

Environmental Management Performance Report

FY03 Third 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

BATTELLE

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 June 29, 2003 unless otherwise noted.

The section begins with a description of the top accomplishments for the third 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 THIRD QUARTER 2003

South Hanford Industrial Area Clean Up Laboratory Legacy Removal & Operations

As directed by the Department of Energy (DOE) Richland Operations Office (RL), a baseline change request (BCR) was prepared and submitted on June 16 to incorporate changes to the EM Laboratory Legacy Removal & Operations (LRO) Project life cycle to meet the funding profile indicated in the Integrated Planning, Accountability and Budgeting System (IPABS) and also to make adjustments necessary to reduce the fiscal year (FY) 2003 working baseline to meet the FY03 work authorizations issued in May. PNNL subsequently received direction from RL that they were approving the proposed FY03 reductions but deferring approval of the revised life-cycle BCR. RL further directed PNNL to use the BCR as guidance in preparing detailed FY04 work plans and to submit those work plans and a revised BCR reflecting them for further consideration.

The RPL/325 staff have maintained and operated the facility ready to serve numerous projects to achieve goals during the third quarter as follows:

- The melt on AZ-101 Envelope D was completed in the High Level Radiochemistry Facility (HLRF) hot cells in support of the *Hanford Waste Treatment Plant (WTP) Support Project*.
- Flow-through dissolution tests on commercial spent nuclear fuel (CSNF) were performed at PNNL in support of the Waste Form Department (WFD) of the Civilian Radioactive Waste Management System (CRWMS) Bechtel SAIC Company, LLC (BSC) contract. This work is performed in support of the *Geologic Repository Program*.
- A series of radioactive bulk vitrification tests were performed for the River *Protection Project's Supplemental Treatment Technology program*. These tests were highly successful and helped produce process performance data to qualify the process for selection and support conceptual design.
- A new project was initiated in May, 2003 to support the development and testing of a *Modular Treatment System* to remove Cs, Sr, and actinides from Savannah River Salt Waste.

Legacy Facilities and Waste Management tasks completed this quarter include: The 6652-E facility was transferred to the United States Fish & Wildlife Service this quarter. The 615-BYRL facility was approved for transfer to the land owner. This transfer will save demolition costs.

Near Term Stewardship

Staff continued to support DOE and other site programs and contractors with surveillance related issues. These include improvements to the biota dose assessment code under development at DOE-HQ, continued integration of work with the Washington Department of Health along the river corridor, and continuing efforts in support of site clean up with Bechtel Hanford and Fluor Hanford.

The CY2002 climatological summary document (PNNL-14242, "Hanford Site Climatological Data Summary 2002 with Historical Data") was distributed the week of April 28, ahead of schedule.

Baseline Ecological Compliance Surveys at 100N, 100K, 200 E&W, and 300 Area, which provide key information for ongoing waste cleanup and environmental monitoring data, were completed on schedule.

Site Integration

Hanford Solid Waste – EIS Preparation Support

Support to the Hanford Solid Waste EIS Project was transferred to PBS CP01 during the third quarter.

The public comment period was initiated on April 11, 2003 on schedule. PNNL supported 5 public meetings during the review period. The review period was extended by DOE-HQ and was completed on June 11, 2003. The final HSW EIS and Comment Response Document have been drafted and are currently undergoing review.

Hanford Site Planning & Integration

The RL-AMI Technical Support Project received a shutdown order in January. Transition activities and project final closeout activities will be completed by fiscal year end.

Groundwater Management and Monitoring

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

Transmitted the Data Quality Objectives (DQO) Summary Report for groundwater monitoring for the 100-BC-5 and 100-FR-3 Operable Units.

Completed draft of PNNL report, "Transient Inverse Calibration of the Site-Wide Groundwater Flow Model (ACM-2): FY02 Progress Report" for internal and DOE review.

Transmitted a letter report on tritium in groundwater in the Richland North Area; DOE transmitted the report to the City of Richland. Levels remain low and are generally decreasing near the well field.

Presented two posters and one platform presentation at the 4th Symposium of Washington Hydrogeology in Tacoma, April 7-9, 2003. Presented a platform talk at the National Groundwater Association Conference, June 23 and 24 in Anchorage, Alaska.

Groundwater/Vadose Zone Integration

Completed a May 6-7, 2003 workshop with Environmental Management Sciences Program (EMSP) managers and investigators, Hanford Site personnel, regulators, Tribal Nations, and stakeholders. The workshop had excellent Site participation with sessions focused on subsurface transport of key Hanford contaminants and soil and groundwater remediation.

Delivered results from the Soil Inventory Model to the System Assessment Capability, including inventory estimates for 184 waste streams, 311 past practice soil waste disposal sites, and 75 contaminants. The inventory estimates included uncertainties from the different input data.

Completed a task to provide scaled hydraulic properties and transport behavior from previous year's vadose zone transport field experiments to support modeling the BC cribs with the SAC. The results impact the amount of lateral spreading of water and contaminants in the vadose zone important to future predictions of contaminant transport and design of remediation approaches

A peer reviewed publication on chromium geochemistry in the S-SX tank farm was accepted for publication in a geochemical journal. Publishing research results in peer-reviewed journals increases the credibility of data supporting cleanup decisions and is an integral part of the S&T Project.

Performed an assessment to support the regional closure strategy for the Central Plateau. Estimated future impact to groundwater of each of the proposed regions as a metric to prioritize regions and waste sites within regions for cleanup.

Met with representatives of the Yakama tribe to present results of past assessments and discuss plans for the future. This concludes a series of meetings with the Tribes and regulators to obtain input on future developments of the capability and planned assessments of Hanford's impact on the region.

Safeguards and Security

Security Conditions 2 ("SECON 2") measures were implemented near the Memorial Day holiday. These measures have again been downgraded to SECON 3.

A threat/risk vulnerability assessment was conducted by PNNL staff to identify and mitigate the vulnerabilities associated with select agents and toxins. This assessment is required by applicable CFR regulations related to biological select agents and toxins. A draft vulnerability report has been completed and is being reviewed by the appropriate Laboratory staff. Further actions are pending the final completion of this report and CFR regulation timelines. A security plan for select agents and toxins as required by applicable CFR requirements was completed.

The Operational Report (Deliverable PNNL-03-07) Documenting Cyber Security program metrics was completed as scheduled (April).

The remaining four drums of enriched lithium-6 from Praxair (a Tritium Target Qualification Program subcontractor) were shipped back to Y-12. All work in support of TTQP has ended, and a "close-out" inspection of Praxair will be planned.

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

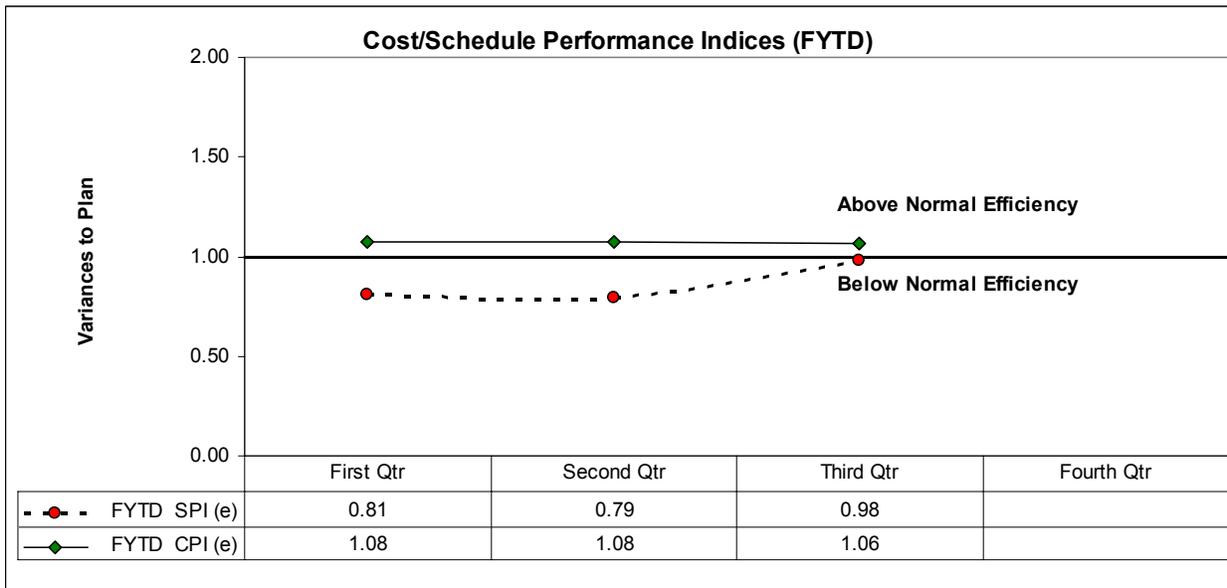
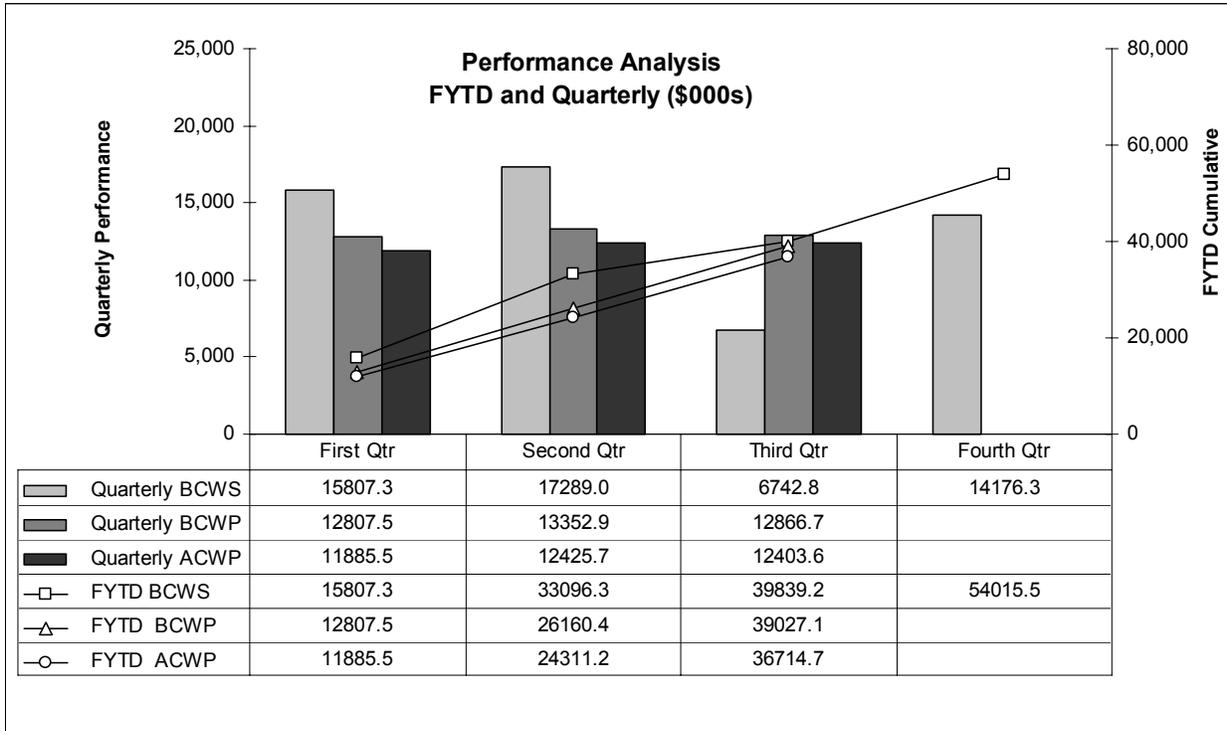
Schedule Performance — Fiscal Year (FY) 2003 schedule performance reflects a negative 3 percent (-\$1.0) unfavorable schedule variance that is within the established 10 percent threshold. All individual projects are within the threshold through the quarter. Detailed variance analysis explanations may be found in the applicable project section.

Cost Performance — FY 2003 cost performance reflects an overall 6 percent (\$2.1M) favorable cost variance that is within the established 10 percent threshold. All individual projects are within the threshold through the quarter. 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	16,988	14,557	16,988	11,487	10,867	10,329	538	5	-620	-5
RL-SC01	Near Term Stewardship	3.5.1	OP	6,134	5,395	6,134	4,563	4,477	4,203	274	6	-86	-2
RL-SS01	Site Integration	3.4.1.3	OP	2,474	2,475	2,474	1,982	2,095	1,971	124	6	113	6
RL-SS03	Groundwater Mgmt And Monitoring	3.4.3.1	OP	10,350	8,952	10,350	8,095	7,906	7,450	456	6	-189	-2
RL-SS04	Groundwater / Vadose Zone Monitoring	3.4.4	OP	6,574	5,562	6,574	4,649	4,438	4,288	150	3	-211	-5
RL-SS-D	Safeguards And Security	3.4.6.3	OP	9,494	8,379	9,494	6,359	6,359	5,819	539	8	0	0
Operating Total				52,013	39,925	52,013	37,134	36,141	34,059	2,082	6	-993	-3
PNNL Program Total				52,013	39,925	52,013	37,134	36,141	34,059	2,082	6	-993	-3

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 four RL milestone were scheduled and completed for the quarter.

Groundwater Management and Monitoring

DOE-RL milestone: Submit quarterly letter report for Resources Conservation and Recovery Act monitoring to DOE by e-mail. Completed on 5/08/03.

Safeguards and Security

PNNL-03-07 (5.1) Report on documented Cyber Security Program metrics (Operational Report) was completed as required (4/31/03)

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	9	9	0	18	
PNNL	Key	8	11	1	24	25	1	46	
Total		10	13	1	33	34	1	64	

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 formal assessments were scheduled during the third quarter due to the DOE Office of Independent Oversight and Performance Assurance inspection activities. All corrective actions from previous assessments on track. Based on the number of external surveys

received this FY, the formal self assessments are being rescheduled for 2004.

- 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 (conducted in November) received. DOE Office of Independent Oversight and Performance Assurance inspection resulted in an "effective performance" rating for the SAS and Classified Cyber Security topical areas. The Unclassified Cyber program received a "significant weaknesses" rating. Corrective actions are being addressed.

LIFE CYCLE BASELINE

The following chart reflects the PNNL EM Direct Funded Programs lifecycle (FY 2003 through FY 2035) planned metrics by Project Baseline Summary (PBS).

(As of Third Quarter FY 2003)

(In Thousands)	FY03	FY04 - 12	FY 13 - 35	Total (TPC)
RS01-S Hanford Industrial Area Clean Up	15,044	53,698	23,191	91,933
SC01-Near Term Stewardship	7,723	67,760	97,029	172,512
SS01-Site Integration	2,475	0	0	2,475
SS03-GW Mgmt & Monitoring	11,333	116,926	277,789	406,048
SS04-GW Vadose Zone Integration	7,315	67,062	11,622	85,999
SS-D Safeguards & Security	10,681	107,808	407,713	526,202

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 (LRO)

A major revision to the LRO Project baseline will be completed to implement the RL management decision specifically focused on the transition operations and final closure of the RPL/325 facility in support of 300 Area cleanup.

The RPL/325 will continue current fiscal year operational activities to maintain its ready-to-serve capacity in support of the Hanford EM accelerated cleanup mission.

Activities to disposition the accumulated legacy wastes at the Lab will continue with a focus on removal of legacies at the RPL/325.

Near Term Stewardship

The following key Hanford Site documents are scheduled to be completed during the upcoming quarter:

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

Continue 100 B/C Pilot Study upland and aquatic sampling during the 4th quarter of FY 2003.

Continue environmental sampling in support of 100-NR-2 during the 4th quarter of FY 2003.

Complete draft FY 2004 Project Documentation Packages for RL review and approval.

Site Integration

The Final HSW EIS is being revised and updated in response to review comments and to include the new analyses. RL approval of the Final HSW EIS is currently scheduled for August 28, 2003 allowing formal issuance of the Final EIS by September 12, 2003 and the Record's of Decision by October 13, 2003.

Complete RL AMI project closeout.

Groundwater Management and Monitoring

Complete 100-K Burial Grounds soil-gas probe installation and soil gas sampling.

Complete January – March 2003 Resources Conservation and Recovery Act Quarterly Report and transmit to DOE.

Complete revised Groundwater Quality Assessment Plan for the 216-U-12 Crib.

Obtain Ecology approval on the 200-PO-1 monitoring plan and waste control plan.

Participate in Notice of Deficiency (NOD) comment workshops with DOE, FH, and Ecology, regarding the LLBG final status groundwater monitoring plan.

Prepare sampling and analysis plans and obtain regulator approval for 100-BC-5 and 100-FR-3 groundwater Operable Units.

Complete the 1324-N/NA and 1301/1325-N Cribs monitoring plans and present the approach to Ecology.

Groundwater/Vadose Zone Integration

Continue laboratory and modeling investigations of T-TX-TY tank farm samples and uranium-transport experiments. Complete laboratory studies on uranium-bearing samples from the 300 Area.

Continue the reactive flow and transport experiment at the Vadose Zone Transport Field Study site along Army Loop Road involving injection of nonradioactive strontium.

Continue strontium-90 uptake studies for fish to support 100-N ecological risk assessment.

Continue work on remediation technical element activities in the science and technology roadmap targeted at developing data to evaluate remediation alternatives for 100-NR-2, including participating in the 100-N workshop scheduled August 11, 2003.

Complete software testing on modified System Assessment Capability software to ensure it performs as required to meet the needs of the Composite Analysis.

Perform history matching (calibration) of modified System Assessment Capability.
Finalize the Technical Scope and Approach document for the Composite Analysis. This document will summarize the assumptions used to develop the analysis and the modeling approach to be used in this analysis.

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.

The DOE Office of Independent Oversight and Performance Assurance (DOE OA) completed their inspection of the Hanford Site and Pacific Northwest National Laboratory (PNNL) Safeguards and Security programs during the third quarter. The root cause analysis and corrective action plans are being developed.

EMERGING ISSUES

Transition of the RPL Facility from "Ready to Serve" status to "Cheap to Keep" status.

OTHER HANFORD CONTRACTOR SUPPORT

PNNL Technology Applications Support to Bechtel Hanford Inc.

The pending resolution of the RCC contract award protest is affecting BHI's Technology Applications operations. In the third quarter we continued to provide technology evaluations support for BHI as well as support in defining integrated opportunities for environmental remediation technology development and application across the five Bechtel managed weapons complex sites.

PNNL Support to Fluor Hanford

PNNL has been supporting Fluor Hanford as they complete their missions to stabilize spent nuclear fuel and plutonium, and is now aiding their transition to decommissioning the Hanford processing facilities. Highlights of these contributions are described below:

As part of DOE's review of Fluor Hanford projects, they have been scrutinizing the technical foundation for the projects that disposition the sludge from spent nuclear fuel in K Basins. PNNL has been providing key contributions to Fluor Hanford to support their defense of the technical basis.

Work by PNNL technical staff, in collaboration with other national laboratories, resulted in DOE approval of a change in the thermal stabilization requirements for a problematic inventory of plutonium contaminated with chloride salts. The new requirement allows a lower stabilization temperature, which avoids processing problems that occur at the previously required higher temperatures.

Fluor Hanford's project to decommission the Plutonium Finishing Plant will involve extensive cleanup and disposal of the Plutonium Reclamation Facility, which is the most highly contaminated and physically

challenging facility in this complex. PNNL staff have been asked to develop the strategy for this part of the D&D project.

Fluor's PFP Decommissioning Project will be developing alternatives for an Engineering Evaluation/Cost Assessment, as required by environmental regulations. PNNL has been developing three alternatives to support this effort, and will include comparative cost, schedule, and health risk for each.

As decommissioning work at PFP accelerates in the next year, Fluor will be required to conduct non-destructive assay of plutonium associated with equipment and debris placed in waste boxes. This data is vital to release the materials from safeguards as well as for waste designation. PNNL has been requested to conduct these periodic assays as a service to Fluor, and is now performing a series of tests to qualify their instruments and techniques to satisfy these data needs.

As decommissioning activities continue to increase, contaminated wastes will be generated by Fluor Hanford projects at an increasing pace. PNNL is developing cost, manpower, and project risk comparisons for a range of technical and programmatic options.

PNNL Support to CH2M HILL:

Under the auspices of the Memorandum of Agreement signed between PNNL and CH2M HILL management during the third quarter of FY03, PNNL continued science and technology support to CH2M HILL to enhance the Tank Farm Contractor's ability to accelerate cleanup. PNNL staff supported key CH2M HILL projects in the areas of accelerated tank closure and supplemental treatment.

PNNL continued technical support to Supplemental Technologies through the third 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. PNNL delivered cold simulant and decontaminated radioactive tank waste produced in the third quarter to two laboratories for use in vendor-directed testing of containerized grout and bulk vitrification technologies – allowing supplemental treatment testing to begin on schedule. As the support laboratory to the bulk vitrification vendor, PNNL also completed formulation of a baseline glass at APEL for the project, and initiated preparations at the RPL for third quarter laboratory- and engineering-scale radioactive waste vitrification testing. PNNL staff also performed testing on actual TRU tank wastes to evaluate and document the physical properties critical to TRU packaging system design and operations.

PNNL also continued support to CH2M HILL in the preparation of data packages for the tank closure Environmental Impact Statement (EIS). PNNL management and technical staff provide leadership and detailed data input to support several data packages on storage, retrieval, closure, safety, and supplemental treatment. The final data packages are to be completed early in the third quarter and transmitted to the independent NEPA contractor preparing the EIS. This EIS is on the critical path for ORP and CH2M HILL in accelerating the tank remediation activities at Hanford.

In addition, PNNL contributed to CH2M HILL projects and strategic planning in areas of retrieval and tank integrity by:

- Completing and published the final report documenting the results of performance evaluation testing of electrical leak-detection methods at the Hanford Mock Tank in FY 2002-2003. The results are described in the following report, "Barnett, D.B., et al. 2003. "Results of Performance Evaluation Testing of Electrical Leak-Detection Methods at the Hanford Site Mock Tank – FY 2002-2003." PNNL-14192, Pacific Northwest National Laboratory, Richland, Washington.
- Completed and documented a feasibility study for using a single mixer-pump in Tank AN-101. The current waste retrieval plan calls for using two mixer pumps to mix waste to be stored in Tank AN-101. This study provided a technical basis for the W-211 Project to use a single mixer pump for AN-

101 to save cost and time without sacrificing the waste mixing performance. The study results are described in the following PNNL report: Onishi, Y., B.E. Wells, S.T. Yokuda, and G. Torrenes. 2003. "Feasibility Study on Using a Single Mixer Pump for Tank 241-AN-101 Waste Retrieval," PNNL-14105, Pacific Northwest National Laboratory, Richland, Washington.

- Completed Tank 241-AN-105 retrieval assessment, including the five steps for waste retrieval and subsequent pipeline transfer for the W-211 Project. Through rheology measurements, chemical solid analysis, and pump jet and pipeline transfer modeling, the report concludes that the liquid and slurry waste can be retrieved and pumped if inline and in-tank dilution are used. The study results are described in the following report, "Onishi, Y., J. M. Tingey, B.E. Wells, J. Lui, G. Terrones, K.P. Kechnagle, S.T. Yokuda, and M. Quinn. 2003. "Retrieval and Pipeline Transfer Assessment of Hanford Tank 241-AN-105 Waste," PNNL-14144, Pacific Northwest National Laboratory, Richland, Washington.

OHC ISSUES

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: Pending RCC contract award

Impact: The protested procurement has delayed our plans for moving ahead with establishing an FY-04 technology applications support effort with the successful bidder.

Corrective Action: Await the resolution of the procurement protest.

Issue:

Impact:

Corrective Action:



Section B

Safety Overview

Environment, Safety, Health & Quality

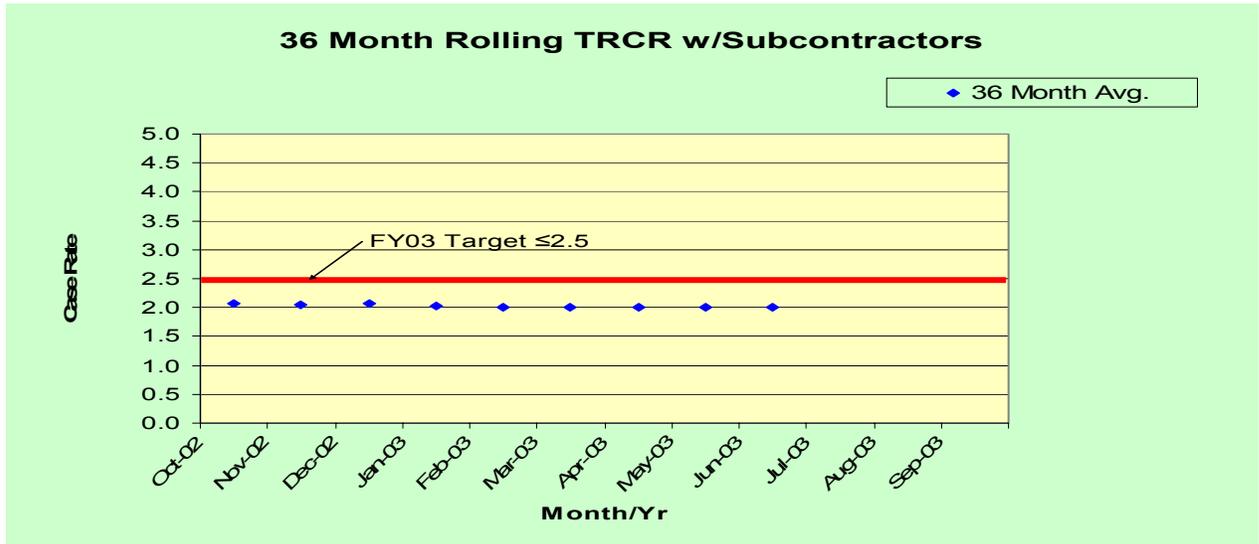
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SAFETY OVERVIEW

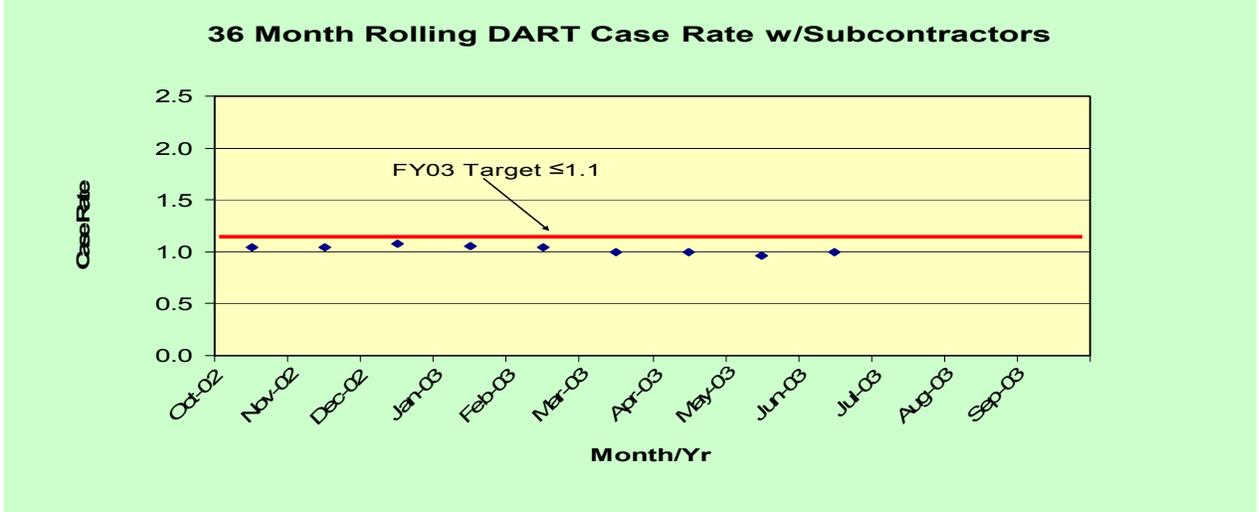
The focus of this section is on documenting trends in lab wide work-related injury and illness rates. These are the same performance indicators as appear in the FY 2002 Battelle Performance Evaluation and Fee Agreement, which is part of the PNNL Operations Contract. The rates include both PNNL and PNNL 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 currently below the FY03 Target of 2.5.



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 currently below the FY03 target of 1.1.





RS01

South Hanford Industrial Area Clean Up

*WBS 3.2.1.7
EM Laboratory Legacy Waste
Removal and Operations*

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INTRODUCTION

The purpose of the EM Laboratory Legacy Waste Removal and Operations (LRO) Project, 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 (RPL/325) in a "ready-to-serve" configuration as a Critical Hanford Facility to support accelerated cleanup.

The LRO Project scope includes the following:

- Conduct essential safety activities within RPL/325 (a 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 analytical support.
- Identify, characterize, and remedy all legacy waste and contamination resulting from 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 June 29, 2003.

SUMMARY ACCOMPLISHMENTS

As directed by the Department of Energy (DOE) Richland Operations Office (RL), a baseline change request (BCR) was prepared and submitted on June 16 to incorporate changes to the EM Laboratory Legacy Removal & Operations (LRO) Project life cycle to meet the funding profile indicated in the Integrated Planning, Accountability and Budgeting System (IPABS) and also to make adjustments necessary to reduce the fiscal year (FY) 2003 working baseline to meet the FY03 work authorizations issued in May. Additional detailed planning will be accomplished through the annual work planning process this summer to develop a more substantial basis of estimate in each area of the project. An Accounting Practices Change proposal was also initiated for transitioning to a user cost recovery model for programmatic work conducted in the RPL. Project staff members presented the BCR at the Preliminary Assessment Team (PAT) meeting held by the RL Baseline and Project Controls Division (BPD) in preparation for its presentation and recommendation to the RL Site Integration Board (SIB) for final decision-making. PNNL subsequently received direction from RL that they were approving the proposed FY03 reductions but deferring approval of the revised life-cycle BCR. RL further directed PNNL to use the BCR as guidance in preparing detailed FY04 work plans and to submit those work plans and a revised BCR reflecting them for further consideration.

RPL staff maintained the facility in a "ready-to-serve" capacity supporting various Hanford programs in the third quarter of FY-03. Some of the major accomplishments on these projects include the following:
Hanford Waste Treatment Plant (WTP) Support Project

- Resins for resin storage/aging tests completed six months of storage. These tests were conducted to help identify the appropriate storage conditions for inventory of Cs ion exchange resins to be stockpiled for use in the WTP. A variety of storage conditions were tested to determine the optimum conditions.
- The alternative resins activity was authorized in the third quarter of FY-03. For the alternative resin work, AP-101 and AZ-101 simulants were received and analyzed. Preconditioning and bulk property

measurements were performed on five resins. Resins were dried for the first wave of column and batch contact tests and test preparations for batch contacts and column tests were completed.

- The melt on AZ-101 Envelope D was completed in the High Level Radiochemistry Facility (HLRF) hot cells. Samples of the quenched glass will be submitted for inorganic, radiochemical and regulatory testing once quality assurance/quality control (QA/QC) issues associated with RPL Analytical Support Operations (ASO) are resolved. ASO resolution of QA/QC issues is expected in August, 2003.
- To support oxidative leaching activities, the initial paperwork to get a work order issued directing 222-S to transfer samples of SY-102 and SX-101 to the RPL has been completed. We have been authorized to receive and test all SY-102 samples available from core 284 and 286.

Geologic Repository Program

- Flow-through dissolution tests on commercial spent nuclear fuel (CSNF) are performed at PNNL in support of the Waste Form Department (WFD) of the Civilian Radioactive Waste Management System (CRWMS) Bechtel SAIC Company, LLC (BSC) contract. These tests provide data on the forward reaction rate of CSNF under various temperature and water chemistry conditions. These data are then used by the WFD of BSC to develop the CSNF degradation and release models necessary for licensing the proposed repository at Yucca Mountain, Nevada. Six flow-through tests were conducted using deionized water (DIW) with nitric acid added to obtain the desired pH. Each feedwater was continuously stirred and sparged with "zero air", air with a CO₂ concentration less than 3 ppm. The dissolved oxygen concentration and pH of the solutions were measured at least once per week during the testing, which was terminated in January 2003. Kinetic Phosphorescence Analysis (KPA) was performed on each leachate to determine the uranium concentration in solution and, subsequently, the dissolution rate of the spent fuel.

Hanford Tank Waste Supplemental Treatment Technology

- A series of radioactive bulk vitrification tests were performed for the River Protection Project's Supplemental Treatment Technology program. These tests included furnace tests on actual tank samples which had been pretreated for cesium removal and pilot scale tests with simulated waste spiked with Technetium-99 (Tc-99). Both tests were highly successful and helped produce process performance data to qualify the process for selection and support conceptual design.

Modular Treatment

- A new project was initiated in May, 2003 to support the development and testing of a modular treatment system to remove Cs, Sr, and actinides from Savannah River Salt Waste. This project supports an acceleration initiative for EM to pre-treat salt wastes prior to disposal in Saltcrete. Activities are centered upon creating a spiked simulant and conducting tests to support design activities for a modular system to be deployed at Savannah River.

Legacy Waste and Facility Management staff members provided continued support for a variety of activities including legacy waste remediation, shutdown facility surveillance, Waste Identification Data System (WIDS) site management/disposition, 300 area accelerated cleanup and interface with the Department of Ecology regarding legacy waste removal progress.

Significant progress was made on clean out of the RPL 604 glove box with all thirteen columns removed and packaged in waste drums. The LSL-II radon cask project made significant progress with the testing and confirmation of a radioactive contamination fixation process using foam sealants for the ventilation piping. The piping has all been removed as well as all radon gas treatment equipment. The remaining task is the removal of the 30 ton lead shielded filter which is planned for the last quarter of the FY.

The 6652-E facility was transferred to the United States Fish & Wildlife Service this quarter. The 615-BYRL facility was approved for transfer to the land owner. This transfer will save demolition costs.

300 Area Transition staff are in the process of defining PNNL's requirements for access to the Arid Lands Ecology (ALE) Reserve. A letter to the DOE identifying research activities on ALE and requirements for future access and use was drafted and comments received during the quarter. A briefing for Facilities and Operations (F&O) management was held in June; a second briefing is scheduled in late July.

Activities for relocating research and development activities from the 3720 Building to the RPL were placed on hold during the last week of March and resumed in late April. The temporary hold occurred to conduct an evaluation of future options for the RPL. Accomplishments during the quarter include the completion and approval of design for construction, the award of competitive fixed price portion of construction work to American Electric, and the relocation of all R&D staff from 3720 to RPL with the exception of one Radiation Control Technician (RCT).

UPCOMING ACTIVITIES

A major revision to the LRO Project baseline will be completed to implement the RL management decision on 300 Area accelerated cleanup, specifically focused on the continued operations and final closure of the RPL/325 facility.

The RPL/325 will continue current fiscal year operational activities to maintain its ready-to-serve capacity in support of the Hanford EM accelerated cleanup mission.

Activities to disposition the accumulated legacy wastes at the Lab will continue with a focus on removal of legacies at the RPL/325.

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	0	0	0	0	0	2	2	
PNNL	Key	2	2	0	2	4	0	12	
Total		2	2	0	2	4	10	14	

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

- 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	Funding		BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
							Rec'd To Date								
EW02J1350	3.2.1.7	EM Lab Legacy Removal & Operations				16,988.2	14,557.4	11,487.6	10,872.9	10,328.6	544.3	5	-614.7	-5	
		3.2.1.7.1	RPL Operations		22547	13,425.6	11,045.7								
		3.2.1.7.2	Legacy Waste		18698/28029	2,323.0	1,487.9								
		3.2.1.7.3	LRO Program Mgmt		19958	939.6	728.8								
		3.2.1.7.4	PNNL Facility Consol		44778	300.0	300.0								
			Mgmt Resv				995.0								

FY TO DATE SCHEDULE / COST PERFORMANCE

Schedule Variance Analysis:

Description and Cause: The cumulative schedule variance through the quarter is a negative \$-615K (-5%). The variance is within the reporting threshold. The unfavorable schedule variance results from delays within the RPL Operations Contamination and Material throughput task. The project anticipates completing the fiscal year on target

Impact: N/A

Corrective Action: N/A

Cost Variance Analysis:

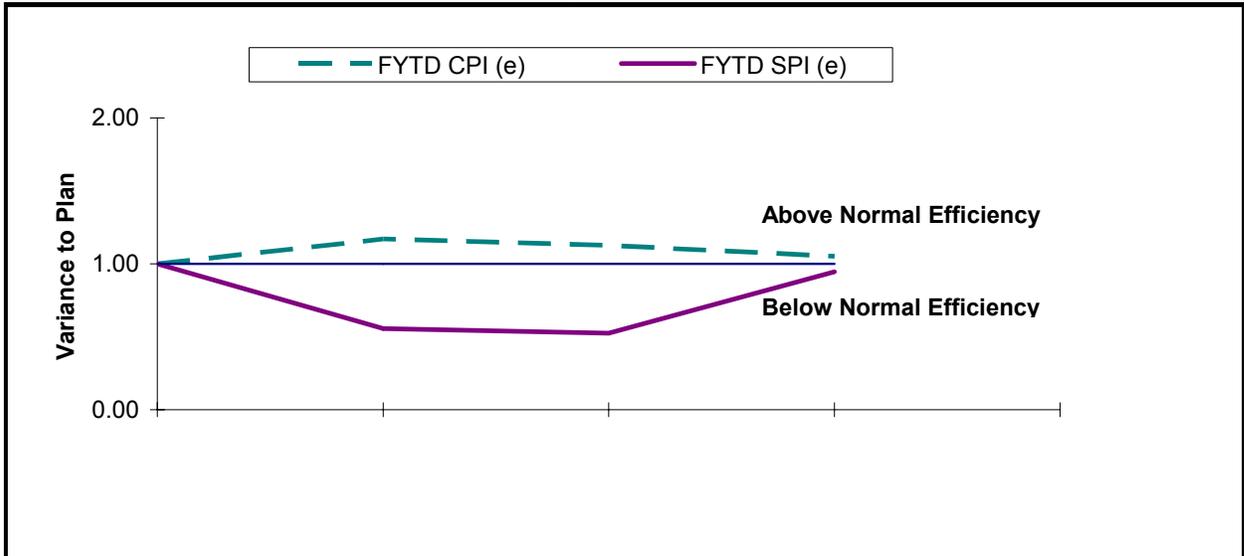
Description and Cause: The cumulative cost variance through the quarter is a positive \$544K (5%). The variance is within the reporting threshold. The favorable cost variance is due to realized project efficiencies and less than planned labor costs. The LRO project office is currently evaluating unfunded priority items to determine the appropriateness of redirecting available funds or carrying them over to offset FY04 funding shortfalls.

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

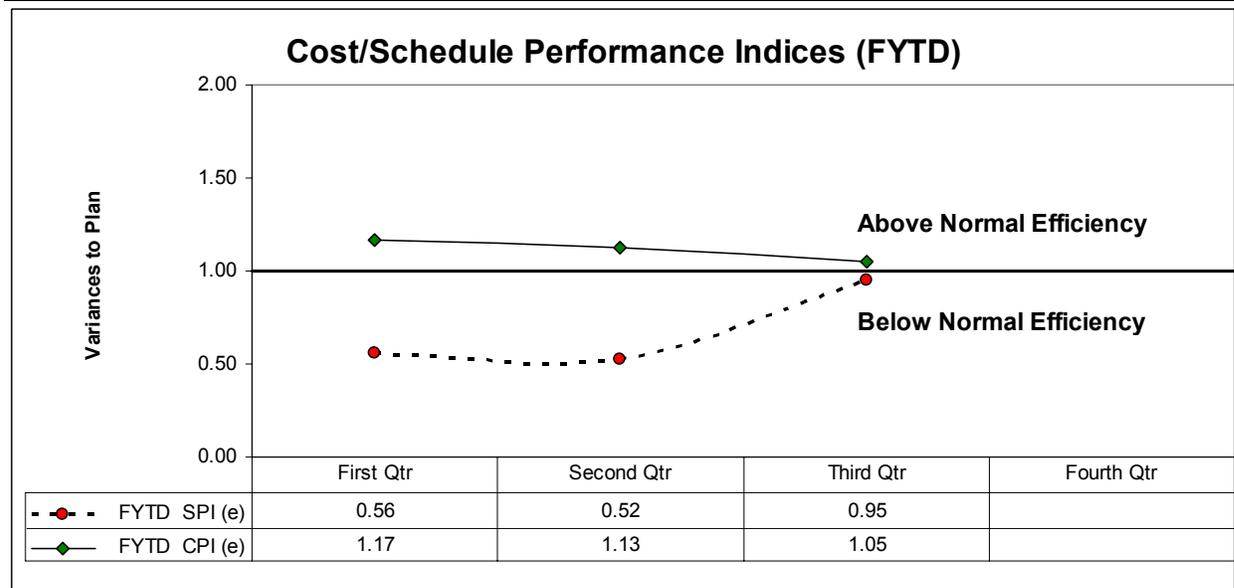
Corrective Action: Identified cost under-runs will be redirected within the LRO project or accrued for FY04 carryover.

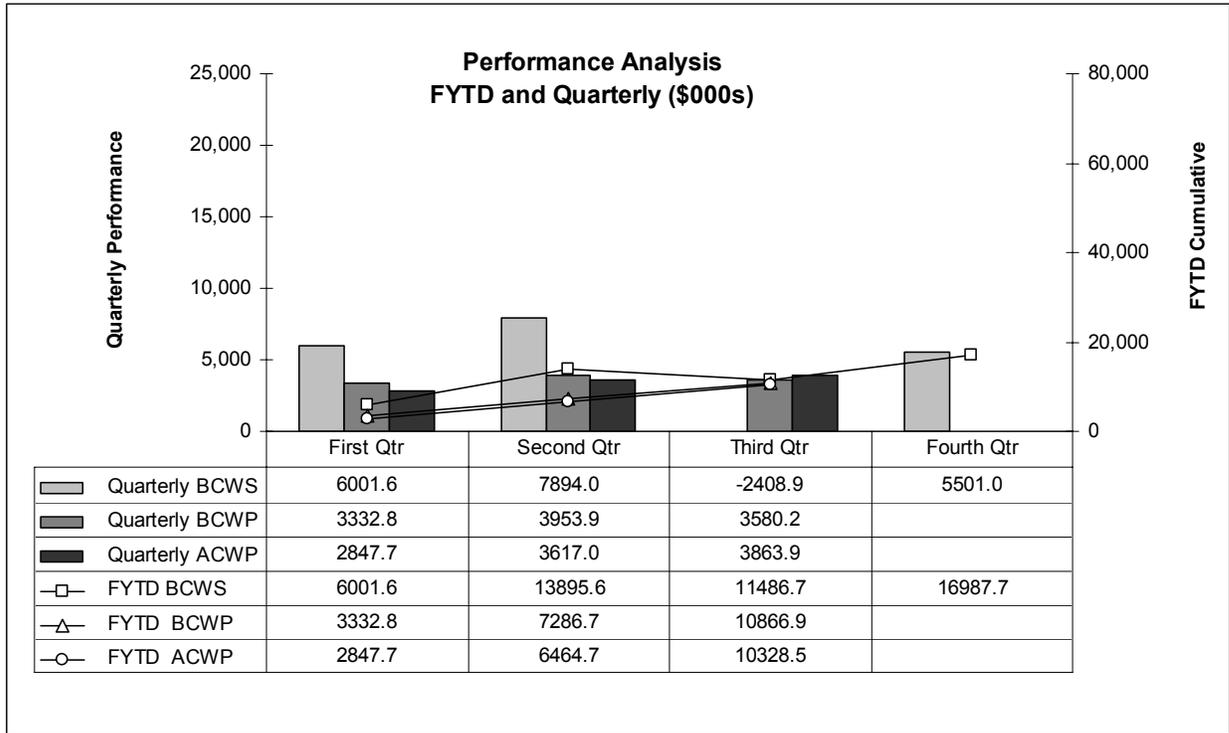
Cost / Schedule Performance Indices

FY 2003 Cum to Date Status
 (\$000s)



	First Qtr	Second Qtr	Third Qtr	Fourth Qtr	TOTAL
Quarterly BCWS	6001.6	7894.0	-2408.9	5501.0	16987.7
Quarterly BCWP	3332.8	3953.9	3580.2		10866.9
Quarterly ACWP	2847.7	3617.0	3863.9		10328.5
Quarterly CPI (e)	1.17	1.09	0.93		
Quarterly SPI (e)	0.56	0.50	-1.49		
FYTD BCWS	6001.6	13895.6	11486.7	16987.7	
FYTD BCWP	3332.8	7286.7	10866.9		
FYTD ACWP	2847.7	6464.7	10328.5		
FYTD CPI (e)	1.17	1.13	1.05		
FYTD SPI (e)	0.56	0.52	0.95		





ISSUES

Technical Issues

Issue:

Impact:

Corrective Action:

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. Since 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.

Corrective Action: PNNL continues to work with the DOE authorities to see if any alternatives exist but none have been found.

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	Verbal DOE Approval
PWM-2003-003	I	Incremental Infrastructure Funding for the RPL HVAC Upgrade	Disapproved
PWM-2003-004	II	Engineering Design Work for the RPL HVAC Upgrade	Approved
PWM-2003-005	II	RPL Exhaust Damper Installation	In Process
PWM-2003-006	II	Scope, Schedule and Budget Baseline changes to re-plan and clarify activity in the FY03 ASO task within the RPL	In Process
PWM-2003-007	III	318 Backflow Preventer Heat Vent Installation	Approved



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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(509) 376-8177

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 June 29, 2003.

SUMMARY ACCOMPLISHMENTS

The CY2002 climatological summary document (PNNL-14242, "Hanford Site Climatological Data Summary 2002 with Historical Data") was distributed the week of April 28, ahead of schedule. (PNNL Key Milestone RLSC012302)

Annual calibration of the Hanford Meteorological Monitoring Network (HMMN), which is conducted during the three-month period from April through June, was completed according to schedule. (Project milestone 10873303-6)

Baseline Ecological Compliance Surveys at 100N, 100K, 200 E&W, and 300 Area, which provide key information for ongoing waste cleanup and environmental monitoring data, were completed on schedule (PNNL Key Milestone RLSC012302).

Staff continued to support DOE and other site programs and contractors with surveillance related issues. These include improvements to the biota dose assessment code under development at DOE-HQ, continued integration of work with the Washington Department of Health along the river corridor, and continuing efforts in support of site clean up with Bechtel Hanford and Fluor Hanford.

UPCOMING ACTIVITIES

The following key Hanford Site documents are scheduled to be completed during the upcoming quarter:

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

Continue 100 B/C Pilot Study upland and aquatic sampling during the 4th quarter of FY 2003.

Continue environmental sampling in support of 100-NR-2 during the 4th quarter of FY 2003.

Complete draft FY 2004 Project Documentation Packages for RL review and approval.

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	1	
PNNL	Key	3	6	0	7	7	0	5	
Total		3	6	0	7	7	0	6	

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	5,395	4,563	4,477	4,203	274	6	-85	-2

Schedule Variance Analysis:

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

Impact:

Corrective Action:

Cost Variance Analysis:

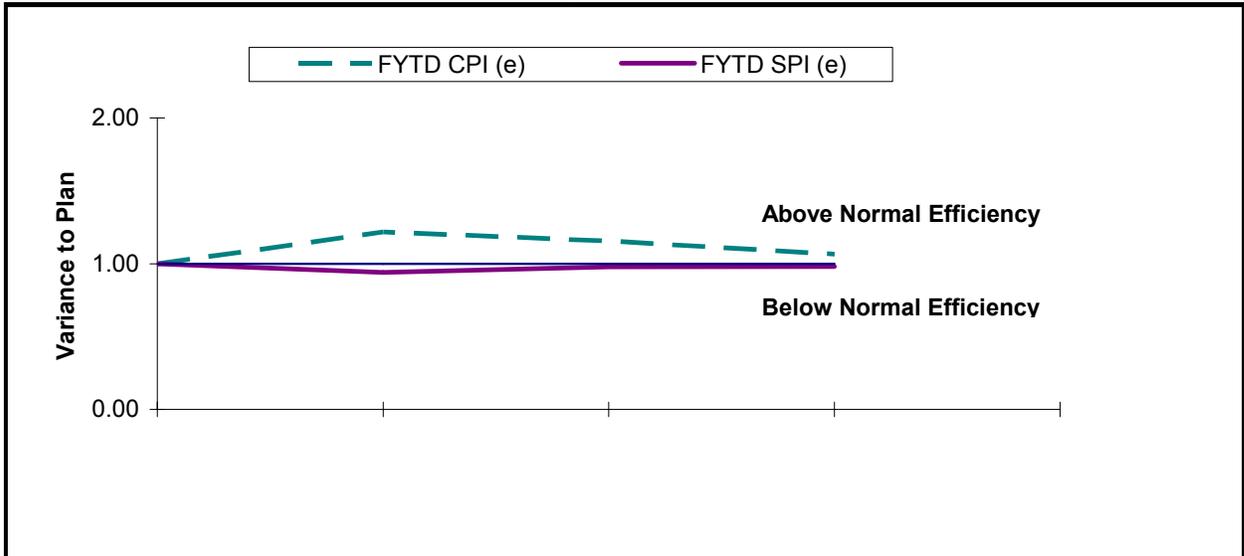
Description and Cause: There is no significant cumulative cost variance. The 6% (\$274K) cost variance is due primarily to outstanding analytical costs that are not accounted for in the current processing. This is a significant reduction in the cost variance observed last quarter, as is expected due to increased costs associated with seasonal environmental sampling and ecological survey activities.

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

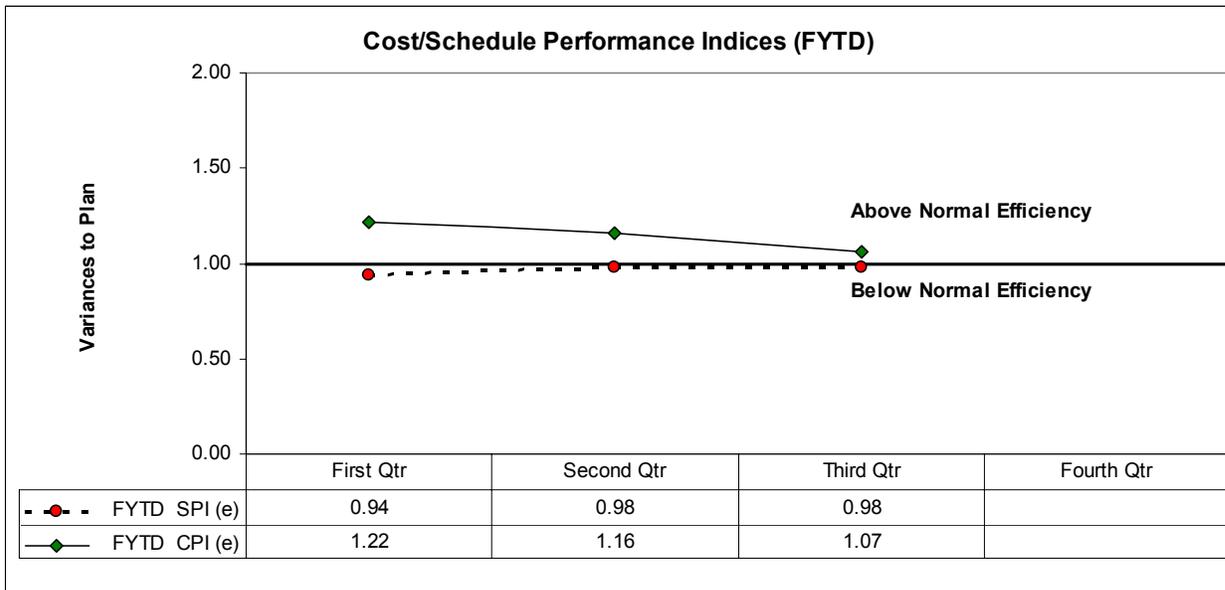
Corrective Action: The cost variance is expected to decrease further during the fourth quarter of FY 2003 as program costs are accounted for in future financial processing and seasonal environmental sampling activities are initiated.

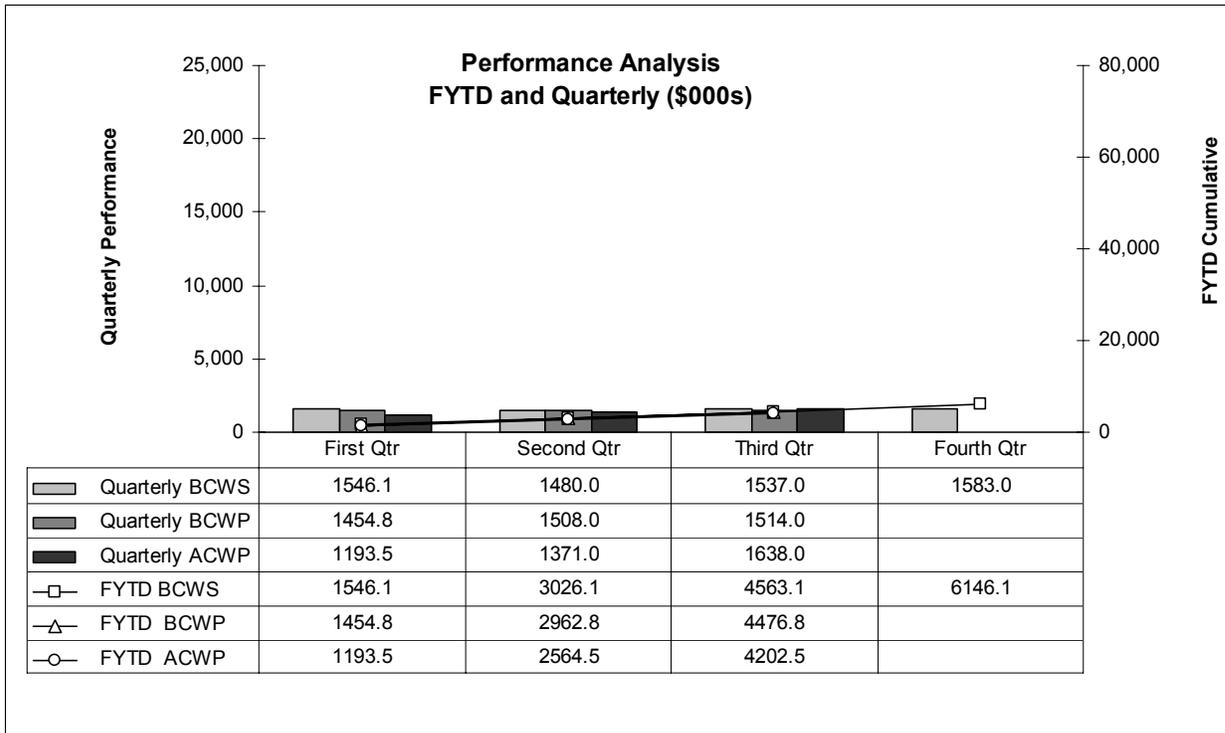
Cost / Schedule Performance Indices

FY 2003 Cum to Date Status
 (\$000s)



	First Qtr	Second Qtr	Third Qtr	Fourth Qtr	TOTAL
Quarterly BCWS	1546.1	1480.0	1537.0	1583.0	6146.1
Quarterly BCWP	1454.8	1508.0	1514.0		4476.8
Quarterly ACWP	1193.5	1371.0	1638.0		4202.5
Quarterly CPI (e)	1.22	1.10	0.92		
Quarterly SPI (e)	0.94	1.02	0.99		
FYTD BCWS	1546.1	3026.1	4563.1	6146.1	
FYTD BCWP	1454.8	2962.8	4476.8		
FYTD ACWP	1193.5	2564.5	4202.5		
FYTD CPI (e)	1.22	1.16	1.07		
FYTD SPI (e)	0.94	0.98	0.98		





ISSUES

No issues to report during the third 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 with DOE-RL Work Authorization, B&R No. EW02J1370. In addition, this BCR will include additional dollars authorized for the PSRPP for the completion of activities identified for the release of Hanford Reach National Monument Lands. The BCR is anticipated to be submitted to DOE-RL during August.



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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B. A. Reichmuth, PNNL
(509) 375-2128

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). This work break down structure also includes PNNL's to the Life Cycle Model and the Hanford Solid Waste EIS Project.

NOTE: Unless otherwise noted, all information contained herein is as of June 29, 2003.

SUMMARY ACCOMPLISHMENTS

Hanford Solid Waste EIS Support:

- Support to the Hanford Solid Waste EIS Project was transferred to PBS CP02 during the third quarter.
- The revised draft HSW EIS was approved by RL on March 29, 2003, allowing final document production activities and distribution to proceed.
- The public comment period was initiated on April 11, 2003 on schedule. PNNL supported 5 public meeting during the review period. The review period was extended by DOE-HQ and was completed on June 11, 2003.
- A baseline change request was submitted on June, 23 2003 and was approved on July 1, 2003. The change request supports an overall funding increase and a revised schedule.
- The final HSW EIS and Comment Response Document have been drafted and are currently undergoing review.
- Supplemental groundwater and transportation analyses are being conducted in response to a DOE-HQ request and will be integrated into the final HSW EIS.

Hanford AMI Support:

- Final closeout activities will be completed by fiscal year end.

Life Cycle Model Support:

- Support activities were continued through the quarter.

UPCOMING ACTIVITIES

- The Final HSW EIS is being revised and updated in response to review comments and to include the new analyses. RL approval of the Final HSW EIS is currently scheduled for August 28, 2003 allowing formal issuance of the Final EIS by September 12, 2003 and the Record's of Decision by October 13, 2003.
- Complete RL AMI project closeout.

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 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		2,847	2,475	1,971	1,971	1,971	0	0	0	0
EW02J1390	3.4.1.3	RLSS01	Life Cycle Model	OP	45546	697	697	440	440	440	0	0	0	0
EW02J1390	3.4.1.3	RLSS01	Hanford Site Planning & Integration Support to DOE-RL	OP	30289	1,502	1,390	1,378	1,378	1,378	0	0	0	0
EW02J1390	3.4.1.3	RLSS01	SS01 Misc	OP	Various	648	388	153	153	153	0	0	0	0

Schedule Variance Analysis:

Description and Cause: As of the end of June the RL AMI and Life Cycle Model project had no schedule variance for the third quarter. These activities are level of effort support. The Hanford Solid Waste EIS support project has a cumulative schedule variance of 0% and is on schedule to seek RL approval of the Final HSW EIS by August 28, 2003. was transferred to PBS CP02 during the third quarter

Impact: The Hanford Solid Waste EIS project was transferred to PBS CP02 during the third quarter.
Corrective Action: None

Cost Variance Analysis:

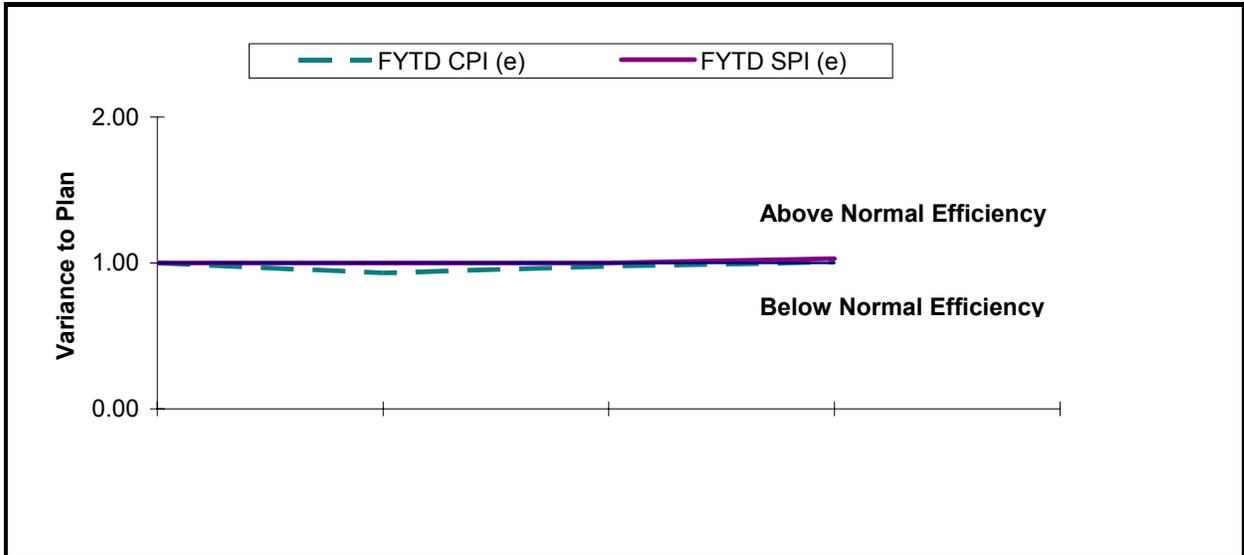
Description and Cause: The RL AMI project is being brought to closure. The Life Cycle Model project had a cost variance of 5% and anticipates completing on budget. The Hanford Solid Waste EIS support project has a cumulative cost variance of 1% and anticipates completing on budget.

Impact: The Hanford Solid Waste EIS project was transferred to PBS CP02 during the third quarter.
Corrective Action: None

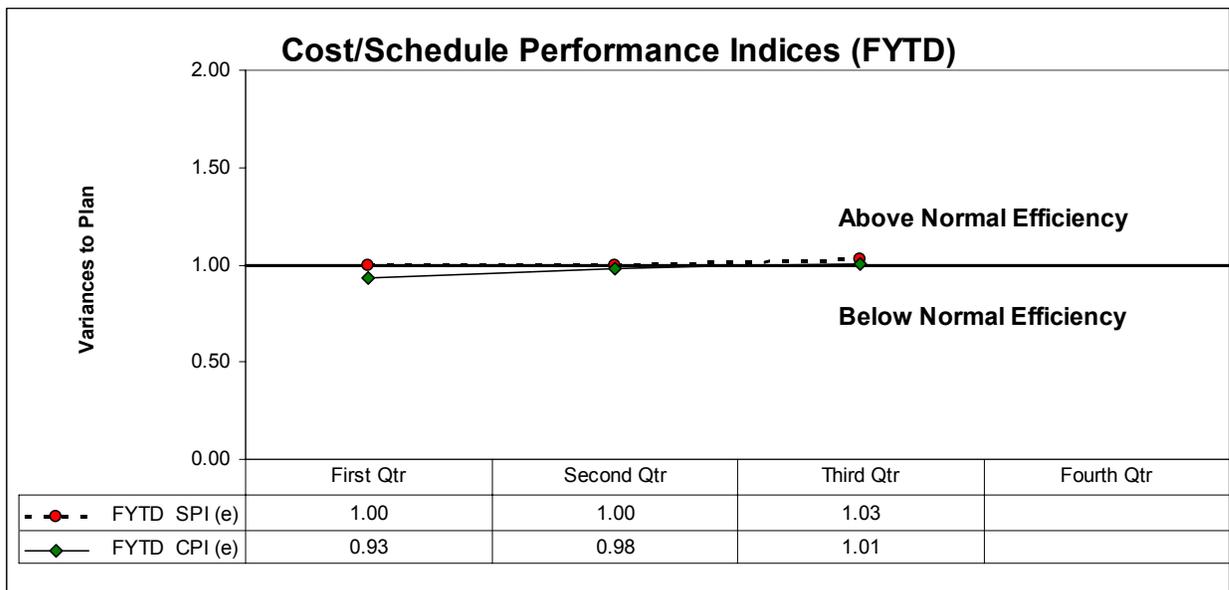
Cost / Schedule Performance Indices

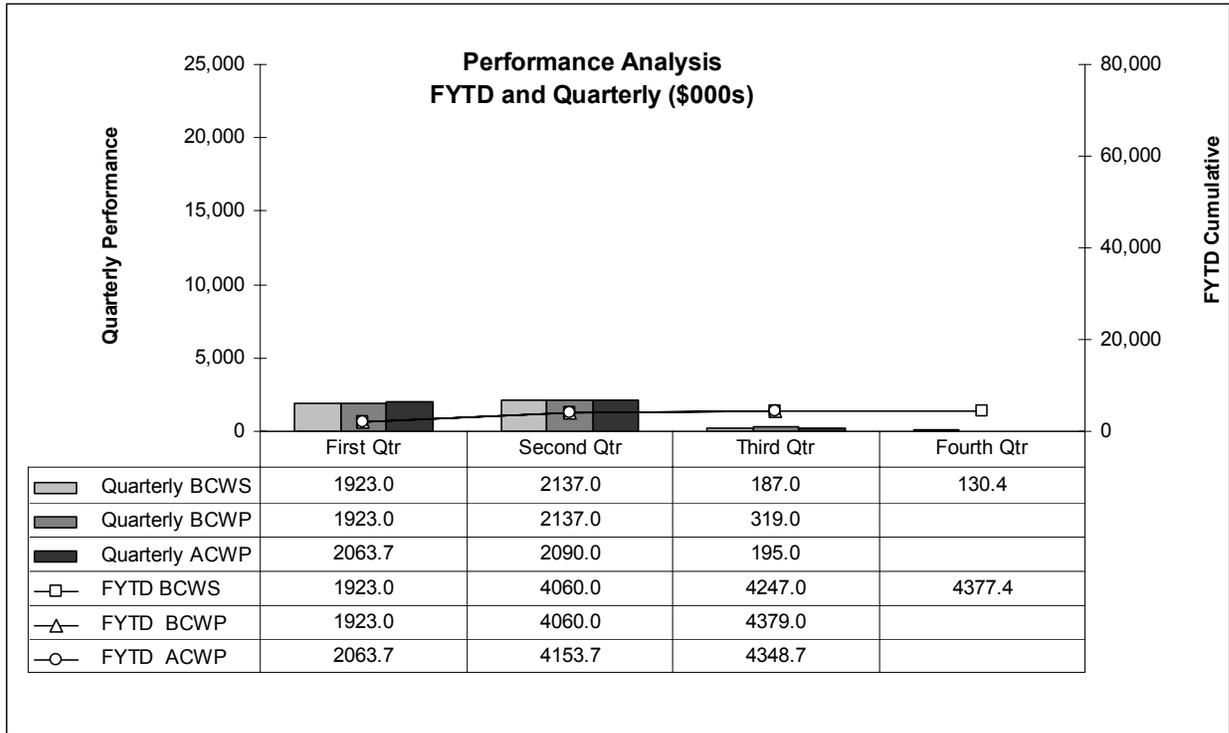
FY 2003 Cum to Date Status

(\$000s)



	First Qtr	Second Qtr	Third Qtr	Fourth Qtr	TOTAL
Quarterly BCWS	1923.0	2137.0	187.0	130.4	4377.4
Quarterly BCWP	1923.0	2137.0	319.0		4379.0
Quarterly ACWP	2063.7	2090.0	195.0		4348.7
Quarterly CPI (e)	0.93	1.02	1.64		
Quarterly SPI (e)	1.00	1.00	1.71		
FYTD BCWS	1923.0	4060.0	4247.0	4377.4	
FYTD BCWP	1923.0	4060.0	4379.0		
FYTD ACWP	2063.7	4153.7	4348.7		
FYTD CPI (e)	0.93	0.98	1.01		
FYTD SPI (e)	1.00	1.00	1.03		





ISSUES

Technical Issues

Issue: The RL-AMI Technical Support Project received a shutdown order in January
Impact: Work has been discontinued.
Corrective Action: Transition activities and project closeout are in progress.

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: None
Impact:
Corrective Action:

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

BCR Number	Class	BCR Description	Status
PEM-2003-01	I	Hanford Solid Waste EIS schedule and funding change	Approved
PEM-2003-02	I	Hanford Solid Waste EIS schedule and funding change	Approved



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 June 29, 2003.

SUMMARY ACCOMPLISHMENTS

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

Transmitted a letter report on tritium in groundwater in the Richland North Area; DOE transmitted the report to the City of Richland. Levels remain low and are generally decreasing near the well field.

Transmitted the Data Quality Objectives (DQO) Summary Report for groundwater monitoring for the 100-BC-5 and 100-FR-3 Operable Units.

DOE transmitted the "Test Plan for Hydrologic Field Tests During Fiscal Year 2003" to Ecology and EPA.

Completed draft of PNNL report, "Transient Inverse Calibration of the Site-Wide Groundwater Flow Model (ACM-2): FY02 Progress Report" for internal and DOE review.

Provided responses to FH and DOE on the Ecology Notice of Deficiency comments on the Low Level Burial Grounds (LLBG) groundwater monitoring plan for the Hanford Site RCRA Permit.

Conducted a workshop to discuss current topics for the 300-FF-5 Operable Unit with representatives from DOE, EPA, Ecology, and the USGS (advisors to EPA). The session was done at EPA request.

Participated in workshops with other contractors to develop a multi-contractor Memorandum of Understanding related to groundwater activities.

The seismic monitoring staff gave a television interview to KEPR regarding the April 25, magnitude 4.8 earthquake on the Olympic Peninsula.

Presented two posters and one platform presentation at the 4th Symposium of Washington Hydrogeology in Tacoma, April 7-9, 2003. Presented a platform talk at the National Groundwater Association Conference, June 23 and 24 in Anchorage, Alaska.

UPCOMING ACTIVITIES

- Complete 100-K Burial Grounds soil-gas probe installation and soil gas sampling.
- Complete January – March 2003 Resources Conservation and Recovery Act Quarterly Report and transmit to DOE.
- Complete revised Groundwater Quality Assessment Plan for the 216-U-12 Crib.
- Obtain Ecology approval on the 200-PO-1 monitoring plan and waste control plan.
- Participate in Notice of Deficiency (NOD) comment workshops with DOE, FH, and Ecology, regarding the LLBG final status groundwater monitoring plan.
- Prepare sampling and analysis plans and obtain regulator approval for 100-BC-5 and 100-FR-3 groundwater Operable Units.
- Complete the 1324-N/NA and 1301/1325-N Cribs monitoring plans and present the approach to Ecology.

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	4	4	0	5	
PNNL	Key	0	0	0	4	4	0	5	
Total		1	1	0	8	8	0	10	

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

- DOE-RL milestone: Submit quarterly letter report for Resources Conservation and Recovery Act monitoring to DOE by e-mail. Completed on 5/08/03.

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	10,350	8,952	8,095	7,906	7,450	456	5.8%	-189	-2.3%

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:

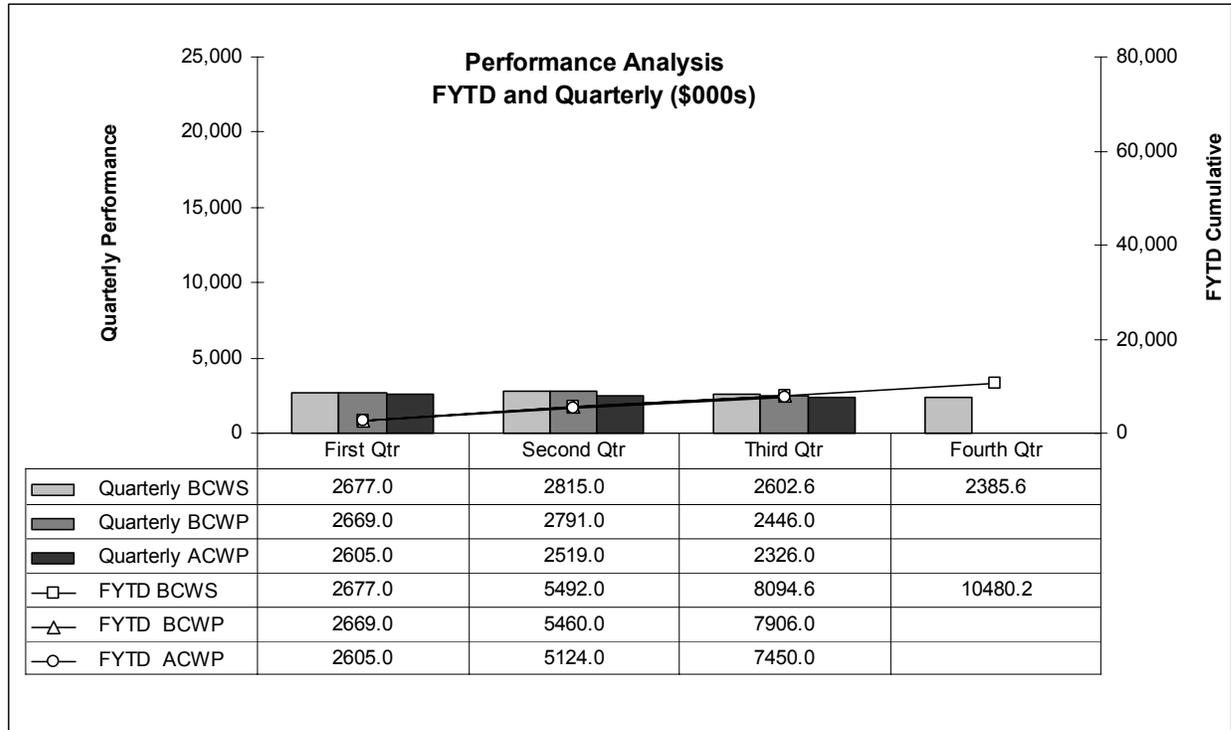
Corrective Action:

Cost Variance Analysis:

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

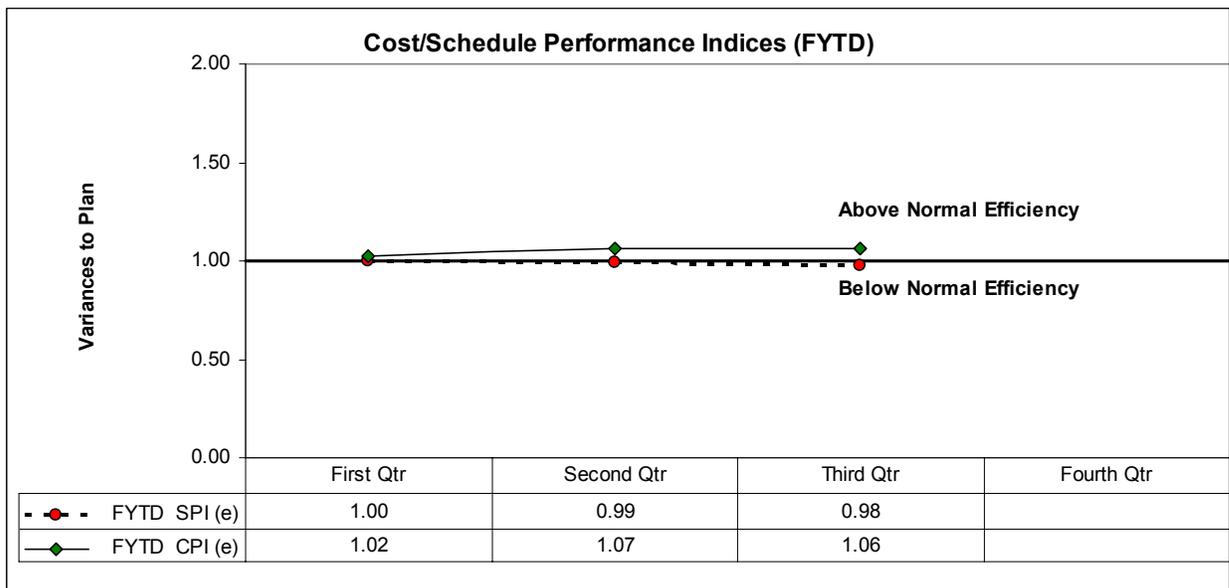
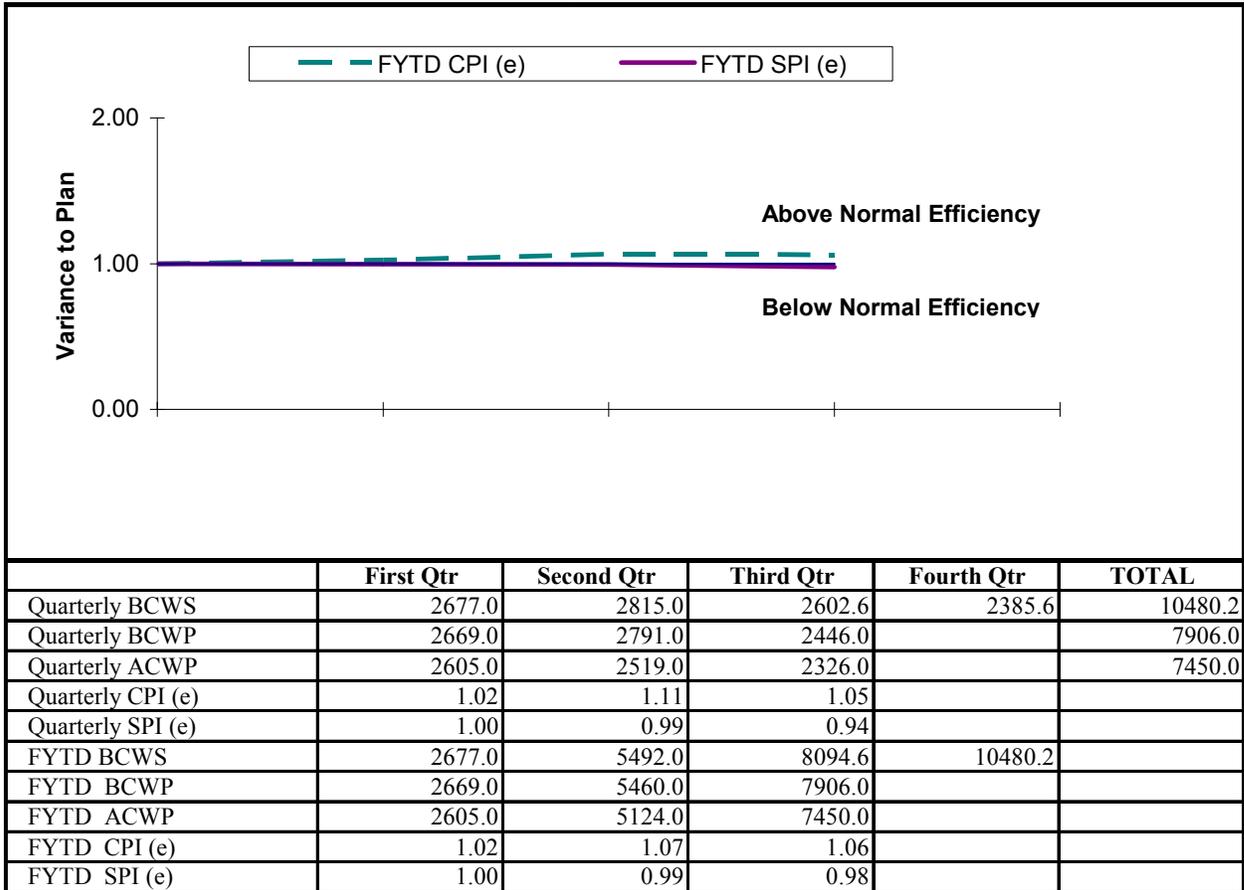
Impact: None

Corrective Action: None



Cost / Schedule Performance Indices

FY 2003 Cum to Date Status
 (\$000s)



ISSUES

Technical Issues

Issue: None to report this quarter.

Impact:

Corrective Action:

External Issues/ DOE Requests/Regulatory/DOE Issues

Issue: DOE-HQ has directed contractors to use the Environmental Management Consolidated Audit Program (EMCAP) for commercial analytical laboratory audits beginning July 1. This requirement will be included in the current and future analytical contracts that are used by EM funded projects.

Impact: The project will have little, if any, representation on future audit teams, and may not be able to audit project-specific requirements.

Corrective Action: PNNL does have at least two staff certified to be on the EMCAP audit teams. The project is considering having additional PNNL staff certified to be on EMCAP audit teams. Project-specific technical requirements may be addressed as an addendum to the formal audits.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

There are no FY03 DOE Milestones associated with this project.

BCR Number	Class	BCR Description	Status



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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INTRODUCTION

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

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 is also working to provide data needed to evaluate and select remedial alternatives and to develop some of those remediation approaches.

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 June 29, 2003.

SUMMARY ACCOMPLISHMENTS

Science & Technology:

Completed a May 6-7, 2003 workshop with Environmental Management Sciences Program (EMSP) managers and investigators, Hanford Site personnel, regulators, Tribal Nations, and stakeholders. The workshop had excellent Site participation with sessions focused on subsurface transport of key Hanford contaminants and soil and groundwater remediation. The S&T Project will continue to incorporate results from selected EMSP projects to meet Hanford Site milestones.

Delivered results from the Soil Inventory Model to the System Assessment Capability, including inventory estimates for 184 waste streams, 311 past practice soil waste disposal sites, and 75 contaminants. The inventory estimates included uncertainties from the different input data.

Initiated the FY03 field experiment for reactive transport with nonradioactive strontium. This field experiment is being conducted at a horizontal clastic dike near the ground surface, representative of deep vadose zone layering found at Hanford to cause lateral spreading of water and contaminants. Strontium-90 is a contaminant of concern at several locations on the Hanford Site and reactive transport modeling is a capability being developed to assist with remediation design.

Completed a task to provide scaled hydraulic properties and transport behavior from previous year's vadose zone transport field experiments to support modeling the BC cribs with the SAC. The results impact the amount of lateral spreading of water and contaminants in the vadose zone important to future predictions of contaminant transport and design of remediation approaches.

Completed laboratory investigation of the physical and chemical association of uranium in 300 Area sediments collected from the vadose zone and aquifer. These detailed investigations of uranium

geochemistry are being used to develop a rigorous conceptual model of long-term uranium behavior to support the 300-Area groundwater record of decision.

A peer reviewed publication on chromium geochemistry in the S-SX tank farm was accepted for publication in a geochemical journal. Publishing research results in peer-reviewed journals increases the credibility of data supporting cleanup decisions and is an integral part of the S&T Project.

Initiated preparations with personnel from the Fluor Groundwater Protection Program and DOE Richland Operations for a workshop on 100-N Area groundwater contamination and remediation alternatives on August 11, 2003. The S&T Project will provide information on strontium-90 transport and possible remediation approaches as alternatives to pumping and treating groundwater.

System Assessment Capability:

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

Presented three posters at the 4th Symposium on the Hydrogeology of Washington State.

Performed an assessment to support the regional closure strategy for the Central Plateau. Estimated future impact to groundwater of each of the proposed regions as a metric to prioritize regions and waste sites within regions for cleanup.

Met with representatives of the Yakama tribe to present results of past assessments and discuss plans for the future. This concludes a series of meetings with the Tribes and regulators to obtain input on future developments of the capability and planned assessments of Hanford's impact on the region.

UPCOMING ACTIVITIES

Science & Technology:

Continue laboratory and modeling investigations of T-TX-TY tank farm samples and uranium-transport experiments. Complete laboratory studies on uranium-bearing samples from the 300 Area.

Continue the reactive flow and transport experiment at the Vadose Zone Transport Field Study site along Army Loop Road involving injection of nonradioactive strontium.

Continue strontium-90 uptake studies for fish to support 100-N ecological risk assessment.

Continue work on remediation technical element activities in the science and technology roadmap targeted at developing data to evaluate remediation alternatives for 100-NR-2, including participating in the 100-N workshop scheduled August 11, 2003.

System Assessment Capability:

Complete software testing on modified System Assessment Capability software to ensure it performs as required to meet the needs of the Composite Analysis.

Perform history matching (calibration) of modified System Assessment Capability.

Finalize the Technical Scope and Approach document for the Composite Analysis. This document will summarize the assumptions used to develop the analysis and the modeling approach to be used in this analysis.

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	3	3	0	10	9	1	12	
Total		3	3	0	10	9	1	12	

Hanford Assessments:

Conduct Assessments milestone is behind schedule due to work delayed while staff supported preparation of the Solid Waste EIS.

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

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding	BCWS FYTD	BCWP FYTD	ACWP FYTD	CV FYTD	CV %	SV FYTD	SV %
							Rec'd To Date							
EW02J1410	3.4.4		GW Mgmt			6,573	5,561,857	4,649,179	4,438,189	4,288,445	149,744	3%	-210,990	-5%
EW02J1410	3.4.4.2	RL-SS04	Science & Tech.	OE	30998	4,623	3,915,472	3,212,695	3,052,210	2,950,014	102,196	3%	-160,485	-5%
EW02J1410	3.4.4.3	RL-SS04	System Asses.	OE	44666	1,950	1,646,385	1,436,484	1,385,979	1,338,431	47,548	3%	-50,505	-4%

Schedule Variance Analysis:

Description and Cause:

Science and Technology: No significant variance

Impact: None.

Corrective Action: None.

System Assessment Capability: No significant variance

Impact: None

Corrective Action: None

Cost Variance Analysis:

Description and Cause:

Science and Technology: No significant variance.

Impact: None

Corrective Action: None

System Assessment Capability: No significant variance.

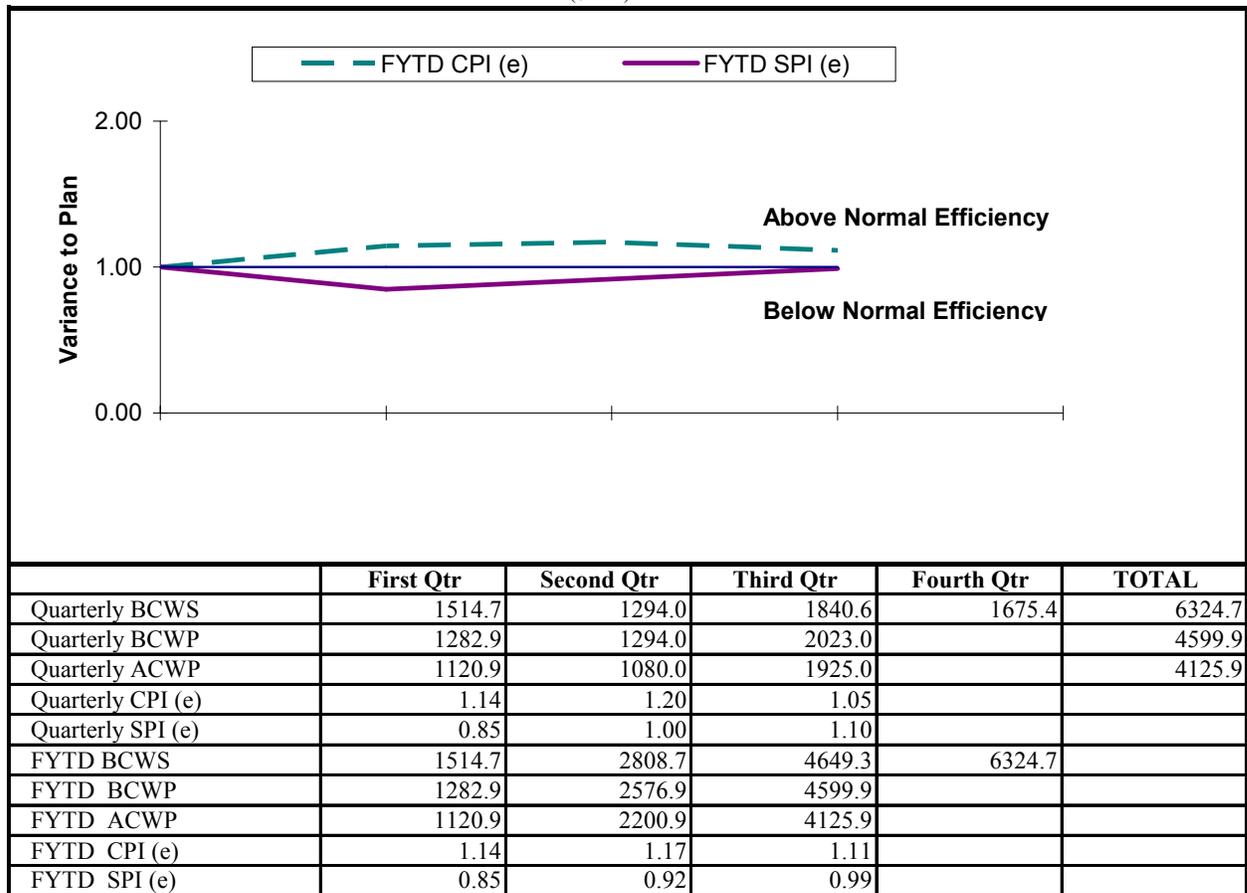
Impact: None

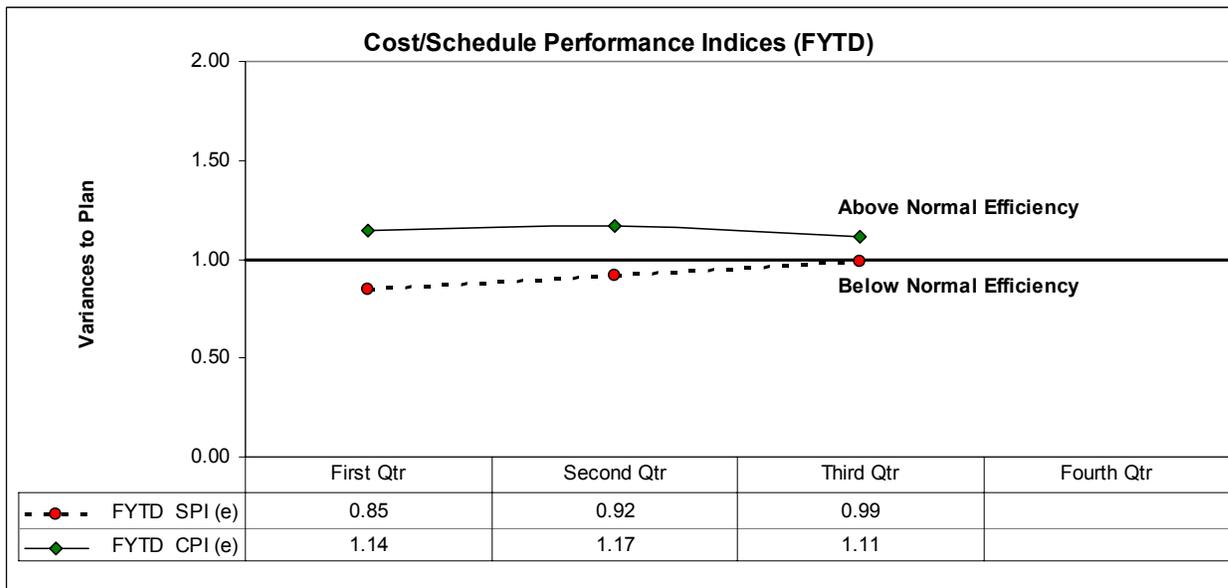
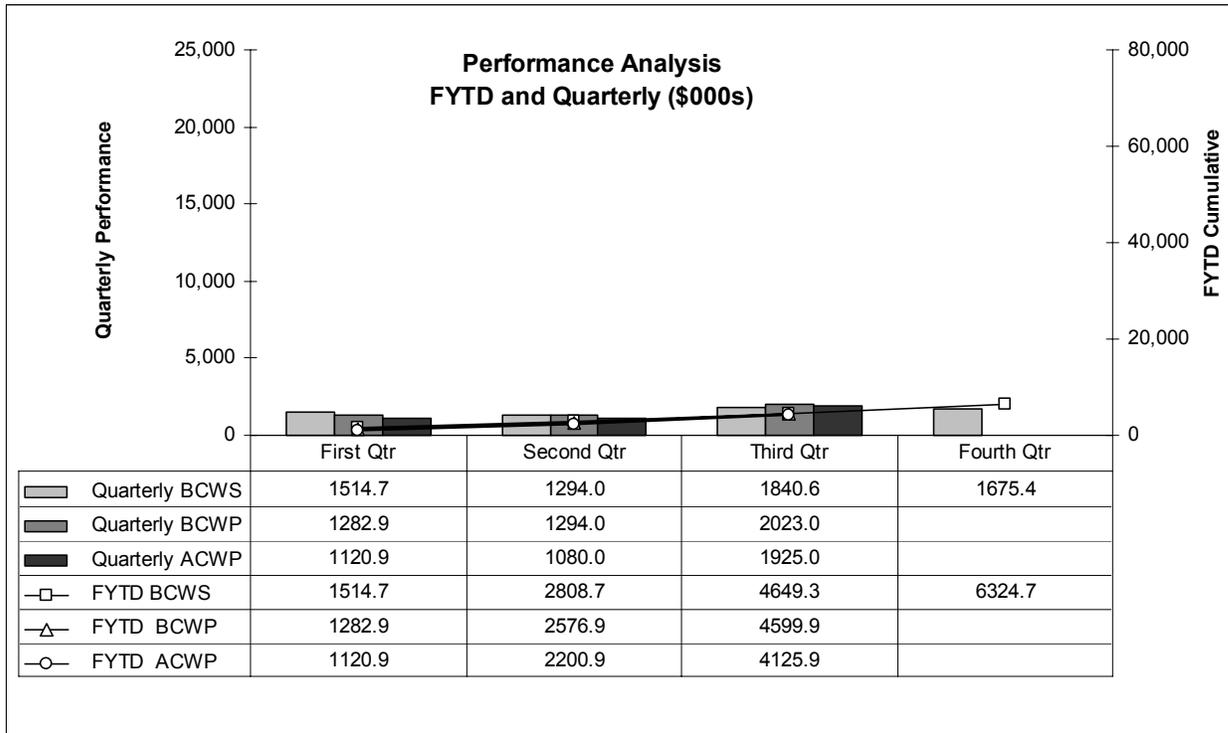
Corrective Action: None

Cost / Schedule Performance Indices

FY 2003 Cum to Date Status

(\$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 for this project.



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 June 29, 2003.

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:

An "effective performance" rating was received for the DOE Office of Independent Oversight and Performance Assurance inspection of the Safeguards and Security and Classified Cyber Security topical areas.

The Information Classification and Control Policy (ICCP) classification appraisal was held during April. The overall rating was "meets expectations."

A Safeguards and Security self inspection was conducted at the Battelle Washington Office. This assessment included reviews on all SAS topical areas.

Re-validation of immigration status of current foreign national assignees was completed in April. This is an ongoing activity.

Security Operations staff participated with Property Management in the Laboratory's precious metals inventory.

Security Conditions 2 ("SECON 2") measures were implemented near the Memorial Day holiday. These measures have again been downgraded to SECON 3.

Limited Area expansion in a PNNL facility was initiated. Engineering has conducted some preliminary work on the establishment of a new boundary.

A threat/risk vulnerability assessment was conducted by PNNL staff to identify and mitigate the vulnerabilities associated with select agents and toxins. This assessment is required by applicable CFR regulations related to biological select agents and toxins. A draft vulnerability report has been completed and is being reviewed by the appropriate Laboratory staff. Further actions are pending the final completion of this report and CFR regulation timelines.

A security plan for select agents and toxins as required by applicable CFR requirements was completed.

The Operational Report (Deliverable PNNL-03-07) Documenting Cyber Security program metrics was completed as scheduled (April).

The DOE RL Classified Information Systems Security Designated Approving Authority (DAA) approved PNNL's procedure to transfer unclassified and lower-level information from classified computer systems to removable media. The DAA also approved a procedure specifically for use with the Incident Tracking and Analysis Center classified network that allows the transfer of unclassified information to removable media.

DOE-HQ conducted a COMSEC, TEMPEST, and a Protected Transmission System inspection in May, 2003. No Findings were issued. All comments were addressed and taken care of during the inspection.

Safeguards staff members traveled to Carpenter Advanced Ceramics, a Tritium Target Qualification Program (TTQP) subcontractor, to provide annual training, and conduct a physical inventory, internal review, and performance test. All activities were completed successfully.

A new material balance area was established at the HAMMER Facility to support PNNL's INTERDICT/RADACAD Training Program. It is a non-storage MBA for use when sources are transported to HAMMER for the International Border Security Training.

The remaining four drums of enriched lithium-6 from Praxair (a Tritium Target Qualification Program subcontractor) were shipped back to Y-12. All work in support of TTQP has ended, and a "close-out" inspection of Praxair will be planned.

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.

The DOE Office of Independent Oversight and Performance Assurance (DOE OA) completed their inspection of the Hanford Site and Pacific Northwest National Laboratory (PNNL) Safeguards and Security programs during the third quarter. The root cause analysis and corrective action plans are being developed.

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	5	5	0	10	
PNNL	Key	0	0	0	1	1	0	5	
Total		1	1	0	6	6	0	15	

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

- PNNL-03-07 (5.1) Report on documented Cyber Security Program metrics (Operational Report) was completed as required (4/31/03)

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

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 formal assessments were scheduled during the third quarter due to the DOE Office of Independent Oversight and Performance Assurance inspection activities. All corrective actions from previous assessments on track. Based on the number of external surveys

received this FY, the formal self assessments are being rescheduled for 2004.

- 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 (conducted in November) received. DOE Office of Independent Oversight and Performance Assurance inspection resulted in an "effective performance" rating for the SAS and Classified Cyber Security topical areas. The Unclassified Cyber program received a "significant weaknesses" rating. Corrective actions are being addressed.

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

B&R	WBS	Subactivity	Title	Type	SubAcct	Total Authorized Funds	Funding	BCWS	BCWP	ACWP	CV	CV %	SV	SV %
							Rec'd To Date							
FS.30	.02 - .09	RLSS-D	PNNL SAS Program	OP	44805	9,494	8,379	6,359	6,359	5,819	539	8.5%	0	0
WN.05	.05	RLSS-D	PNNL SAS Program	OP	44805	1,222	1,222	917	917	917	0	0.0%	0	0
							9,601	7,275	7,275	6,736	539	7.4%	0	0

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 primarily due to Declassification Program winding down and completing tasks early. A request to transfer this favorable variance to the Unclassified Cyber program and other Information Protection areas with known deficiencies is pending.

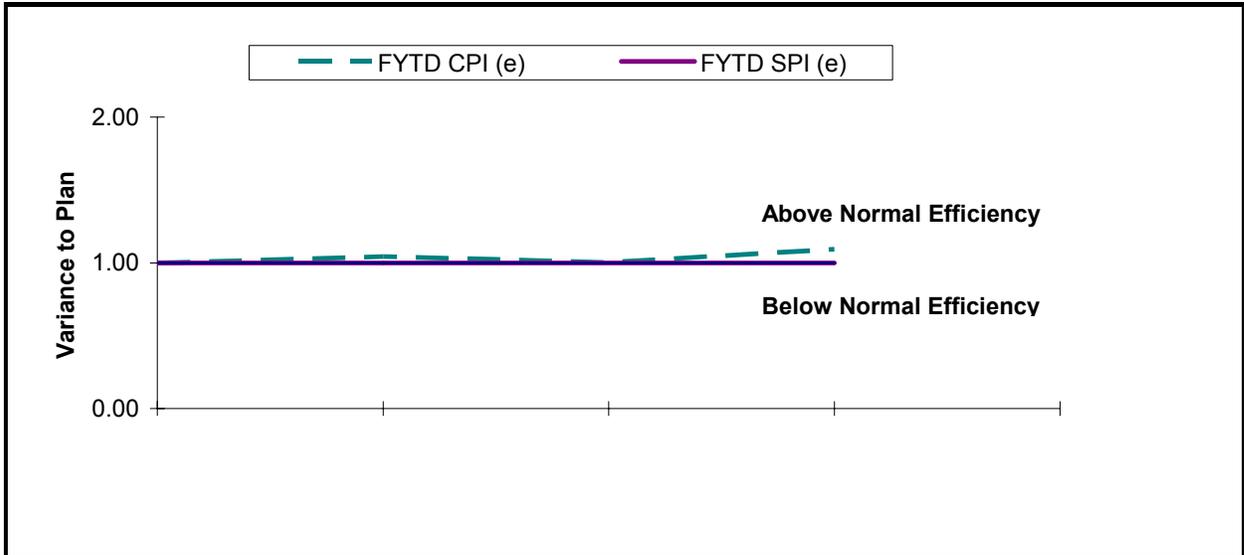
Impact: Funding needs for known deficiencies in Information Protection and Unclassified Cyber Security areas have been documented. Non-compliance will result if approval for the funding shift is not received. National Security assets may be put at risk.

Corrective Action: Request for funding shift has been made.

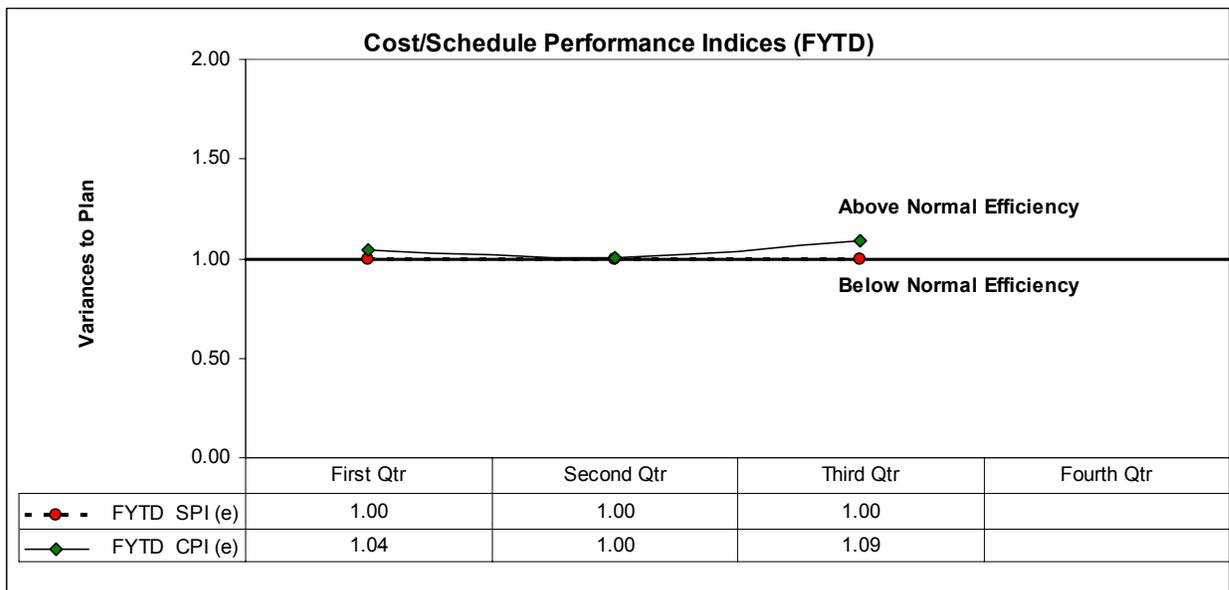
Cost / Schedule Performance Indices

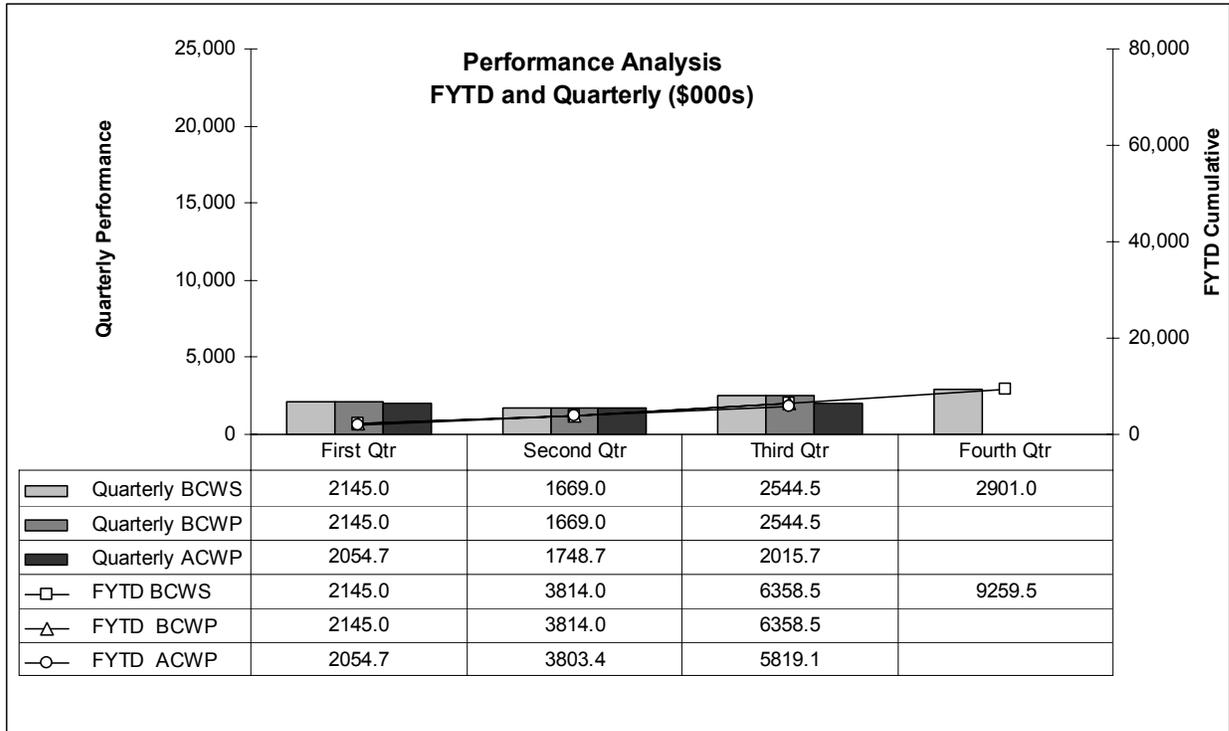
FY 2003 Cum to Date Status

(\$000s)



	First Qtr	Second Qtr	Third Qtr	Fourth Qtr	TOTAL
Quarterly BCWS	2145.0	1669.0	2544.5	2901.0	9259.5
Quarterly BCWP	2145.0	1669.0	2544.5		6358.5
Quarterly ACWP	2054.7	1748.7	2015.7		5819.1
Quarterly CPI (e)	1.04	0.95	1.26		
Quarterly SPI (e)	1.00	1.00	1.00		
FYTD BCWS	2145.0	3814.0	6358.5	9259.5	
FYTD BCWP	2145.0	3814.0	6358.5		
FYTD ACWP	2054.7	3803.4	5819.1		
FYTD CPI (e)	1.04	1.00	1.09		
FYTD SPI (e)	1.00	1.00	1.00		





ISSUES

Technical Issues

Issue: None to report this quarter

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).

Status: The DOE Site Office has submitted a letter to DOE Headquarters outlining the transfer of funding from DOE Environmental Management (EM) to DOE Office of Science (DOE SC) for the FY 2005 year and beyond.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

None to report this Quarter



EMPR Glossary

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.