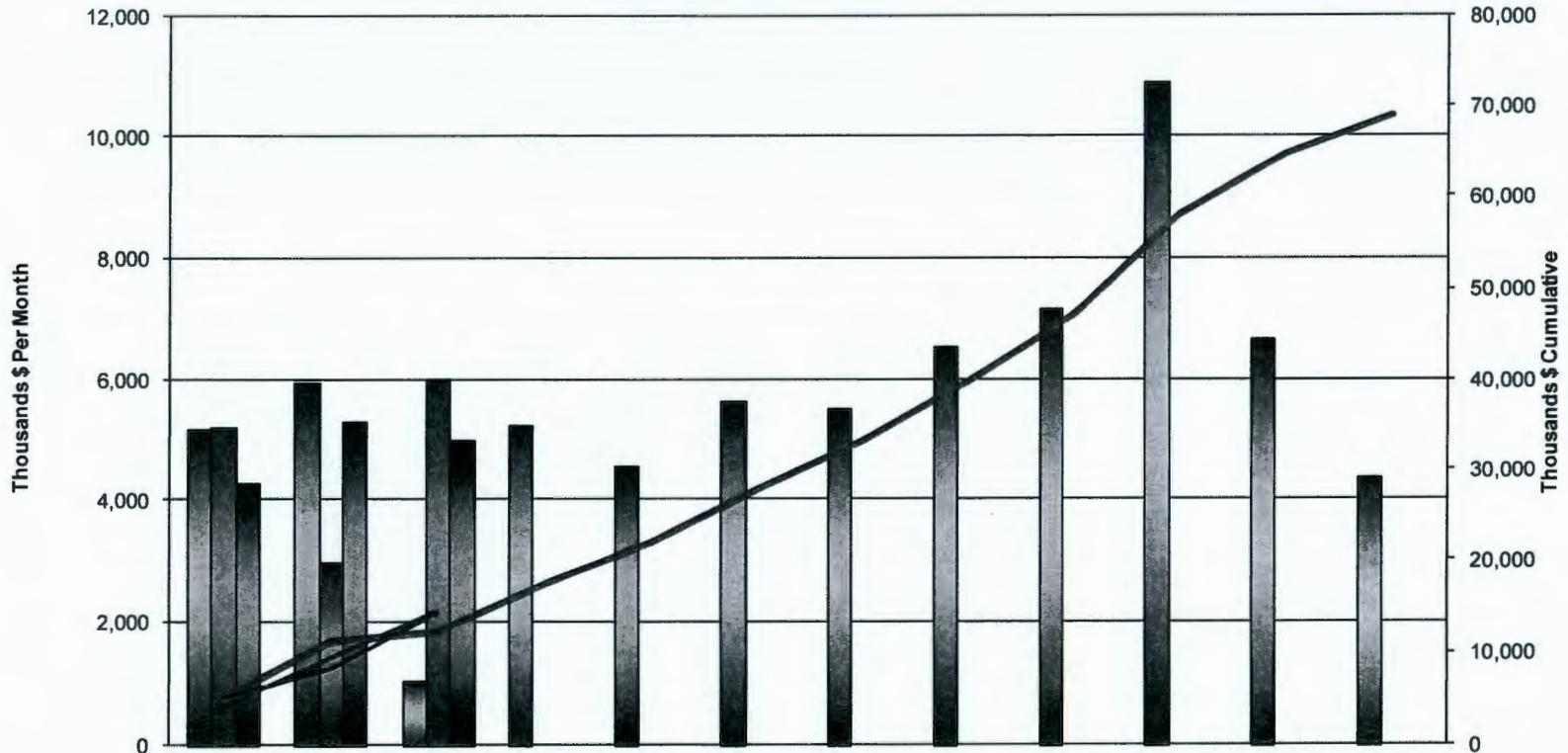
Implementation of the Workable Backlog Program (WBP) plan is continuing. The WBP strategy is to establish a rolling six-month backlog of materials and approved construction work packages prior to hiring additional craft in FY 2009, third quarter (Q3). The intent is to stabilize construction resource loading and reduce the impacts caused by late design changes and unavailable materials. Construction will lag behind the baseline schedule until the backlog is established and then accelerate, with additional craft, to regain lost schedule. The schedule baseline "lag/gap" will be corrected by February 2010.

Delays in the delivery of joggles have impacted schedule. Four double-walled DWP process joggles, needed for the canister import tunnel (wall 1123), are overdue causing construction workarounds. Design changes to meet requirements were discovered late in the process causing the joggles to be re-manufactured. The WTP Contractor is developing metrics for joggle procurement/deliveries to improve status visibility, provide early warnings, and mitigate future joggle design, procurement, and delivery delays. The team has implemented a detailed schedule review process to monitor future joggle design and procurement.

Other engineering activities include issuing purchase orders to incorporate HPAV requirements into the submerged bed scrubber; preparing a steel calculation for the canister import bogie runway; and reviewing P&IDs for the melter offgas treatment process system. Diagrams were issued for the filter cave handling system, the melter process, and portions of the shield door embeds for the canister export handling and pour handling systems. Reviews of supplier documents were completed for the C2/C3 shield doors factory acceptance test procedure and the pour canister system horizontal shield door drive mechanism. Environmental qualification datasheets for the canister grapple were also reviewed and drawing change notices were issued for the ventilation and instrumentation diagrams. Revised material requisitions for 52 process joggles were released for fabrication. All the civil drawings have been released for slabs at the 37' elevation in support of the goal to have all design completed and all materials on-hand for that elevation by the end of calendar year 2009,.

During the month, construction forces at the 0' elevation successfully placed 11 cubic yards of concrete for the southeast corner stairwell, 46 cubic yards for wall 1116 located by melter cave #2, 157 cubic yards for wall 1132 enclosing the bogie maintenance pour tunnel #2, and a wall and slab pour-backs. Crews will continue installing wall and slab rebar and commodities at several locations, primarily in the west at the +14' elevation and in the east at the 0' elevation, installing grillage, decking, ledger and structural supports, and forms for future wall placements and blast and coat steel and concrete surfaces. At the -21' elevation, crews continue installing electrical tray supports, ducting, maintenance crane support rails, and piping; preparing for applying coatings to platforms; and working the southeast stairwell.

### High Level Waste - Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
█ Mthly Plan (BCWS)	5,197	5,954	1,067	5,238	4,577	5,648	5,528	6,549	7,195	10,912	6,673	4,395
█ Mthly Perf (BCWP)	5,228	2,977	5,994									
█ Mthly Actuals (ACWP)	4,276	5,319	5,006									
— FYTD Plan (BCWS)	5,197	11,152	12,219	17,457	22,034	27,682	33,210	39,759	46,954	57,866	64,539	68,934
— FYTD Perf (BCWP)	5,228	8,205	14,199									
— FYTD Actuals (ACWP)	4,276	9,595	14,601									

### **Low-Activity Waste (LAW) Facility**

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 containers that will be disposed on site in the Integrated Disposal Facility. Overall facility percent complete is 62%, design is 86%, and construction is 58%.

Design and procurement challenges continue with procurement of the offgas treatment system. A lack of integration between Process Engineering and different vendors for each offgas unit has resulted in system engineering challenges (high temperature limits exceeded in offgas system for downstream units). ORP has conducted an assessment, which is undergoing factual accuracy checks and should be issued in February.

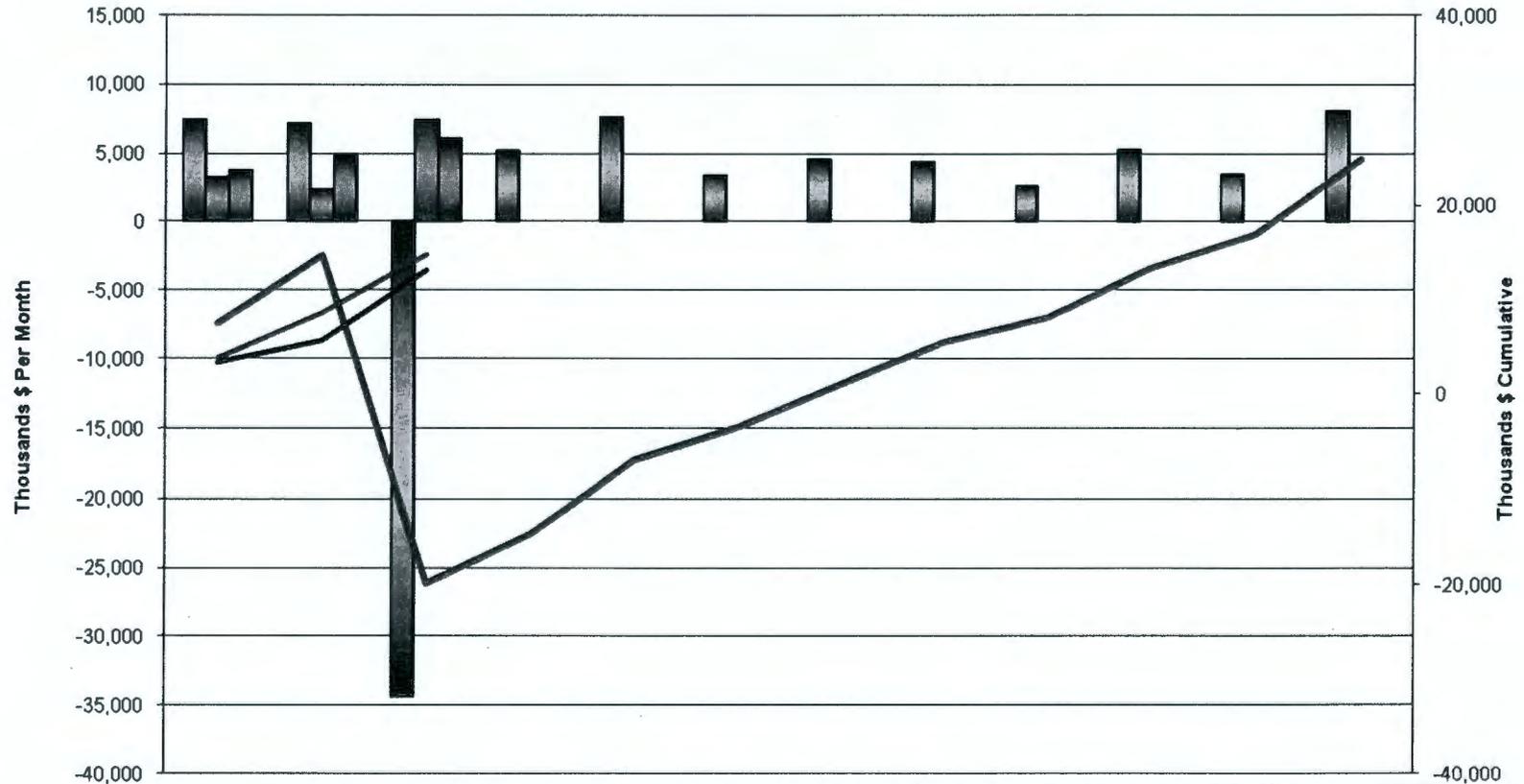
Although piping installation rates have shown recent improvements and 94% of spooled pipe and 96% of bulk valves are on site, some challenges remain on individual parts and pieces, and welded control valves. Some significant cost challenges are also evident with the partition wall subcontractor. This is partially driven by fire barrier requirements and complexity of through wall commodities. ORP is engaged in a review of partition wall cost drivers and potential cost savings alternatives.

The final bulge tank was received and set above the LAW Facility process cell at the +28' elevation. All eight of the process bulges are now in the facility (five are set and being piped). The shielded bulges contain valves and actuators that will allow feed and waste materials to be transferred between different vessels and the Autosampling System (ASX) in the LAW Facility. The LAW Facility mixer #1 is forecast to arrive at the Hanford Site in early February. The mixer will be located on top of the LAW Facility and will receive glass former material from the Glass Former Storage Silos, mix the materials, and feed the mixture into the melters. Once the mixer is installed, a substantial amount of piping work that has been on hold can begin.

Intumescent fireproofing of the structural members on the second floor of the annex is nearing completion. Installation of siding on the Switch Gear Building was completed; trim and flashing installation is ongoing. Construction forces are installing steel framing for the elevator doors; buss bar steel on +28' elevation; cooling panel supports in the pour caves; ductwork from the C3 fans to the exhaust stack on the +48' elevation; piping; electrical conduit; drywall; and platforms on various levels. Crews completed welding electrical supports to columns in Planning Area 11G at the +3' elevation.

Purchase orders were issued to incorporate equipment environmental qualification requirements into the split air-conditioning system, release suspension of the uninterruptible power supply system, and restore and refurbish facility doors.

### Low Activity Waste - Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
Mthly Plan (BCWS)	7,401	7,152	-34,410	5,207	7,629	3,437	4,546	4,399	2,600	5,279	3,502	8,089
Mthly Perf (BCWP)	3,231	2,302	7,418									
Mthly Actuals (ACWP)	3,770	4,824	6,093									
FYTD Plan (BCWS)	7,401	14,552	-19,858	-14,652	-7,023	-3,586	960	5,359	7,959	13,238	16,740	24,828
FYTD Perf (BCWP)	3,231	5,533	12,950									
FYTD Actuals (ACWP)	3,770	8,594	14,687									

**Analytical Laboratory (LAB)**

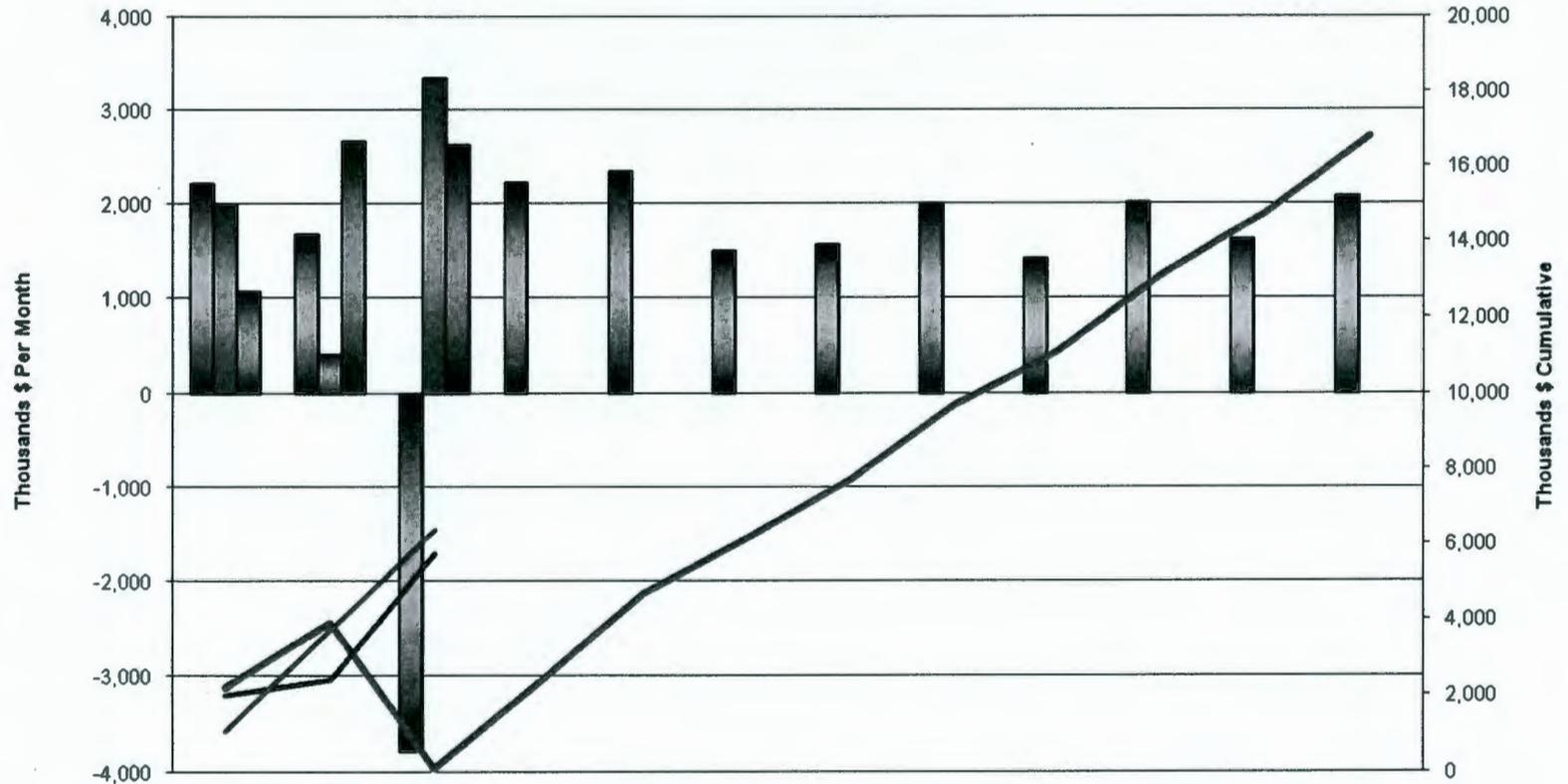
The LAB will support WTP operations by analyzing feed, vitrified waste, and effluent streams. Overall facility complete for LAB is 40%, design is 79%, and construction is 52%.

BNI has re-planned all previously unscheduled activities for all of WTP. The revised schedule includes required engineering activities and mitigates past variances. Construction completion and commissioning milestones remain aligned with the contract. Detailed documentation, to support the basis of the re-plan, is expected in mid-February. ORP will conduct a detailed review of the re-plan to assess potential impacts to the schedule. The re-plan impacts upon the LAB should result in increased cost efficiencies as work planning efforts are not so "schedule constrained" as they were previously.

BNI is substantially complete with the engineering design; however, there are some vendor designs of various components that are still outstanding. The ASX is undergoing testing to ensure that it meets adequate reproducibility. The portions of the ASX that are still being tested are the HLW and PT samplers.

Craft personnel continue their respective activities. At the +0' elevation, electricians are installing conduit east of the hot cell; pipefitters are installing pipe and hangers in the southeast section of the building; carpenters are working on scaffold supports for hot cell work; ironworkers are performing fit-ups and installing (weld) partition walls; and laborers are performing general cleanup. Subcontractors continue to install ducting including associated supports; coat ventilation hangers; and framing/drywall at the north and south ends of the building. The subcontractor is making progress caulking and taping drywall installations and pipefitters continue installing piping and hangers for the steam system at the +17' elevation.

### Analytical Laboratory - Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
Mthly Plan (BCWS)	2,209	1,668	-3,784	2,225	2,337	1,488	1,552	1,984	1,410	2,006	1,617	2,083
Mthly Perf (BCWP)	1,982	412	3,338									
Mthly Actuals (ACWP)	1,059	2,668	2,620									
FYTD Plan (BCWS)	2,209	3,878	94	2,319	4,656	6,144	7,695	9,680	11,089	13,095	14,711	16,794
FYTD Perf (BCWP)	1,982	2,394	5,732									
FYTD Actuals (ACWP)	1,059	3,728	6,348									

**Balance of Facilities (BOF)**

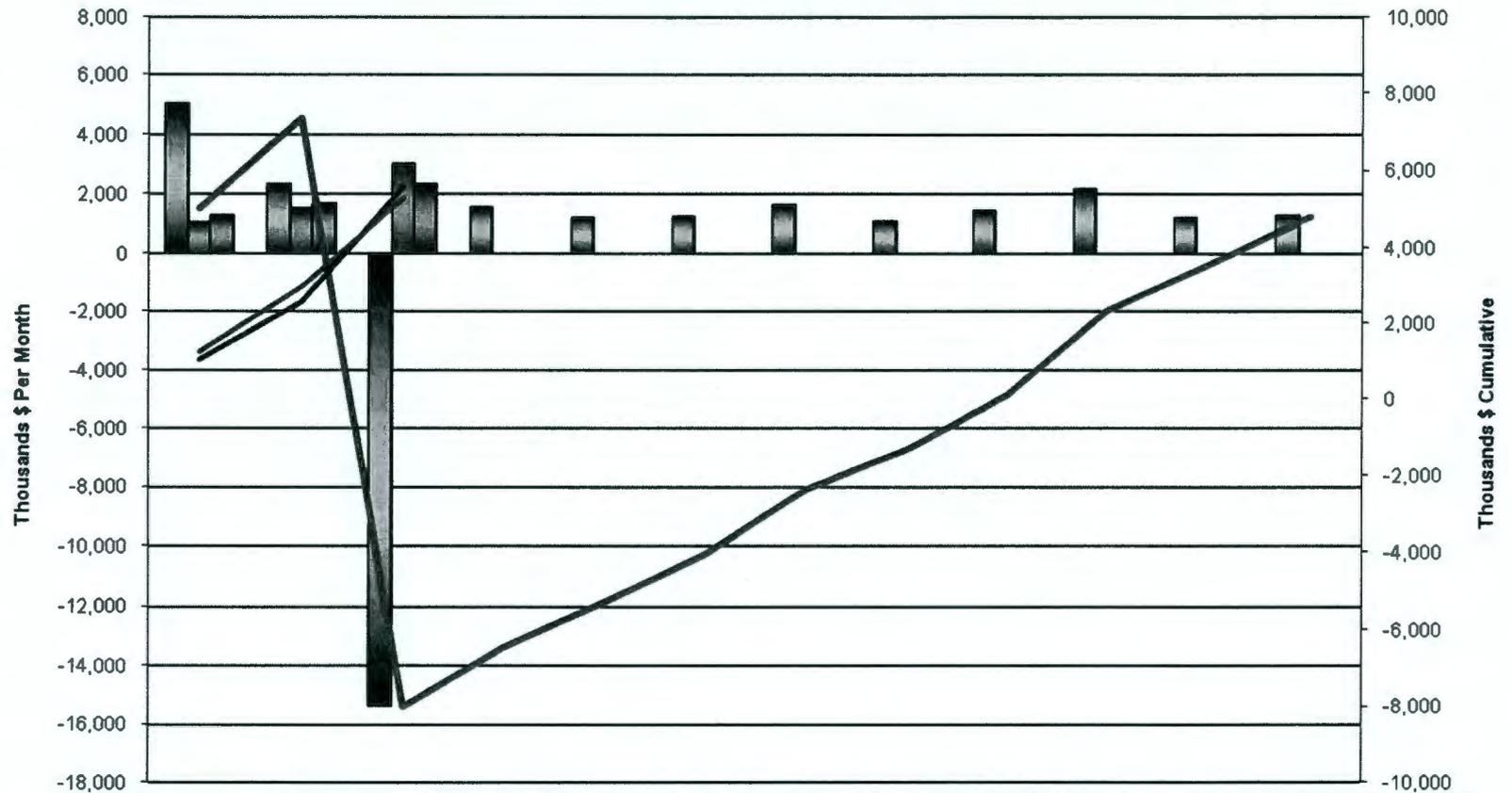
BOF provides services and utilities to support operation of the main production facilities – PT, HLW, LAW, and LAB. Overall facility percent complete for BOF is 50%, design/engineering is 72%, and construction is 62%.

Pipefitters continue to install supports and piping in the Water Treatment Building and the Plant Service Air System. In Switchgear Building 87, electricians continue removing installed conduit and cable, then installing drip shields on top of the switchgear.

In the Chiller Compressor Plant, electricians continue efforts to terminate cables feeding power to the compressors and pipefitters continue working on Plant Service Air System piping.

Engineering and procurement activities during December included issuance of a material requisition for the ammonia vessels, and instrument datasheets and drawings for the anhydrous ammonia reagent system.

### Balance of Facilities - Fiscal Year to Date Performance (\$ In Thousands) October 2008 - September 2009



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
Mthly Plan (BCWS)	5,028	2,328	-15,375	1,546	1,195	1,227	1,651	1,060	1,452	2,188	1,220	1,292
Mthly Perf (BCWP)	1,037	1,512	3,022									
Mthly Actuals (ACWP)	1,264	1,697	2,331									
FYTD Plan (BCWS)	5,028	7,355	-8,020	-6,474	-5,279	-4,052	-2,401	-1,341	111	2,299	3,519	4,810
FYTD Perf (BCWP)	1,037	2,549	5,571									
FYTD Actuals (ACWP)	1,264	2,961	5,292									

<b>KEY COMMODITY QUANTITY PROGRESS</b>				
<b>Commodity</b>	<b>Unit of Measure</b>	<b>Current Planned at Completion Quantity</b>	<b>Installed through December 2008</b>	<b>Percent Complete</b>
Concrete	1000 cy	262.23	181.31	69.1%
Structural Steel	1 ton	36,481	12,745	34.9%
Piping (in buildings)	1000 lf	900.78	143.90	16.0%
Piping (underground)	1000 lf	116.01	95.38	82.2%
Conduit (in buildings)	1000 lf	780.07	96.89	12.4%
Conduit (underground)	1000 lf	192.91	177.83	92.2%
Cable Tray	1000 lf	98.17	18.37	18.7%
Cable and Wire	1000 lf	4,762.42	222.88	4.7%

<b>Waste Treatment Plant Project - Percent Complete Status Through December 2008</b>									
<b>(Dollars - Millions)</b>	<b>Overall Facility Percent Complete</b>			<b>Design/Engineering</b>			<b>Construction</b>		
	<b>Budget at Completion (BAC)</b>	<b>Budgeted Cost of Work Performed (BCWP)</b>	<b>% Complete</b>	<b>Budget at Completion (BAC)</b>	<b>Budgeted Cost of Work Performed (BCWP)</b>	<b>% Complete</b>	<b>Budget at Completion (BAC)</b>	<b>Budgeted Cost of Work Performed (BCWP)</b>	<b>% Complete</b>
<b>Facilities</b>									
Low-Activity Waste	1,646.8	1,021.2	62%	139.5	119.3	86%	256.9	147.8	58%
Analytical Lab	617.6	249.0	40%	41.6	32.9	79%	69.0	35.8	52%
Balance of Facilities	964.6	480.6	50%	64.9	46.6	72%	182.3	112.5	62%
High-Level Waste	2,579.4	1,088.9	42%	237.4	172.9	73%	433.9	95.8	22%
Pretreatment	4,155.2	1,669.3	40%	365.4	227.1	62%	717.5	191.2	27%
Plant Wide/Gen Services	incl. above	incl. above	incl. above	692.7	462.9	67%	1,641.3	760.9	46%
Undistributed Budget	5.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total WTP</b>	<b>9,969.0</b>	<b>4,509.0</b>	<b>45%</b>	<b>1,541.5</b>	<b>1,061.7</b>	<b>69%</b>	<b>3,300.9</b>	<b>1,344.0</b>	<b>41%</b>

Source: WTP Contract Performance Report

# WTP LAW Flow Diagram

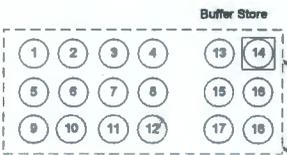
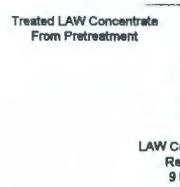
Batch Size: 340 ft<sup>3</sup> - 415 ft<sup>3</sup>  
**Glass Former Materials:**  
 Silica  
 Zinc oxide  
 Titanium dioxide  
 Ferric oxide  
 Zirconium silicate  
 Lithium carbonate  
 Boric acid  
 Aluminum silicate  
 Magnesium silicate  
 Calcium silicate  
 Sucrose

Feed will be prepared from pretreated supernatant and glass forming chemicals

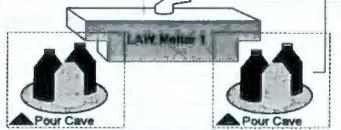
CRV batch volume of 9K gal.  
 Waste Loading: Ranges from 3 wt % to 14 wt % Na<sub>2</sub>O



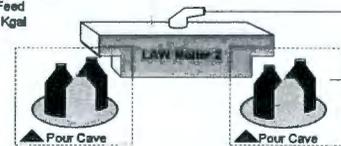
3. Samples must be taken at rate for 30 minutes.  
 4. Hold Point: Sample amount (1.1 tons) & 64 hour tank capacity



**Melter Parameters:**  
 Melter Pool Temp 1150° C  
 248 ft<sup>3</sup> (1,855 gallons)  
 Dimensions (LxWxH):  
 External 22' x 30' x 16'  
 Internal 6.5' x 16' x 2.5'



**Container Requirements:**  
 • < 10,000 Kg (10 MTG)  
 • > 90 % full  
 • No free liquids  
 Normal: 6 MTG



**Cold Commissioning:**  
 20 days @ 30 MTG/day with 5 day sprint run of 36 MTG/day

**Hot Commissioning:**  
 186 containers in 47 days

Print in Blue indicates Contract Driver

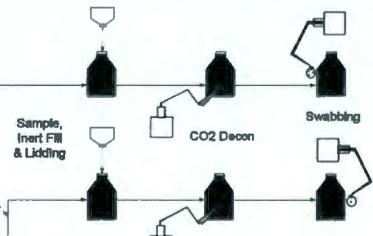
- NOTES:**
- All Volumes are batch sizes
  - ◆ = Hold Points
  - ▲ = Throughput Constraint

08/16/07  
 Rev. 2

Liquid Effluents to Pretreatment Facility

16,000 gal every 48 hours  
 10,000 gal every 24 hours

**Product Container Requirements:**  
 Surface contamination <220 dpm/100cm<sup>2</sup> α & <2200 dpm/100 cm<sup>2</sup> β-γ



**Product Container Requirements:**  
 • < 500 mRem/hr on contact  
 • < 485 °F (550 °F for single pour)



Off-gas treatment system is designed to meet environmental permitting requirements

