

Environmental Management Performance Report

FY03 First Quarter



**Pacific Northwest
National Laboratory**

Operated by Battelle for the
U.S. Department of Energy



Department of Energy
Richland Operations Office

PREPARED FOR THE U.S. DEPARTMENT OF ENERGY, RICHLAND OPERATIONS OFFICE
OFFICE OF ENVIRONMENTAL MANAGEMENT

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PACIFIC NORTHWEST NATIONAL LABORATORY

operated by

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for the

UNITED STATES DEPARTMENT OF ENERGY

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INTRODUCTION

The purpose of this report is to provide the Department of Energy Richland Operations Office (RL) a quarterly summary of the of the Pacific Northwest National Laboratory (PNNL) performance by Battelle Memorial Institute and its subcontractors.

Section A, Executive Summary, provides an executive level summary of the cost, schedule, and technical performance described in this report. It summarizes performance for the period covered, highlights areas worthy of management attention, and provides a forward look to some of the upcoming key performance activities as extracted from the contractor baseline.

The remaining sections provide a safety overview of PNNL and detailed performance data relative to each individual subproject in support of Section A of the report.

The report date on the cover is the month through which performance is being reported.

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Section A

Executive Summary

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INTRODUCTION

This document provides the Department of Energy Richland Operations Office (DOE-RL) with a report of the Pacific Northwest National Laboratory (PNNL) performance by Battelle Memorial Institute and its subcontractors. All information is as of December 29, 2002, unless otherwise noted.

The section begins with a description of the top five accomplishments for the first quarter that are considered to have made the greatest contribution toward safe, timely, and cost-effective clean up. Following the accomplishment section, is an overall fiscal year-to-date summary analysis addressing cost, schedule, and milestone performance. Concluding the Executive Summary, a forward-looking synopsis of Upcoming Planned Key Events is provided.

Note: Milestones tracked and reported in the Executive Summary are FY2003 Contract Milestones and consist of two Department of Energy levels. In descending order, these levels are 1) Department of Energy-Headquarters (HQ), and 2) Richland Operations (RL).

MAJOR ACCOMPLISHMENTS FOR THE FIRST QUARTER 2003

South Hanford Industrial Area Clean Up

Laboratory Legacy Removal & Operations

Program Office

Program staff members initiated execution of fiscal year (FY) 2003 under the new Pacific Northwest National Laboratory (PNNL) Environmental Management (EM) Laboratory Legacy Removal and Operations (LRO) Program following partial approval by the DOE-RL Site Integration Board of the program restructure baseline change request (BCR) on October 1.

Radiochemical Processing Laboratory (RPL/325 Bldg) Operations

The RPL/325 staff and facility have maintained and operated ready to serve numerous programs this quarter including: Supplemental Technologies Program for Hanford Accelerated cleanup, Hanford Tank Waste Treatment Plant – River Protection Project, Characterization of waste for Tanks AZ-101, AP-101, and AP-104, Steam Reforming Analysis, Plutonium Immobilization Program, and Geologic Disposal Support Program.

Legacy Facilities and Waste Management

Several legacy waste tasks were completed at RPL this quarter including: Completing the treatment of sodium and lithium reactive mixed wastes; the evaporation, neutralization, and grouting of nine 1-gallon containers of mixed waste; and the submittal of ~ 250 miscellaneous Pu related waste items to the PNNL waste management organization for packaging and shipping to the Central Waste Complex (CWC).

PNNL Facility Consolidation & 300 Area Transition

Preliminary discussions were initiated with DOE staff regarding the update to the Memorandum of Understanding (MOU) between DOE and the U.S. Fish & Wildlife Service. The intent was to ensure Pacific Northwest National Laboratory's (PNNL) continued near term access to the Arid Lands Ecology

(ALE) reserve. Additionally, data was compiled and provided to management in support of the development of a comprehensive PNNL strategy regarding 300 Area accelerated closure.

Near Term Stewardship

The Surface Environmental Surveillance Project successfully completed a competitive bidding process and awarded a 3-year contract for the conduct of radiological analytical services. The process, which was initiated approximately one year ago, included the preparation of a detailed Request for Proposals and extensive proposal reviews and laboratory evaluations prior to awarding the contract.

A final draft of the Hanford Cultural Resource Management Plan (HCRMP) was completed and submitted to DOE-RL for final review and approval. The draft HCRMP includes significant revisions following extensive reviews by the DOE-RL Office of Chief Counsel and others.

Site Integration

Hanford Solid Waste – EIS Preparation Support

As of the end of December the project was on schedule to produce a second draft EIS (including a comment response document) for the DOE NEPA Panel Reviews beginning on January 23rd, 2003. The second draft EIS includes analysis of a broader range of alternatives (including alternatives for the disposal of Immobilized Low Activity Waste (ILAW)) and includes analysis for a "Hanford only" waste volume. Following the NEPA Panel reviews the second draft of the EIS will be finalized supporting a late March Public review period, culminating in completion of the Final EIS and issuance of Record's of Decision by July 31, 2003.

Hanford Site Planning & Integration

Made significant progress on the development of the RL portion of the Life Cycle Model (LCM) for use in Site level strategic analysis. Office of River Protection (ORP) already developed and is using a life cycle model to do off baseline analysis. With the development of the RL portion of LCM, the tool can be utilized for Site level analysis of off-baseline information. The model includes cost, material flows, logistics, facilities, and schedule commitments. Due April 2003.

Produced the "PBS-level Hanford Site integrated schedule and WBS for 2035 cleanup completion" as required by Hanford Program Management Plan (HPMP) commitment 7.3.1b (due 1/1/03 delivered 12/19/02).

Produced preliminary draft of the "Crosscutting Risk Management Spreadsheet for the Management and Mitigation of Programmatic Risk" as required by HPMP commitment 7.5.Ia (due 2/28/03).

Additional funding guidance was provided in mid-January and will be reflected in the Q2 PNNL EMPR.

Groundwater Management and Monitoring

Completed the 200-BP-5 Groundwater Operable Unit Sampling and Analysis Plan; DOE transmitted the plan to regulators for final review and approval.

Completed the April-June 2002 RCRA Groundwater Monitoring Quarterly Report; DOE transmitted the report to the regulators.

Transmitted the quarterly summary of groundwater monitoring activities conducted in the 400 Area during April 1 through June 30, 2002 to DOE and Fluor Hanford (FH).

Groundwater/Vadose Zone Integration

Completed revision of Appendix D for the B-BX-BY Field Investigation Report, containing S&T Project and Environmental Management Sciences Program (EMSP) contributions to the tank farm characterization effort.

Presented a paper at the 14th Technology Information Exchange (TIE) Workshop and three posters at the Society for Environmental Toxicology and Chemistry (SETAC). The TIE Workshop paper was an overview of the S&T Project and the posters described collection of data needed for ecological risk assessments at the Hanford Site.

Safeguards and Security

During the first quarter, FY 2003, the Safeguards and Security (SAS) program effectively provided SAS services to the Laboratory for the appropriate control and protection of resources, facilities and assets.

In addition, the Safeguards and Security program participated in the Periodic Safeguards and Security Survey conducted by DOE RL Safeguards and Emergency Services.

Critical outcome to implement Public Key Infrastructure and deploy certificates to PNNL staff to enhance protection of information with an enterprise capability to encrypt sensitive information is completed/met.

The Training Approval Program (TAP) documentation was submitted.

PERFORMANCE DATA AND ANALYSIS

The following provides a brief synopsis of overall PNNL Environmental Management (EM) cost, schedule, and milestone performance.

FY 2003 Schedule and Cost Performance

Schedule Performance — Fiscal Year (FY) 2003 schedule performance reflects a 19 percent (\$3M) unfavorable schedule variance that is outside the established 10 percent threshold. Projects outside the threshold with unfavorable variances are: South Hanford Industrial Area Clean Up, which is constraining project work to stay within continuing resolution limits and forecasted FY03 budget authorization. The Groundwater/ Vadose Zone Monitoring Program which has delayed certain work scope to align with the Fluor baseline. Detailed variance analysis explanations may be found in the applicable project section.

Cost Performance — FY 2003 cost performance reflects an overall 7 percent (\$922K) favorable cost variance that is within the established 10 percent threshold. However, individual projects outside the threshold with favorable variances are South Hanford Industrial Area Clean Up, Near Term Stewardship, and Groundwater/Vadose Zone Monitoring. Detailed variance analysis explanations may be found in the applicable project sections.

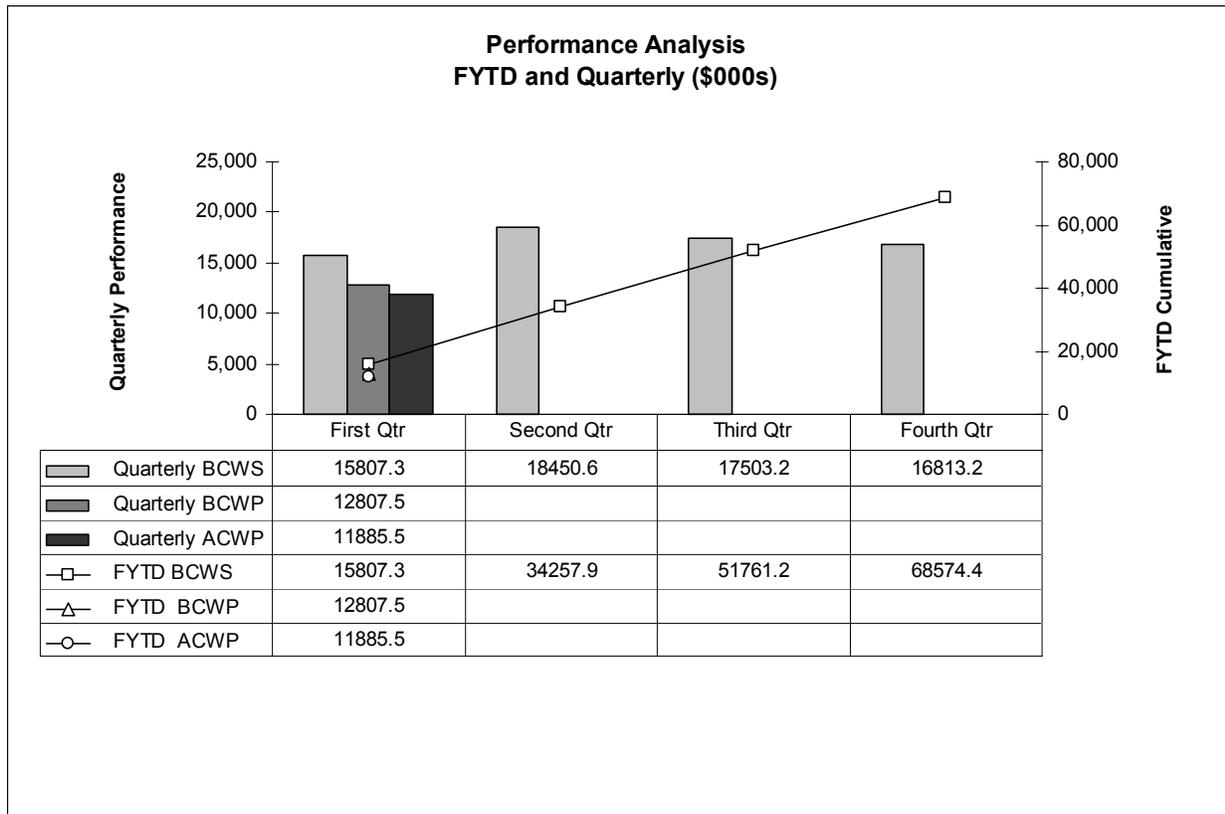
BASELINE PERFORMANCE STATUS

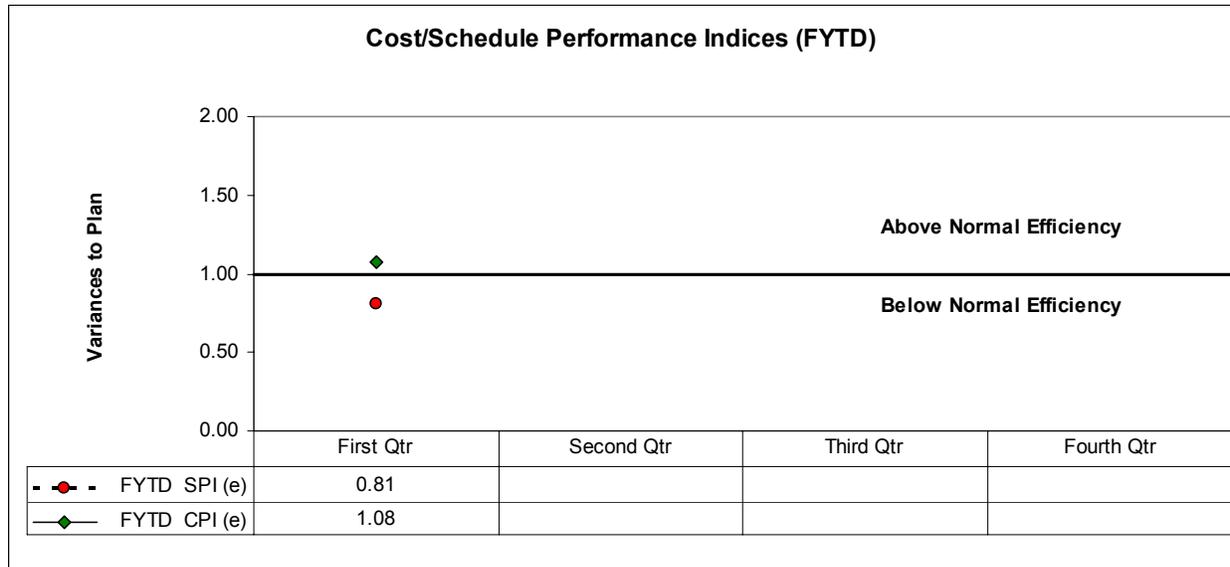
FY 2003 COST / SCHEDULE PERFORMANCE – ALL FUND TYPES

FY TO DATE STATUS (\$K)

Subactivity	WBS	Type	Expected Authorized Funds	Funding Received To Date	Current Authorized Baseline	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %	
RL-RS01	South Hanford Industrial Area Cleanup	3.2.1.7	OP	17,052	6,378	29,108	6,002	3,333	2,848	485	15	-2,669	-44
RL-SC01	Near Term Stewardship	3.5.1	OP	6,133	2,591	6,133	1,546	1,455	1,194	261	18	-91	-6
RL-SS01	Site Integration	3.4.1.3	OP	5,405	3,689	5,405	1,923	1,923	2,064	-141	-7	0	0
RL-SS03	Groundwater Mgmt And Monitoring	3.4.3.1	OP	10,585	2,895	10,585	2,677	2,669	2,605	64	2	-8	0
RL-SS04	Groundwater / Vadose Zone Monitoring	3.4.4	OP	6,863	2,059	6,863	1,515	1,283	1,121	162	13	-232	-15
RL-SS-D	Safeguards And Security	3.4.6.3	OP	10,481	3,337	10,481	2,145	2,145	2,055	90	4	0	0
Operating Total				56,518	18,357	68,574	15,807	12,808	11,885	922	7	-3,000	-19
PNNL Program Total				56,518	18,357	68,574	15,807	12,808	11,885	922	7	-3,000	-19

Notes: Column headings [Budgeted Cost of Work Scheduled (BCWS), Budgeted Cost of Work Performed (BCWP), etc.] are defined in the glossary at the end of the report. The Annual Budget is FY2003 workscope only and does not include prior year scope.





MILESTONE PERFORMANCE

Milestones represent significant events in project execution. They are established to provide a higher level of visibility to critical deliverables and to provide specific status about the accomplishment of these key events. Because of the relative importance of milestones, the ability to track and assess milestone performance provides an effective tool for managing the PNNL EM cleanup mission. These milestones are consistent with the PNNL contract.

FY milestone performance shows that two RL milestone were scheduled for first quarter Fiscal Year 2003.

Safeguards & Security

PNNL-03-06 (5.1) Document Cyber Security Program metrics for measuring the effectiveness of the program and how they will be collected (D) due 12/30/02. Complete – submitted and accepted by DOE RL in December.

Groundwater Management and Monitoring

DOE-RL milestone: Quarterly e-mailed letter reports for RCRA monitoring to DOE. Complete Submitted to DOE via e-mail on 10/31/02.

FY 2003 information is depicted below. The information reflects the October 2002 baseline as updated for RL approved changes.

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	2	2	0	2	2	0	16	
PNNL	Key	8	10	0	8	10	0	40	
Total		10	12	0	10	12	0	56	

PERFORMANCE OBJECTIVES

Safeguards and Security – The primary performance objective is to provide an efficient and economical safeguards and security program to provide appropriate control and protection of resources, facilities and assets.

An effective documented SAS program addressing the following areas is maintained:

- SAS Program Management & Planning
- Information Security (including Classification)
- Physical Security
- Personnel Security
- Nuclear Material Control & Accountability
- Cyber Security

Performance Indicator

Status

- 1) Self -Assessments - Completion of internal self-assessments of SAS activities and completion of associated corrective actions in accordance with schedules to assess internal compliance and effectiveness of the management system. This will be reported on a quarterly basis.

No assessments scheduled first quarter. All corrective actions from previous assessments on track. Based on reduced Continuing Resolution funding, the self-assessment program has been placed on hold.

- 2) External Evaluations - The composite rating for each evaluation, survey and/or assessment of SAS activities by external organizations/clients (such as DOE) to assess compliance with external requirements. Completion of associated corrective actions in accordance with approved plans shall also be included. Satisfactory (or above) ratings.

RL SES Periodic Survey. Composite rating of Satisfactory anticipated (conducted in November). Pending receipt of report.

LIFE CYCLE BASELINE

The following chart reflects the PNNL EM Direct Funded Programs lifecycle (FY 2003 through FY 2046) planned metrics by Project Baseline Summary (PBS).

Life Cycle Baseline

(As of First Quarter FY 2003)

(In Thousands)	FY 02 & Prior	FY03	FY04 - 12	FY 13 - 46	Total (TPC)
RS01-S Hanford Industrial Area Clean Up	90,375	28,916	155,757	398,256	673,304
SC01-Near Term Stewardship	38,987	6,134	76,904	452,386	574,411
SS01-Site Integration	10,383	2,300	22,316	0	34,999
SS03-GW Mgmt & Monitoring	Life Cycle Information not available				0
SS04-GW Vadose Zone Integration	Life Cycle Information not available				0
SS-D Safeguards & Security	21,017	16,132	145,233	549,421	731,803

UPCOMING PLANNED KEY EVENTS

The following key events are extracted from the authorized baseline and are currently expected to be accomplished during the next several months.

South Hanford Industrial Area Clean Up

Laboratory Legacy Removal & Operations

FY 2003 final work authorization for the program is expected to occur during the second quarter following Congressional approval of the appropriation bill, an omnibus appropriation bill, or a year long continuing resolution. The program's baseline will then be aligned with the expected funding level. The priority work scope that had to be deleted or deferred will then be submitted for funding consideration by the RL Site Integration Board competing with the other unfunded work that has emerged as priorities across the Site for FY03.

The RPL will continue operational activities to maintain its ready-to-serve capacity in support of the Hanford EM accelerated cleanup mission including development of the Documented Safety Analysis (DSA).

Activities to disposition the accumulated legacy wastes at the Lab will continue with a focus on removal of legacies at the RPL to prepare that facility for modifications that allow vacating and closure of the 3720 Facility by the end of the FY.

Near Term Stewardship

Preparation of the following Hanford Site documents is scheduled to begin during the upcoming quarter:

- Hanford Site Environmental Report for CY 2002
- Climatological Data Summary Report for CY 2002
- National Environmental Policy Act Characterization Document, Revision 15.

The FY 2002 Hanford Cultural Resource Laboratory Annual Report is on schedule for completion during January 2003.

Site Integration

- Complete the RL portion of the Life Cycle Model for use in Site level strategic analysis.
- Produce preliminary draft of the "Crosscutting Risk Management Spreadsheet for the Management and Mitigation of Programmatic Risk as required by HPMP commitment 7.5.Ia (due 2/28/03).

Groundwater Management and Monitoring

- Transmit the 200-PO-1 Groundwater Operable Unit Sampling and Analysis Plan to DOE for submittal to regulators.
- Transmit the Annual Groundwater Monitoring Report for FY01.
- Transmit the FY02 Hydrologic Testing and Analysis Report.
- Transmit the July-September 2002 RCRA Quarterly Report.

Groundwater/Vadose Zone Integration

- Prepare and present papers at Waste Management 03 in February 2003 and the 4th Symposium on the Hydrogeology of Washington State in April 2003.
- Prepare annual summary for Composite Analysis. This summary is delivered to DOE Headquarters to summarize all activities related to the Composite Analysis undertaken during the year.

Safeguards and Security

- Continue to provide expertise, oversight, guidance, and training related to the appropriate protection of personnel and physical and intellectual property of the government, other clients, and Battelle. In addition, provide for the control, accountability, and inventory management of nuclear materials.

OTHER HANFORD CONTRACTOR SUPPORT

PNNL Technology Applications Support to Bechtel Hanford Inc.

PNNL is providing support to the Bechtel Hanford, Inc (BHI) Technology Application group in FY2003 through a work order that is being extended as the BHI contract is extended. The primary categories of support provided in the first quarter are described below.

A Science and Technology (S&T) Plan was developed to define the need for science and technology support within the near and mid term planned activities for the Environmental Restoration Project. Based on information in the S&T Plan and previous year needs, information about technology solutions was collected and communicated to the project engineers.

Support was also provided to facilitate technology deployments and document these deployments. Four deployments occurred in the first quarter of FY2003:

- Enhanced Site Characterization System
- RF Camera System for Brokk Remote Excavation System
- iPIX 360-Degree Photography
- Dolphin Electronic Log Books.

In addition to Hanford-specific support, PNNL also provided technical support to the Bechtel Technology Panel, a Bechtel corporate initiative. PNNL supported the panel's work in defining S&T needs across multiple sites and developing a process to use this information to improve implementation of S&T across the DOE sites where Bechtel is a contractor.

Public Safety and Resource Protection program staff provided technical support to the 100B/C Area Baseline Risk Assessment effort. Specifically, staff participated in several Data Quality Objectives workshops conducted during the quarter for the development of an ecological risk assessment protocol.

PNNL Support to Fluor Hanford

The Laboratory continued to support Fluor's accelerated clean-up efforts and received a year-end rating of "Outstanding" for our technical contributions and management of Fluor's Technology programs. Specific highlights this quarter include:

Performed project level risk analysis studies to support planning for sludge removal at the Spent Nuclear Fuel Project and the accelerated deactivation of the Plutonium Finishing Plant (PFP). The application of risk analysis tools increases the understanding of cost/schedule risk and technical uncertainty. These studies provide additional focus and direction for the contractor and drive the science and technology agenda.

PNNL staff completed laboratory and bench scale studies which established key processing parameters for the removal of high concentrations of chloride salts from plutonium oxide materials at the PFP. The process enables water washing in existing equipment and furnaces at PFP. This work is critical to the accelerated stabilization and shipment of Plutonium.

Senior ETD scientific staff is engaged at a National level and at PFP in developing a technical basis to lower the DOE-3013 temperature standard for stabilizing high chloride containing plutonium oxides. If approved, this change in the technical baseline would reduce the calcining temperature from 950 C to 750 C thus eliminating the technical challenges associated with water washing.

PNNL Support to CH2M HILL:

CH2M HILL Hanford Group President and General Manager Ed Aromi and Pacific Northwest National Laboratory Director Lura Powell signed a memorandum of agreement in early October, 2002 on science and technology integration in support of Hanford tank cleanup and closure. The agreement established a co-led Technology Integration Program within CH2M HILL, responsible for managing all aspects of technology identification, development and planning for technology deployment by CH2M HILL.

PNNL staff supported key CH2M HILL projects in the areas of tank integrity, tank retrieval, and accelerated tank closure and supplemental treatment.

The Remotely Operated Nondestructive Examination (RONDE) system for examination of the knuckle region of Hanford tanks was successfully deployed on Monday, December 17, 2002. The RONDE system is capable of detecting and sizing circumferentially oriented cracks utilizing the Tandem Synthetic Aperture Focusing Technique (T-SAFT). PNNL developed and qualified the RONDE system, and supported CH2M HILL and COGEMA in deployment.

PNNL is supporting evaluation of several Leak Detection Mitigation and Monitoring (LDMM) technologies and coordinating testing at the Hanford Mock Tank Leak site to support planning for future tank retrieval activities. Simulated tank leak releases and corresponding vendor leak measurements for the FY 2002-2003 Performance Evaluation Testing concluded on November 8, 2002. Draft test reports were received from vendors in December, and progress on final evaluation testing is underway.

PNNL continued technical support to Supplemental Technologies through the first quarter. PNNL is providing key technical and management support to CH2M HILL in the Supplemental Treatment Program evaluating low-activity waste immobilization options that could be implemented supplemental to the Waste Treatment Plant LAW vitrification facility. Key accomplishments included development and production of both decontaminated tank waste samples and a cold simulant to be provided to supplemental treatment technology vendors and/or their designated laboratories. PNNL staff also investigated the properties of TRU wastes within Hanford tanks and developed recommendations on a simulant for use in testing TRU processing operations.

PNNL also initiated support to CH2M HILL in the preparation of data packages for the planned tank closure Environmental Impact Statement (EIS) by providing Technical Team Leadership for the Storage, Retrieval, and Closure Team and key technical experts for other EIS teams. This EIS is on the critical path for ORP and CH2M HILL in accelerating the tank remediation activities at Hanford.

EMERGING ISSUES

PNNL LRO will submit a BCR to request GPP funding to support the RPL/325 HVAC upgrades to facilitate consolidating staff and capabilities from the Environmental Sciences Laboratory (Building 3720) to the Radiochemical Processing Laboratory (Building 325) in support of the PNNL 300 Area Transition Strategy.

PNNL has developed a strategy for maintaining continuity of critical capabilities to support both the Em cleanup and science mission.



Section B

Safety Overview

Environment, Safety, Health & Quality

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SAFETY OVERVIEW

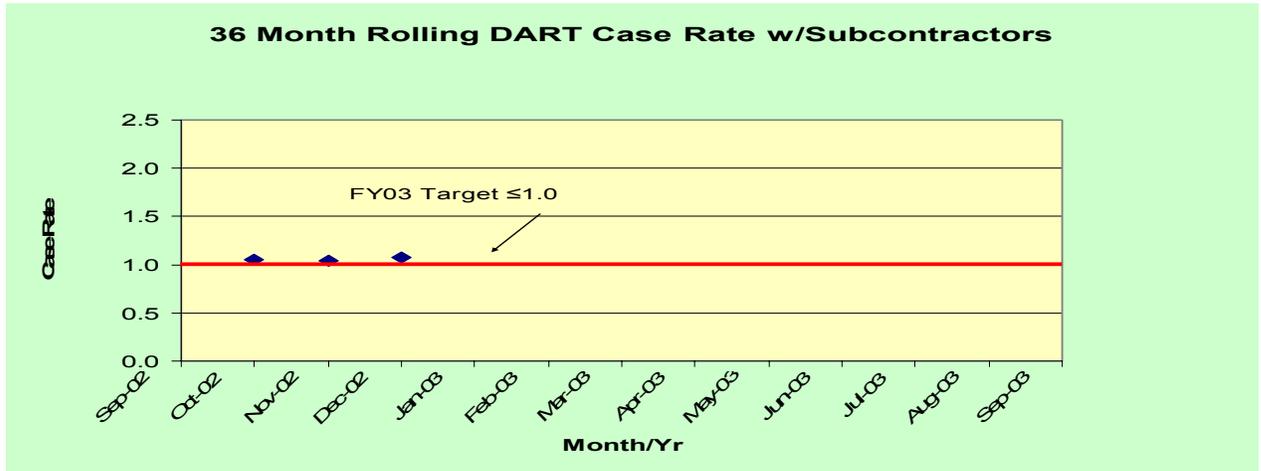
The focus of this section is on documenting trends in lab wide work-related injury and illness rates. These are the same performance indicators as appear in the FY 2002 Battelle Performance Evaluation and Fee Agreement, which is part of the PNNL Operations Contract. The rates include both PNNL and PNNL Contractor data and are based on a 36 month rolling average. The monthly rates for Recordable and Lost Workday cases are presented graphically in this section and are monitored for statistically significant changes. Current efforts to improve performance are being made through the implementation of the Integrated Safety Management System (ISMS) and Voluntary Protection Program (VPP).

Safety Indicators

Total Recordable Case Rate – the number of OSHA recordable injuries and illnesses per 100 FTEs. PNNL’s 36 Month Rolling Recordable case rate is below the FY03 Target of 2.6.



Days Away Restricted or Transferred (DART) Case Rate – a subset of the total recordable case rate, the number of injuries and illnesses resulting in days away from work, and/or days of restricted/transferred (temporary) activity per 100 FTE’s. PNNL’s 36 Month rolling DART case rate is slightly above the FY03 target of 1.0 and the issue has been brought to the attention of senior management at the last Management Council Meeting. Individual directorates with cases contributing to the PNNL total are currently reviewing the issue and exploring opportunities for improvement.





RS01

South Hanford Industrial Area Clean Up

*WBS 3.2.1.7
EM Laboratory Legacy Waste
Removal and Operations*

Program Manager
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INTRODUCTION

The purpose of the EM Laboratory Legacy Waste Removal and Operations Program (LRO), Work Breakdown Structure (WBS) 3.2.1.7, is to disposition Cold War legacy wastes and facilities remaining at PNNL and to operate and maintain the Radiochemical Processing Laboratory / 325 Building (RPL/325) in a "ready-to-serve" configuration as a Critical Hanford Facility to support accelerated cleanup.

The LRO Program scope includes the following:

- Conduct essential safety activities within RPL/325 Bldg. (an EM Category II Nuclear Facility) to ensure that no inadvertent release of radioactive or hazardous materials occurs. Maintain the facility to maximize its availability for the critical mission role of site cleanup support.
- Identify, characterize, and remedy all legacy waste and contamination resulting from cold-war projects conducted within DOE facilities and ground contamination sites currently assigned to PNNL.
- Complete legacy facility consolidation and pre-deactivation activities for DOE facilities assigned to PNNL in support of the 300 Area Accelerated Cleanup Project.

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

Program staff members initiated execution of fiscal year (FY) 2003 under the new Pacific Northwest National Laboratory (PNNL) Environmental Management (EM) Laboratory Legacy Removal and Operations (LRO) Program following partial approval by the DOE-RL Site Integration Board of the program restructure baseline change request (BCR) on October 1. The Site Integration Board approved all scope and budget changes identified in the BCR, but did not approve additional FY 2003 funding. Incremental funding for the new LRO Program was sustained through January 11, 2003, with approval of a series of Continuing Resolutions (CR).

Various programs were supported by the Radiochemical Processing Laboratory (RPL/325) facility and staff this quarter. RPL/325 analyzed and decontaminated a composite of tank waste samples to support CH2MHill Hanford Group's vendor tests of supplemental tank waste treatment technologies. Tests conducted from these samples will provide the basis for vendor selection and design of supplemental technologies for accelerated treatment and closure of the Hanford tanks. Assistance was provided to Bechtel National in their efforts to support Waste Treatment Plant (WTP) design and permitting. This quarter, preparations for resin storage and aging tests were completed, alternative resin studies for improved performance were initiated, characterization of precipitates that form during evaporation were completed, radioactive glass samples were prepared for liquidus testing, and twelve final reports on process tests and tank waste characterization were issued. Characterization of AZ-101, AP-101, and AP-104 tank samples were completed. RPL/325 staff conducted steam reforming product tests for alternate Low Activity Waste (LAW) processes. In support of the Plutonium Immobilization Program, RPL/325 performed long-term radiation stability tests of immobilized forms of surplus Pu. Performance data was generated for the Geologic Disposal Support Program in support of the Yucca Mountain permit application. In the longer term, RPL/325's support included work toward the development of advanced radiochemical sensors, process monitoring and control technology to support waste plant operations, and investigations into advanced separations sciences for actinides.

Several legacy waste tasks were completed at RPL/325 this quarter including: Completing the treatment of sodium and lithium reactive mixed wastes; the evaporation, neutralization, and grouting of nine 1-gallon containers of mixed waste; and the submittal of ~ 250 miscellaneous Pu related waste items to the PNNL waste management organization for packaging and shipping. The shipment of five drums of waste packaged in FY02 also occurred. Routine inspections of shutdown facilities and Waste Identification Data Systems (WIDs) sites were completed as planned and with no issues or deficiencies. Efforts are underway to transfer the shutdown 6652-E facility to Fluor. Project planning details were initiated on four significant FY03 tasks including: 1) removal of the ion exchange columns from the glove box in room 604 of RPL/325; 2) the removal of eight fume hoods and glove boxes from various labs also in RPL/325; 3) the bowling ball casks disposition; and 4) the LSL-II radon filter disposal.

The PNNL Facility Consolidation and 300 Area Transition Project was initiated during the first quarter with FY02 carryover funding of \$300K, which is significantly less than the FY03 baseline of \$6,055.8K. A plan for relocating research and development activities from the 3720 building to the Radiochemical Processing Laboratory (RPL/325) was prepared and presented to Facilities & Operations (F&O) and Environmental Technology Division (ETD) management. Supporting Return on Investment proposals and presentations were prepared in order to pursue a shared funding mechanism among PNNL Lab Overhead (Lab OH), DOE Environmental Management (EM), and the PNNL ETD to implement the relocation plan. The current plan calls for completely vacating 3720 by the end of FY03, with transition to a "Cheap-to-Keep" shutdown mode in FY04. Preliminary discussions were initiated with DOE staff regarding the update to the Memorandum of Understanding (MOU) between DOE and the U.S. Fish & Wildlife Service. The intent was to ensure PNNL's continued near term access to the Arid Lands Ecology (ALE) reserve. In addition, initial contacts were made regarding the Comprehensive Conservation Plan being prepared by U.S. Fish & Wildlife to ensure that PNNL's needs for long term access to the ALE reserve are addressed. Additionally, data was compiled and provided to management for development of a comprehensive PNNL strategy regarding 300 Area accelerated closure.

UPCOMING ACTIVITIES

FY 2003 final work authorization for the program is expected to occur during the second quarter following Congressional approval of the appropriation bill, an omnibus appropriation bill, or a year long continuing resolution. The program's baseline will then be aligned with the expected funding level. The priority work scope that had to be deleted or deferred will then be submitted for funding consideration by the RL Site Integration Board competing with the other unfunded work that has emerged as priorities across the Site for FY03.

The RPL/325 will continue operational activities to maintain it's ready-to-serve capacity in support of the Hanford EM accelerated cleanup mission including development of the Documented Safety Analysis (DSA).

Activities to disposition the accumulated legacy wastes at the Lab will continue with a focus on removal of legacies at the RPL/325 to prepare that facility for modifications that allow vacating and closure of the 3720 Facility by the end of the FY.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	0	0	0	0	0	0	3	
PNNL	Key	0	2	0	0	2	0	13	
Total		0	2	0	0	2	0	16	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no milestones are delinquent. The DOE Milestones associated with this program are listed below

- RLRS01L303 "RPL Phase II Room 604 Glovebox Cleanout Complete" (D) due 09/30/03. On track.
- RLRS01L305 "Content Verification and Disposal of 3 Bowling Ball Casks Complete" (D) due 09/30/03. On track.
- RLRS01L307 " LSL II Radon Holdup System Disposition Complete" (D) due 09/30/03. On track

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	BAC	BCWS	BCWP	ACWP	CV	CV	SV	SV
								FYTD	FYTD	FYTD	FYTD	%	FYTD	%
EW02J1350	3.2.1.7	EM Lab Legacy Removal & Operations				28,915.6		6,001.6	3,332.8	2,847.7	485.1	15	2668.8	44
	3.2.1.7.1	RPL Operations			22547	17,510.1	17,510.1							
	3.2.1.7.2	Legacy Waste			18698/28029	4,555.2	4,555.2							
	3.2.1.7.3	LRO Program Mgmt			19958	835.0	835.0							
	3.2.1.7.4	PNNL Facility Consol			44778	6,015.3	6,015.3							

* PNNL has \$2020K carryover, is expecting \$15044K new B/A in FY 2003, for a total of \$17064K. Current new B/A obligated is \$4370K.

FY TO DATE SCHEDULE / COST PERFORMANCE

Schedule Variance Analysis:

Description and Cause: The cumulative schedule variance through the first quarter is a negative \$-2669K (-44%). The unfavorable schedule variance results from a current project baseline of \$29,108,149, which is much larger than the anticipated target funding of \$17,064,286 being worked to. A formal Baseline Change Request (BCR) is in process that will align the program with the FY03 work authorization. It is expected that the schedule variance will continue until the BCR deferring the unfunded scope is approved early in the second quarter. Tasks that have not started in FY03 because of

Continuing Resolution (CR) restrictions are: RPL/325 Infrastructure, Arid Lands Ecology and Outer Areas, 300 Area Facility Transition, and 300 Area Utilities, the RPL B-Cell Tank Cleanup, 306W Pits/Trenches Characterization and Remediation of Residual Material, Richland North Campus Radiological License Release, and License Termination Planning and Preparation. Once the continuing resolution is lifted and a formal change request implemented, the schedule variance will become more relevant.

Impact: Completion of Legacy waste cleanup will be extended. RPL/325 Infrastructure improvements and 300 Area transition and facility consolidation will be delayed.

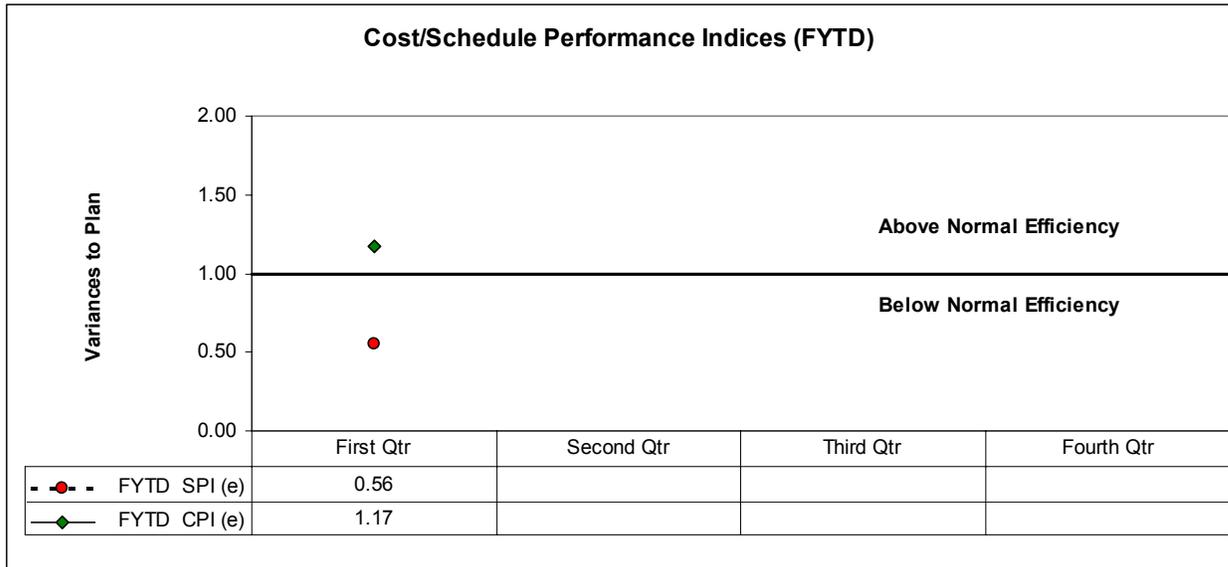
Corrective Action: Legacy waste cleanup and 300 area transition activities falling below the funding target will be deferred to the out-years. RPL/325 infrastructure modifications will be deferred and alternate DOE PBS funding sources will be pursued.

Cost Variance Analysis:

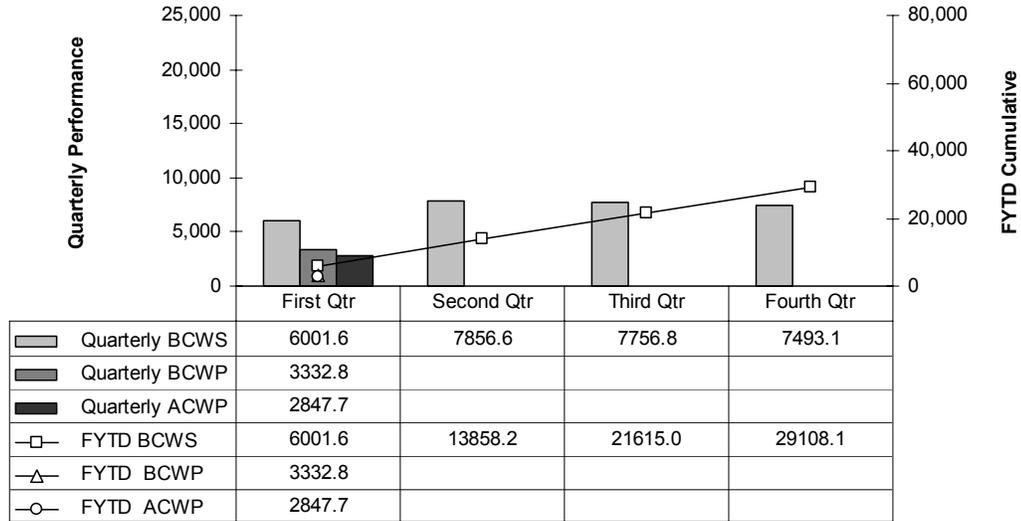
Description and Cause: The cumulative cost variance through the first quarter is a positive \$485K (15%). The favorable cost variance is due to realized program efficiencies and less than planned costs associated with completion of scheduled activities for the RPL/325 and Legacy Waste projects.

Impact: No significant impact is associated with this favorable cost variance.

Corrective Action: Identified cost under-runs will be redirected within the RPL/325 project to complete the HVAC upgrades required to initiate the relocation of 3720 research facilities and staff. All resource loading will be reexamined to correct assumptions made during budget preparation. Necessary adjustments will be incorporated into the BCR to be submitted in February 2003.



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

Technical Issues

Issue: Backlogged shipments of packaged legacy waste that did not occur in FY02 are being tracked during FY03.

Impact: For most waste items, this should have only minor cost impact to this project as the majority of the disposal and shipping costs were accrued in FY02 by the Radiological Waste Operations (RWO), which is responsible for managing the waste shipments.

Corrective Action: Procedures have been implemented by the PNNL waste management organization to start moving radioactive waste again and a shipment was completed in December. Legacy Project staff will continue to track the completion of final shipments of all waste items.

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: Because of the terrorist attacks on September 11, 2001, the ability to obtain transport vehicles for shipments of the large plutonium-238 source has become extremely strained within the DOE complex. No vehicles were available to complete shipments in FY02.

Impact: The shipment of the LP-1 (a large Pu source) will not be made in the foreseeable future.

Corrective Action: PNNL continues to work with the DOE authorities to see if any alternatives exist but none have been found. No Hanford shipments are expected for many months. If the shipments are delayed beyond February 2003, the cask packaging will no longer be compliant with its Certificate of Conformance and may require a new packaging effort or a waiver request.

Issue: On October 1, 2002, the DOE-RL Site Integration Board approved all scope and budget changes identified in the program restructure BCR, but did not approve additional FY 2003 funding.

Impact: This funding shortfall limits RPL/325 operations, provides no EM facility infrastructure upgrades, restrains the program's ability to accelerate the anticipated schedule for disposition of legacy waste and contaminated ground sites, and derails activities for pre-deactivation of facilities prior to turnover to the River Corridor contractor for final decontamination and decommissioning.

Corrective Action: Program staff members continued efforts to identify additional dollars to offset the funding shortfall. PNNL contributed over \$500K from over recovery of FY 2002 overhead funds. Staff provided information to the RL Baseline & Project Control Division (BPD) on December 12, as requested to identify the significant funding shortfalls. The PNNL Facility Consolidation & 300 Area Transition Project Documentation Package (PDP) was provided to detail the unfunded scope, plus an additional \$1M requirement by FY 2004 was identified to cover priority essential infrastructure upgrades for the EM facilities assigned to PNNL. BPD was expected to discuss these needs with appropriate RL management for potential resolution.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

BCR Number	Class	BCR Description	Status
PWM-2003-001	II	Scope, Schedule & Budget Baseline Changes to Reflect FY03 Reprice	Approved
PWM-2003-002	I	Scope, Schedule & Budget Baseline Changes to Reflect FY03 Target Funding	In Process
PWM-2003-003	I	Incremental Infrastructure Funding for the RPL HVAC Upgrade	In Process



SC01

Near Term Stewardship: Public Safety & Resource Protection

*WBS 3.5.1.2
Natural/Cultural/Ecological
Resource Management*

*WBS 3.5.1.3
Site Environmental and Public
Protection Assurance*

Project Manager

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INTRODUCTION

The PNNL Public Safety and Resource Protection Program (PSRPP) independently monitors the Hanford environment and conducts impact assessments to protect public and worker safety as well as Hanford's significant ecological and cultural resources. The PSRPP, which is managed as a single integrated program, is made up of 5 individual projects:

- Hanford Environmental Oversight
- Meteorological and Climatological Services
- Surface Environmental Surveillance
- Ecological Monitoring and Compliance
- Cultural Resources

The Public Safety & Resource Protection Program includes two level 4 Work Breakdown Structure (WBS) elements. Natural/Cultural/Ecological Resource Management, WBS 3.5.1.2 consists of:

- Preparation, implementation, and maintenance of cultural, archaeological, natural, land, and ecological resource protection/management plans for the Hanford Site to facilitate cost effective regulatory compliance and assure fulfillment of DOE environmental and cultural resource protection responsibilities

Site Environmental & Public Protection Assurance, WBS 3.5.1.3 consists of:

- Environmental surveillance and cumulative assessment of on-site and off-site environmental impacts and off-site human health exposures from Hanford operations.
- Preparation of the annual Site Environmental Report that documents Site environmental compliance status, environmental conditions on and around the Hanford Site, and the potential offsite public radiological exposure resulting from Hanford operations.
- Coordination of the preparation and revisions of, and maintenance of integrated "Hanford Site Environmental Monitoring Plan."
- Conducting of on-site surveillance to evaluate effectiveness of Hanford Site effluent controls and waste clean-up activities.
- Identification and development of data, models, and programs needed for timely and responsive action in support of present and future River Corridor and Central Plateau accelerated clean-up activities and Site environmental and ecological assessment activities.
- Monitor the abundance, vigor, and distribution of plant and animal populations on the Hanford Site and evaluate the cumulative impacts of Site operations on these resources.
- Perform baseline ecological and cultural resource surveys to document the occurrence of protected resources and evaluate and document impacts to protected species and habitats as required by NEPA and the Endangered Species Act.
- Monitor meteorological and climatological conditions on site to support other site programs and emergency response needs, and associated data collection (manual, remote, local) and reporting.

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

Project Documentation Packages (PDPs), consistent with the FY03 PSRPP (DOE # 45147) Work Authorization for each project within the PSRPP, were completed during the report period and have entered into the PNNL and DOE-RL approval process.

The Surface Environmental Surveillance Project successfully completed a competitive bidding process and awarded a 3-year contract for the conduct of radiological analytical services. The process, which was initiated approximately one year ago, included the preparation of a detailed Request for Proposals and extensive proposal reviews and laboratory evaluations prior to awarding the contract.

A final draft of the Hanford Cultural Resource Management Plan (HCRMP) was completed and submitted to DOE-RL for final review and approval. The draft HCRMP includes significant revisions following extensive reviews by the DOE-RL Office of Chief Counsel and others.

UPCOMING ACTIVITIES

Preparation of the following Hanford Site documents is scheduled to begin during the upcoming quarter:

- Hanford Site Environmental Report for CY 2002
- Climatological Data Summary Report for CY 2002
- National Environmental Policy Act Characterization Document, Revision 15.

The FY 2002 Hanford Cultural Resource Laboratory Annual Report is on schedule for completion during January 2003.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	0	0	0	0	0	0	0	
PNNL	Key	1	1	0	1	1	0	12	
Total		1	1	0	1	1	0	12	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no PNNL Key or RL milestones are delinquent.

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding Rec'd to Date	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
EW02J1370	3.5.1.2	RLSC01	PSRPP	OP		6,134	2,591	1,546	1,455	1,194	261	18	-91	-6

Schedule Variance Analysis:

Description and Cause: There is no significant cumulative schedule variance.

Impact:

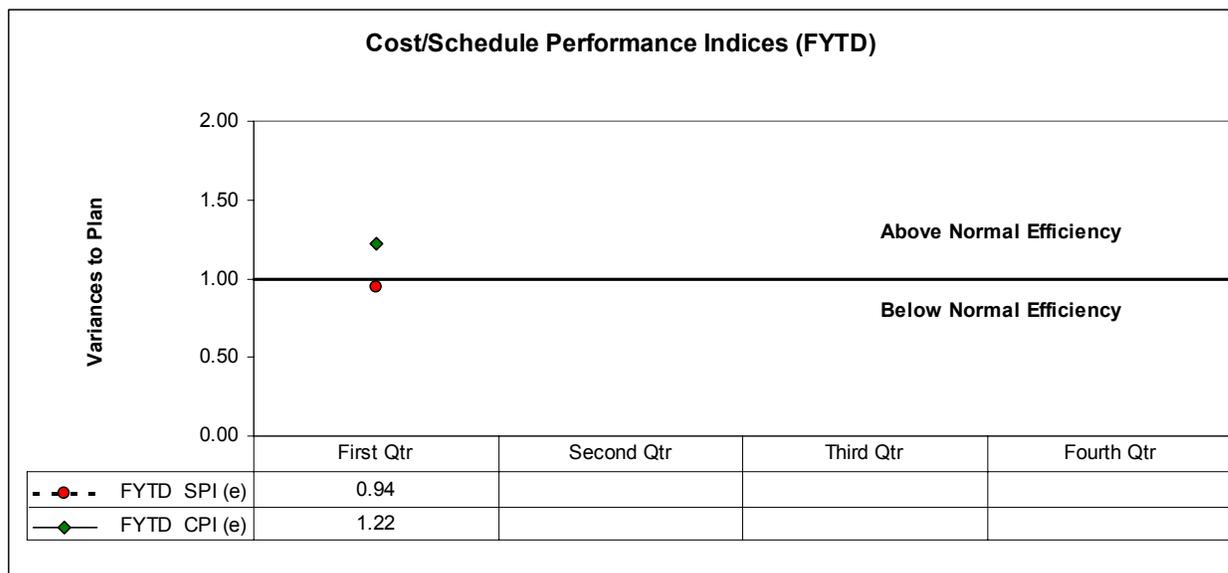
Corrective Action:

Cost Variance Analysis:

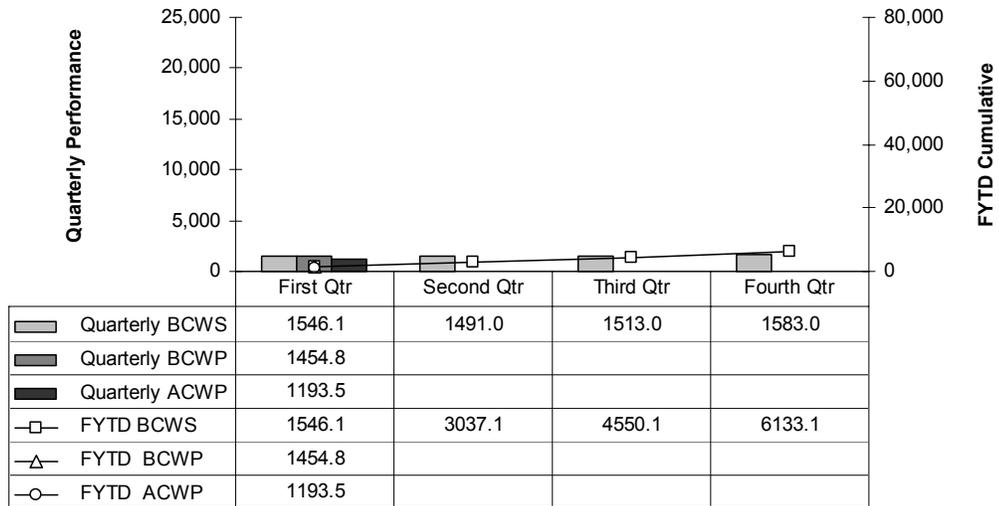
Description and Cause: The favorable cumulative cost variance (\$261K – 18%) is due in part to outstanding analytical costs that are not accounted for in the current processing. Temporary reassignment of staff to support the 100 B/C Area Pilot Study, Solid Waste Environmental Impact Statement, expanded riverbank seep monitoring, and the development of an enhanced integrated ecological/biological monitoring capability has also contributed to the cost variance. In addition, the initiation of some scheduled activities were delayed due to environmental conditions during the past fall, further contributing to the cost variance.

Impact: No adverse impact is anticipated as a result of this variance.

Corrective Action: The cost variance is expected to decrease as program costs are accounted for in future financial processing. In addition, fieldwork that was delayed last quarter has been initiated and staff temporarily reassigned to other activities are expected to return to the scheduled activities.



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

No issues to report during the first quarter of FY 2003.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

A Baseline Change Request is under preparation for the PSRPP to request FY 2002 Carryover dollars consistent to the DOE-RL Work Authorization, B&R No. EW02J1370. The BCR is anticipated to be submitted to DOE-RL during January 2003.



SS01

Site Integration

*WBS 3.4.1.3
Hanford Solid Waste - EIS
Preparation Support*

*Hanford Site Planning
and Integration*

Project Managers

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INTRODUCTION

RL Directed Support Project, Work Breakdown Structure (WBS) 3.4.1.3 consists of decision support, technical analysis, strategic planning, risk management support, and policy analysis to RL's Assistant Manager for Integration (AMI).

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

PNNL delivered the following key products to AMI in the first quarter of FY 2003:

- As of the end of December the Hanford Solid Waste EIS support project was on schedule to produce a second draft EIS (including a comment response document) for the DOE NEPA Panel Reviews beginning on January 23rd, 2003. The second draft EIS includes analysis of a broader range of alternatives (including alternatives for the disposal of Immobilized Low Activity Waste (ILAW)) and includes analysis for a "Hanford only" waste volume. Following the NEPA Panel reviews the second draft of the EIS will be finalized supporting a late March Public review period, culminating in completion of the Final EIS and issuance of Record's of Decision by July 31, 2003.
- Made significant progress on the development of the RL portion of the Life Cycle Model (LCM) for use in Site level strategic analysis. Office of River Protection (ORP) already developed and is using a life cycle model to do off baseline analysis. With the development of the RL portion of LCM, the tool can be utilized for Site level analysis of off-baseline information. The model includes cost, material flows, logistics, facilities, and schedule commitments. Due April 2003.
- Produced the "PBS-level Hanford Site integrated schedule and WBS for 2035 cleanup completion" as required by Hanford Program Management Plan (HPMP) commitment 7.3.1b (due 1/1/03 delivered 12/19/02).
- Produced preliminary draft of the "Crosscutting Risk Management Spreadsheet for the Management and Mitigation of Programmatic Risk" as required by HPMP commitment 7.5.Ia (due 2/28/03).
- Provided technical support to RL's Government Furnished Information/Service (GFI/S) Management system, including statusing commitments and producing monthly reports.
- Provided technical support to the Central Plateau Vision & Strategy Team in the development of a consistent Risk Framework for use in decisions needed for Central Plateau closure.

UPCOMING ACTIVITIES

- Complete the RL portion of the Life Cycle Model for use in Site level strategic analysis.
- Produce preliminary draft of the "Crosscutting Risk Management Spreadsheet for the Management and Mitigation of Programmatic Risk" as required by HPMP commitment 7.5.Ia (due 2/28/03).
- Provide technical support to RL's GFI/S Management system, including statusing commitments and producing monthly reports.

- Provide technical support to the Central Plateau Vision & Strategy Team in the development of a consistent Risk Framework for use in decisions needed for Central Plateau closure.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	0	0	0	0	0	0	0	
PNNL	Key	0	0	0	0	0	0	0	
Total		0	0	0	0	0	0	0	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no milestones are assigned to this WBS.

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding Rec'd To Date	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
EW02J1390	3.4.1.3	RLSS01	SS01 - Site Integration	OP		5,116	2,669	1,923	1,923	2,063	-140	-7	0	0
EW02J1390	3.4.1.3	RLSS01	Hanford Solid Waste - EIS	OP	26772	2,320	1,074	908	908	908	0	0	0	0
EW02J1390	3.4.1.3	RLSS01	Prep Support Hanford Site Planning & Integration	OP	30289	2,300	1,476	910	910	1,050	-140	-15	0	0
EW02J1390	3.4.1.3	RLSS01	Support to DOE-RL SS01 Misc	OP	Various	496	119	105	105	105	0	0	0	0

Schedule Variance Analysis:

Description and Cause: There is no schedule variance. This activity is level of effort support.

Impact:

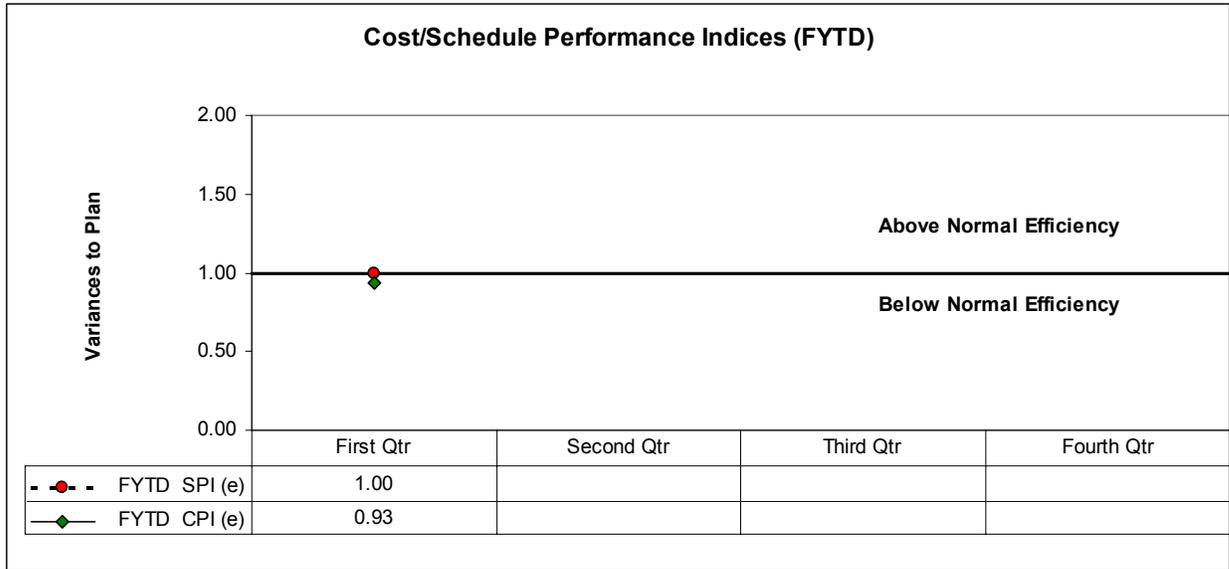
Corrective Action:

Cost Variance Analysis:

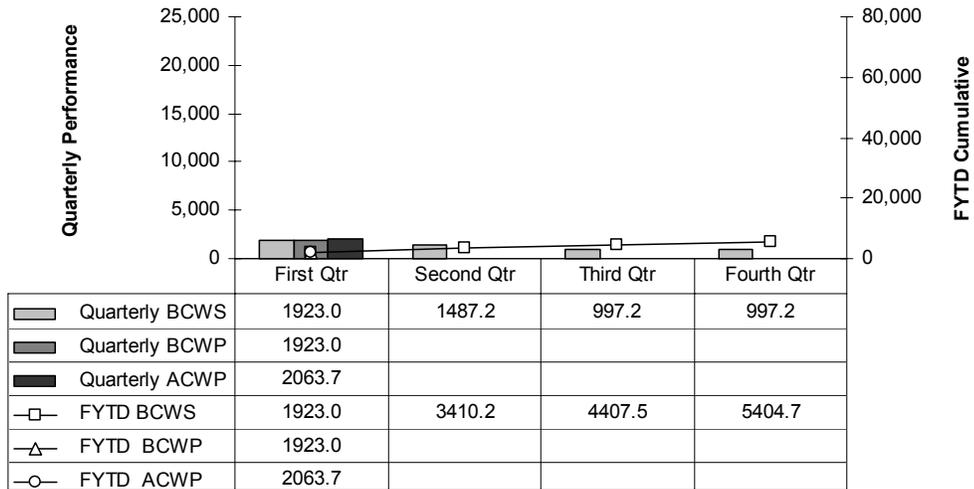
Description and Cause: The cumulative cost variance is due to additional labor support to meet a key interim beta version of the LCM development schedule.

Impact: None.

Corrective Action: None.



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

Technical Issues

Issue: The PNNL project supporting the AMI work scope was approximately \$4M in FY 2002. Projected funding for the FY 2003 project is approximately half that level with the addition of a significant technical task in the development of the RL LCM. Once the LCM development is complete, requiring half the anticipated project funding and other directed tasks are supported, there is a high probability that we will not be able to cover analytical support to the site integration functions within AMI.

Impact: Technical support is not available to support RL AMI in their technical analysis and in other key functional areas: Risk Management, Hanford Site Integration, or C3T.

Corrective Action:

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: Funding guidance was received in January, reducing the funding target.

Impact: Only the Life Cycle Model will be supported.

Corrective Action: Adjustments will be addressed in the Q2 EMPR.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

BCR not required for this activity



SS03

Groundwater Management and Monitoring

*WBS 3.4.3.1
Long Term Monitoring*

Project Manager
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INTRODUCTION

Long Term Monitoring, Work Breakdown Structure (WBS) 3.4.3.1, consists of tasks for groundwater monitoring, seismic monitoring, groundwater modeling, vadose-zone monitoring and RCRA well installation.

The objective is to conduct groundwater monitoring, modeling and geohydrologic services for monitoring groundwater quality and movement on the Hanford Site.

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

Completed the 200-BP-5 Groundwater Operable Unit Sampling and Analysis Plan; DOE transmitted the plan to regulators for final review and approval.

Completed the April-June 2002 Resource Conservation and Recovery Act (RCRA) Groundwater Monitoring Quarterly Report; DOE transmitted the report to the regulators.

Completed the PNNL Report, "Results of Detailed Hydrologic Characterization Tests - Fiscal Year 2001" and transmitted the report to distribution.

Completed the FY 2003 Integrated Groundwater Monitoring Plan, which documents sampling and analysis requirements for all Hanford Site groundwater monitoring, and distributed the report.

Completed the revised 216-B-63 Trench Groundwater Monitoring Plan and distributed the plan.

Completed the report, "Groundwater Chemistry and Hydrogeology of the Upper Saddle Mountains Basalt-Confined Aquifer South and Southwest of the Hanford Site" and distributed the report.

Completed the FY 2002 Annual Seismic Report and distributed the report.

Transmitted the quarterly summary of groundwater monitoring activities conducted in the 400 Area during April 1 through June 30, 2002 to DOE and Fluor Hanford (FH).

An Ecology representative observed groundwater sample collection at Low Level Burial Grounds (LLBG) Waste Management Area 3 in early December. No issues were raised, but sampling records were requested.

Reported that two wells monitoring the Low Level Waste Management Area 3 and 200-ZP-1 have gone dry.

Completed fieldwork for the multi-well tracer test conducted in two wells at the S-SX Tank Farm and began data analysis. The results are expected to provide important information on longitudinal dispersivity.

Detected petroleum hydrocarbons in well 100-N-18 and environs; the information was sent to DOE and FH.

Transmitted the Description-of-Work to Fluor Hanford to install two new monitoring wells at the 618-10 Burial Ground

Supported DOE in preparation and presentation of a prioritized list of wells for 2003 – 2005 to Ecology and EPA.

Detected the November 3, 2002, Magnitude 7.9 Alaskan earthquake, which triggered the Strong Motion Accelerometers at 100K and 200E, each with a peak acceleration of 0.15% g. This event was felt in the area.

Recorded a sequence of 6 small earthquakes on the Palouse Slope near Palouse Falls. The largest occurred November 10, 2002, and had a magnitude of 2.2.

UPCOMING ACTIVITIES

- Transmit the 200-PO-1 Groundwater Operable Unit Sampling and Analysis Plan to DOE for submittal to regulators.
- Transmit the Annual Groundwater Monitoring Report for FY01.
- Complete shoreline aquifer sampling tube sample collection.
- Transmit the FY02 Hydrologic Testing and Analysis Report.
- Transmit the July-September 2002 RCRA Quarterly Report.
- Complete 100-K Burial Grounds soil-gas probe installation and soil gas sampling.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	F0	0	0	0	0	0	0	0	
	RL	1	1	0	1	1	0	4	
PNNL	Key	3	3	0	3	3	0	2	
Total		4	4	0	4	4	0	6	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no milestones are delinquent.

- DOE-RL milestone: Submitted quarterly letter reports for RCRA monitoring, to DOE by e-mail. Completed on 10/31/02.
- PNNL Key milestone: FY 2003 Integrated Monitoring Plan for the Hanford Groundwater Monitoring Project. Completed on 10/31/02.
- PNNL Key milestone: Groundwater Sampling and Analysis Plan for the 200-BP-5 Operable Unit – DOE (Draft) report completed before 12/31/02 to meet DOE transmittal to EPA by 12/31/02.
- PNNL Key milestone: Annual Hanford Seismic Report for Fiscal Year 2002. Completed on 11/30/02.

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding Rec'd To Date	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
EW02J1400	3.4.3.1	RL-SS03	GW Monitoring	OE	28023	10,585	3,444	2,677	2,669	2,605	-64	2.4%	-8	-0.3%

Note: Total Authorized Funds include \$548,685 for FY02 carryover.

Schedule Variance Analysis:

Description and Cause: There is no significant cumulative schedule variance to report.

Impact:

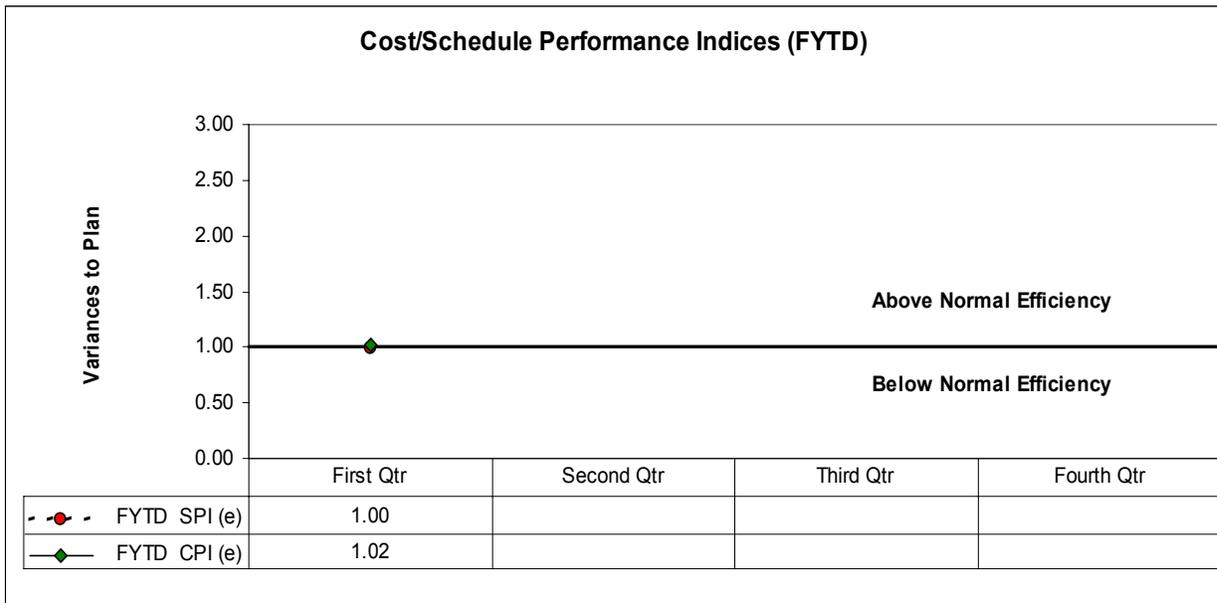
Corrective Action:

Cost Variance Analysis:

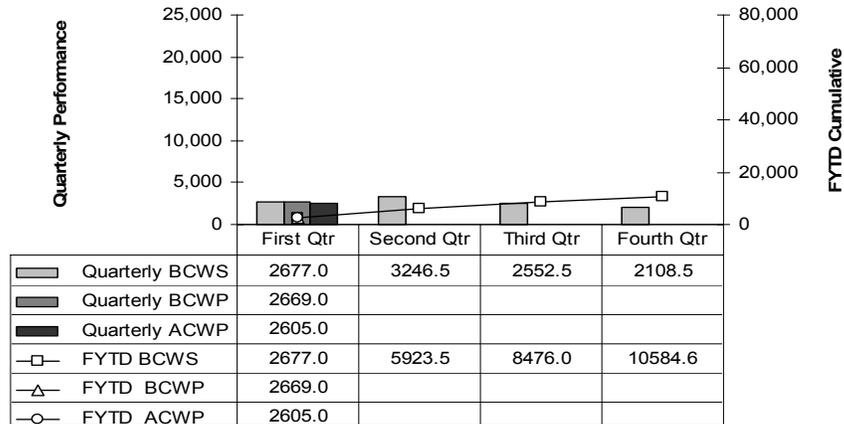
Description and Cause: The favorable cumulative cost variance is due primarily to subcontract and work order costs that have not yet been accounted for.

Impact: None

Corrective Action: Costs will be accounted for in future months.



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

Technical Issues

Issue: None to report this quarter.

Impact:

Corrective Action:

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: DOE received a letter from Ecology that essentially denies a RCRA Permit Mod for 300 Area Process Trenches (APT) that would have allowed continued monitoring under a revised Corrective Action Plan at a cost savings of \$50K per year.

Impact: FH has determined that monitoring must revert to the original CP or a permit violation would occur.

Corrective Action: Monitoring will continue using both the earlier Compliance Plan and the revised corrective action plan; Discussions with Ecology are being pursued to obtain agreement to implement the revised Corrective Action Plan and modify the permit.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

Currently, there are no baseline change requests required for this WBS.



SS04

Groundwater/Vadose Zone Integration

*WBS 3.4.4.2
Science & Technology*

*WBS 3.4.4.3
System Assessment Capability*

Project Managers

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R. W. Bryce, PNNL
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INTRODUCTION

Science & Technology Project, Work Breakdown Structure (WBS) 3.4.4.2 consists of:

The Groundwater Protection Program Science and Technology (S&T) Project is working to fill gaps in Hanford Site's knowledge and data for the vadose zone, groundwater, river, inventory, and risk technical elements that are required to adequately predict the movement of contaminants in the subsurface and surface environment and to predict their ecological and human health impacts. The project has started a new phase to provide data needed to evaluate and select remedial alternatives.

System Assessment Capability, Work Breakdown Structure (WBS) 3.4.4.3 consists of:

Tasks to assess Hanford's impacts on groundwater, the Columbia River, and the users of those resources. Includes the conduct and reporting of assessments of alternative cleanup scenarios and development of assessment tools required to perform the assessments. Efforts during FY03 focus on preparation for performing the Composite Analysis required by DOE Order 435.1 to allow continued disposal of waste at Hanford.

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

Science & Technology:

Published Rev. 2 of Science and Technology Roadmap, which provides the basis for future work by the S&T Project to support accelerated cleanup of the Hanford Site.

Completed revision of Appendix D for the B-BX-BY Field Investigation Report, containing S&T Project and Environmental Management Sciences Program (EMSP) contributions to the tank farm characterization effort.

Presented a paper at the 14th Technology Information Exchange (TIE) Workshop and three posters at the Society for Environmental Toxicology and Chemistry (SETAC). The TIE Workshop paper was an overview of the S&T Project and the posters described collection of data needed for ecological risk assessments at the Hanford Site.

Published two reports on the vadose zone transport field study, the first a status report on the FY02 field test demonstrating the importance of lateral movement in vadose zone flow and transport, and the second a summary of modeling evaluations of the previous two years experiments. These efforts will result in improved vadose zone flow and transport capabilities and data for inclusion in the System Assessment Capability (SAC) and other site-specific models.

Completed a workshop to plan the FY03 vadose zone transport field experiment with permitted quantities of uranium as a reactive tracer. Uranium is a key contaminant impacting several of Hanford's tank farms and the U Plant regional closure.

System Assessment Capability:

Met with Washington State Department of Ecology and the Environmental Protection Agency to discuss the results of an initial assessment of Hanford impact performed with the System Assessment Capability and discuss changes planned in preparation for upcoming analyses.

Completed software design for modifications to the System Assessment Capability needed to conduct the Composite Analysis.

UPCOMING ACTIVITIES

Science & Technology

Prepare and present papers at Waste Management 03 in February 2003 and the 4th Symposium on the Hydrogeology of Washington State in April 2003.

Initiate laboratory and modeling investigations of T-TX-TY tank farm samples.

Plan and initiate permitting for reactive flow and transport experiment at the Vadose Zone Transport Field Study site along Army Loop Road.

Complete strontium-90 uptake studies for the aquatic plant (periphyton) and initiate strontium-90 uptake studies for fish.

Initiate work on remediation technical element activities in the science and technology roadmap targeted at developing data to evaluate remediation alternatives for 100-NR-2.

Reevaluate S&T baseline to support the Fluor revised baseline.

System Assessment Capability:

Complete software modifications to meet requirements to support the Composite Analysis and other planned assessments.

Prepare maintenance plan for Composite Analysis. This plan is delivered to DOE Headquarters and summarized actions taken to keep the Composite Analysis up to date.

Prepare annual summary for Composite Analysis. This summary is delivered to DOE Headquarters to summarize all activities related to the Composite Analysis undertaken during the year.

Develop detailed vadose zone models of U1/U2 Cribs and BC Cribs to support site-wide analyses and accelerated cleanup actions.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	0	0	0	0	0	0	0	
PNNL	Key	4	4	0	4	4	0	8	
Total		4	4	0	4	4	0	12	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no milestones are delinquent.

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding Rec'd To Date	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
EW02J1410	3.4.4		GW Mgmt			6,863	2,059	1,512	1,283	1,121	162	13%	-229	-15%
EW02J1410	3.4.4.2	RL-SS04	Science & Tech.	OE	30998	4,913	1,524	1,057	878	773	105	88%	-179	83%
EW02J1410	3.4.4.3	RL-SS04	System Asses. C	OE	44666	1,950	535	455	405	348	57	86%	-50	89%

Schedule Variance Analysis:

Description and Cause:

Science and Technology:

Delay in laboratory experiments because contaminated samples from T-TX-TY tank farm drilling by the Tank Farm Vadose Zone Project have not been received.

Delay initiating work for remediation technical element to align work scope with Fluor baseline.

Impact: Reporting on laboratory experiments for the T-TX-TY Field Investigation Report will be delayed; however, report is scheduled for FY04, so no long-term impact is anticipated.

Corrective Action:

Met with River Protection Program (RPP) Tank Farm Vadose Zone Project staff to clarify field schedule; rebaseline science and technology project activities to align with Fluor baseline.

System Assessment Capability:

Delay in initiating Maintenance plan, annual summary and technical scope and approach for the Composite Analysis, because staff have been diverted to unplanned work supporting the Solid Waste Environmental Impact Statement project.

Impact: Delivery of the annual summary will be delayed by one month.

Corrective Action: The Solid Waste EIS work is now complete and additional resources have been assigned to preparing the documents thus the schedule variance should be made up in the next two months.

Cost Variance Analysis:

Description and Cause:

Science and Technology:

Cost variance due to subcontracting delays and missed accruals.

Impact: None

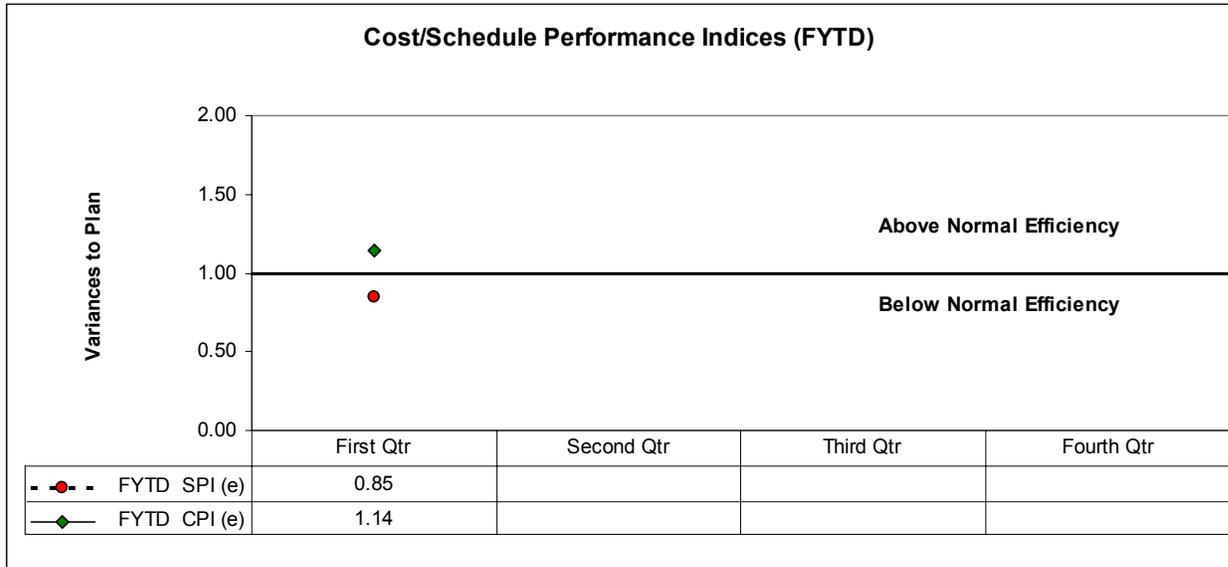
Corrective Action: None

System Assessment Capability:

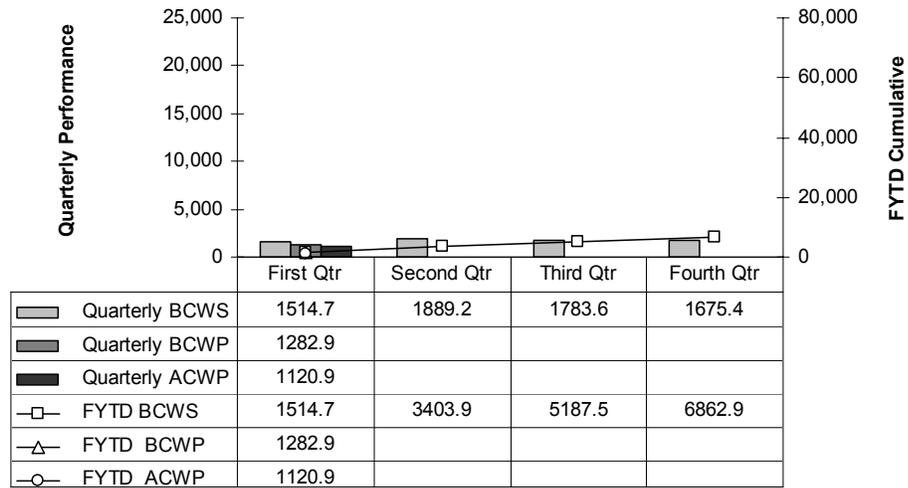
Cost variance due to difference in earned value (EV) calculation (11/31) and the fiscal month end (11/24).

Impact: None

Corrective Action: None



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

Technical Issues

Issue: None to report this quarter

Impact:

Corrective Action:

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: None to report this quarter

Impact:

Corrective Action:

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

Currently, there are no baseline change requests required.



SS-D

Safeguards and Security

*WBS 3.4.6.3
PNNL Safeguards & Security*

Project Manager
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INTRODUCTION

PNNL Safeguards & Security Project, Work Breakdown Structure (WBS) 3.4.6.3, consists of execution and management of the Safeguards and Security Program for the Laboratory.

The Safeguards and Security Program provides expertise, oversight, guidance, and training related to the appropriate protection of personnel and physical and intellectual property of the government, other clients, and Battelle. In addition, the control, accountability, and inventory management of nuclear materials is provided.

The SAS program for the Pacific Northwest National Laboratory (PNNL) is currently included in the Hanford Site SAS budget/activity. Unlike the end-state of the Hanford SAS activities associated with the Hanford EM mission, PNNL activities in the national security area are projected to continue to grow in both the short term as well as the long term. At present, there is no defined end-state for the Laboratory. In addition, any changes to national security assets managed by the Laboratory (i.e., increase or addition of new projects) as well as requirements changes, could affect funding needs.

NOTE: Unless otherwise noted, all information contained herein is as of December 29, 2002.

SUMMARY ACCOMPLISHMENTS

The Safeguards and Security (SAS) Program provided ongoing support to the Laboratory and its programs in the following areas:

- Physical Security
- Information Security
- Cyber Security
- Personnel Security
- Material Control and Accountability
- SAS Program Management

In addition, the following highlights were also accomplished:

During the first quarter, FY 2003, the Safeguards and Security program participated in the Periodic Safeguards and Security Survey conducted by DOE RL Safeguards and Emergency Services.

Critical outcome to implement Public Key Infrastructure and deploy certificates to PNNL staff to enhance protection of information with an enterprise capability to encrypt sensitive information is completed/met.

The Training Approval Program (TAP) documentation was submitted.

UPCOMING ACTIVITIES

Continue to provide expertise, oversight, guidance, and training related to the appropriate protection of personnel and physical and intellectual property of the government, other clients, and Battelle. In addition, provide for the control, accountability, and inventory management of nuclear materials.

MILESTONE ACHIEVEMENT

Type		Current Quarter Milestones			Fiscal Year-To-Date Milestones			Remaining	FY Total
		Scheduled	Completed	Delinquent	Scheduled	Completed	Delinquent		
DOE	HQ	0	0	0	0	0	0	0	
	FO	0	0	0	0	0	0	0	
	RL	1	1	0	1	1	0	10	
PNNL	Key	0	0	0	0	0	0	5	
Total		1	1	0	1	1	0	15	

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that no milestones are delinquent.

- PNNL-03-06 (5.1) Document Cyber Security Program metrics for measuring the effectiveness of the program and how they will be collected (D) due 12/30/02. Complete – submitted and accepted by DOE RL in December.

Note: Two of the “Key Deliverables” for this FY are contingent upon new requirements being issued as well as implementation funding being received.

FY 2003 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding Rec'd To Date	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
FS.30*	.02 -.09	RLSS-D	PNNL SAS Program	OP	44805	10,481	3,337	2,145	2,145	2,054	91	4.2%	0	0

*Note: This includes WN05 SAS WFO

Schedule Variance Analysis:

Description and Cause: There is no schedule variance. This activity is level of effort support.

Impact: N/A

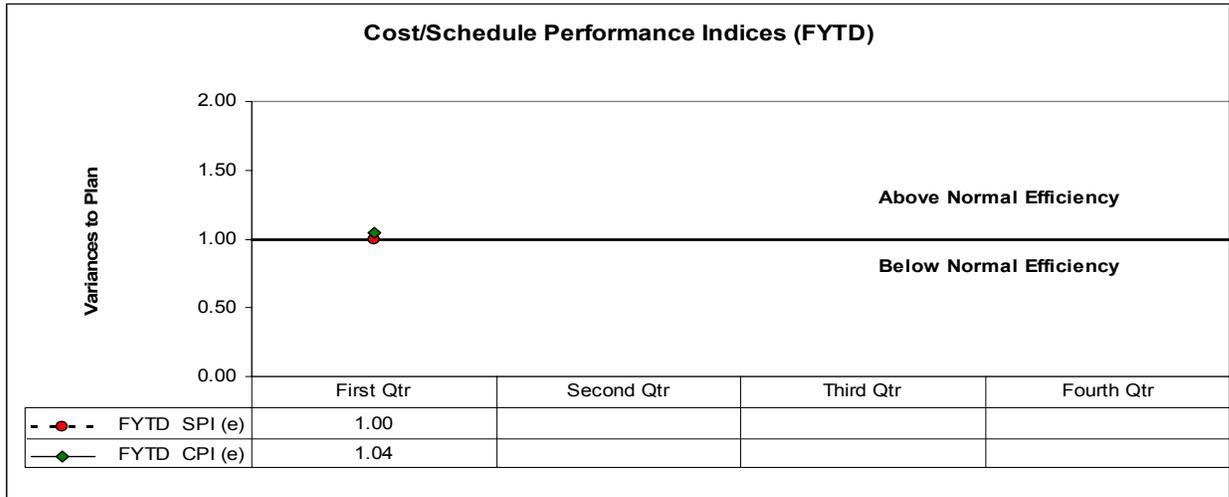
Corrective Action: N/A

Cost Variance Analysis:

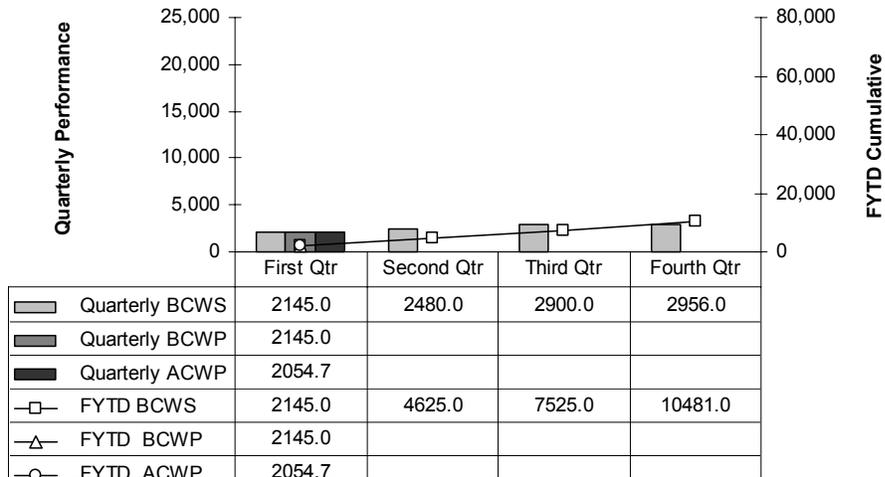
Description and Cause: The favorable cumulative cost variance is due to tasks deferred to later in the year based on initial unknown funding levels (PNNL was directed to work towards a modified “target” budget due to the Continuing Resolution. The “modified” target resulted in a temporary ~\$.7M reduction [to “Total Authorized Funds”] that is anticipated to be returned to PNNL after the CR is resolved. Modified FY 2003 CR target = \$9.8M vs. \$10.481M planned).

Impact: Some tasks have been temporarily suspended or deferred due to the reduced funding target. Some regulatory compliance activities may not be completed until funding is restored. Non-compliance with DOE Safeguards and Security requirements may result.

Corrective Action: Continuing Resolution resolved. Full funding restored to PNNL SAS.



**Performance Analysis
 FYTD and Quarterly (\$000s)**



ISSUES

Technical Issues

Issue: None

Impact:

Corrective Action:

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: SC vs. EM Oversight of PNNL SAS Program.

Impact: The Laboratory's SAS Program is funded by DOE EM and is included as part of the Hanford Site's SAS program funding. The Laboratory, however, is an Office of Science multiprogram laboratory. The EM funding model assumes work scope is declining (i.e., sites are being "cleaned up") and will eventually no longer be required. The Laboratory's mission and associated activities, however, is growing. This funding structure (i.e., through EM) provides for the potential redirection of funds away from the Laboratory and its programs to non-science related programs such as the Hanford Site SAS activities supporting clean up. A variety of issues with this funding model have the potential to impact the Office of Science (SC) mission.

Corrective Action: Receiving SAS funding and direction from DOE SC rather than from other parts of DOE who are not responsible for the Laboratory's mission success, will result in a more efficient and effective SAS program focused on the success of the Laboratory and its science mission (vs. competing with clean-up entities). It should negate the need to compete with clean-up entities for SAS funding and may aid in elimination of requirements established for non-science mission oriented entities.

Oversight and funding roles and responsibilities must be clarified. A clear, single line of management responsibility, accountability and authority from the federal mission program manager (DOE Office of Science) to the Contractor (Battelle) with appropriate role clarity between parties should be established and must include SAS. This includes responsibility for the SAS program budget as well as the SAS program direction (variances, approvals, etc.) as necessary.

- DOE SC (through the Site Office) should be responsible for the SAS program direction and variances, approvals, etc., as necessary.
- DOE SC (through the Site Office) should be responsible for the SAS program budget.

Reassigning oversight and funding responsibilities to SC would reinforce our standing as an Office of Science multiprogram laboratory for DOE, and affirm the proposed SC Site Office as the focal point for oversight interaction with the Laboratory (DOE's Action).

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

None to report this Quarter

GLOSSARY

Actual cost of work performed (ACWP): The actual cost incurred and applied or distributed for the work performed within a given time period. It includes all labor categories, material, any other direct costs, subcontract work, and function overhead.

Approved baseline: The budget authorized to perform the workscope that has been agreed upon by the customer and the contractor(s). It is portrayed in the Multi-Year Work Plan with all approved changes. This baseline may or may not be fully funded, and could be more or less than the compliance baseline.

Budget at completion (BAC): The sum of budgets established to complete a program and/or project or any component of a program and/or project.

Budgeted cost of work performed (BCWP): The value for completed work measured in terms of the planned budget for that work. It is synonymous with earned value.

Budgeted cost of work scheduled (BCWS): The time-phased budgeted value of work scheduled to be accomplished over a given time period. The BCWS for a total cost account through its entire period of performance is equal to the BAC for the cost account.

Carryover Workslope: The estimated dollar amount of the workslope that was not completed during the fiscal year and which will be carried over and completed in the next fiscal year.

Compliance baseline: The budget that is required to perform the workslope necessary to be in compliance with State and Federal regulations, enforceable agreement milestones, and DNFSB milestones. The level of activity required to be in compliance assumes sufficient funding. **Note:** Because approved baselines are considered to be compliant, this column will likely be eliminated.

Contract Inherited: The assumed budget for the planned scope of work at the time a new contract is signed by the company responsible for performing the work.

Cost variance (CV): The difference between BCWP and ACWP ($CV = BCWP - ACWP$). At any time, it shows whether the work actually performed has cost more or less than the amount budgeted for the same work.

Cost Performance Indicator (CPI): The CPI is the ratio of BCWP to ACWP, or $(BCWP/ACWP)$.

Earned value (EV): The periodic, consistent, and objective measurement of work performed in terms of the budget planned for that work. The EV is synonymous with the BCWP and it is compared to the BCWS to obtain schedule performance and to the ACWP to obtain cost performance.

GLOSSARY (CONTINUED)

Estimate at completion (EAC): Cost allocated to the work breakdown structure element to date, plus the estimate of costs for authorized work remaining. Authorized work remaining includes any undistributed budget.

Fiscal Year Spending Forecast (FYSF): The estimated total that will be spent from October through September (current Fiscal Year).

Funding carryover and new Budget Authorization (BA): This funding represents both the funding allocated to perform workscope planned in the prior fiscal year, not completed, and approved to be performed in the current fiscal year, as well as new BA to perform the approved baseline workscope.

Funding target: The level of funding that is anticipated (as a result of the Integrated Priority List process) in a given Fiscal Year based on an assumed funding level for the Site.

Multi-Year Work Plan – 10/1/XX: The Project's approved cost/schedule/technical baseline at the beginning of the fiscal year.

Project Execution Module (PEM): The Project Execution Module (PEM) of the Integrated Planning, Accountability, and Budgeting System-Information System (IPABS-IS) replaces the Progress Tracking System (PTS) as EM Headquarters' centralized system for reporting financial, milestone, performance, and other execution-year information for PBSs, sub-PBSs, TTPs, and line item construction projects. In addition, this module collects mid-year and year-end actual performance information against the agreed upon management commitments for the current execution year.

Schedule Performance Indicator (SPI): The SPI is the ratio of BCWP to BCWS, or (BCWP/BCWS).

Schedule variance (SV): The difference between BCWP and BCWS ($SV = BCWP - BCWS$). At any time, or for a given period of time, it represents the difference between the planned dollar value of work actually accomplished and the value of the work scheduled to be accomplished.

Work breakdown structure (WBS): A product-oriented family tree division of real estate, hardware, software, services, and data products that organize, define, and display all of the work to be performed in accomplishing the program and/or project objectives.