

# ERC Environmental Management Performance Report

December 1999

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

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**Submitted by: Bechtel Hanford, Inc.**

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## INTRODUCTION

The monthly Environmental Restoration Contract (ERC) Environmental Management Performance Report consists of two sections: Section A - Executive Summary, and Section B - Project Performance Summary.

Section A provides an executive level summary of Bechtel Hanford, Inc.'s (BHI) performance information for the current reporting month and is intended to bring to Management's attention that information considered to be most noteworthy. The Executive Summary begins with a description of notable accomplishments that are considered to have made the greatest contribution toward safe, timely, and cost-effective cleanup. Following the accomplishments are summaries of major commitments that encompass *Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)* milestones, along with waste site, assessments, facility completions, and tonnage status. Performance indicator status and safety statistics are also addressed. Fiscal year-to-date ERC Project cost and schedule variance analysis is summarized. Performance risk management information identifies major project issues that may be challenges in achieving cleanup progress. Opportunities are also identified that may assist in these challenges by using newly proven technologies. The Key Integration Activities section highlights site activities that cross contractor boundaries and demonstrate the shared value of working as a team to accomplish the work. The Executive Summary ends with a listing of major upcoming planned key events within a 90-day period.

Section B is a brief summary of the current month's activities for each of the ERC Projects. The five ERC subprojects consist of the Remedial Action and Waste Disposal Project, Groundwater/Vadose Zone (GW/VZ) Integration Project, Decommissioning Projects, Surveillance/Maintenance and Transition (SM&T) Projects, and the Program Management and Support (PM&S) Project. Further cost and schedule variance analysis is summarized for those Project Baseline Summaries (PBS) that are out of the standard thresholds.

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## SECTION A – EXECUTIVE SUMMARY

### NOTABLE ACCOMPLISHMENTS

Three *Tri-Party Agreement* milestones were completed during December, all ahead of schedule.

All soil remediation activities were completed at five waste sites in the 100 B/C Area.

Soil remediation activities were initiated at the Landfill 1B waste site in the 300 Area.

All five groundwater pump and treat systems operated at or above the planned 90% availability levels through December.

Draft A of the *Remedial Design Report and Remedial Action Work Plan* (RDR/RAWP) for the In Situ REDOX Manipulation (ISRM) Project was transmitted to the regulators for review.

The *Project Closeout Report* for the 119-DR Exhaust Air Filter Sampling Building, 116-D, and 116-DR exhaust stack demolition was completed.

### MAJOR COMMITMENTS

#### *Tri-Party Agreement Milestones*

Five *Tri-Party Agreement* milestones have been completed through December, all ahead of schedule. Three *Tri-Party Agreement* milestones were completed during December:

Regulator approval was received on December 9 for M-16-92B, Environmental Restoration Disposal Facility (ERDF) Cells #3 and #4 Ready to Accept Remediation Waste, due on December 31. The actual construction of the two new cells was completed six weeks ahead of schedule.

The *Focused Feasibility Study* (FFS) and *Proposed Plan* for the 100 Area Burial Grounds were transmitted to the regulators on December 21. This transmittal satisfies M-15-00A, Complete all Remaining 100 Area Operable Unit Pre-ROD Site Investigations Under Approved Work Plan Schedules, due on December 31.

The Draft A *200-CW-5 Remedial Investigation/Feasibility Study (RI/FS) Work Plan* was transmitted to the U.S. Department of Energy (DOE), Richland Operations Office (RL) on December 14 for regulator review. This transmittal satisfies M-13-22, Submit U Pond/Z Ditches Cooling Water Group Work Plan, due on December 31.

## Section A – Executive Summary

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<b>Total Tri-Party Agreement Milestones Due in FY00</b>	<b>18</b>
Total Planned Through December	5
Total Completed Through December	5

<b>Remaining Milestones to be Completed in FY00</b>	<b>13</b>
Forecast Ahead of Schedule	1
Forecast On Schedule	9
Unrecoverable	3

### Performance Measures (Remediation and Facilities)

Fiscal year 2000 (FY00) waste site excavation performance measures include a total of 29 waste sites. Excavation of one waste site was completed in December, for a total of four waste sites completed in FY00.

The *Project Closeout Report* for the demolition of the 119-DR Exhaust Air Filter Sampling Building, 116-D, and 116-DR exhaust stacks was completed in December. Demolition of both exhaust stacks and building was completed in August. The closure report constitutes completion of three facility closure performance measures during FY00.

Performance Measures	DWP FY00	Current Baseline (Incl. Baseline Changes)	Forecast for FY00	Completed YTD
Waste Sites	15	29	29	4
100 Area Burial Ground Assessments	0	45	45	45 <sup>a</sup>
300-FF-2 Assessments	76	76	76	76 <sup>a</sup>
Facilities	0	4 <sup>b</sup>	4 <sup>b</sup>	3
Tons	389K	549.5K	549.5K	150.8K

<sup>a</sup>Proposed Plan, Draft A submittal.

<sup>b</sup>116-D, 116-DR, 119-DR, and 108-F.

## Section A – Executive Summary

### CRITICAL FEW PERFORMANCE MEASURES (PERFORMANCE INCENTIVES)

All performance criteria are projected to meet Performance Incentive (PI) requirements. The EM-30 funding shortfall for the Canyon Disposition Initiative (CDI) will require scope adjustment. Workscope for the 233-S Plutonium Concentration Facility will be resequenced via a baseline change proposal (BCP) based on an approved Safety Evaluation Report (SER).

Outcome	Performance Indicator	Status
Restore the River Corridor for Multiple Uses	100/300 Area waste excavation, disposal and backfill/regrade	Baseline work projected to be completed per PI requirements, 40% of stretch commenced and projected to be completed per PI requirements.
	Reactor ISS and preparation of facilities for decommissioning	Baseline reactor ISS work projected to be completed per PI requirements, KE/KW legacy waste removal behind schedule due to additional regulatory requirements; no stretch or superstretch commenced.
	Manage groundwater plumes per interim RODs	Baseline work projected to be completed per PI requirements, ISRM drilling behind schedule due to late signing of 100-HR-3 ROD amendment; no stretch or superstretch commenced.
Transition Central Plateau to Support Long-Term Waste Management	Maintain facilities until D&D	233-S baseline work behind schedule due to process hood USQ recovery and SER. Recovery schedule implemented; FY00 work will be resequenced via BCP upon approval of SER.
		224-B baseline work impacted by inoperable B Plant exhaust system. Project will be rebaselined via BCP upon B Plant exhaust system restart.
		CDI baseline work projected to be completed per PI requirements; EM-30 funding shortfalls will require scope adjustment; no stretch work commenced.
	Complete System Assessment Capability	Baseline work projected to be completed per PI requirements.
	Soil sites addressed	Baseline work projected to be completed per PI requirements.
	Manage groundwater plumes per interim RODs	Baseline work projected to be completed per PI requirements; no stretch or superstretch work commenced.
Multiple	Comprehensive performance	No safety, conduct of operations, environmental or teaming issues identified per PI requirements; all baseline work projected to be completed per PI requirements.

## Section A – Executive Summary

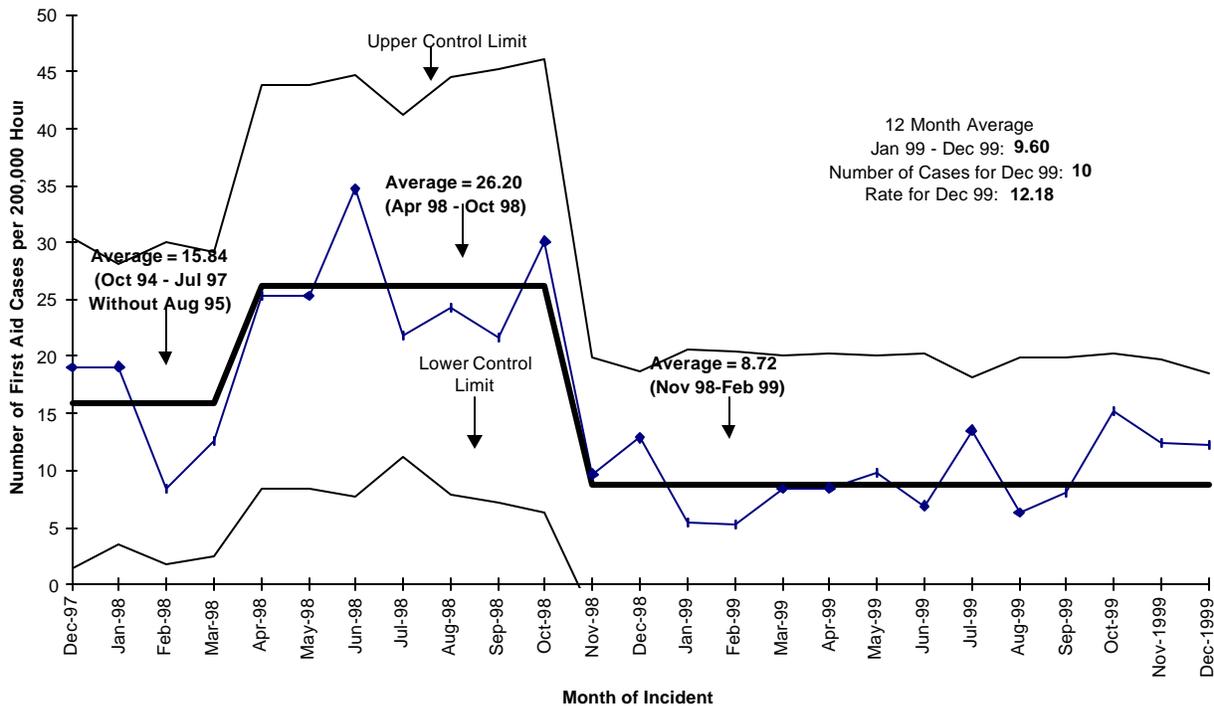
### SAFETY

Type	Fiscal Year to Date	December
First Aid	27	10
Lost/Restricted Workcase	1	0
OSHA Recordable	4	1

ERC has worked 408,600 hours since the last lost workday case (as of January 21).

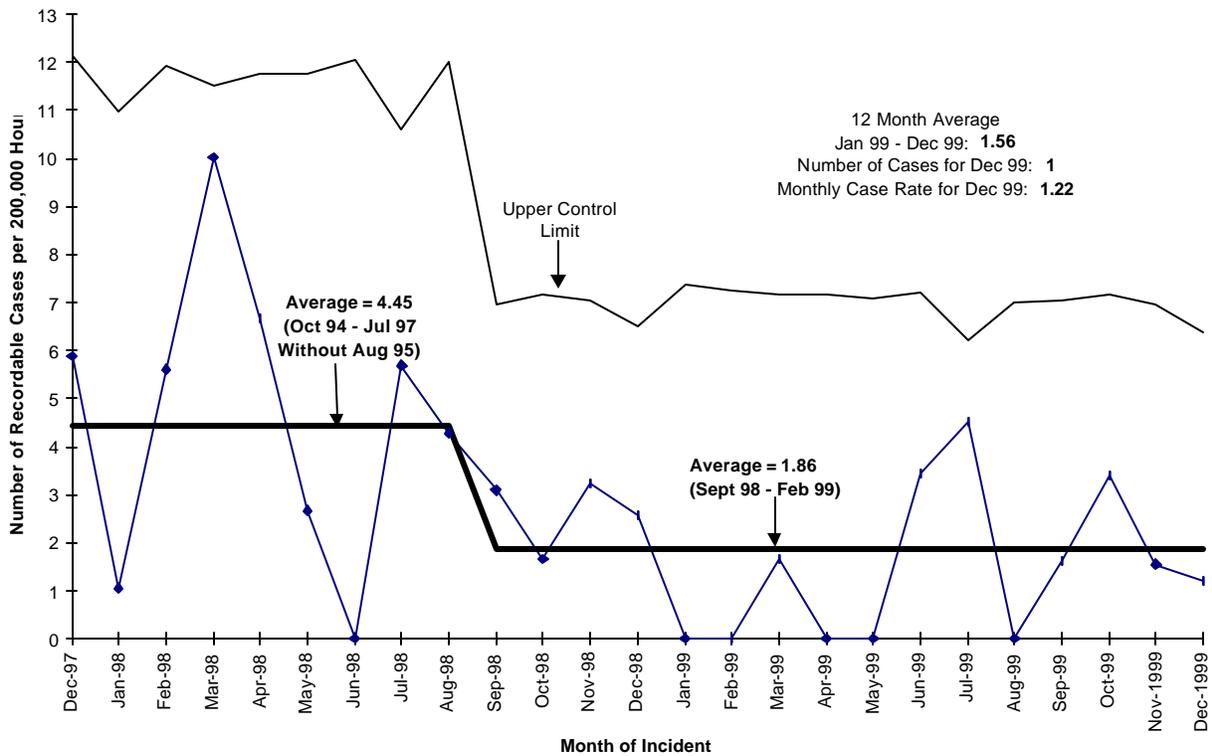
The ERC *Integrated Safety Management System (ISMS) Phase I and II Verification Plan* has been issued to verification support personnel. ISMS management and labor briefings have begun. Daily ERC team awareness activities are ongoing. A Verification Review is scheduled for March 2 through March 17.

**ERC First Aid Case Rate Per 200,000 Hours**

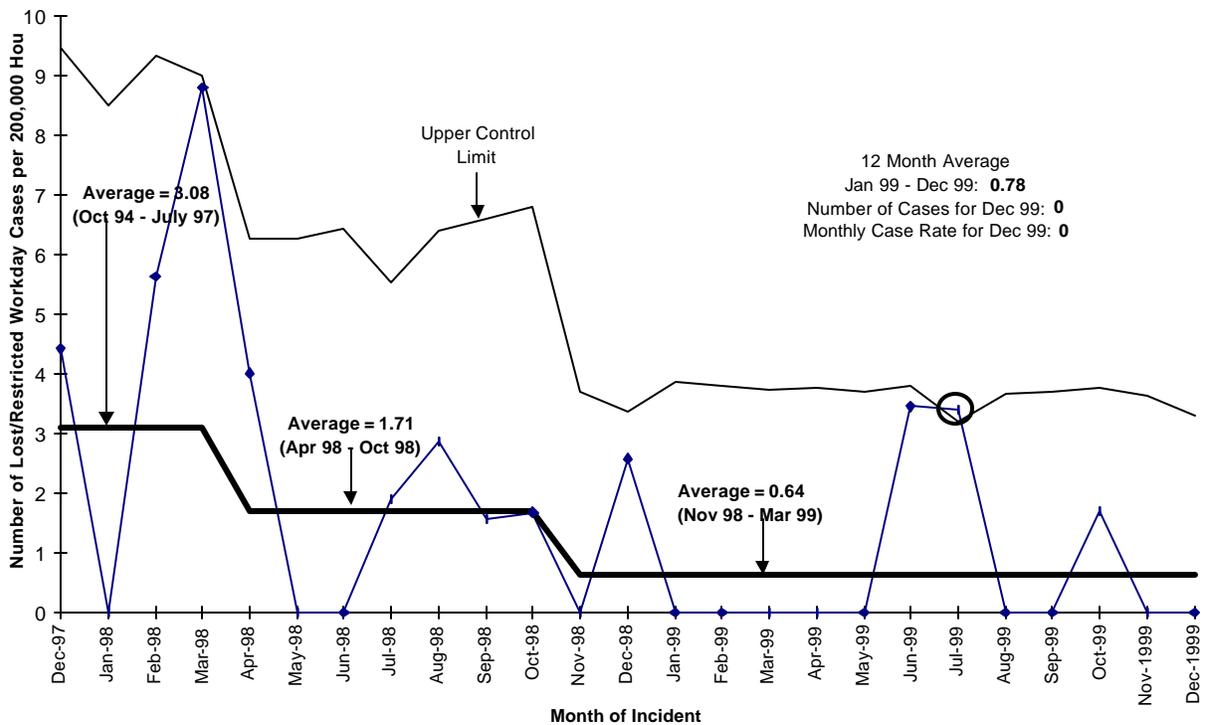


## Section A – Executive Summary

### ERC Recordable Case Rate Per 200,000 Hours



### ERC Lost/Restricted Workday Case Rate Per 200,000 Hours



## Section A – Executive Summary

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### OVERALL COST/SCHEDULE PERFORMANCE

#### Cost Variance

At the end of December, the ER Project had performed \$29.9M worth of work, at a cost of \$25.7M. This accounts for a favorable cost variance of \$4.2M (14.2%). The positive cost variance is attributed to FY99 year-end accrual reversals, site excavation savings, borehole drilling and test pit trenching costs less than planned (due to efficiencies), and Interim Safe Storage (ISS) labor costs less than planned.

#### Schedule Variance

The ER Project is \$5.4M (-15.3%) behind schedule for December. The negative schedule variance is attributed to delays in the 100 D Area small sites' verification sampling (resulting from additional plumes), mobilization at 100 F Area (due to plume growth at H Area), 100 H pipeline removal, GW/VZ System Assessment Capability (SAC) Rev. 0 documentation and Science and Technology (S&T) activities, the start of ISRM field work, and late billings for site-wide assessments.

### PERFORMANCE RISK MANAGEMENT

#### Issues/Early Warnings

- **Notice of Violation (NOV):** Issued to RL on November 17 for waste management violation for failure to have a Waste Control Plan and failure to sample waste container (tributyl phosphate) per approved sampling and analysis plan.

**Status:** Response letters addressing the NOVs and identifying completed corrective actions, actions with due dates still to be completed, and ongoing actions were submitted to RL on December 14 for transmittal to the regulatory agencies. No response has been received to date. A *Tri-Party Agreement* dispute was filed by RL on November 24 and withdrawn on December 30.

- **Notice of Penalty:** Issued to BHI and RL on November 17 for failure to characterize waste prior to disposal.

**Status:** A corrective action plan was submitted on December 1. A *Tri-Party Agreement* dispute was filed by RL on November 24 and is still pending. An application for relief from penalty was requested on December 1. The Washington State Department of Ecology (Ecology) denied application on January 12. RL and BHI are pursuing a settlement agreement.

## Section A – Executive Summary

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- **Resource Conservation and Recovery Act (RCRA) Compliance Well Funding:** Capital funds for groundwater monitoring well installation will be expended in meeting the calendar year 1999 milestones that are due in February 2000. No funds are currently available for out-years. This will impact *Tri-Party Agreement* Milestone M-24-00 for calendar year 2000 and beyond.

**Status:** RL is working across all applicable Hanford Site programs to identify funding for a new well strategy in calendar year 2000. Funding sources for each facility are under review.

- **Budgets Do Not Support Compliance Milestones:** The President's budget of \$140.6M (including additional ISS funding) for FY00, and the budget submittal of \$138.3M for FY01, do not support completion of all of the *Tri-Party Agreement* compliance milestones.

**Status:** RL is continuing to evaluate funding priorities and options. The ER Project, as part of the *Detailed Work Plan* (DWP) process, has planned FY00, FY01, and FY02 at \$135.1M (excluding ISS funding), \$163.7M, and \$164.0M, respectively.

- **100-B/C Pipelines:** FY00 and FY01 funding not available to start work on B/C pipeline remediation. The regulators have not been willing to renegotiate the *Tri-Party Agreement* milestone date of February 28, 2001. Forecast under review based on funding determination for FY01 and FY02.

**Status:** RL continues to discuss alternatives with the regulators.

- **100-N Cribs:** The Auditable Safety Analysis/Final Hazard Classification (ASA/FHC) to support remediation of the 100-N cribs was submitted to RL on November 29. Comments were due December 30, and received on January 11, 2000. The comments received rescind prior agreements. Previous technical direction received on October 22, 1996 accepted 10 rem at 300 meters (984 feet) as basis for nuclear FHC and agreements on dose scenarios. Changes to these agreements will require rework of the ASA document, which will delay remedial action subcontractor start and significantly impact cost and schedule. In addition, failure to start remediation in July 2000 would not comply with stipulated permit conditions that can result in fines, penalties, and civil/criminal actions. Approval of this document is scheduled for early February.

**Status:** BHI/RL will continue to meet to resolve this issue. (Note: The Request for Proposal [RPF] for remediation was issued to 15 potential bidders; 10 have committed to bid, with award scheduled for March 17, 2000.)

- **FY01 ISS Funding:** No funding in the Project Priority List/Integrated Priority List (PPL/IPL) for Reactor ISS in FY01 and FY02, which will result in program suspension and loss of potential cost savings.

**Status:** Need strategy to maintain critical resources and visible progress.

## Section A – Executive Summary

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- **CDI Funding:** EM-30 has informally notified the project that they will not be funding the CDI per the DWP assumption in FY00 (\$400K).

**Status:** RL is in the process of providing the project with formal notification from EM-30. A BCP to defer CDI scope will be submitted upon receipt of formal notification. There is no funding planned in the PPL/IPL for FY01 and FY02.

- **200-UP-1 and 200-ZP-2:** Regulatory agencies desire continued operation of 200-UP-1 and 200-ZP-2 Operable Units (not included in DWP).

**Status:** (A) 200-UP-1: A concurrence letter to Ecology is being drafted that will allow for a one-year shutdown to monitor contaminant rebound effects. (B) 200-ZP-2: Unit not scheduled for restart. The U.S. Environmental Protection Agency (EPA) is adamant on continued operations of one or more soil vapor extraction systems beginning April 1. Currently, RL is actively pursuing additional funds within the Hanford complex to support continued operations. If this is not attainable, RL must provide direction for work operations to continue. Upon receipt, BHI/RL management will evaluate work scope tradeoffs and submit appropriate change control. A decision (scope and funding) for continued operations is required by RL management on or before March 1, 2000.

- **200 Area RI/FS:** Approximately 700 soil contaminated sites (200 Area) grouped into 23 process-based operable units are to be characterized by 2008 and remediated by 2018. Currently, no out-year funding exists beginning in FY01. Long-term, RL must decide its budgetary position toward assessment and cleanup of the 200 Area liquid sites. The regulator position is to submit *Tri-Party Agreement* change packages for each operable unit work plan for enforceability in completing the RI through Record of Decision (ROD) based on existing *Tri-Party Agreement* milestones.

**Status:** RL has prepared a *Tri-Party Agreement* change package for the 200-CW-1 Operable Unit containing RI/FS milestones for FY00 only. In addition, RL is currently working on a long-term strategy for prioritizing the 200 Area assessment and remediation activities in conjunction with other site cleanup decisions.

### Opportunities

**Waste Minimization:** Existing information pertaining to the 126-F-1 ash pits indicates that the site was contaminated due to a previous effluent leak. Preliminary analysis shows that the south portion (approximately 163K metric tons [180K tons]) of the site may be clean, resulting in a potential cost savings. Discussions with EPA have proven favorable on this approach. ER will continue to pursue clean closure of the site.

**River Corridor Initiative (Complete remediation of 155 square kilometers [60 square miles], including Hanford townsite):** This initiative is currently identified as a superstretch item with an approximate value of \$5.0M. High-visibility public access opportunities; also a superstretch item (bike trail, road to B Reactor, and boat ramp at Hanford townsite). A feasibility plan is scheduled to be completed on February 15.

## Section A – Executive Summary

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**Accelerate the ISS (four reactors for the price of three by 2003):** Currently completing the “to go” estimate based on progress to date and supplemental funding received for FY00. Forecast for estimate completion is February 15.

### KEY INTEGRATION ACTIVITIES

- Groundwater/Vadose Zone Integration Project

BHI/Office of River Protection (ORP)/Pacific Northwest National Laboratory (PNNL)/Regulators/Public  
Multi-contractor team implementing an integrated site strategy for assessment of groundwater pathways.

### UPCOMING PLANNED KEY EVENTS

- Install RCRA groundwater monitoring wells at rate of up to 50 in calendar year, if required (M-24-00K, M-24-41, M-24-42, M-24-43, M-24-44, and M-24-45 all due February 29).
- Complete remediation and backfill of 19 waste sites in the 100-BC-1 and 100-BC-2 Operable Units (M-16-08B due March 31).
- Obtain regulator approval for *Tri-Party Agreement* Change Package rebaselining M-16-13A, Initiate Remedial Action for 100-FR-1 Operable Unit, from January 31, 2000 to March 2, 2001.

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## SECTION B – PROJECT PERFORMANCE SUMMARY

### REMEDIAL ACTION AND WASTE DISPOSAL PROJECT

Substantial progress was made in all areas of ER Project activities during December.

Remediation work proceeded at the 100 B/C, D, F, H, and 300 Areas. Revegetation of the 116-B-1, -11, -13, -14, and 116-C-5 waste sites was completed during the week of December 6. This activity marks the completion of remedial actions for the high priority, near-river (Group 1) waste sites in the 100 B/C Area.

Closeout/verification sampling of completed excavation areas continued at the D Area remediation site. Excavation activities for the Group 3 small waste sites progressed in December, including plumes found during planned remediation activities.

Remediation efforts also proceeded at several H Area waste sites, including excavation of the baseline quantities at the 116-H-1 Disposal Trench. When higher than expected contamination levels were encountered at the 116-H-7 Retention Basin, excavation was temporarily moved to another waste site until the radiological work permit and control boundaries were revised. Approximately 90% of the 116-H-7 baseline excavation has been completed. At month's end, overburden removal of the 1.5-meter (60-inch) diameter pipeline north of the 116-H-7 Retention Basin was 75% complete. This area is the deepest pipeline excavation in the 100 H Area (8 meters [26 feet]). Further remediation will be required at all three of these sites, due to additional plume growth. Variance sample results from the 1607-H-2 and 1607-H-4 Septic Drain Field waste sites indicated elevated arsenic levels. Closeout sampling has been delayed until a strategy is developed to address the arsenic presence. The elevated arsenic levels appear to be a result of historical agricultural practices prior to the establishment of the Hanford Site.

The draft 100 Area Burial Grounds FFS and *Proposed Plan* were transmitted to the regulators on December 21. This transmittal satisfies the *Tri-Party Agreement* Milestone M-15-00A that was due on December 31. These documents identify the preferred alternative of remove, treat, and dispose for the 45 burial grounds in the 100 Areas.

The RFP for remediation of the 100-NR-1 cribs was issued on December 6. Subcontract award is anticipated in March. The NR-1 ROD authorizing this remediation is scheduled for signing on January 19. The ASA/FHC is undergoing technical reviews, and is expected to be approved in February.

Remediation efforts progressed in the 300 Area. Remediation activities were initiated at Landfill 1B. Work was also initiated on relocation of the sanitary sewer line at the South Process Pond. This work was competitively bid, which yielded considerable savings. The relocation is expected to be complete by January 14, which will allow resumption of remediation in the west embankment of the South Process Pond. The remediation workscope at the South Process Pond has been greatly hampered by high winds. Several days of waste loading operations have been lost since the beginning of FY00. The schedule is expected to be recovered in January.

## Section B – Project Performance Summary

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The regulators approved Revision 2 of the ERDF *Leachate Management Plan* on December 9. The first production transfer of leachate to the Effluent Treatment Facility (ETF) via the new pipeline link was accomplished on December 28. During December, shipments totaling 47,241 metric tons (52,075 tons) of contaminated waste were transported to the ERDF from all ER Project sources. 136,774 metric tons (150,768 tons) have been received in FY00. To date, 1,863,375 metric tons (2,054,443 tons) of material have been received and placed in the disposal facility.

On December 9, the regulators completed their review of the *Construction Quality Assurance Reports* associated with the ERDF Cells #3 and #4 expansion. The regulators agreed the construction met requirements, and approved the additional cells for operation. This operational readiness approval satisfies *Tri-Party Agreement* Milestone M-16-92B, which was due on December 31. Construction of the two new cells began in September 1998, and was completed about six weeks ahead of schedule. Expansion of the ERDF required excavation of 1.4 million cubic meters (1.8 million cubic yards) of soil in the 200 West Area. The two combined cells measure 305 meters (1,000 feet) long, 153 meters (500 feet) wide, and 21 meters (70 feet) deep, and consist of multiple safety barriers that form a primary and secondary protection system. The liner system is designed to prevent migration of contaminants to the soil and groundwater. The new cells will be dedicated early in 2000, and will begin receiving waste in the spring.

FY00 waste site performance measures include a total of 29 sites. Excavation of one waste site was completed in December, for a total of four waste sites in FY00.

FY00 assessment performance measures include a total of 121 assessments. 76 assessments involve the cleanup strategy at the 300-FF-2 Operable Unit sites. An additional 45 assessments were deferred from FY99, and are being incorporated in the *Proposed Plan* (leading to a ROD) for the 100 Area Burial Grounds.

### GROUNDWATER/VADOSE ZONE INTEGRATION PROJECT

The GW/VZ Integration Project completed the internal review of the draft software requirements specification (*Identify System Assessment Capability [SAC] Rev. 0 Requirements*). This product is the first, and key, section of the *Assessment Design Document for the SAC, Rev. 0*. The requirements specification includes detailed requirements for each component of the SAC. Comments that were received from DOE, Headquarters (HQ) and Congressional staff reviews were incorporated into the draft *Semi-Annual Report*. The document will be completed in January. The *Sample Distribution Plan for S&T Borehole B8812* was completed. This plan supports distribution of uncontaminated core material to the Environmental Management Science Program (EMSP).

Draft A versions of the ISRM RDR/RAWP were transmitted to the regulators for review. These documents contain an ISRM well installation description of work, and a data quality objective (DQO) summary. Well drilling is expected to begin in January.

## Section B – Project Performance Summary

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FY00 and carryover FY99 well maintenance activities continued in December. Five out of eight wells were drilled, and casing installation was completed. The remaining three wells are forecast for completion by the end of January.

During December, three reports were completed by the GW/VZ Integration Project that address long-term groundwater monitoring characterization, analysis, and possible monitoring alternatives (including vadose monitoring techniques).

All groundwater pump and treat systems operated above planned 90% availability levels through December, with the exception of ZP-1, which operated near the lower planned availability limit. Since system inception, the five pump and treat systems have processed over 3.4 billion liters of groundwater, removing 3,605 kilogram of carbon tetrachloride, 150 kilogram of chromium, and 0.746 curies of strontium. Approximately 236 million liters of groundwater have been processed in FY00, removing approximately 201 kilogram of carbon tetrachloride, 17.3 kilogram of chromium, and 0.041 curies of strontium. All pump and treat systems were placed on standby in late December to ensure no freezing problems would occur from potential Y2K issues. All systems are expected to be restarted in January.

The Draft B *RI/FS Work Plan* for the 200-CS-1 Chemical Sewer Waste Group was completed for public review. The public review began on December 12, and is scheduled for completion on January 14.

The Draft A *200-CW-5 RI/FS Work Plan*, which addresses remedial actions at the 200 Area 200-CW-5 U Pond and Z Ditches Cooling Water Waste Group, was issued on December 14 for regulator review. This transmittal satisfies *Tri-Party Agreement* Milestone M-13-22, which was due on December 31.

### DECOMMISSIONING PROJECTS

Substantial progress was made at the F and DR Reactor ISS projects during December. The F Reactor fan room slab demolition and debris loadout were completed, and demolition and debris loadout activities were initiated at the F East Reactor slabs and tunnels. The DR Reactor valve pit demolition and debris loadout were also completed. Phase III field sampling at the F and DR Reactor underground structures were initiated in mid-December.

The *Project Closeout Report* for the demolition of the 119-DR Exhaust Air Filter Sampling Building, 116-D, and 116-DR exhaust stacks was completed in December. Demolition of both exhaust stacks and building was completed in August. The closure report constitutes completion of three facility closure performance measures during FY00.

Other December decommissioning activities included the completion of the historical review of the 224-B Plutonium Concentration Facility, and the completion of the *B Reactor Museum Phase II Feasibility Study* subcontract bid package. This bid package supports the completion of *Tri-Party Agreement* Milestone M-93-05, which is due on June 30.

## Section B – Project Performance Summary

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Steady progress continued on the loadout hood dismantlement in the 233-S Plutonium Concentration Facility. 90% of the frame has been removed, leaving only the sump areas for removal. Electrical work was also performed. Field sketches were completed, and weather enclosure and glovebags were ordered for supply/exhaust duct removal. Support activities continued in resolving the process hood safety evaluation comments. All Decontamination and Decommissioning (D&D) activities within the 233-S Facility continue to be accomplished in a safe manner. Within the last 27 months, there have been no skin or clothing contamination incidents. This safety record is particularly noteworthy when considering the high radiation levels of the facility and work locations, and that an average of over 170 personnel entries are made into contaminated areas each month.

### SURVEILLANCE/MAINTENANCE AND TRANSITION PROJECTS

Surveillance and maintenance (S&M) activities proceeded in December to ensure inactive facility integrity and safety. The work package was completed for the removal of legacy waste from H Reactor area. The H, KE, and KW Reactors' annual surveillance and housekeeping activities were completed. The safety evaluation for planned stabilization activities in the Reduction Oxidation (REDOX) Facility plutonium loadout hood was also completed.

### PROGRAM MANAGEMENT AND SUPPORT

The ERC was recognized in the *Congressional News Briefing Sheet* for the successful rock crusher transfer from the Hanford Site to the Ohio Mound Site in November. This waste minimization effort resulted in a savings to the Ohio Field Office of \$750K, by eliminating the need to purchase the equipment. In utilizing this crusher, DOE estimates a savings between \$4 to \$12M over the next three years.

The FY00 Baseline Update and Reconciliation change proposal was completed and forwarded to HQ for approval. The revised baseline identifies a \$1.77B increase to overall Hanford Site restoration costs. These costs are primarily due to transuranic waste quantity and escalation increases. The lifecycle ER schedule was also extended from FY44 to FY46 to accommodate site stewardship planning assumptions.

### SCHEDULE VARIANCE ANALYSIS

#### ER01 – 100 Area ER Remedial Action (-13.5%/\$-887K)

**Cause:** Negative schedule variance attributed to limited subcontractor resources for 100-HR-1 pipeline removal, and continued plume growth at 100-DR and 100-H Areas.

**Impact:** None.

## Section B – Project Performance Summary

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**Corrective Action:** HR-1 pipeline subcontractor has added more resources and has implemented a recovery schedule; baseline and remediation schedules will be revised via change control to reflect plume growth.

### **ER02 – 200 Area ER Remedial Action (10.9%/\$220K)**

**Cause:** Positive schedule variance attributed to test pit trenching and sampling completed ahead of schedule due to efficiencies, borehole drilling and sampling ahead of schedule.

**Impact:** None.

**Corrective Action:** None.

### **ER03 – 300 Area ER Remedial Action (-16.5%/\$-310K)**

**Cause:** Negative schedule variance attributed to delays in water line tie-ins pending incorporation of a new procedure, deferred sewer line contract award to optimize contractor pricing, deferred Landfill 1A remediation in order to remediate Landfill 1B and South Process Pond first.

**Impact:** None, not on critical path for project completion.

**Corrective Action:** None.

### **ER06 – ER Decontamination and Decommissioning (-12%/\$-463K)**

**Cause:** Negative schedule variance attributed to delays in 233-S loadout hood dismantlement activities caused by deteriorated glovebag removal, roof duct removal difficulties, and extended approval of SER addressing process hood activities.

**Impact:** None at this time.

**Corrective Action:** Recovery schedule implemented on loadout hood with removal scheduled for January 2000. Process hood SER signed January 21, 2000; characterization activities initiated.

### **ER08 – Groundwater Management Project (-21.4%/\$-131K)**

**Cause:** Negative schedule variance attributed to delays of the ISRM ROD Amendment approval and RDR/RAWP resulting in late start of field work, analyzer replacement and system calibration for groundwater management unit 200-ZP-1 delayed due to equipment availability problems, and deferred groundwater well maintenance.

**Impact:** None.

## Section B – Project Performance Summary

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**Corrective Action:** ISRM contract awarded January 21; project schedule adjusted via change control for approximately 30-day ROD delay. Recovery schedules have been implemented for maintenance activities.

### ER10 – ER Program Management and Support (-31.3%/\$-1,327K)

**Cause:** Negative schedule variance attributed to late billing of site-wide assessments.

**Impact:** None.

**Corrective Action:** None.

### VZ01 – Site-wide GW/VZ Integration Project (-31.5%/\$-800K)

**Cause:** Negative schedule variance attributed to SAC (Rev. 0) requirements development took longer than planned, which impacted initiation of Design Specification, Test Plan, and Planned Analysis development; deferred S&T Plan due to resource availability; and reduced staff availability during Christmas/New Year holidays causing logic diagram and planning delays.

**Impact:** None.

**Corrective Action:** SAC recovery schedule has been implemented with full recovery expected in February-March; additional S&T resources have been dedicated to completing the roadmap, now scheduled for April; policy work group meeting has been deferred to April with no impact expected to completion schedule.

## COST VARIANCE ANALYSIS

### ER01 – 100 Area ER Remedial Action (17.5%/\$991K)

**Cause:** Positive cost variance attributed to costs lower than planned for 100-DR small sites excavation and sampling, and 100-FR-1 site prep work.

**Impact:** Cost underrun.

**Corrective Action:** Savings will be used for other environmental restoration work.

### ER02 – 200 Area ER Remedial Action (33.1%/\$742K)

**Cause:** Positive cost variance attributed to test pit trenching efficiencies and fewer samples required than originally planned, borehole drilling costs less due to utilizing RCRA groundwater borehole.

**Impact:** Cost underrun.

**Corrective Action:** Savings will be used for other environmental restoration work.

## Section B – Project Performance Summary

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### **ER03 – 300 Area ER Remedial Action (44.1%/\$691K)**

**Cause:** Positive cost variance attributed to management and administrative cost efficiencies, and under accrual in South Process Pond work.

**Impact:** Cost underrun.

**Corrective Action:** Savings will be used for other environmental restoration work.

### **ER04 – ER Waste Disposal (18.6%/\$903K)**

**Cause:** Positive cost variance attributed to FY99 accrual reversal.

**Impact:** None.

**Corrective Action:** None.

### **ER06 – ER Decontamination and Decommissioning (10.9%/\$370K)**

**Cause:** Positive cost variance attributed to costs less than planned for ISS equipment usage and procurements, 105-F valve pit pipe and equipment removal, 224-B Engineering Evaluation/Cost Analysis (EE/CA) document development, and fewer resources required for ISS.

**Impact:** Cost underrun.

**Corrective Action:** Savings will be used for other environmental restoration work.

### **ER07 – ER Long-term Surveillance and Maintenance (300%/\$3K)**

**Cause:** Insignificant: (BCWP: 1; ACWP: -2).

**Impact:** None.

**Corrective Action:** None.

## Section B – Project Performance Summary

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### INTEGRATION WITH OTHER DOE HANFORD CONTRACTORS

- GW/VZ Integration Project

BHI/ORP/PNNL/Regulators/Public

Multi-contractor team implementing an integrated site strategy for assessment of groundwater pathways.

- K Basin Waste Disposal

BHI/Fluor Hanford, Inc. (FHI)

A Memorandum of Understanding has been signed between BHI/FHI for the packaging, treatment, transport, and disposal of K Basin waste to ERDF.

- 300 Area Waste Disposal

BHI/PNNL

A Letter of Instruction and work order from PNNL to BHI was signed on January 4 for the transport and disposal of waste from the 331-A Building demolition. Transportation and disposal of the estimated 304 metric tons (336 tons) of building debris is expected to begin in late January.