

May 5, 2004



Financial Management

Environmental Liabilities Required To Be Reported on Annual Financial Statements (D-2004-080)

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AEC	Army Environmental Center
BRAC	Base Realignment and Closure
CTCNORM	Cost-to-Complete Normalization of Data System
DERP	Defense Environmental Restoration Program
DSERTS	Defense Site Environmental Restoration Tracking System
EPR	Environmental Program Requirements
FMR	Financial Management Regulation
FUDS	Formally Used Defense Sites
FUDSMIS	Formally Used Defense Sites Management Information System
HTRW	Hazardous Toxic Radioactive Waste
NAVFAC	Naval Facilities Engineering Command
NAVSEA	Naval Sea Systems Command
OEW	Ordnance and Explosive Waste
RACER	Remedial Action Cost Engineering Requirements
RCTCS	Restoration Cost-to-Complete System
VV&A	Verification, Validation, and Accreditation



INSPECTOR GENERAL
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May 5, 2004

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (COMPTROLLER)/CHIEF
FINANCIAL OFFICER
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL
MANAGEMENT AND COMPTROLLER)
DIRECTOR, DEFENSE FINANCE AND ACCOUNTING SERVICE
NAVAL INSPECTOR GENERAL
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Report on Environmental Liabilities Required To Be Reported on Annual Financial
Statements (Report No. D-2004-080)

We are providing this report for review and comment. We received comments on a draft of this report from the Under Secretary of Defense (Comptroller)/Chief Financial Officer, the Deputy Under Secretary of Defense (Installations and Environment) and the Military Departments. We considered the management comments when preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The Army comments were partially responsive. We request additional Army comments on Recommendation A.2.a. As a result of management comments, we added Recommendation A.3. directed to the Secretary of the Army. Therefore, we request that the Army provide comments on Recommendations A.2.a. and A.3. by July 6, 2004.

If possible, please send management comments in electronic format (Adobe Acrobat file only) to Audcm@dodig.osd.mil. Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Mr. Benjamin A. Mehlman at (703) 604-9291 (DSN 664-9291) or Ms. Rhonda L. Ragsdale at (703) 604-9347 (DSN 664-9347). The team members are listed inside the back cover. See Appendix H for the report distribution.

By direction of the Deputy Inspector General for Auditing:

David K. Steensma
Assistant Inspector General
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Office of the Inspector General of the Department of Defense

Report No. D-2004-080
(Project No. D2003CB-0037)

May 5, 2004

Environmental Liabilities Required To Be Reported on Annual Financial Statements

Executive Summary

Who Should Read This Report and Why? DoD civilians and uniformed officers responsible for environmental cost estimating and financial reporting should read this report. It discusses the management controls that are necessary to support financial reporting of environmental liabilities on financial statements.

Background. According to Public Law 101-576, "Chief Financial Officers Act of 1990," November 15, 1990, each executive agency shall prepare and submit to the Director of the Office of Management and Budget a financial statement for the preceding fiscal year. The Chief Financial Officers Act requires that financial statements prepared by an agency be audited by the Inspector General in accordance with applicable generally accepted government auditing standards and also requires the Inspector General to submit a report to the head of the audited agency. Environmental liabilities and disposal liabilities are reported on "Environmental Liabilities and Environmental Disposal Liabilities," Note 14 of the DoD-wide and individual Service-wide balance sheets. Contingent liabilities are reported as part of "Commitments and Contingencies," Note 16. As of September 30, 2002, DoD reported \$59.35 billion in environmental liabilities on Note 14 and \$12.7 billion of environmental related contingent liabilities on Note 16. Environmental liabilities include estimated amounts for future cleanup of contamination resulting from waste disposal methods, leaks, spills, and other past activity that have created a public health or environmental risk. DoD declared, in FYs 2002 and 2003, environmental liabilities as a systemic management control weakness as defined by the Federal Managers' Financial Integrity Act.

This report discusses the reliability of the data and processes used to report environmental liabilities including identifying and assessing the adequacy of the management controls relating to the reporting. The report focuses on selected Note 14 and Note 16 items where Military Departments made assertions on the fair presentation of the amounts reported or where the Under Secretary of Defense (Comptroller)/Chief Financial Officer requested we review an issue. We reviewed controls over \$21.92 billion of Army environmental liabilities and \$10.05 billion of Navy environmental liabilities as reported on Note 14 through a sampling of 735 environmental liability cost estimates at 28 Army activities and 1 Navy activity. We also reviewed \$3.67 billion of Note 16 contingent liabilities attributed as Army and Defense Logistics Agency environmental liabilities. We performed a detailed internal control review of the Army environmental liability estimates and the Navy nuclear-powered ship estimates, but did not perform substantive tests of the reported values of those estimates.

Results. The reliability of the data and processes used to report Army, Navy, and Defense Logistics Agency environmental liabilities needed improvement. The data and

processes used to report \$21.92 billion in environmental liabilities on Note 14 to the FY 2002 Army financial statements did not have adequate documentation and audit trails. As a result, Army Defense Environmental Restoration Program, Base Realignment and Closure (BRAC), and non-Defense Environmental Restoration Program environmental liability estimates were potentially misstated for the FY 2002 DoD-wide and Army-wide financial statements (finding A). The Army initiated action to improve controls by implementing a new feeder system to reduce the possibility of errors.

Although technically complying with existing modeling and simulation requirements, Air Force and Navy verification, validation, and accreditation reviews of environmental liability electronic cost estimating systems were performed without comparison of the estimates to actual costs (finding B). In response to the audit, the Navy and Air Force initiated action to document comparison of system-generated costs with associated actual project costs on present and future models.

Although the estimating methodology for the disposal of nuclear-powered ships appeared reasonable, the controls over a \$10.05 billion Navy Note 14 environmental liability estimate for the disposal of nuclear-powered ships needed improvement (finding C). The Office of the Deputy Under Secretary of Defense (Installations and Environment) is developing additional financial reporting policy for environmental compliance, nuclear-powered ship disposal, and chemical demilitarization for issuance in FY 2004. The Naval Sea Systems Command is also developing nuclear-powered ship disposal estimate reporting and control guidance. The Defense Finance and Accounting Service corrected previously reported errors by re-categorizing a \$2.6 billion Defense Logistics Agency environmental liability as a contingent claim and litigation from civil law on second quarter FY 2003 and subsequent DoD-wide financial statement Note 16. The contingent liabilities were related to the potential claims from Defense Logistics Agency fuel contracts and not to environmental liabilities (finding D).

Management Comments and Audit Response. The Deputy Under Secretary of Defense (Installations and Environment) agreed to implement guidance to improve the development, recording, and reporting of environmental liabilities. The Army Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) agreed that the Commander, U.S. Army Corps of Engineers, should establish a quality control program to assess environmental liability processes and controls, but did not agree that the Army BRAC Office should establish procedures to verify that Army BRAC environmental liability estimates are accurate and meaningful as required by financial management regulation and not adjusted because of potential budgetary constraints. Based on comments from the Under Secretary of Defense (Comptroller)/Chief Financial Officer we added a recommendation to the Army relating to review of the Army BRAC program environmental liability estimate (see finding A for detailed discussion of these recommendations). We request comments from the Army by July 6, 2004. The Assistant Secretary of the Navy (Financial Management and Comptroller) and the Deputy Chief of Staff of the Air Force (Installations and Logistics) agreed that the Naval Facilities Engineering Command and the Air Force Civil Engineering Support Agency issue guidance requiring that future environmental liability electronic cost estimating system efforts comply with Defense Environmental Restoration Program Management Guidance (see finding B for detailed discussion of these recommendations).

Table of Contents

Executive Summary	i
Background	1
Objectives	4
Findings	
A. Army Environmental Liabilities	5
B. Environmental Liability Electronic Cost Estimating Systems	16
C. Navy Nuclear-Powered Ship Disposal Environmental Liabilities	25
D. Defense Logistics Agency Contingent Environmental Liabilities	29
Appendixes	
A. Scope and Methodology	31
Management Control Program Review	34
B. Prior Coverage	36
C. Army DERP Active Installation Environmental Liabilities	38
D. Army DERP-FUDS Environmental Liabilities	43
E. Army BRAC Environmental Liabilities	50
F. Army non-DERP Environmental Liabilities	57
G. Management Comments on Findings A and B and Audit Response	61
H. Report Distribution	67
Management Comments	
Under Secretary of Defense (Comptroller)/Chief Financial Officer	69
Deputy Under Secretary of Defense (Installations and Environment)	70
Department of the Army	72
Department of the Navy	86
Department of the Air Force	92

Background

Reporting Requirement. According to Public Law 101-576, “Chief Financial Officers Act of 1990,” November 15, 1990, each executive agency must prepare and submit to the Director of the Office of Management and Budget a financial statement for the preceding fiscal year. The Chief Financial Officers Act of 1990 requires that financial statements prepared by an agency be audited by the Inspector General in accordance with applicable generally accepted government auditing standards and the Inspector General must submit a report to the head of the audited agency. Environmental liabilities include estimated amounts for future cleanup of contamination resulting from waste disposal methods, leaks, spills, and other past activity that have created a public health or environmental risk. This report discusses the reliability of the data and processes used to report environmental liabilities in the DoD Agency-wide financial statements. DoD identified, in performance and accountability reports for FYs 2002 and 2003, environmental liabilities as a systemic management control weakness as defined by the Federal Managers’ Financial Integrity Act.

Financial Management Regulation. DoD Regulation 7000.14-R, “DoD Financial Management Regulation (FMR),” volume 4, chapter 13, prescribes accounting policy and principles for measuring and recognizing DoD liabilities associated with the disposition of property, structures, equipment, munitions, and weapons. The FMR volume 4, chapter 13, also prescribes policy for measuring and recognizing the environmental liabilities associated with corrective actions and the future closure of facilities on active installations and for the environmental response actions at operational test and training ranges on active installations. FMR volume 4, chapter 14, prescribes the accounting policy and principles for measuring and recognizing DoD liabilities associated with the containment, treatment, or removal of contamination that could pose a threat to public health and the environment. The FMR volume 4, chapter 14, also prescribes the accounting policy for accrued environmental restoration costs for general property, plant, equipment, and stewardship land. Furthermore, it provides policy for accrued environmental restoration costs for potentially responsible party sites. FMR chapters 13 and 14 also identify that cost estimates of environmental disposal or environmental restoration activities are subject to audit.

Defense Environmental Restoration Program. Defense Environmental Restoration Program (DERP) Management Guidance, September 2001, provides program implementation information for environmental restoration at active installations, facilities subject to Base Realignment and Closure (BRAC), Formerly Used Defense Sites (FUDS), and cost-to-complete estimates and financial reporting of environmental restoration liabilities. In addition to the DERP guidance, the DERP-FUDS Program Manual, September 1999, provides general policy guidance on the execution of the FUDS program. In January 2002, the Army Environmental Center (AEC) issued additional environmental estimate cost-to-complete programmatic guidance covering DERP active installations and BRAC facilities.

Army non-DERP Guidance. Federal, State, and local environmental laws and regulations are the basis for non-DERP environmental project requirements.

Estimates for non-DERP environmental projects are entered into the Environmental Program Requirements (EPR) database. Guidance for developing and entering projects into the EPR database include: “Policy and Guidance for Identifying U.S. Army Environmental Program Requirements,” February 2002; U.S. Army Environmental Program Requirements Catalog 2002, “A Catalog of Sample EPR Project Submissions and Program Guidance,” August 2002; and the Environmental Program Requirements Quality Assurance Handbook, November 1998.

Note 14 and Note 16 of Financial Statements. DoD reports environmental liabilities and contingent liabilities on the DoD-wide and individual Service-wide balance sheets. Balance Sheet Note 14, “Environmental Liabilities and Disposal Liabilities,” details the cost estimate elements that comprise environmental liabilities. Balance Sheet Note 16, “Commitments and Contingencies,” details the cost elements that comprise contingent liabilities including environmental contingent liabilities. As of September 30, 2002, DoD reported \$59.35 billion for environmental liabilities and \$12.7 billion for environmental contingent liabilities. Table 1 outlines the DoD Component breakdown of the environmental liabilities reported on Note 14 and the environmental contingent liabilities reported on Note 16.

<u>DoD Components</u>	<u>FY02 Environmental Liabilities in billions</u>	
	<u>Note 14</u>	<u>Note 16</u>
Army	\$35.08	\$10.10
Navy	15.47	0.00
Air Force	8.45	0.00
Other Defense Organizations	<u>0.35</u>	<u>2.60</u>
Total	\$59.35	\$12.70

We reviewed controls over \$21.92 billion of the \$35.08 billion of Army environmental liabilities and \$10.05 billion of the \$15.47 billion of Navy environmental liabilities reported on Note 14 through a sampling of 735 environmental liability cost estimates at 28 Army activities and 1 Navy activity. We also reviewed \$3.67 billion of Note 16 contingent liabilities attributed as Army and Defense Logistics Agency environmental liabilities (see Appendix A).

Army and Navy Management Assertions. On January 6, 2003, and June 26, 2003, through management representation letters, the Army asserted that all of the Army environmental liabilities were reported and presented fairly on the FY 2002 financial statements. Also, on August 9, 2002, and January 6, 2003, through management representation letters, the Navy asserted that it maintained a sound methodology for estimating environmental liabilities associated with nuclear-powered ships and submarines, and that the Naval Facilities Engineering Command (NAVFAC) had completed verification, validation, and accreditation (VV&A) of the cost-to-complete system for DERP environmental liabilities.

Auditing Standards for Accounting Estimates. The Codification of Statements on Auditing Standards Section 342 (AU 342), “Auditing Accounting Estimates,” provides guidance for auditing accounting estimates. Auditors must review and test management processes to assess the reasonableness of the accounting estimate. A strong internal control system will help ensure the reasonableness of an accounting estimate. AU 342 identifies the relevant aspects of an internal control system including the:

- accumulation of relevant, sufficient, and reliable data upon which to base estimates;
- preparation of the estimate by qualified personnel;
- adequate review and approval of estimates by appropriate levels of authority; and
- comparison of prior accounting estimates with subsequent results to assess the reliability of the process used to develop estimates.

Electronic Environmental Cost Estimating Software. Both FMR and DERP guidance require the use of electronic cost estimating software in most environmental liability estimating situations. DoD uses two such estimating software programs: the Remedial Action Cost Engineering Requirements (RACER) system is used by the Army and the Air Force, and the Cost-to-Complete component of the Normalization of Data System (CTCNORM) is used by the Navy.

RACER. The Air Force and Army use RACER for developing parts of out-year environmental liabilities estimates and annual budgets. Other DoD and Federal agencies also use RACER to prepare individual cost project estimates and to evaluate cost reasonableness of estimates. The Air Force Civil Engineering Support Agency developed and maintains the RACER system. Air Force Civil Engineering Support Agency planned and funded modifications, oversaw preparation of the simulation for use, and configuration management and maintenance of RACER. Air Force Civil Engineering Support Agency initiated a VV&A review of the RACER in January 2001. The process was completed in June 2001. Air Force Civil Engineering Support Agency was the verification and validation agent and the accreditation authority.

CTCNORM. NAVFAC developed and maintains the CTCNORM system. NAVFAC also initiated a VV&A review of the CTCNORM in March 2001. The process was completed in October 2001. NAVFAC was the verification and validation agent and the accreditation authority. NAVFAC reports Navy and Marine Corps environmental liability information derived from CTCNORM to the Office of the Assistant Secretary of the Navy (Financial Management and Comptroller).

Objectives

Our overall objective was to determine the reliability of the processes and data used to report environmental liabilities on financial statements. We also reviewed internal controls and compliance with laws and regulations related to the environmental liabilities. See Appendix A for a discussion of the scope and methodology and our review of the management control program. See Appendix B for prior coverage related to the objectives.

A. Army Environmental Liabilities

The data and processes used to report \$21.92 billion in DERP¹, BRAC, and non-DERP environmental liabilities on the FY 2002 financial statements did not have adequate documentation and audit trails. Although estimators were properly qualified to perform estimates, the Army did not document supervisory reviews of estimates and adequate quality control programs were not in place to ensure the reliability of data. This occurred because DERP, non-DERP, and BRAC activities were not following guidance concerning environmental liability financial reporting. In addition, non-DERP activities lacked specific implementation guidance, and DERP and BRAC activities lacked effective and reliable controls over feeder systems. As a result, DERP, BRAC, and non-DERP environmental liability estimates were potentially misstated for the FY 2002 DoD-wide and Army-wide financial statements.

Reporting Organizations

Personnel at active installations, BRAC installations, and U.S. Army Corps of Engineers (Corps of Engineers) districts (for FUDS properties) developed and reviewed the cost-to-complete environmental liability estimates (estimates) relating to future cleanup of contamination resulting from waste disposal methods, leaks, spills, and other past activity that have created public health and environmental risks. AEC was responsible for collecting, reviewing, and forwarding the estimates relating to DERP active installations, BRAC, and non-DERP to the Army Assistant Chief of Staff for Installation Management. The Corps of Engineers was responsible for collecting, reviewing, and forwarding the estimates relating to FUDS to the Assistant Chief of Staff for Installation Management. The Assistant Chief of Staff for Installation Management was responsible for validating and including the estimates in reporting environmental liabilities on the financial statements. (Additional details of Army reporting organizations are discussed in Appendixes C, D, E, and F.)

Army Controls Effectiveness

The Army did not maintain adequate documentation and audit trails to support environmental liability estimates for FY 2002. In addition, the Army did not document supervisory reviews of estimates and adequate quality control programs were not in place to ensure the reliability of data.

Documentation and Audit Trails. The FMR emphasizes that audit trails for environmental liabilities must allow transactions to be traced from the point of initiation to the final report. The audit trail must adequately support all transactions with relevant documents and source records, including a narrative providing sufficient explanation for the basis of the estimate, the date prepared,

¹ DERP locations included active installations and FUDS.

and the preparer name. The FMR also requires documentation must exist at the time of audit.

Documentation and audit trails permit tracing transactions through a system. Audit trails allow auditors or evaluators to ensure transactions are properly accumulated and correctly classified, coded, and recorded in all affected accounts. Audit trails are also necessary to enable supervisors, other estimators, and auditors to understand the methodologies used to develop estimates and determine whether estimates are reasonable and complete. We considered relevant, sufficient, and reliable environmental liability documentation to be pertinent project-related documents that supported underlining factors, assumptions, and estimated costs, including background information, disposal or restoration strategy, physical units in the estimate, cost per unit, cost adjustments such as conversion to current year dollars, and significant project changes.

Army Environmental Liability Documentation. The Army did not have adequate audit trails to ensure that documentation was readily available to support the underlying assumptions of estimates. Therefore, the Army did not meet the definition of an audit trail as defined in the DoD FMR. The majority of the Army documentation maintained at the installation level was not sufficient to support estimates throughout the reporting process. Table 2 shows that 634 of the 719 Army estimates reviewed did not have adequate documentation to lead auditors through the entire audit trail.

	<u>DERP</u>	<u>non-DERP</u>	<u>FUDS</u>	<u>BRAC</u>	<u>Totals</u>
Estimates Reviewed	231	45	300	143	719
Estimates without Adequate Audit Trails and Documentation	184	43	299	108	634

For DERP active installations, 47 of 231 estimates reviewed had an adequate audit trail that would allow the auditor to trace from the point of initiation to the final report (see Audit Trails and Documentation in Appendix C). DERP-FUDS activities provided adequate documentation for 1 of 300 estimates and non-DERP activities provided documentation for 2 of the 45 estimates reviewed. BRAC installations maintained adequate documentation for 35 of the 143 estimates.

For example, Headquarters, Corps of Engineers personnel were unable to provide supporting documentation for \$1.1 billion in management and support costs included in the FUDS related environmental liability reported on the financial statements (see Audit Trails and Documentation in Appendix D). In another example, Rocky Mountain Arsenal reported 72 estimates valued at \$745 million, the largest single DERP active installation location. Rocky Mountain used 31 program management estimates derived from a 1995 feasibility study to create

the 72 reported estimates. The Arsenal did not maintain records to support transfer and apportionment of data from the 31 program management estimates to the 72 reported estimates. As a result, we could not confirm assumptions, cost elements, and adjustments that comprised the estimates. Rocky Mountain Arsenal and AEC personnel stated that they were taking steps to revise FY 2003 reporting of the 31 program management based estimates to AEC in place of the 72 RCTCS/DSERTS estimates to allow for an audit trail for the estimates.

Supervisory Reviews. DERP active installation, FUDS, and BRAC activities did not routinely document supervisory reviews of environmental liability estimates when reporting environmental liabilities for the FY 2002 financial statements. The FMR requires organizations that prepare cost estimates to retain adequate documentation of management reviews. Table 3 shows that of 719 estimates reviewed at Army activities, only 74 estimates had adequate documentation of supervisory reviews of environmental liability estimates.

	<u>DERP</u>	<u>non-DERP</u>	<u>FUDS</u>	<u>BRAC</u>	<u>Totals</u>
Estimates Reviewed	231	45	300	143	719
Estimates with Documented Supervisory Reviews	0	43	0	31	74

DERP Active Installations Supervisory Reviews. For DERP active installations none of 231 estimates reviewed showed evidence that management performed and documented adequate supervisory reviews of the estimates. Evidence existed that supervisors reviewed some estimates; however, there was no documentation that showed specifically what the supervisor reviewed. Adequate supervisory reviews would include verifying estimator-prepared estimates in accordance with financial reporting requirements and the DERP guidance. DERP guidance section 15.8.2 states that management must retain documentation of management review. DERP active installation supervisors stated that reviews mostly focused on reasonableness of estimates and not whether adequate supporting documentation or an audit trails existed. For example, the installation action plan for Aberdeen Proving Grounds showed a supervisory approval of 252 cost to complete estimates by installation management and headquarters level management. Installation level management stated that supervisory review did not include verification of critical items such as documentation and audit trail.

DERP-FUDS Supervisory Reviews. The Corps of Engineer districts and the U.S. Army Corps of Engineers Omaha Center of Expertise (Omaha Center) performed limited supervisory reviews of estimates. The districts reviewed estimates to ensure that cost allocation met proposed fiscal year funding. The Omaha Center verified that Formerly Used Defense Sites Management Information System (FUDSMIS) data were correctly entered and that estimators

included all project phases. However, FUDS guidance requires the development and use of a uniform checklist for supervisory reviews to ensure that estimators include all appropriate phases in the estimate. Neither the districts nor the Omaha Center documented supervisory reviews through the use of a uniform checklist in accordance with FUDS guidance.

BRAC Supervisory Reviews. Four of six BRAC installations did not provide evidence of supervisory reviews of estimates. According to personnel at the installations, the submittal of the estimates to higher-level management was considered as a form of supervisory review.

Army Quality Control Programs. The Army did not implement adequate quality control programs to ensure the reliability and accuracy of environmental liability estimates. An effective quality control program should include procedures for continual monitoring whether the policies and procedures related to the standards are suitably designed and are effectively applied. Effective quality control programs are necessary to aid personnel in identifying errors in estimates prior to reporting. For example, maintaining supporting documentation can help ensure that estimators have included costs for all phases of projects or have used the most recent historical data when developing estimates. In addition, by implementing supervisory reviews (another element of an effective quality control program), supervisors may be able to identify errors prior to approving and reporting estimates. The critical elements of a quality control program include documentation and audit trails, supervisory reviews, and quality assurance reviews. Army activities did not implement sufficient internal quality control programs to ensure they reported complete and correct data.

DERP Active Installations and BRAC Quality Assurance. Quality assurance reviews conducted by AEC on DERP active installations and BRAC estimates were not sufficient to ensure that the accounting standards outlined in the FMR were met. AEC performed quality assurance reviews on FY 2001 estimates at 41 DERP active installations and BRAC installations. AEC reviews showed that of the 41 installations, 16 did not use RACER software, 37 did not have adequate documentation, 19 did not reflect the environmental restoration strategy, 8 lacked environmental liability estimation training, and 7 lacked evidence of supervisory reviews. Although the AEC quality assurance review identified the above deficiencies, AEC did not finalize the results of the review until late fall 2002. As a result, there was little or no effect for the FY 2002 financial statements on the adequacy of supporting documentation, audit trails and documentation of supervisory reviews.

Inconsistencies also existed between the deficiencies in the AEC quality assurance reviews of DERP active installations and BRAC locations and our review regarding adequacy of documentation and audit trails. For example, AEC began a quality assurance review of Rocky Mountain Arsenal but omitted reporting review deficiencies because Arsenal documentation did not provide an audit trail. AEC did not maintain either documentation of the Rocky Mountain Arsenal quality assurance review or documentation of the reason AEC omitted reporting the results to the office of the Assistant Chief of Staff for Installation Management.

AEC assessments of BRAC installation estimates were inadequate to ensure the accuracy of the environmental liabilities. For example, we determined that two Fort Ord BRAC cleanup estimates did not have adequate documentation despite the AEC review conclusion that the estimates maintained adequate documentation. The Army Assistant Chief of Staff for Installation Management BRAC Division (BRAC Office) did not perform quality assurance reviews of the installations and no formal action was taken concerning AEC findings.

Non-DERP Quality Assurance. AEC non-DERP quality assurance reviews were generally restricted to the information within the database and were focused on ensuring that the projects had correct requirements, quality and accurate data, and justified funding purposes. The AEC non-DERP quality assurance reviews did not include reviews of source documentation or evaluate the estimate methodology or audit trail, which are elements required by the DoD FMR. Therefore, the reviews could not verify the existence, completeness, or valuation of the estimates.

DERP-FUDS Quality Assurance. DERP-FUDS activities did not implement quality control programs at the district or division level. Instead, the districts and divisions relied on the Omaha Center to perform quality control reviews. The Omaha Center reviews were limited in scope and were completed periodically when funding was available. Corps of Engineers districts and divisions did not always implement recommendations resulting from the Omaha Center reviews.

Estimator Qualifications. We reviewed estimator qualifications at each of the DERP active installations, FUDS, BRAC, and non-DERP locations audited. We found estimators properly qualified to perform environmental cost estimating at all 27 locations reviewed.

Compliance with Environmental Liabilities Guidance

DERP, BRAC, and non-DERP activities did not follow FMR guidance and DERP program guidance concerning environmental liability financial reporting. In addition, non-DERP activities lacked specific implementation guidance.

Financial Reporting Guidance. DERP and BRAC activities did not follow financial reporting guidance when reporting environmental liabilities. The DERP guidance requires complete disclosure of all environmental restoration liabilities to include having complete, formal, and auditable documentation of all data and other information used to develop the estimate of the environmental restoration liability. However, DERP and some BRAC activities did not follow this guidance, and the installations could not produce adequate audit trails. For example, one DERP active installation could not provide documentation to support any of the 15 estimates, valued at \$134 million, selected for our review. One DERP-FUDS activity could not provide adequate documentation to support any of the 70 estimates, valued at over \$604 million, selected for review. One BRAC site could not provide documentation to support 66 estimates, valued at approximately \$66.2 million, representing approximately 6 percent of total Army BRAC environmental liabilities.

DERP Guidance. Even though DERP active installation and FUDS guidance requires that all estimates prepared include all anticipated costs on a current cost basis, FUDS activities did not update and report all environmental liability costs in current year dollars. Of 300 FUDS estimates reviewed, 36 estimates, valued at approximately \$963 million, were not updated and reported in current year dollars. In addition, of 231 DERP active installation estimates reviewed, 45 estimates, valued at approximately \$836 million, were not updated and reported in current year dollars. Because these projects were not updated, the reported amount was not in accordance with financial reporting guidance and the liability could be misstated.

BRAC Guidance. The BRAC Office reduced FY 2002 environmental liability estimates by approximately \$382 million based on funding constraints. DoD FMR 7000.14-R, volume 4, chapter 14, states that availability of funds should not determine the liability. However, the BRAC Office applied predetermined criteria that included a self-generated \$1 billion ceiling constraint, which limited the total environmental liability recognized. Based on the constraints, BRAC Office officials either encouraged installations to revise estimates using a more optimistic approach or arbitrarily changed site estimates. A written explanation of BRAC Office reductions to estimates was not provided to BRAC installations. The use of budgetary constraints by the BRAC Office for reporting FY 2002 environmental liabilities did not adhere to the DoD FMR (see BRAC Issues in Appendix E).

Non-DERP Guidance. The Army did not establish guidance for developing estimates for non-DERP environmental liabilities. However, AEC did release an Environmental Program Requirements Project Catalog that contained sample projects to use when developing EPR estimates. In addition, one non-DERP activity did not follow financial reporting guidance and may have incorrectly reported \$15.16 million in environmental liabilities on the FY 2002 Note 14. Based on the FMR and other accounting guidance, the Army should have classified the environmental liabilities as contingent liabilities and should have been reported on Note 16 (see Financial Reporting Guidance in Appendix F).

Controls Over Feeder Systems

DERP and BRAC activities lacked effective and reliable controls over feeder systems. The non-DERP feeder system, Environmental Program Requirements (EPR) database, could not be reviewed because of inadequate documentation and lack of functionality to produce an audit trail. Internal controls for the Restoration Cost-to-Complete System/Defense Site Environmental Restoration Tracking System (RCTCS/DSERTS) feeder system for DERP active installations and BRAC activities and the FUDMIS feeder system for FUDS did not ensure that the systems effectively reflected the environmental FY 2002 liability estimates prepared at the installation level. DERP guidance requires the estimates and the values in the annual financial statements for environmental restoration to be consistent at the component and department levels. Only 339 of the 674 DERP active installation, FUDS, and BRAC feeder system estimates reviewed

accurately reflected environmental FY 2002 liability estimates prepared at the installation level. Table 4 provides a breakdown of estimates accurately reflected in the RCTCS/DSERTS and FUDSMIS feeder systems for DERP active installation, FUDS, and BRAC estimates.

	<u>DERP</u>	<u>FUDS</u>	<u>BRAC</u>	<u>Totals</u>
Estimates Reviewed	231	300*	143	674
Estimates Accurately Reflected in Feeder Databases	68	197	74	339

* The actual number of estimates that were updated with 2002 cost factors was 222. Therefore, the 186 estimates that were correctly reflected between the databases were from the sample of 222. The remaining 78 estimates were not updated to 2002 cost factors or did not have documentation to make a determination. Refer to Appendix D for additional discussion.

For example, only 8 of the 36 estimates reviewed at Redstone Arsenal were consistent with estimates in the reporting database. At Dugway Proving Ground, the supporting database did not agree with 42 of 44 estimates reviewed, in part because of a lack of communication between the location and AEC personnel. This resulted in AEC inserting prior year estimates into the database rather than revised estimates. At Fort McClellan, estimates submitted for reporting purposes and estimates to the reported database were inconsistent by approximately \$54.28 million. These inconsistencies occurred because AEC personnel and BRAC Office made changes to the estimates without documenting them or adjusting the original estimates, causing the reporting database to reflect inaccurate data.

The Corps of Engineers did not have adequate internal controls in place to ensure that their personnel input accurate data into FUDSMIS. For 300 FUDSMIS database entries valued at approximately \$5.9 billion, Corps of Engineers districts could provide documentation to support approximately \$4.2 billion. Corps of Engineers district personnel could not explain why the estimates did not match the database and what represented the \$1.7 billion difference. Because of the lack of consistency between the supporting database and changes by upper management, an audit trail that would allow an auditor to review the supporting documentation did not exist.

Management Actions

The DERP and non-DERP programs have undertaken some management actions for the deficiencies identified. For the DERP program, AEC developed and released the Army Environmental Database Restoration feeder system for use in

the Army FY 2003 DERP active installation and BRAC data call to integrate the Defense Site Environmental Restoration Tracking System (DSERTS) and the Restoration Cost-to-Complete System (RCTCS) databases. The Army Environmental Database Restoration feeder system is capable of importing RACER estimates as well as entering and revising cost-to-complete estimates and is a more automated process that will reduce the possibility of errors. In addition, the Environmental Database Restoration feeder system will allow estimators to revise estimates without creating a discrepancy between the RACER estimate and the feeder systems. AEC is also developing the Army Environmental Database-Cleanup Compliance feeder system for non-DERP estimates for use in FY 2005. The Army Environmental Database-Cleanup Compliance will have the same capabilities as the Army Environmental Database Restoration feeder system.

The Corps of Engineers is in the process of creating a FUDS Information Improvement Plan. The goals of the plan are to direct that:

- all FUDS properties/projects are documented and maintained in accordance with DoD and Corps of Engineers policy and regulations;
- FUDS estimates are properly developed and reviewed for quality, technical adequacy, reasonableness, are properly documented; and
- estimate entries are consistent with FUDSMIS.

Implementation of the plan was scheduled for April 2004.

The non-DERP program has also initiated corrective action. The Office of the Deputy Under Secretary of Defense (Installations and Environment) is developing a non-DERP financial reporting policy that discusses definitions for environmental liabilities, identification and differences between environmental liabilities, accounting treatments, estimate methodology, and criteria for determining the type of liability to be reported. The policy also covers environmental liabilities for the Army Chemical-Demilitarization program and disposal of Navy nuclear-powered ships. The Deputy Under Secretary (Installations and Environment) will issue the policy during FY 2004. The Army also plans to develop non-DERP specific program guidance.

The Army is also developing environmental liability control improvements to be implemented in the Army Chief Financial Officer Strategic Plan the Army Environmental Cleanup Strategic Plan and individual program management strategic plans for DERP active installations, DERP-FUDS, BRAC and non-DERP programs. The expected completion date for the strategic plan implementation is September 2005.

Management Comments on Finding A and Audit Response

Summaries of management comments on finding A and our audit response are in Appendix G.

Recommendations, Management Comments, and Audit Response

Added and Revised Recommendations. As a result of Under Secretary of Defense (Comptroller)/Chief Financial Officer comments we revised Recommendations A.2.a. and added Recommendation A.3. to the Secretary of the Army.

A.1. We recommend the Deputy Under Secretary of Defense (Installations and Environment) develop and implement program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. At a minimum, the guidance should include a quality assurance and quality control program requirement at installation, intermediate, and headquarters levels to specify that:

a. adequate documentation for data used to report environmental liabilities is prepared to include the underlying basis, assumptions, and methodology used in developing the estimates;

b. estimates are developed by a qualified estimator and reviewed for reasonableness; and

c. adequate documentation of supervisory reviews and quality assurance review scope and results are maintained.

Deputy Under Secretary of Defense (Installations and Environment) Comments. The Assistant Deputy Under Secretary of Defense (Environment, Safety, and Occupational Health) concurred with the Recommendation A.1. The Assistant Deputy Under Secretary (Environmental, Safety, and Occupational Health) stated that although DERP guidance covering DERP active, DERP FUDS, and BRAC already have the type of recommended policies in place, further guidance is planned by the end of FY 2004 to ensure that the Inspector General recommendations are fully addressed. Further, the Deputy Under Secretary of Defense (Installations and Environment) plans to issue guidance for the non-DERP program during FY 2004 that will fully address the recommendations of the draft report.

Army Comments. Although not required to comment, the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) noted that the Army will implement any Office of the Deputy Under Secretary of Defense (Installations and Environment) program guidance to improve the development, recording, and reporting of environmental liabilities. Several specific environmental liability control improvements are presently being implemented in the Army Chief Financial Officer Strategic Plan the Army Environmental Cleanup Strategic Plan and individual program management strategic plans for DERP active installations, DERP-FUDS, BRAC, and non-DERP programs. The completion goal for the various strategic plan initiatives was September 2005.

Audit Response. We consider the Assistant Deputy Under Secretary of Defense (Environmental, Safety, and Occupational Health) comments responsive to the intent of Recommendation A.1.

A.2. We recommend that the Army Assistant Chief of Staff for Installation Management require the:

a. Army Commander, Base Realignment and Closure Office, establish procedures, including ethics training, to verify that Army Base Realignment and Closure environmental liability estimates are true and meaningful as required by the Financial Management Regulation and not adjusted because of potential budgetary constraints.

b. Commander, U.S. Army Corps of Engineers, establish a district and division level quality control program to assess the reliability of the processes and controls used to develop, approve, and forward the environmental liability estimates before the estimates are reported.

Army Comments. The Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) did not concur with the draft report Recommendation A.2.a. The Deputy Assistant Secretary agreed that the BRAC Division should establish procedures to achieve auditable environmental cost estimates in accordance with report Recommendations A.1.a. and A.1.c. However, the Deputy Assistant Secretary disagreed with the Recommendation A.2.a. statement suggesting the Army BRAC environmental liability was adjusted because of potential budgetary constraints. The BRAC Office reviewed and made changes to BRAC installation environmental cost-to-complete estimates based on what the BRAC Office believed was the most likely remediation scenario, and the BRAC Office review decisions were made in coordination with field offices, installations, and AEC. Further, Environmental Protection Agency and/or state environmental regulatory bodies would request more extensive and expensive remediation than that required by law, and that in such cases the BRAC Office would direct installations to pursue a more cost-effective remedial solution.

The Deputy Assistant Secretary concurred with Recommendation A.2.b. stating that most FUDS estimates were developed centrally and that no internal controls were in place for those estimates. The Deputy Assistant Secretary of the Army (Environmental, Safety, and Occupational Health) noted that the Recommendation A.2.b. implementation would be completed by September 2005.

Under Secretary of Defense (Comptroller)/Chief Financial Officer Comments. The Under Secretary of Defense (Comptroller)/Chief Financial Officer stated that the Army should take appropriate action, including initiating ethics training to prevent any future misrepresentation of Army Base Realignment and Closure Office environmental liability estimates.

Audit Response. In response to the comments by the Under Secretary of Defense (Comptroller)/Chief Financial Officer, we revised Recommendation A.2.a. in the final report to include ethics training. We consider the Army comments to Recommendation A.2.a. to be not responsive to the intent of the

recommendation and continue to believe that internal Army BRAC procedures are required to verify that Army BRAC environmental liability estimates are true and meaningful. The objective of the audit was to determine the reliability of the data and processes used to report environmental liability estimates, not to determine the appropriate scenario for installation cleanup. We concluded that the installation prepared estimates for FY 2002 environmental liability reporting were more reliable than the BRAC Office estimates based on installation documentation and installation explanation of the estimating process. We made no judgment regarding whether Environmental Protection Agency and/or state environmental regulatory remediation requirements were more extensive or expensive than required. However, no documentation existed to support the BRAC Office decisions to replace the installation estimates. We request further comment from the Army to final report Recommendation A.2.a. The Army comments to Recommendation A.2.b. were responsive and no further comment is required.

A.3. We recommend that the Secretary of the Army investigate the Army Base Realignment and Closure Office reduction of FY 2002 environmental liability estimates and take appropriate action, including action against individuals involved, to prevent misrepresentation from occurring in the future.

Under Secretary of Defense (Comptroller)/Chief Financial Officer Comments. The Under Secretary of Defense (Comptroller)/Chief Financial Officer stated that the final report should include a recommendation that the Army should take appropriate action, including action against individuals involved, to prevent future misrepresentation of Army Base Realignment and Closure Office environmental liability estimates.

Audit Response. Recommendation A.3. has been added to the final report in response to the comments by the Under Secretary of Defense (Comptroller)/Chief Financial Officer. We request comment on this recommendation from the Army.

B. Environmental Liability Electronic Cost Estimating Systems

Although technically complying with existing DoD, Navy, and Air Force modeling and simulation requirements, the Navy and Air Force VV&A reviews of the CTCNORM and the RACER electronic cost estimating systems were performed on a face validation basis without comparison of estimated to actual costs. The face validations were used because the verification and validation agents and the independent accreditation agent assigned unsupported low-risk determinations to four key impact risk categories. In addition, the Air Force did not complete and issue a separate verification and validation report for the RACER system and the Air Force did not update the Defense Modeling and Simulation office repository with the RACER review results. Finally, the Navy did not update existing Navy modeling and simulation policies and procedures for compatibility with VV&A review of environmental liabilities electronic cost estimating systems as required by the DERP program guidance of September 2001. Thus the risk of misstated environmental liabilities estimates derived from the electronic estimating systems was increased because the Government cannot be assured of the VV&A review quality. The Navy and the Air Force have since begun to perform comparisons between electronic model environmental liability estimates, and the actual costs of projects to validate the estimates produced by the CTCNORM and RACER models.

Electronic Cost Estimating System Guidance

DoD Guidance. Prior General Accounting Office, Inspector General of Department of Defense, Naval Audit Service, and Air Force Audit Agency reports discussed that data supporting DERP liability estimates were not accurate, complete, or supportable. The Deputy Under Secretary of Defense (Installations and Environment) issued “Supplementary Management Guidance for the Defense Environmental Restoration Program,” in August 1999. The DERP guidance required that environmental liability cost estimating computer models be subjected to VV&A reviews at the DoD level in accordance with DoD Instruction 5000.61, “DoD Modeling and Simulation Verification, Validation, and Accreditation,” April 29, 1996.

Air Force and Navy Guidance. Air Force Instruction 16-1001, “Verification, Validation, and Accreditation (VV&A),” June 1, 1996, requires that modeling and simulation used to support the major decision-making organizations and processes are verified, validated, and accredited. Air Force Instruction 16-1001, allows for the completion of an acceptable face validation examination. However, the instruction does not detail the processes to perform a face validation or what is acceptable. Secretary of the Navy Instruction 5200.40, “Verification, Validation, and Accreditation (VV&A) of Models and Simulations,” April 19, 1999, established policy and procedures for VV&A requirements within the Navy.

Navy Instruction 5200.40, makes no specific reference to face validation but notes that reviews should be commensurate with the purpose for which the accreditation is being sought. Navy Instruction 5200.40 is supplemented with the “Department of the Navy Model and Simulation Verification, Validation, and Accreditation Implementation Handbook,” February 2001. None of the modeling and simulation guidance documents included specific requirements for VV&A of financial related modeling systems.

DERP Guidance Revision. DERP guidance revision of September 2001 allowed Service Components to establish formal VV&A policies and procedures for any cost modeling tools used to develop environmental liability reports or cost-to-complete estimates. The revised guidance also noted that Components were responsible for developing implementation or supplementation documents for DoD Instruction 5000.61 and establishing VV&A policies, procedures, and guidelines for environmental liability modeling and simulation applications. The revised DERP guidance did not apply to the Air Force VV&A of the RACER system because the VV&A was completed prior to the issuance of the revised guidance. Although the revised DERP guidance did apply to the Navy VV&A of the CTCNORM system, it became effective three weeks before the system was accredited.

Face Validation Method

Although technically complying with existing DoD, Navy, and Air Force modeling and simulation requirements, the Navy and Air Force VV&A reviews of the CTCNORM and the RACER electronic cost estimating systems were performed on a face validation basis without comparison of estimated to actual costs.

RACER Independent Accreditation Contract. The Air Force Civil Engineering Support Agency used a U.S. Army Corps of Engineers small business contract with Tesseract Technologies to perform the RACER independent accreditation. Tesseract Technologies subcontracted with PricewaterhouseCoopers, LLP, on February 23, 2001. The accreditation team consisted of one PricewaterhouseCoopers analyst and one analyst from Tesseract Technologies. PricewaterhouseCoopers issued to the Air Force Civil Engineering Support Agency an undated RACER Accreditation Recommendation Report recommending that the RACER system be accredited to “provide an automated, consistent, and repeatable method to estimate and document the program cost for the environmental cleanup of contaminated sites and to provide a reasonable cost estimate for program funding purposes consistent with the information available at the time of the estimate preparation.” On July 11, 2001, the Executive Director, Air Force Civil Engineering Support Agency accredited RACER.

RACER Accreditation Face Validation. The contractor accreditation used a face validation approach through interviews with RACER subject matter experts as well as desk reviews of prior in-house verification and validation efforts. The face validation method was qualitative rather than quantitative and only identified general trends and predictions. Although the contractor accreditation was technically complying with existing DoD and Air Force modeling and simulation

requirements, it did not include data validation tests of RACER, such as comparing RACER results to non-RACER data that defined expected results.

CTCNORM Accreditation Review Contract. On May 14, 2001, the Navy also contracted with Tesseract Technologies to perform the CTCNORM independent accreditation. Tesseract Technologies again subcontracted with PricewaterhouseCoopers. The Tesseract Technologies CTCNORM accreditation team was composed of the same two personnel who performed the RACER accreditation. PricewaterhouseCoopers issued an undated “CTC Accreditation Recommendation” report to NAVFAC stating that the CTCNORM system be fully accredited “to provide planning, programming, and budgeting system that supports the estimation and development of credible budgetary requirements and financial statement liabilities for the Navy’s environmental restoration program.” On October 18, 2001, the Commander, NAVFAC accredited CTCNORM.

CTCNORM Accreditation Face Validation. The contractor accreditation team chose to perform a face validation of CTCNORM through interviewing subject matter experts and desk reviews of prior and ongoing in-house verification and validation efforts. Although technically complying with existing DoD and Navy modeling and simulation requirements, the method was qualitative rather than quantitative. The accreditation team did not perform assessments as to the credibility of the modeling and simulation results and did not perform data validation tests of CTCNORM such as comparing CTCNORM results to data that defined what the expected results should be.

Air Force Accreditation Review

Air Force verification and validation agents and the independent accreditation agent assigned unsupported “low-risk” determinations to four key impact risk categories for RACER. In addition, the Air Force did not complete and issue a separate verification and validation report for the RACER system as required by Air Force Instruction 16-1001, and the Air Force did not update the Defense Modeling and Simulation office repository with the RACER review results.

Accreditation Risk Assessment. The accreditation team performed a risk assessment and concluded that criticality of the system was minimal because RACER was a legacy system² developed before the advent and widespread implementation of detailed VV&A practices.

The contractor accreditation team assigned a low-risk determination to RACER based on an analysis of four impact risk categories: cost, political, human/health and exposure, and environment damage. The Tesseract Technologies and PricewaterhouseCoopers contract accreditation agents stated that they assigned a low risk to the four impact categories because the impact to life was low and VV&A guidance on models and simulations did not provide for another risk analysis format. We consider the risk assessment guidelines that the

²A legacy system is defined as an information technology system with long history of prior use and endorsement.

accreditation team used questionable. For example, the risk assessment analysis guidelines stated that a “negligible” cost impact would occur if cost growth resulting from errant estimates were less than 20 percent. We considered the 20-percent cost growth threshold to be incompatible with 3-percent error thresholds for financial statement reporting. Additionally, the contract accreditation team did not maintain any working papers regarding the low-risk determination for the four impact categories. As a result, we consider the contract accreditation team low-risk conclusion to be unsupported. The RACER accreditation example also shows the need for tailoring of modeling and simulation guidance when VV&A reviews of environmental liability cost estimating systems are performed, as is now required by the revised DERP guidance of September 2001. If such guidance had been in place, a more detailed and specific risk analysis review may have been conducted.

RACER Contractor Testing. The RACER management contractor, Earth Tech, Incorporated, performed a statistical analysis of RACER estimates before the accreditation review. The contract accreditation team did not review the validity of the Earth Tech, Incorporated, analysis. Earth Tech, Incorporated, compared the actual costs of 53 FY 2000 and FY 2001 projects with RACER-generated cost estimates for those same projects. We considered the Earth Tech, Incorporated, analysis to be of limited usefulness because of the lack of validation of the test and because the Air Force represented only 6 of 53 (11 percent) of the cost estimating projects reviewed and no Army projects were included.

Verification and Validation Report. Air Force Instruction 16-1001 requires that the verification and validation agents submit a separate verification and validation report documenting verification and validation activities, results, and recommendations. The Air Force verification and validation agents and the accreditation team did not complete and issue a separate verification and validation report for the RACER system. Contractor accreditation team personnel stated that they authored the verification and validation as a section of the final RACER accreditation recommendation report. The Commander, Air Force Civil Engineering Support Agency stated that the Agency was not aware of the separate verification and validation report requirement and that the verification and validation was accomplished simultaneously with the VV&A report.

Modeling and Simulation Resource Repository. DoD Instruction 5000.61 and Air Force Instruction 16-1001 require that information and data on VV&A activities be readily available through the DoD Modeling and Simulation Resource Repository system, including DoD Component VV&A policies and procedures, verification and validation results, and accreditation documentation. The contractor accreditation team did not update the Defense Modeling and Simulation Resource Repository with the RACER review results because the PricewaterhouseCoopers subcontract for RACER accreditation had expired. The PricewaterhouseCoopers analyst provided only contact information to the repository. Air Force Civil Engineering Support Agency VV&A personnel also stated they did not update the repository.

Navy Accreditation Review

The Navy verification and validation agents and the independent accreditation agent assigned unsupported “low-risk” determinations to four key impact risk categories. In addition, the Navy did not update existing Navy modeling and simulation policies and procedures to be compatible with VV&A review of environmental liabilities electronic cost estimating systems as required by the revisions to DERP program guidance of September 2001.

Accreditation Review Scope. The October 2001 accreditation addressed CTCNORM cost models and its functions. The accreditation team concluded that criticality of CTCNORM was minimal in part because it was a legacy system developed before the advent and widespread implementation of detailed VV&A practices. CTCNORM complied with the Secretary of the Navy Instruction 5200.40 definition of a legacy system as a system developed and implemented before 1999.

Accreditation Risk Assessment. The accreditation team also performed a risk assessment and assigned CTCNORM a low-risk determination. The risk assessment analysis guidelines were identical to those used earlier for the RACER accreditation. The Tesseract Technologies and PricewaterhouseCoopers accreditation agents again stated that they assigned low-risk determination because the impact to life was low and VV&A guidance on models and simulations did not provide for another risk analysis format. The contractor accreditation team did not maintain any working papers relating to the low-risk determination. We consider the risk assessment guidelines that the accreditation team used questionable and the low-risk conclusion to be unsupported. The CTCNORM accreditation shows that the September 2001 revised DERP guidance, to tailor existing modeling and simulation guidance, should have been implemented by the NAVFAC VV&A. If implemented, a more detailed and specific risk assessment may have been performed.

Verification and Validation Testing. The Navy CTCNORM system verification tested the premise that the technology models for estimating costs had been successfully migrated to the CTCNORM system from an original spreadsheet development environment through a standardized library format. If the cost model/estimating logic had been successfully transferred, then there would be substantial agreement in the estimates generated by CTCNORM and the CTCNORM verification spreadsheet using identical input parameters. The verification testing did not compare estimated costs to actual costs, as actual costs were not available for the CTCNORM version being tested. The verification test was performed concurrently with the accreditation review. The NAVFAC VV&A program manager stated that the concurrent verification and accreditation process complied with guidance in the “Department of the Navy Model and Simulation Verification, Validation, and Accreditation Implementation Handbook,” February 2001. The Navy should update existing Navy modeling and simulation policies and procedures for compatibility of future VV&A reviews of the CTCNORM electronic cost estimating system in accordance with the DERP Guidance of September 2001.

Navy and Air Force Management Actions

The Navy and the Air Force have begun to perform comparisons between electronic model environmental liability estimates and the actual costs of projects to validate the estimates produced by CTCNORM and RACER.

IG Memorandum and Air Force Response. On July 18, 2003, we issued a memorandum on the review of the VV&A of the RACER system to the Commander, Air Force Civil Engineering Support Agency. We suggested that the Air Force Civil Engineering Support Agency initiate a comprehensive accreditation review of the RACER system and that the accreditation should include substantive testing of underlying databases and comparison of RACER estimates to actual costs. We also suggested that the Air Force Civil Engineering Support Agency perform and submit a separate verification and validation report as required by Air Force guidance.

On August 27, 2003, Air Force Civil Engineering Support Agency responded stating that they non-concurred with certain aspects of the memorandum. The Air Force Civil Engineering Support Agency disagreed with the need to re-accredit RACER. But the Air Force stated they had begun a process to document comparison of RACER-generated costs with associated actual project costs on present and future models and that once comparisons were completed, a new verification and validation report would be developed. The Air Force Civil Engineering Support Agency also stated that the Agency would update the DoD Modeling and Simulation Resource Repository system of the RACER VV&A within 30 days of the completion of this audit.

RACER Validation Contract. On September 26, 2003, the U.S. Army Corps of Engineers, Omaha District, contracted with Booz Allen Hamilton Corporation to compare and analyze models in the RACER 2003 software program to actual restoration/remediation project costs. The task order required Booz Allen Hamilton to perform a comprehensive assessment of the RACER 2003 cost models and underlying databases and to evaluate cost models in the RACER system that best represented the most commonly used technologies. The models were to be evaluated for cost reasonableness, current cost methodologies, and general functionality. These steps are consistent with our suggestion to compare environmental liability estimates reported on financial statements with the actual costs of projects.

Navy Management Comments. During the review we suggested that the Navy also perform detailed validated comparisons between environmental liability estimates using the CTCNORM system and actual costs of projects. In addition we suggested that the Navy update existing Navy modeling and simulation policies and procedures for compatibility of VV&A reviews of the CTCNORM electronic cost estimating system in accordance with the DERP guidance of September 2001.

In a July 24, 2003, memorandum to us, NAVFAC stressed that it followed DoD Instruction 5000.61 and implemented Navy requirements. NAVFAC stated that the project data for the current environmental liability are not available for use in a validated comparison because of the nature and longevity of projects within the

program, and developing the quality and quantity of project data necessary for a statistically valid comparison will take some time.

CTCNORM Validation Task Order. On September 29, 2003, the Navy issued a task order amendment/modification to Battelle Memorial Institute to perform a historical cost review of the CTCNORM system. The Navy objective was to establish a process for continuous model improvement by including a feedback loop based on comparison with historical costs. Navy personnel stated that the project would establish tools and processes that will allow Navy to collect cost data from each execution year to further develop and improve future CTCNORM models. Navy personnel also stated that the new process will continue yearly and be incorporated into the Navy formal business process to develop reliable data and sustainable CTCNORM model improvement. These steps are consistent with our suggestion to compare environmental liability estimates reported on financial statements with the actual costs of projects.

Management Comments on Finding B and Audit Response

The Army concurred with the finding without further comment. Summaries of Navy management comments on finding B and our audit response are in Appendix G. The Air Force made no management comment on finding B.

Recommendations, Management Comments, and Audit Response

B.1. We recommend that the Commander, Naval Facilities Engineering Command issue guidance requiring future environmental liability electronic cost estimating system verification, validation, and accreditation efforts that comply with the September 2001 DERP Management Guidance, section 15.7., requirements for policies, procedures, and guidelines for environmental liabilities modeling and simulation applications.

Navy Comments. The Assistant Secretary of the Navy (Financial Management and Comptroller), responding for the Commander, Naval Facilities Engineering Command, concurred with the recommendation, but stated that the recommendation language was ambiguous, and might be interpreted that the Navy's October 18, 2001, CTCNORM accreditation was not in compliance with the current DERP guidance, and as a result, additional effort would be necessary. The 2001 effort was well beyond substantial completion prior to the issuance of the current DERP guidance on September 28, 2001. The completed VV&A was in full compliance with both the current and previously issued DERP guidance and with DoD Instruction 5000.61 and Secretary of the Navy Instruction 5200.4. Current DERP guidance does not contain any specific or substantive requirements for conducting VV&A reviews and only requires that the Services issue their own policies for conducting VV&A reviews.

Audit Response. Although the Navy concurred, the management comments were only partially responsive to the intent of the recommendation. We do not consider the October 2001 CTCNORM VV&A to be in compliance with the current DERP guidance. The report presents the events of the 2001 CTCNORM VV&A and makes no explicit or implied comment on the NAVFAC management decision to issue a final accreditation of the CTCNORM on October 18, 2001, without apparent consideration of the revised DERP guidance issued three weeks earlier. The recommendation allows the Navy the opportunity to comply with the revised DERP guidance by documenting revision to its modeling and simulation applications policies, procedures, and guidelines. Although we agree the current DERP guidance does not contain specific technical requirements for conducting environmental liability cost estimating system VV&A, it does require reviewing and coordinating DoD VV&A policies and procedures and integrating DoD publications into the program of the Component. The guidance also requires developing implementation and supplementation documents for DoD Instruction 5000.61, and establishing VV&A policies, procedures, and guidelines for modeling and simulation applications. The Navy has not revised Secretary of the Navy Instruction 5200.4 or accompanying Navy Model and Simulation Management Office guidance since February 2001. Although subsequent Navy CTCNORM validation efforts mitigated the need for a recommendation to perform an immediate VV&A to the standards of the current DERP guidance, we continue to assert that the DERP guidance be complied with in any future Navy VV&A review of an environmental liability electronic cost estimating system.

B.2. We recommend that the Commander, Air Force Civil Engineering Support Agency issue guidance requiring that future environmental liability electronic cost estimating system verification, validation, and accreditation efforts comply with the following:

a. September 2001 Defense Environmental Restoration Program Management Guidance, section 15.7., requirements for policies, procedures, and guidelines for environmental liabilities modeling and simulation applications.

b. Air Force Instruction 16-1001 requirements that the verification and validation agents submit a separate verification and validation report documenting verification and validation activities, results, and recommendations.

c. DoD Instruction 5000.61 and Air Force Instruction 16-1001 requirements that information and data on verification, validation, and accreditation activities be readily available through the DoD Modeling and Simulation Resource Repository system, including DoD Component verification, validation, and accreditation policies and procedures, verification and validation results, and accreditation documentation.

Air Force Comments. The Assistant Deputy Chief of Staff of the Air Force (Installations and Logistics) concurred with the recommendation and stated the Air Force would direct the Commander, Air Force Civil Engineering Support Agency, to accomplish the recommendations' goals as soon as possible.

Army Comments. Although not required to comment, the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) concurred with the recommendation stating that the Army and the U.S. Army Corps of Engineers are currently planning to work with the Air Force to assist in getting corrective actions completed for RACER.

C. Navy Nuclear-Powered Ship Disposal Environmental Liabilities

The Navy methodology used to estimate the approximate \$10.05 billion environmental liability identified on Note 14 for the disposal of nuclear-powered ships appeared reasonable. However, the estimating and reporting processes needed improvement. This occurred because the Navy did not develop written nuclear-powered ship disposal liability guidance. In response to this audit the Navy and the Office of the Deputy Under Secretary of Defense (Installations and Environment) are developing nuclear-powered ship disposal guidance to improve the process.

Background

Nuclear-Powered Ship Disposal Review. We reviewed the estimating methodology and the internal controls related to the approximate \$10.05 billion environmental liability estimate for the disposal of nuclear-powered ships by the Navy. We performed control tests on the FY 2002 disposal estimate based on AU 342 (Auditing Accounting Estimates) of the American Institute of Certified Public Accountants Codification of Statements on Auditing Standards, January 1, 2002. We also performed a limited review on the FY 2003 disposal estimates. We did not perform detailed control or compliance testing of the liability estimates.

As of September 30, 2002, the Navy reported estimates totaling approximately \$10.05 billion for nuclear-powered ship disposal environmental liabilities:

- \$4,890.0 million for the disposal of 9 nuclear-powered aircraft carriers,
- \$4,888.9 million for the disposal of 90 nuclear-powered submarines, and
- \$269.1 million for the disposal of 3 nuclear-powered cruisers.

As of September 30, 2003, the Navy reported estimates totaling approximately \$10.72 billion for nuclear-powered ship disposal environmental liabilities:

- \$5,565.0 million for the disposal of 10 nuclear-powered aircraft carriers,
- \$4,888.9 million for the disposal of 88 nuclear-powered submarines, and
- \$269.1 million for the disposal of 3 nuclear-powered cruisers.

Nuclear-Powered Ship Liability Guidance. FMR volume 4, chapter 13, prescribes the accounting policy and principles for measuring, and recognizing

liabilities associated with the disposition of property, structures, equipment, munitions, and weapons. Specifically FMR volume 4, chapter 13, states:

For nuclear-powered assets (for example nuclear submarines and surface ships), the costs of both hazardous waste removal and disposal (environmental disposal) and non-environmental disposal, when probable and reasonably estimable, shall be recognized . . . as expense, and a liability established, when items are placed into service. Cost estimates shall be revised when there is evidence that significant changes in the cost estimates have occurred. . . . At a minimum, long-term cost estimates shall be adjusted (upward or downward) annually, through indexing, to maintain them on a current cost basis. Organizations that prepare cost estimates must retain adequate documentation to identify data sources, estimating method accreditation . . . and rationale used. . . . Documentation of management review must also be retained.

Although the FMR is specific regarding the accounting for disposal of nuclear-powered ships, neither the Navy nor the Office of the Deputy Under Secretary of Defense (Installations and Environment) have developed program guidance to implement the FMR nuclear-powered ship reporting guidance.

Naval Sea Systems Command (NAVSEA). NAVSEA is the center of activity for designing, engineering, integrating, building, and procuring U.S. naval ships, shipboard weapons, and combat systems for the Department of the Navy. NAVSEA is responsible for providing the Assistant Secretary of the Navy (Financial Management and Comptroller), Financial Operations Division with disposal estimates for nuclear-powered aircraft carriers, submarines, and cruisers through data call responses.

Navy Nuclear-Powered Ship Disposal Estimating Methodology

Navy nuclear-powered ship disposal estimating methodology appeared reasonable, however some estimating and reporting processes needed improvement.

NAVSEA Nuclear-Powered Ship Disposal Methodology. NAVSEA considers the entire cost of disposing of nuclear-powered aircraft carriers, nuclear-powered submarines, and nuclear-powered cruisers³ to be an environmental liability. The disposal liability is based on costs incurred during five phases of disposal: inactivation, post-inactivation towing, reactor compartment disposal, missile compartment dismantling, and hull recycling. Nuclear-powered aircraft carrier estimates are developed using engineering assumptions and historical information from conventional aircraft carrier disposal and nuclear-powered aircraft carrier refueling. Nuclear-powered submarine and cruiser estimates are based on actual disposal costs or from historical information on similar type vessels. We concluded that the NAVSEA methodology and assumptions were consistent with

³ Nuclear-powered cruisers are reported under the heading Other Nuclear-Powered Ships on Note 14 of the financial statements.

both supporting and historical data obtained from conventional carrier and nuclear-powered submarine and cruiser disposals. We also concluded that qualified personnel prepared the disposal estimates.

Nuclear-Powered Aircraft Carrier Classes. As of September 30, 2002 two aircraft carrier classes were subject to eventual inactivation and disposal; the *USS Enterprise (CVN 65)* and the *USS Nimitz (CVN 68 CL)*. One aircraft carrier (*Enterprise*) made up the *Enterprise*-class. Eight aircraft carriers made up the *Nimitz*-class.

Nuclear-Powered Aircraft Carrier Baseline Disposal Estimates. Estimating Methodology used to produce the baseline environmental liability estimate for the disposal of both classes of nuclear-powered aircraft carriers appeared reasonable. NAVSEA prepared an *Enterprise*-class aircraft carrier baseline inactivation and disposal estimate of \$590 million in 1989 in response to a request from the Secretary of Defense. The 1989 baseline inactivation and disposal estimate reflects then current data and Office of Management and Budget inflation factors. According to NAVSEA personnel, the estimate was indexed through FY 2001 for a reported liability of \$730 million.

The NAVSEA *Nimitz*-class aircraft carrier baseline estimate for inactivation and disposal was prepared in 1993 in response to a congressional/General Accounting Office request, for a then-scheduled 1998 *Nimitz* inactivation. In response to a General Accounting Office report, NAVSEA personnel revised the estimate to \$500 million in 1998 to reflect then current data and inflation factors. The baseline estimate was indexed through FY 2001 for a reported liability of \$520 million per aircraft carrier.

Updates to Nuclear-Powered Aircraft Carrier Disposal Estimates. We concluded that estimating controls for subsequent annual updates to both aircraft carrier classes needed improvement. The *Enterprise*-class estimate and the *Nimitz*-class estimate were not updated to reflect current year dollars for the FY 2002 Note 14 as required by FMR volume 4, chapter 13. In addition, NAVSEA did not update the annual disposal estimate for *Nimitz*-class aircraft carriers to include changes to original assumptions and adjustments of factors as a result of new *Nimitz*-class refueling data available since the baseline estimates were generated. This did not comply with FMR volume 4, chapter 13 requirements to update environmental liability estimates.

Nuclear-Powered Submarine and Cruiser Disposal Estimates. The estimating methodology used to produce a FY 2002 environmental liability disposal estimate for each of 10 nuclear-powered submarine classes⁴ and 3 nuclear-powered cruiser classes appeared reasonable. NAVSEA developed the estimates based on historical cost data of work days and materials, and assumptions including modifications for varying hull size, hazardous materials, and efficiency gains/losses for different classes of ships. NAVSEA made unit cost adjustments to the estimates to comply with naval shipyard rate guidance, current cost performance, introduction of new technology, and new regulatory requirements.

⁴ NAVSEA produced two estimates for SSN 688CL, one estimate for in-service ships and an estimate for inactivated ships.

However, estimating and reporting of the FY 2003 environmental liability disposal estimate for nuclear-powered submarine and nuclear-powered cruiser classes needed improvement. NAVSEA personnel stated that the submarine and cruiser estimates as of September 30, 2003, had not been updated past the September 30, 2002, reported amounts because of a delay in completion of revised shipyard rate overhead amounts. As a result, revised estimates would be delayed at least until the FY 2004 first quarter financial statements. NAVSEA personnel stated that the decision departed from past practice to annually update nuclear-powered submarine and cruiser estimates based on revised shipyard rates and other factors on the end-of-year financial statement Note 14 as of each September 30. The Navy did not disclose this apparent change in accounting treatment regarding nuclear-powered submarine and cruiser estimates on the end-of-year FY 2003 financial statement Note 14.

Management Actions

In response to our audit, NAVSEA is developing nuclear-powered ship disposal liability guidance to be applicable for the end of year FY 2004 Note 14 reporting cycle. The guidance will cover processes for:

- developing the estimate;
- documenting supervisory review and approval of each estimate;
- entering the estimate into the data collection instrument and forwarding the estimate to the office of the Assistant Secretary of the Navy (Financial Management and Comptroller); and
- maintaining supporting documentation for the estimate, along with any changes made to the estimate, in an accessible file for audit purposes.

In addition, NAVSEA implemented inflation indexing as of current year FY 2003 for ship disposal amounts reported on Note 14 of the financial statements as of September 30, 2003. NAVSEA planned further revision of the nuclear-powered ship disposal estimates for the first quarter of FY 2004.

Furthermore, the Office of the Deputy Under Secretary of Defense (Installations and Environment) is developing policy that covers, in part, environmental liabilities for disposal of Navy nuclear-powered ships and chemical demilitarization. The Deputy Under Secretary (Installations and Environment) plans to issue the policy during FY 2004.

D. Defense Logistics Agency Contingent Environmental Liabilities

The Defense Finance and Accounting Service errantly categorized \$2.6 billion of contingent liabilities as environmental contingent liabilities on the Annual FY 2002 and first Quarter DoD-wide financial statements. The contingent liabilities actually related to Defense Logistics Agency fuel contracts and should not have been categorized as environmental. The Defense Finance and Accounting Service recategorized the liability as a contingent claim and litigation from civil law on the second Quarter FY 2003 and subsequent DoD-wide financial statements.

Contingent Liability Categorization

DoD contingent liabilities are not accrued in the financial statements but are disclosed when potential claims are considered reasonably possible. DoD-wide financial statement Note 16, "Commitments and Contingencies" discloses the potential claims.

At the request of the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, we reviewed a \$2.6 billion environmental related contingent liability entry on the FY 2002 DoD-wide financial statement Note 16. The contingent liability was listed as an "Environmental Restoration" entry assigned to the column Other Defense Organizations-Working Capital Fund. The Note 16 noted that the \$2.6 billion entry was assigned to the Defense Logistics Agency, did not include any supporting discussion on the entry.

In accordance with our request, the Defense Logistics Agency provided documentation on March 4, 2003, stating that the entry was in error and did not relate to environmental remediation but was rather related to potential claims made against fuel contracts made by the Defense Logistics Agency. Defense Logistics Agency comptroller office personnel stated the environmental restoration entry should have been properly shown under Note 16 line item "Claims and Litigation from Civil Law."

Defense Finance and Accounting Service Management Action

FY 2003 Note 16 Recategorization. Defense Finance and Accounting Service headquarters personnel agreed that Note 16 was mistakenly categorized. The Defense Finance and Accounting Service corrected this error in the second quarter FY 2003 Note 16 and reclassified the \$2.6 billion as claims and litigation from civil law.

FY 2003 Note 16 Contingency Increase. The claims and litigation from civil law contingency amount was increased to \$2.94 billion as presented on Note 16 as of September 30, 2003. In our review of a draft Note 16 as of September 30,

2003, we noted that the claims and litigation from civil law entry had been errantly reduced and replaced. We informed the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer of the misstatement. The entry was corrected in the final Note 16 released September 30, 2003.

Appendix A. Scope and Methodology

Scope

We reviewed Service processes and data used for reporting selected environmental liabilities on Note 14 and environmental related contingent liabilities on Note 16 of the DoD-wide financial statements. We reviewed controls over \$21.92 billion of Army environmental liabilities and \$10.05 billion of Navy environmental liabilities reported on Note 14. Table A-1 shows Army and Navy programs we reviewed.

<u>DoD Components</u>	<u>Environmental Liabilities</u> (in billions)
Army	
DERP Active Installations	\$ 4.82
DERP-FUDS	15.53
BRAC	.94
non-DERP	<u>0.63</u>
Total Army Liability Reviewed	\$21.92
Navy	
Nuclear-Powered Ships Weapons Disposal	<u>10.05</u>
Total Environmental Liabilities Reviewed	\$31.97

We performed a combination of judgmental and statistical sampling of 735 environmental liability cost estimates at 27 Army activities and 1 Navy activity reported on Note 14.* Our review focused mostly on highest dollar value estimates. Table A-2 shows the number of activities visited and the number of estimates reviewed for each Army and Navy program included in the review.

* A combination of judgmental and statistical selection was performed for DERP active installation, DERP-FUDS, and BRAC samples. The non-DERP and Navy samples were judgmentally selected.

<u>DoD Components</u>	<u>Total Activities</u>	<u>Activities Visited</u>	<u>Total Estimates</u>	<u>Estimates Reviewed</u>
Army DERP Active Installations	145	7	3,968	231
FUDS	22	8	2,037	300
Army BRAC	34	6	461	143
Army Non-DERP	523	6	1,155	45
Navy	<u>1</u>	<u>1</u>	<u>16</u>	<u>16</u>
Totals	725	28	7,637	735

We reviewed Air Force management and accreditation of the RACER electronic cost estimating system used by the Army and the Air Force for DERP cost estimates. We also reviewed the Navy management and accreditation for the cost-to-complete electronic cost estimating system used for Navy DERP cost estimates. The reviews were in response to the Navy and the Air Force assertions that the electronic estimating systems were fully accredited.

At the request of the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, we reviewed the Defense Finance and Accounting Service classification of \$2.6 billion of Note 16 contingent liabilities attributed as Defense Logistics Agency environmental liabilities on the Annual FY 2002 DoD-wide and first Quarter FY 2003 DoD-wide financial statements. We also reviewed classification of \$1.07 billion of Note 16 contingent liabilities attributed to the Army DERP program.

Methodology

The audit was performed at the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, Office of the Deputy Under Secretary of Defense (Installations and Environment), and Military Department comptroller and environmental offices. Our review included identifying and assessing the adequacy of management controls as related to reporting of environmental liabilities. Our audit focused on selected items in Note 14 and Note 16 of the DoD-wide financial statements where Military Departments made assertions on the fair presentation of the amounts reported or when the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer requested that we

review an issue. The Army asserted on January 6, 2003, and then reasserted on June 26, 2003, that all of the Army environmental liabilities were reported and presented fairly. The Navy asserted on August 9, 2002, that it maintained a sound methodology for estimating environmental liabilities associated with nuclear-powered ships and submarines.

We performed this audit from February 2003 through February 2004 in accordance with generally accepted government auditing standards. The audit was also conducted in accordance with Office of Management and Budget Bulletin 01-02, "Audit Requirements for Financial Statement Audits," October 16, 2000, as well as the methodologies set forth in the General Accounting Office/President's Council on Integrity and Efficiency Financial Audit Manual. Controls reviewed included development of estimates, qualifications of estimators, supervisory reviews of estimates, quality assurance reviews, controls to ensure completeness of estimates, and audit trails and documentation supporting estimates. We performed control tests on the Army DERP, Army BRAC, Army non-DERP, and Navy nuclear-powered ship weapons disposal based on AU Section 342 (Auditing Accounting Estimates) of the American Institute of Certified Public Accountants Codification of Statements on Auditing Standards, January 1, 2002. We did not conduct detailed substantive testing of the reported Army DERP, BRAC, or non-DERP environmental liability estimates or the Navy nuclear-powered ship estimates.

Scope Limitation. We did not review \$12.82 billion of Note 14 or \$8.9 billion of Note 16 Army Chemical-Demilitarization Environmental Liabilities. Review of the Army Chemical-Demilitarization Environmental Liabilities was performed separately by the DoD Office of Inspector General, Acquisition Management Directorate. Chemical-Demilitarization Note 14 and Note 16 related discussion and recommendations are included in IG DoD Report No. D-2003-128, "The Chemical Demilitarization Program: Increased Costs for Stockpile and Non-Stockpile Chemical Materiel Disposal Programs," September 4, 2003. The report stated that the Product Manager for Non-Stockpile Chemical Materiel did not have information needed to prepare a reliable estimate of the cost and schedule to dispose of buried chemical warfare materiel. The report noted that as a result, the \$8.9 billion contingent liability, which was prepared as a rough order magnitude estimate in Note 16 of the DoD financial statements, cannot be replaced with a reliable and defensible estimate of the cost to dispose of the buried chemical warfare materiel. We did not review any Navy or Air Force DERP, BRAC, non-DERP, or Other National Defense Weapon System environmental liability estimates because the Navy and the Air Force made no assertion about the fair reporting and presentation of the environmental liability line items.

Use of Computer-Processed Data. We relied on data retrieved from the Army RCTCS/DSERTS, FUDSMIS, and EPR tracking and coordination feeder systems to perform our respective analyses of the Army DERP, BRAC, and non-DERP environmental liability estimates. Specifically we used RCTCS/DSERTS, FUDSMIS, and EPR to obtain Army environmental liability estimate universe data. We performed tests on the RCTCS/DSERTS, FUDSMIS, and EPR generated data to determine data reliability. Issues that came to our attention regarding the RCTCS/DSERTS, FUDSMIS, and EPR tracking and coordination feeder systems are included in finding A.

We reviewed the RACER and CTCNORM electronic cost estimating systems associated with environmental liabilities, including VV&A testing of the RACER system performed by the Air Force and VV&A testing of the CTCNORM system performed by the Navy. Issues that came to our attention regarding these electronic cost estimating systems are included in finding B. The audit relied on RACER processed environmental liability estimate data used to report Army DERP and Army BRAC environmental liabilities on financial statements. The audit did not rely on CTCNORM processed environmental liability estimate data.

Use of Technical Assistance. We obtained assistance from the Technical Director and Operations Research Analysts of the Quantitative Methods Division of the Office of the Inspector General.

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the Financial Management high-risk area.

Management Control Program Review

DoD Directive 5010.38, “Management Control (MC) Program,” August 26, 1996, and DoD Instruction 5010.40, “Management Control (MC) Program Procedures,” August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provide reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of the Review of the Management Control Program. We reviewed the adequacy of the Army DERP, BRAC, and non-DERP management controls relating to environmental liabilities reported on annual financial statements. Specifically, we reviewed management controls over adequate documentation of environmental liability estimates, completeness of estimates, supervisory reviews, and qualifications of the estimators. We reviewed management’s self-evaluation process applicable to those controls.

We also reviewed the adequacy of Navy and Air Force management controls over environmental liabilities electronic cost estimating systems and Navy management controls over selected environmental liability estimates. Specifically, we reviewed management controls over Navy CTCNORM and Air Force RACER VV&A process and Navy process for developing nuclear-powered ship disposal environmental liability estimates. Because we did not identify a material weakness, we did not assess management’s self-evaluation.

Adequacy of Management Controls. We identified material management control weaknesses for the Army, as defined by DoD Instruction 5010.40. The Army DERP, BRAC, and non-DERP management controls for environmental liabilities were not adequate to ensure the data and processes used by the Army to report environmental liability estimates on the financial statements were reliable. The DoD Performance and Accountability Reports for FYs 2002 and 2003 identified environmental liabilities as a systemic management control weakness of the DoD Federal Manager’s Financial Integrity Act. Management actions noted

in finding A and Recommendations A.1., A.2, and A.3., if implemented, will improve the environmental liability estimating process and the reliability of the Army environmental liability estimates reported on the annual financial statements. A copy of this report will be provided to the Office of the Assistant Secretary of the Army (Financial Management and Comptroller).

The Navy management controls over nuclear-powered ship disposal environmental liabilities and the CTCNORM electronic cost estimating system VV&A process were adequate as they applied to the audit objective. The Air Force management controls over the RACER electronic cost estimating system VV&A process were adequate as they applied to the audit objective.

Adequacy of Management's Self-Evaluation. Army officials did not identify DERP, BRAC, or non-DERP environmental liabilities estimating processes as an assessable unit and, therefore, did not identify or report the material management control weaknesses identified by the audit.

Appendix B. Prior Coverage

During the last 5 years, the General Accounting Office (GAO) and the Inspector General of the Department of Defense (IG DoD), Army Audit Agency (AAA), Naval Audit Service (NAS), and Air Force Audit Agency (AFAA) have issued 23 reports discussing environmental liabilities. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov>. Unrestricted IG DoD reports can be accessed at <http://www.dodig.mil/audit/reports>.

GAO

GAO Report No. GAO-04-147, "Military Munitions: DoD Needs to Develop a Comprehensive Approach for Cleaning Up Contaminated Sites," December 2003

GAO Report No. GAO-03-146, "Environmental Contamination: DoD Has Taken Steps to Improve Cleanup Coordination at Former Defense Sites but Clearer Guidance Is Needed to Ensure Consistency," March 2003

GAO Report No. GAO-02-117, "Environmental Liabilities: Cleanup Costs From Certain DoD Operations Are Not Being Reported," December 2001

GAO Report No. GAO-01-479, "Environmental Liabilities: DoD Training Range Cleanup Costs Estimates Are Likely Understated," April 2001

IG DoD

IG DoD Report No. D-2004-036, "Independent Auditor's Report on the Department of Defense FY 2003 Agency-Wide Principal Financial Statements," December 10, 2003

IG DoD Report No. D-2003-128, "The Chemical Demilitarization Program: Increased Costs for Stockpile and Non-Stockpile Chemical Materiel Disposal Programs," September 4, 2003

IG DoD Report No. D-2001-172, "Data Supporting the Environmental Liability Reported on the FY 2000 Financial Statements," August 10, 2001

IG DoD Report No. D-2000-168, "Data Supporting the Environmental Liability Line Item on the FY 1999 DoD Financial Statements," July 27, 2000

IG DoD Report No. 99-209, "Data Supporting the Environmental Line Item Liability on the FY 1998 Financial Statements," July 9, 1999

Army

AAA Report No. AA 01-332, "Army's General Fund Principal Financial Statements for Fiscal Year 2000 Financial Reporting of Liabilities: Data Collection and Compilation," June 29, 2001

Navy

NAS Report No. N 2001-0011, "Department of the Navy Principal Statements for Fiscal Year 2000: Environmental Liabilities," February 6, 2001

Air Force

AFAA Report No. F2002-0005-B05200, "Followup Audit, Installation Support of the Environmental Restoration Program," April 23, 2002

AFAA Report No. F2002-0002-B05200, "Environmental Compliance Cleanup Liabilities," March 8, 2002

Appendix C. Army DERP Active Installations Environmental Liabilities

DERP Active Installations Organization

Army installation level personnel performed and reviewed FY 2002 environmental liability estimates for the DERP program. Environmental cost estimators use either engineering studies or the RACER electronic cost estimating system software to prepare the estimates. The estimates are usually subject to installation-level reviews. Installations submit the estimates through the RCTCS feeder program. The RCTCS program summarizes estimates by cleanup site and totals the cost for completing any environmental restoration activity under DERP active installations and BRAC. AEC then transfers the RCTCS database to the DSERTS feeder system. The RCTCS/DSERTS database provides an automated method of managing, tracking, and querying data on activities conducted under the Army DERP active installation and BRAC programs. AEC provides the RCTCS/DSERTS database to the office of the Army Assistant Chief of Staff for Installation Management for reporting environmental liabilities on Army financial statements. AEC performs quality assurance reviews of the environmental liabilities estimating process.

Control Over DERP Active Installation Related Environmental Liabilities

The process used by the Army to develop, review, approve, and forward the DERP active installation environmental liabilities on the financial statements had material internal control weaknesses. Material internal control weaknesses included a lack of adequate audit trails and supporting documentation, documented supervisory reviews, and effective AEC quality control reviews of the estimates. Also, internal controls were not in place to ensure consistency between the actual estimate and the RCTCS/DESRTS feeder systems from which DERP active installation financial data was extracted.

Audit Trails and Documentation. Adequate documentation and audit trails did not exist or were not readily available for 184 of 231 estimates reviewed for DERP environmental restoration for active and closed ranges. The lack of audit trails and supporting documentation occurred because staff at installations was not aware or did not follow the requirements to maintain adequate documentation and audit trails in accordance with DERP guidance.

Documentation Deficiencies. None of 44 Dugway Proving Ground estimates and 15 of Camp Edwards estimates reviewed had adequate documentation or a formal source tracking process as required by the DERP guidance. All the above estimates lacked sufficient narrative to explain the basis of the estimate as required by the DERP guidance. Dugway personnel prepared a blanket memorandum that made general statements about their estimating process, but did

not explain the basis of individual estimates. Camp Edwards personnel stated that estimates were prepared using mostly historical knowledge with no references to documentation. Staff at Dugway and Camp Edwards were either unaware or did not follow the requirements to maintain adequate documentation and audit trails in accordance with DERP guidance.

Of 46 Aberdeen Proving Ground estimates reviewed, only 5 had adequate documentation to support estimates. One example is a \$40.3 million estimate initially calculated through the RACER electronic estimating software. Aberdeen management reduced the estimate from \$40.3 million to \$20 million on the assumption that the amount of remediation needed would be approximately half the initial requirement. Although the estimator inserted a short memorandum regarding the revision into the project file, Aberdeen management did not use RACER software to revise the estimate thus violating DERP guidance that estimators use electronic estimating software to prepare estimates in the absence of feasibility studies. Therefore, we were unable to determine if the reduction was warranted.

Undocumented Estimate Revisions. AEC instructed environmental estimators at Redstone Arsenal to reduce a FY 2002 environmental liability estimate of \$136.2 million to \$102 million. AEC and Redstone reduced the estimates in the RCTCS/DSERTS supporting database without documentation that explained the reduction. AEC staff was unaware of the requirements to maintain adequate documentation and a formal document tracking system to document their review. Redstone personnel disagreed with the AEC directed reduction. We were unable to determine whether the reduction was warranted.

Timeliness. We obtained supporting documentation for the 20 Milan Army Ammunition Plant estimates reviewed. Milan personnel stated that the documentation was only available because of a three week lead-time provided by our audit to the site to collect and assemble documentation for audit review. Milan personnel also stated that they would not have had documentation readily available if not provided advance notice of audit selection of the estimates planned for review. Milan staff were aware of the DERP guidance; however, they only applied the guidance to the estimates we reviewed. Milan personnel noted that all other site estimates (not selected by the audit) were not ready for review. The Milan actions were not in compliance with FMR requirements that documentation must exist at the time of audit.

Consistency with Feeder System. The RCTCS/DSERTS environmental liability database did not agree with supporting documentation for 163 of 231 estimates reviewed at six installations. The inconsistency between the feeder system and the supporting documentation occurred because:

- AEC personnel made adjustments to the supporting database after the installations finalized the estimates, and
- coordination lacked between DERP and BRAC installations and AEC.

Adjustments to Feeder Systems. The supporting RCTCS/DSERTS database did not agree with 163 of the 231 estimates we reviewed at Aberdeen Proving Ground, Camp Edwards, Dugway Proving Ground, Milan Army Ammunition

Plant, Redstone Arsenal, Rocky Mountain Arsenal and the Military Munitions Response Plan. According to AEC staff, the RCTCS/DSERTS database did not match because AEC had made adjustments to the database after the installations had finalized their estimate.

The supporting RCTCS/DSERTS database did not agree with 28 of the 36 estimates reviewed at Redstone Arsenal. The database did not agree because AEC instructed Redstone staff, during the December installation action plan meeting, to make adjustments to the RCTCS/DSERTS database after AEC had finalized their environmental liability estimates. The adjustments resulted in a 25 percent reduction in estimates. There was no record of the meeting and there was no supporting documentation for the reduction in estimates. According to staff at Redstone, AEC stated that no additional backup was needed. In addition, staff at Redstone concluded that the reduction was clearly budget driven instead of requirements driven. However, staff at AEC denied that they reduced the estimates because of budgetary constraints. As result of the meeting, Redstone staff attempted to go back and properly reflect the adjustments to the estimates using RACER software. However, Redstone staff was unable to make RACER software match the RCTCS/DSERTS feeder system database.

Coordination between AEC and the Installation. The supporting RCTCS/DSERTS database did not agree with 42 of the 44 estimates we reviewed at Dugway Proving Ground, in part because of a lack of coordination between Dugway Proving Ground and AEC personnel. Dugway personnel stated that the utility program provided by AEC to download RACER generated estimates into RCTCS/DESRTS did not work properly. As a result staff at Dugway would have to enter the estimates manually and did not have the time or personnel to do so. According to staff at Dugway, AEC did not provide assistance. Because Dugway did not report its FY 2002 estimates to AEC, AEC used the Dugway FY 2001 estimates for FY 2002.

The supporting RCTCS/DSERTS database did not match any of 25 estimates reviewed at Rocky Mountain Arsenal because Arsenal personnel calculated estimates by program management project through yearly updates of a 1995 feasibility study and did not include the updates into the RCTCS/DESRTS database.

Other Feeder System Issues. The supporting database did not agree with 13 of 15 estimates we reviewed at Camp Edwards. Staff at Camp Edwards could not explain 12 of the variances but noted that one of the variances was due to a data input error. The supporting database also did not match 16 of 20 estimates reviewed at Milan Army Ammunition Plant. Milan personnel stated that the estimates did not match because AEC later added management and inflationary costs to the Milan estimates.

Quality Assurance/Control Program. Although AEC implemented a quality control program in FY 2002 that included a review of 41 installations, the program was not effective in ensuring adequate documentation, audit trails, and supervisory reviews for DERP installations for the FY 2002 Army financial statements. AEC developed their quality assurance/control program as a result of

deficiencies identified by the Army Audit Agency. The quality assurance program included:

- reviewing estimates to determine if the estimator used RACER software,
- determining whether the installation maintained adequate documentation,
- determining whether the estimate reflected the environmental restoration strategy,
- determining whether the estimator had proper training, and
- determining whether the installation performed and adequate supervisory reviews.

The review showed that of 41 installations, 16 did not use RACER software, 37 did not have adequate documentation, 19 did not reflect the environmental restoration strategy, 8 lacked environmental liability estimation training, and 7 lacked evidence of supervisory reviews. Although the AEC quality assurance review identified the above deficiencies, AEC did not finalize the results of the review until late fall 2002. As a result there was little or no effect for the FY 2002 financial statements on the adequacy of supporting documentation, audit trails and documentation of supervisory reviews.

Army DERP Environmental Related Contingent Liability

The Army reported contingent liabilities for DERP of \$1.07 billion on Note 16 as of September 30, 2002. The contingent liability was part of the Army DERP military munitions response program. Statements of Federal Financial Accounting Standards No. 5 state that a contingency is an existing condition, or a set of circumstances that involve uncertainty about the possible gain or loss to an entity. The Army reported \$1.07 billion as a contingent liability because they had not completed final inventories for 248 sites and ranges with an initial estimated environmental liability of \$1.07 billion. The Army determination to report on Note 16 appeared based on the uncertainty of the calculation of a final estimate amount for the 248 sites and ranges rather than a determination of the probability of an environmental liability for military munitions. The Army did report \$0.625 billion of the environmental liabilities for the DERP military munitions response program on Note 14 based on final inventory estimates at 105 sites and ranges.

Management Comments on Appendix C

Army Comment on Audit Trails and Documentation. The Army requested we revise selected statements that installation staff were unaware or did not follow the requirements of DERP guidance to maintain adequate documentation and

audit trails. The Army believed the statements contradicted other report statements that the estimators were qualified.

Audit Response. We disagree with the Army comment. Although we found estimators at DERP active installations qualified in terms of education and work experience, installation staff was not consistently aware of the current DERP guidance.

Army Comment on Undocumented Estimate Revisions. The Army disagreed with report statements regarding AEC instructions to Redstone Arsenal and AEC lack of awareness of the requirements to maintain adequate documentation of estimate revisions.

Audit Response. Redstone Arsenal correspondence to AEC regarding the Redstone Arsenal installation action plan clearly showed a lack of awareness regarding the requirement to maintain adequate documentation on the part of AEC staff and Redstone Arsenal staff concern for the lack of documentation. Interviews with Redstone Arsenal and AEC staff supported the conclusion that AEC staff involved in the revisions was not aware of the requirements to maintain adequate documentation.

Army Comment on Adjustments to Feeder Systems. The Army disagreed with a draft report statement that AEC attempted to adjust estimates using RACER software to match the RCTCS/DSERTS database. The Army stated that AEC feeder system adjustments were made in consultation and approval with the installations.

Audit Response. We revised the report to clarify the circumstances regarding AEC adjustments made to the RCTCS/DSERTS database.

Army Comment on Army DERP Environmental Related Contingent Liability. The Army suggested revision of draft report language regarding buried military munitions and relating to the official title of the Military Munitions Response Program.

Audit Response. We revised the report to reflect the Army comments.

Appendix D. Army DERP-FUDS Environmental Liabilities

DERP-FUDS Organization

Environmental restoration FUDS is a DoD program with the Army as the executive agent. FUDS are properties that the DoD once owned or used and no longer control, but DoD has the responsibility to restore for use. Examples of properties are: privately owned farms, National Parks, residential areas, schools, colleges, and industrial areas. FUDS include former Army, Navy, Air Force, or Defense agency properties. The U.S. Army Corps of Engineers (Corps of Engineers) is the manager for the DERP-FUDS program.

Development and Review FUDS Estimates. Individual Corps of Engineers districts, with the aid of contract personnel and the Omaha Center, develop and review FUDS environmental cost-to-complete estimates. The estimates are the basis for FUDS related environmental liability reported on Army and DoD-wide financial statements. FUDS estimates are made for Hazardous Toxic Radioactive Waste (HTRW) projects and ordnance and explosive waste (OEW) projects. District and contract personnel develop HTRW project estimates, while Omaha Center personnel develop OEW estimates. Both HTRW and OEW projects are based on application of the RACER electronic cost estimating model or detailed engineering estimates. Once the estimates are developed and reviewed, they are entered into the FUDSMIS through electronic uploads by the Corps of Engineers Vicksburg office or by manual input by individual district office FUDS program managers. The FUDSMIS is a Corps of Engineers program development and program management tool used to capture FUDS property, project, and phase data.

Each November Headquarters, Corps of Engineers, personnel query FUDSMIS to identify all appropriate cost-to-complete data that should be included in the financial statements and forward the data to the Assistant Chief of Staff for Installation Management. Assistant Chief of Staff for Installation Management personnel initiate a limited quality assurance check on the data and verify that the data provided match other supporting data. Once verified, Assistant Chief of Staff for Installation Management personnel forwarded the data to the Assistant Secretary of the Army (Financial Management and Comptroller) for inclusion on the Army-wide financial statement.

Control Over FUDS Related Environmental Liabilities

The process used by the Corps of Engineers to develop, review, approve, and record FUDS related environmental liability on the financial statements had material internal control weaknesses. Material internal control weaknesses included a lack of adequate audit trails and supporting documentation, documented supervisory reviews, consistency between the actual estimate and the

FUDSMIS feeder system from which financial data was extracted, and district and division level quality control reviews of the estimates.

Audit Trails and Documentation. Audit trails for 299 of 300 FUDS estimates reviewed were nonexistent; however, documentation supporting various factors of the estimates were found. Although documentation supporting various factors of the estimates was found, the documentation was not readily available at the Corps of Engineers districts or could not be followed.¹ Because the Corps of Engineers districts did not maintain adequate audit trails or adequate supporting documentation, we were unable to recreate or trace the estimate from documentation to the financial statement or from the financial statement to documentation, as required by the FMR.

For 78 of the 300 projects reviewed, either the environmental liability estimate or the related FUDS property project file could not be located. Estimates were not updated to current year dollars for 36 of the 78 estimates, as is required by the FMR, DERP, and FUDS guidance. For example, Louisville and Omaha district personnel did not update 23 estimates (11 at Louisville District and 12 at Omaha District) valued at approximately \$387 million to current year dollars. According to several FUDS program managers, the districts were aware of which projects will be reviewed by the Omaha Center during its quality assurance review and only updated those estimates to current year dollars. In addition, the districts could not locate FUDS property project documentation to determine whether a current dollar estimate had been completed for the remaining 42 estimates.

None of the 25 RACER generated FY 2002 Sacramento District HTRW estimates selected were available for review. Sacramento District personnel stated that an electronic file of the FY 2002 estimates was overwritten with the FY 2003 estimates in order to save computer memory space. The Sacramento District neither maintained a hard copy nor saved the FY 2002 HTRW estimates before overwriting them.² To ensure the Sacramento District electronically maintains future annual estimates (FY 2003 and beyond), the district purchased a new CD write-able computer. In addition, the Sacramento District was unable to provide either the estimate or the project file documentation for a project with a FY 2002 FUDSMIS entry of \$892,000. Both district and division personnel stated that there is no supporting justification for this project and that this project exists only within FUDSMIS.

The Kansas City District was unable to provide adequate supporting documentation for three projects with a combined FUDSMIS value of approximately \$248 million, which represented approximately 33 percent of the district's total reported environmental liability. Kansas City District supporting documentation consisted of an August 2001 engineering estimate for three estimates that the district had not updated to current year costs. The engineering

¹ To evaluate the adequacy of the documentation supporting the estimate, we selected 3 significant data factors of the 45 that affect the cost to complete estimate and determined whether project file documentation existed to support these factors in the estimate.

² We conducted a limited review of project file documentation for two Sacramento District FY 2003 estimates and found that the file supporting documentation was available and detailed.

estimate showed a combined value of approximately \$56 million, which left \$192 million of the reported environmental estimate unsupported.

Headquarters, Corps of Engineers personnel were unable to provide supporting documentation for \$1.1 billion in management and support costs included in the FUDS related environmental liability reported on the financial statements.

Supervisory Reviews. Corps of Engineers districts neither adequately performed nor documented supervisory reviews of the 300 FUDS estimates. FUDS guidance requires districts to perform supervisory reviews of estimates and to use a checklist to ensure a complete and consistent review. For contractor developed estimates, all districts visited relied upon the Omaha Center to perform a detailed review of the assumptions and methodologies used to develop the estimate, and the districts performed a programmatic review to ensure cost allocations met proposed fiscal year budgets. The Omaha Center review focused on verifying that Corps of Engineers, Vicksburg, electronically uploaded the data into the FUDSMIS database matched the estimate to the database and verified that all estimate project phases were included. Since districts maintained FUDS property project files and detailed knowledge of the project, each district had the responsibility to validate the quantities, unit prices, assumptions, and methodologies used in the estimate. The districts reviews did not validate these items but only determined that the estimate was allocated in accordance with the district proposed funding levels. Districts did not document reviews performed.

Three districts developed project estimates that were not warranted. Fort Worth, Jacksonville, and Los Angeles district personnel developed estimates for projects that had been designated as “No Defense Action Indicated,” which did not require an estimate for financial reporting. DERP guidance requires that a Risk Assessment Code score be given to all eligible FUDS OEW properties. The Risk Assessment Codes range from 1 through 5. Projects with a Risk Assessment Code score of 1 through 4 required DoD site restoration and an estimate. Projects with Risk Assessment Code score of 5 were designated as “No Defense Action Indicated” and did not require DoD site restoration. Fort Worth, Jacksonville, and Los Angeles district, developed estimates for 17 projects valued at approximately \$93 million with Risk Assessment Code scores of 5. A supervisory review would have identified that the 17 estimates had been incorrectly developed and were not required. Adequate and documented supervisory reviews of estimates, as required by the FMR, DERP, and FUDS guidance, would have identified unnecessary estimates and would have eliminated potential environmental liability overstatements.

Consistency with Feeder System. The Corps of Engineers did not have adequate internal controls in place to ensure that accurate data were input into FUDSMIS. The FUDSMIS feeder system is the principal source of data for reporting the FUDS related environmental liability on the DoD financial statements. The accuracy of data input into FUDSMIS is essential to the reliability of the information reported on the financial statements. Our review consisted of 300 estimates, 78 did not have either the 2002 estimate or the project file documentation available; therefore, the data in FUDSMIS could not be validated. The FUDSMIS entries for the 300 estimates were valued at approximately \$5.9 billion; although, the districts could only provide documentation to support approximately \$4.2 billion. The district personnel

could not explain why the estimates did not match FUDSMIS and what represented the \$1.7 billion difference.

An additional discrepancy between estimates and FUDSMIS occurred with project closeout costs. Once it is determined that DoD has no further liability at a specific HTRW project site, project closeout costs are incurred while securing concurrence from the appropriate regulatory agency. Generally the project closeout costs range from \$3,000-\$6,000 per project. Both in-house and contractor-developed HTRW estimates included project closeout costs; however, in FY 2002 these costs were not recorded in FUDSMIS for the projects. The project closeout cost amounts were not included in FUDSMIS because Headquarters Corps of Engineers FUDS Program personnel decided that project closeout costs would not be entered into FUDSMIS until the project was officially classified as a "No Defense Action Indicated." The project closeout costs should have been included in FUDSMIS because gaining concurrence from regulatory agencies in the future is required to close out a project. For FY 2003 estimates, Headquarters Corps of Engineers FUDS Program personnel reversed their earlier decision and will include project closeout costs in FUDSMIS.

Quality Assurance/Control Program. Corps of Engineers districts and divisions did not implement quality control programs to ensure the reliability and accuracy of the estimates. The FUDS guidance requires both district and division to conduct quality assurance and quality control reviews of the estimates. Each district and division visited, except Louisville, stated that no district or division level quality control program was in place because reliance was placed on the Omaha Center to perform the quality assurance and quality control function for the districts. However, the Omaha Center performed a quality assurance function only after the estimates were developed, forwarded, and reported on the financial statement. The Omaha Center quality assurance reviews were limited reviews of the estimates and of the project file documentation to determine the existence, valuation, and completeness of individual estimates and project files. Because of funding constraints, the Omaha Center performed the quality assurance reviews only periodically and only on a limited number of projects. In FY 2002 the Omaha Center conducted a Technical Assistance Review at each of the 8 districts we visited and reviewed 113 of the 300 estimates we reviewed. The Omaha Center provided the districts and divisions with Technical Assistance Reports that outlined the results of the reviews and necessary recommendations. The district needs to develop an effective quality control program to assess the reliability of the processes and controls used to develop, approve, and forward the estimates before the estimates are reported. (See recommendation A.2.b.) Instituting a district and division level quality control process will allow the Corps of Engineers to detect weaknesses in the internal controls before the forwarding and reporting of the environmental liability related to FUDS. Weaknesses that would have been detected if the districts and divisions had a quality control program included:

- missing project file documentation,
- completing estimates for non-existing projects,

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- estimates that did not match the FUDSMIS entries, and
 - estimates not updated to current year dollars.

Although the districts and divisions stated they relied upon the Omaha Center to perform its quality control reviews, the districts did not always implement the recommendations made by the Omaha Center. For instance, a 2002 Omaha Center Technical Assistance Report for the Kansas City District recommended that the district delete the estimate information in FUDSMIS for an estimate valued at \$4.5 million. However, the district did not delete the estimate information from FUDSMIS and consequently the estimate was included as part of the FY 2002 FUDS reported environmental liability.

Finally, because the Corps of Engineers districts and divisions did not have an effective quality control program, errors and inconsistencies in the estimates were not identified and corrected before districts presented them for reporting on the financial statements.

Conclusion

The review of 300 FUDS projects identified material internal control weaknesses over the process used by the Corps of Engineers to develop, review, approve, and record FUDS related environmental liabilities on the financial statements. Specifically, Corps of Engineers lacked adequate audit trails and supporting documentation, supervisory reviews, district and division level quality control programs, and the consistent entry of the estimates into FUDSMIS. These weaknesses resulted in the following:

- estimates not supported by project file documentation,
- documentation that was either missing or not readily available,
- estimates not updated to current year costs, and
- estimates not entered into FUDSMIS correctly.

As a result, FUDS related environmental liabilities reported on the financial statements were potentially misstated.

Management Actions

FUDS Information Improvement Plan. In an effort to improve identified material internal control weaknesses within the FUDS program, the Corps of Engineers is in the process of developing the FUDS Information Improvement Plan (Improvement Plan). The goal of the Improvement Plan is to ensure that all FUDS properties and projects are documented and maintained in accordance with DoD and Corps of Engineers policies and regulations. The plan addresses the review, correction, and validation of FUDS files; information contained in those files; and the summary representation of property and project information into FUDSMIS. Furthermore, the Improvement Plan includes guidance to ensure that the FUDS estimates are:

- properly developed and reviewed for quality, technical adequacy, reasonableness;
- properly documented to support the estimate; and
- consistent with FUDSMIS estimate entries.

Specifically, the Improvement Plan includes a process to ensure that FUDS work documents and data exist, are adequate, are complete, are readily available and clearly support property/project decisions. The plan assigns responsibility and specific tasks required to fully attain the goals of the Improvement Plan to Headquarters, Corps of Engineers, Major Subordinate Commands, Corps of Engineers districts, and Centers of Expertise. The Corps of Engineers currently plans to implement the plan at Major Subordinate Command and district levels in April 2004 and plan to have the entire FUDS inventory of properties and projects meet the minimum standards of both the DoD and Corps of Engineers by the end of FY 2009. The Improvement Plan appears to address several areas of concern identified in this report.

Management Comments on Appendix D

Army Comments on Audit Trails and Documentation. The Army disagreed with several statements included in examples of limited audit trails and documentation for FUDS environmental liability estimates. The Army stated that documentation existed at the Omaha Center. The Army also stated that the audit implied that an HTRW project was “made up.” The Army noted that a missing project file connected to the project would be reconstructed. The Army stated that the \$1.1 billion of environmental liability management and support costs was part of an overall \$1.5 billion management and support cost package, but stated that it could not address the lack of documentation of the \$1.1 billion in environmental liability management and support costs until provided a better description.

Audit Response. As noted in detail in the report and in our response to Army comments on Finding A, Omaha Center documentation was not adequate to support an effective audit trail as defined by the FMR.

The report notes that the HTRW project identified appeared to “exist only within FUDSMIS.” When asked about the project, both the Sacramento District and division personnel stated that neither project file documentation nor an estimate existed. The district program manager stated that the HTRW project seemed to exist only within FUDSMIS because there was no supporting documentation for it. According to the district’s FUDS program analyst, the district requested that the project be removed from FUDSMIS.

We made multiple requests to Corps of Engineers Headquarters personnel to support the \$1.1 billion in environmental liability management and support costs reported for FY 2002. The Corps of Engineers Headquarters FUDS Project Team Leader stated that supporting documentation for the FY 2002 management and support costs could not be located. It remains the clear responsibility of the Army and the Corps of Engineers to have adequate supporting documentation for a key monetary component of the environmental liabilities portion of the financial statements.

Appendix E. Army BRAC Environmental Liabilities

Army BRAC Organization

BRAC Organization. Environmental cost-to-complete estimates for closed bases were prepared at the installation level by installation, contractor, or Corps of Engineers personnel. DERP and AEC guidance requires that documentation supporting individual estimates be maintained at the installation. DERP and AEC guidance also recommend estimators prepare the estimates using the RACER electronic cost estimating system where appropriate. The BRAC installation or AEC manually entered estimates into the RCTCS/DSERTS database. Estimates were sent to the Assistant Chief of Staff for Installation Management BRAC Division (BRAC Office) for final review and processing into the DSERTS database. The BRAC Office was responsible for providing environmental liabilities, through the DSERTS database, to the Assistant Chief of Staff for Installation Management Director of Environmental Programs.

BRAC Environmental Liability Review. We reviewed 143 site cleanup estimates at 6 closed installations, Fort Ord, California; Camp Bonneville, Washington; Savanna, Illinois; Seneca, New York; Pueblo, Colorado; and Fort McClellan, Alabama. The estimates reviewed represented 76 percent of the total dollar volume of environmental restoration and unexploded ordnance projects. We also reviewed 67 additional site estimates at three of the installations. The total value of the 210 reviewed estimates was \$718.5 million. The processes and data used to report the selected BRAC environmental liabilities were not reliable because the Army lacked internal controls to ensure that estimates reported by the BRAC Office had audit trails with supporting documentation.

Control Over BRAC Related Environmental Liabilities

The process used by the Army to review, approve, and forward the BRAC environmental liabilities on the financial statements had material internal control weaknesses. Material internal control weaknesses included a lack of adequate audit trails and supporting documentation, documented supervisory reviews, and higher level quality control reviews of the estimates. Also, internal controls were not in place to ensure consistency between the actual estimate and the RCTCS/DESRTS feeder systems from which BRAC financial data was extracted.

Camp Bonneville, Fort Ord, Savanna, and Pueblo did not maintain required documentation to support installation estimates. Because of the lack of supporting documentation for estimates, audit trails were inadequate. Furthermore, site estimate changes initiated by the BRAC Office did not have supporting documentation and were not reflected in estimate files at the installation level.

Seneca and Fort McClellan had evidence of supervisory reviews. For the two installations, approved memorandums for the record documented the supervisory reviews including assumptions, estimation methods, and calculations used to formulate the estimates. The estimator of record and the BRAC Environmental Coordinator for the installation approved the memorandums for record. The remaining four installations did not provide evidence of supervisory reviews of the estimates. These installations considered the submittal of the estimates to higher-level management as a form of supervisory review.

AEC conducted quality assurance reviews on behalf of ACSIM and the BRAC Office. We found AEC quality assurance reviews for the Fort Ord, Pueblo, Seneca, and Fort McClellan installations inadequate. However, we found discrepancies between our findings and the AEC reviews. We determined that Fort Ord cleanup sites FTO-39 and FTO-55B did not have adequate documentation whereas the AEC review states adequate documentation was provided. The BRAC Office neither performed quality assurance reviews of the installations nor took formal action concerning the AEC findings.

BRAC Issues

BRAC officials failed to recognize the most probable environmental liabilities in FY 2002 financial statements as required by the Chief Financial Officers Act of 1990. The most probable liability estimates were constrained or omitted in various ways by the BRAC Office. A liability is defined, by the Federal Accounting Standards Advisory Board, to be a probable future outflow or other sacrifice of resources because of past transactions or events. Statement of Federal Financial Accounting Standards No. 6 defines probable to be that which can reasonably be expected or believed to be more likely than not on the basis of available evidence or logic but which is neither certain nor proven.

The BRAC Office understated FY 2002 environmental liability estimates by approximately \$382 million based on funding constraints. DoD FMR 7000.14-R, volume 4, chapter 14, states that availability of funds should not determine estimates. The BRAC Office applied predetermined criteria that included ceiling constraints, thus limiting the total liability recognized. Based on the constraints, BRAC officials either encouraged installations to revise estimates using a more optimistic approach or changed site estimates without verifiable justification. Also, a written explanation for changes to the estimates was not provided to the installations. For the 210 BRAC estimates reviewed by this audit, estimates submitted by BRAC installations to the BRAC Office totaled approximately \$1,100.8 million. However, the reported FY 2002 liability total for the 210 estimates was \$718.5 million. The use of budgetary constraints for reporting FY 2002 environmental liabilities was in violation of the DoD FMR.

A BRAC official expressed in an August 2002 e-mail to the field offices that in addition to cost cuts already made, program increases needed to be reviewed and innovative solutions needed to be developed to reduce the environmental liability. Furthermore, other BRAC Office personnel stated to the audit team that the reported BRAC environmental liability should not exceed \$1 billion for various reasons, including:

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- BRAC officials perceive that taxpayers view a nonreduction in liability from year to year as a lack of return on investment.
 - The BRAC official felt that the Army could not be asked to invest dollars in a program where the requirements growth outpaced the requirements successfully completed in any given fiscal year. He informed the installations that another view of the problem occurs because the environmental liability was not reduced even with a \$150-\$300 million annual investment that currently totals \$2.1 billion spent to date.

The Army reported a total BRAC environmental liability of \$1.01 billion in the FY 2002 financial statements. The methods used by the BRAC Office to reduce installation estimates included requesting a more optimistic cost assumption, use of an inappropriate cleanup strategy, reporting FY 2001 estimates instead of FY 2002 estimates, and allowing submitted projects to be omitted in the FY 2002 financial statements.

Optimistic Cost Assumption. In an August 14, 2002 email, a BRAC field office official instructed three installations (Pueblo, Seneca, and Savanna) to revise their initial FY 2002 environmental liability estimates to “not include worst-case or regulatory driven overstatements of what we need.” One of the installations submitted revised estimates stating, “now that we have gotten optimistic for you, I can only hope the same enthusiasm and sympathy is available if we do not obtain these optimistic cost assumptions.” Pressure on installations from higher-level management to constrain FY 2002 environmental liability estimates resulted in the reduction of estimates.

Inappropriate Cleanup Strategy. The BRAC estimated cleanup costs were understated by as much as \$223 million on the Army FY 2002 financial statement for site SVAD-013, Old Burning Ground at Savanna Army Depot. The current environmental liability using the Army cleanup strategy for the Old Burning Ground was manually estimated at \$35 million. The BRAC environmental coordinator for Savanna, discussed the issue with state and Federal Environmental Protection Agency regulators, the Army Explosives Safety Board, the Army Corps of Engineers, and the AEC. All agreed that the BRAC Office proposed approach was unsatisfactory and would not alleviate the Army liability for the site. An agreeable approach among all the regulators listed above and the installation was estimated at \$258 million by RACER.

Use of FY 2001 Estimates Instead of FY 2002. The BRAC Office instructed two installations, Fort McClellan and Seneca to use FY 2001 environmental liability estimates as their FY 2002 reported estimates. The preferred Army estimating tool, RACER, or Engineering Evaluation/Cost Analysis developed the basis for FY 2002 installation estimates before reverting to FY 2001 estimates. This direction resulted in an understatement of as much as \$65.6 million.

Environmental Liabilities Omission. An understatement of \$3.2 million resulted from environmental liability estimates omitted from the FY 2002 financial statements. Two of the six installations, Savanna and Fort McClellan submitted their FY 2002 estimates used in RCTCS/DSERTS or faxed to higher-

level management. Neither the installations nor the headquarters BRAC Office could explain why the liabilities submitted were not included in the FY 2002 financial statements. Because of the omissions, reported environmental liabilities were understated for FY 2002 financial statements.

The BRAC Office did not adhere to the DoD FMR when FY 2002 environmental liabilities were reduced to reflect budgetary constraints. The potential understatement of FY 2002 environmental liabilities is approximately \$382 million.

Management Comments on Appendix E

Army Comments on Most Probable Environmental Liabilities. The Army disagreed with report statements that BRAC officials failed to recognize the most probable environmental liabilities in the FY 2002 financial statements. The Army stated that the BRAC Office reviewed and made changes to BRAC installation environmental cost-to-complete estimates based on what the BRAC Office believed was the most likely remediation scenario. The Army also stated that BRAC Office review decisions were made in coordination with the field offices, installations, and AEC, and were within the program manager's discretion to direct BRAC implementation strategies.

Audit Response. We disagree with the Army comments regarding BRAC Office review and modification of the environmental estimates. As stated in Appendix E, estimates, as modified by the BRAC Office, did not have supporting documentation and were not reflected by the environmental estimate files at installation level. For example, the BRAC Office changed the Fort McClellan estimates submitted by the installation for FY 2002 to the a lower FY 2001 estimate without coordination or the concurrence of installation personnel.

Army Comments on Budget Constraints. The Army disagreed that BRAC Office personnel stated to the audit team that the BRAC environmental liability should not exceed \$1 billion. The Army stated that BRAC Office personnel explained to the audit team that the BRAC environmental liability remained at \$1 billion in spite of \$150 million to \$300 million in annual investments and that this resulted in increased BRAC Office scrutiny over FY 2002 estimates.

Audit Response. We disagree that a desire to show progress in reducing environmental liabilities merely lead to increased scrutiny. In an October 2, 2003, meeting with the auditors, a BRAC Office official twice stated that funding and the budget were a factor in developing Army environmental liability estimates. At a subsequent meeting, other BRAC Office officials stated that the goal was to limit each year's reporting of environmental liabilities to the \$1 billion threshold for "psychological" reasons. In an August 13, 2002, e-mail to BRAC field offices and installations, a BRAC Office official stated that if reporting of environmental liabilities is not decreased from one year to the next, the BRAC Office is not achieving any return on its investment, and therefore, is not managing the BRAC program effectively.

Army Comments on Optimistic Cost Assumption. The Army stated that the report implied that the BRAC program should be using worst-case scenarios and regulatory driven requirements for estimates rather than the most probable environmental liabilities. The Army stated that Environmental Protection Agency and/or state environmental regulatory bodies would request more extensive and expensive remediation than that required by law. In such cases, the Army stated, the BRAC Office would direct installations to pursue a more cost-effective remedial solution.

Audit Response. We disagree that the report implies the Army should be using worst-case scenarios. The objective of the audit was to determine the reliability of the data and processes used to report environmental liability estimates, not to determine the appropriate scenario for installation cleanup. The term “optimistic cost assumption” was used by a BRAC installation to respond to a BRAC Office e-mail sent to all installations to encourage the reduction of estimates. We concluded that installation prepared estimates for FY 2002 environmental liability reporting were more reliable than the BRAC Office estimates based on installation documentation and installation explanation of the estimating process. We made no judgment regarding whether Environmental Protection Agency and/or State environmental regulatory remediation requirements were more extensive or expensive than required. However, no documentation existed to support the BRAC Office decisions to replace the installation estimates.

Army Comments on Inappropriate Cleanup Strategy. The Army disagreed with report statements that estimated cleanup costs were understated by as much as \$223 million for site SVAD-013, Old Burning Ground at Savanna Army Depot. The Army stated that the \$258 million installation estimate was a worst-case cost estimate that involved wide-scale excavation of an island in the Mississippi River. The Army noted that the Environmental Protection Agency and the State would prefer the more wide-scale excavation, but they understood that there were risk-management options available that provided a more cost-effective alternative.

Audit Response. We disagree with the Army view that the BRAC Office cleanup strategy for site SVAD-013 is a cost-effective alternative and consider the strategy unacceptable. The BRAC Office site SVAD-013 cleanup strategy is inappropriate and provides insufficient cleanup. The following items do not support the BRAC Office position:

- Savanna Army Depot e-mails noted that the Savanna environmental coordinator repeatedly warned the BRAC Office about problems (human health risk, ecological risk, unexploded ordinance, and potential chemical warfare material) and congressional interest in the cleanup.
- As noted in the report, various Federal, State, and DoD organizations expressed concerns with the BRAC Office remedial solution for site SVAD-013. For example, an AEC environmental engineer commented that the BRAC Office strategy to cover the site with rocks was not a fix and “does not deal with the degradation of the water.”

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- The BRAC Office sent a contractor to Savanna Army Depot to assist the BRAC environmental coordinator in preparing the FY 2002 estimates using the RACER estimating model. The RACER cost-to-complete estimate for site SVAD-013 was \$258 million. Instead of reporting this amount for the Savanna FY 2002 environmental liability, the BRAC Office calculated a non-RACER estimate of \$35 million. The Savanna BRAC environmental coordinator stated that the RACER estimate was more accurate than the BRAC Office reported amount. BRAC Office officials did not respond to our questions whether they directed Savanna to use the non-RACER estimate instead of the FY 2002 RACER estimate in reporting the FY 2002 submission. The BRAC environmental coordinator stated to the auditors that “you are on the right track” when asked whether someone from the BRAC Office had instructed the coordinator to not use the RACER estimate.
 - An AEC environmental engineer approved the derivative FY 2001 estimate in RCTCS under the impression that the BRAC Office contractor developed the estimate and that the contractor used the RACER estimating model along with “valid” documentation. The BRAC National Capitol Region field office also approved the BRAC Office version of the Savanna cleanup strategy without reviewing supporting documentation.
 - On September 12, 2003, the BRAC Office declared that they could no longer “support” a planned audit revisit to Savanna Army Depot and did not respond to our written audit questions concerning site SVAD-013. On September 29, 2003, a BRAC Office official stated to us that site SVAD-013 was the Army’s most expensive to cleanup and the BRAC Office did not want to spend \$300 million for the cleanup of sites SVAD-013 and SVAD-50. The official offered no details on the scope and complexity of the cleanup effort and the impact of the site on the environment. We concluded that the BRAC Office selection of a cleanup strategy for Savanna was made from a budgetary point of view.
 - AEC did not review documentation for site SVAD-013 on its FY 2002 quality assurance review of Savanna, even though the estimate for this site was well above the \$5 million criteria used by AEC for selecting sites for review. When the auditors asked why the site was not reviewed, the AEC quality assurance official said that he did not know.

Army Comments on Use of FY 2001 Estimates Instead of FY 2002. The Army disagreed that the BRAC Office rejection of FY 2002 estimates at two installations resulted in an underestimate of Army environmental liabilities. The Army stated that the installations did not provide sufficient justification for a change in remediation strategy that resulted in an increased cost estimate. The Army stated that the BRAC Office thus directed the installations to continue to pursue the remediation strategy agreed to and documented in the FY 2001 cost estimate.

Audit Response. We disagree with the Army view that the two installations (Fort McClellan and Seneca Army Depot) did not provide sufficient justification for a change in remediation strategy that resulted in an increased cost estimate. As previously stated, we found adequate justification for estimates submitted by the installations and found no evidence to support BRAC Office changes. The audit revealed that the BRAC Office reduced FY 2002 estimates for the two installations without conferring with the respective installation BRAC environmental coordinator.

Appendix F. Army Non-DERP Environmental Liabilities

Non-DERP Organization

The non-DERP program is composed of projects to correct environmental problems that are not eligible for funding under the DERP program. Non-DERP projects include corrective actions, closures requirements, environmental responses at active installations, and low-level radioactive waste. Federal and State environmental laws and regulations drive non-DERP environmental project requirements. From these laws and regulations, installations develop non-DERP project estimates and enter the estimates into the Environmental Program Requirements (EPR) database. Office of Environmental Programs personnel stated that Class 0, 1, or 2H projects¹ are queried from the EPR database and placed on the financial statements. The exception to this process is that the non-DERP “Other” liability,² which is reported solely by Rock Island Arsenal, is not entered into the EPR database. The “Other” liability is reported directly to the Army Comptroller through a memorandum without review by the Major Commands or Regions, AEC, or Army Office of Environmental Programs.

Environmental Program Requirements Guidance

AEC developed three guidance documents for projects entered into the EPR: “Policy and Guidance for Identifying U.S. Army Environmental Program Requirements,” February 2002; U.S. Army Environmental Program Requirements Project Catalog 2002, “A Catalog of Sample EPR Project Submissions and Program Guidance,” August 2002; and the EPR Quality Assurance Handbook, November 1998.

Policy and Guidance. The “Policy and Guidance for Identifying U.S. Army Environmental Program Requirements,” February 2002, summarizes the DoD and Army policy for funding an Army environmental program that ensures and promotes environmental stewardship in a cost-effective manner. The guidance also outlines for properly identifying and documenting environmental program requirements and resource needs.

Project Catalog. U.S. Army Environmental Program Requirements Project Catalog 2002, “A Catalog of Sample EPR Project Submissions and Program Guidance,” August 2002, provides steps for identifying projects for EPR submission, guidance on what to enter into the EPR data fields and what information to update on previously entered projects, and sample projects as reference when doing submissions.

¹ The Class system is a way to identify funding priority for environmental projects (0, 1, and 2H projects are the highest priority projects).

² The non-DERP “Other” line item is made up of liabilities regarding low-level radioactive waste.

Quality Assurance Handbook. The EPR Quality Assurance Handbook, November 1998, identifies management uses for EPR data, defines data quality metrics, presents the EPR data quality baseline, and provides guidance for conducting proper evaluations and managing the quality processes.

Control Over non-DERP Related Environmental Liabilities

Comprehensive quality control programs were not implemented within the non-DERP program to address the internal control weaknesses discussed in the following paragraphs including documentation and audit trails, supervisory reviews, and quality assurance.

Documentation and Audit Trails. The inherent risk for a misstatement of non-DERP estimates is high because of the lack of documentation. Of the 45 non-DERP estimates reviewed, 43 estimates did not have adequate documentation. For the two estimates with adequate documentation, the documentation did not become adequate until the estimates were close to contract award, which was subsequent to the original EPR submission. The control environment does not mitigate this risk of estimate misstatement because the supervisory and quality assurance reviews do not review source documentation or documentation that explains the assumptions and methodology.

Supervisory Reviews. Non-DERP installations did not consistently implement the control of supervisory review before making EPR submissions. Three of the six non-DERP installations visited did not have any controls in place to ensure the existence, valuation, or completeness of the estimates reported. A fourth installation implemented supervisory reviews as a control over reporting, however, because there was no standard procedure for supervisory reviews of estimates, which resulted in an ineffective internal control. The other two installations had adequate controls in place.

The supervisory reviews of the non-DERP estimates were documented. The EPR database has a checkbox function that documents the supervisory review. For Rock Island Arsenal, who reports estimates for the “Other” line item, the estimates are reported directly to the Army Comptroller via memorandum format rather than through the EPR database. This memorandum requires the signature of the Director for Safety and Radioactive Waste and was properly documented.

Quality Assurance. The Office of the Director for Environmental Programs in the Army has oversight responsibility for quality assurance reviews to ensure compatibility with goals and objectives of Secretary of Defense guidance and Army policy and strategy, and for the non-DERP program. AEC developed the EPR quality assurance program. The quality assurance program is composed of project reviews within the EPR database by installation Major Command or Region, AEC, and the Army Office of Environmental Programs. At each level of review, personnel are required to complete a field that documents that the project has been reviewed. Reviewers are also given the option to “flag” a project for review at a higher level. At each level, reviewers can query the project based on this field to extract the files that have been flagged at lower levels. Through the feeder system, the reviews are sufficiently documented.

The AEC has primary responsibility for conducting functional expert reviews of estimates to ensure compliance with all legally mandated requirements and deadlines and screening project data for accuracy and completeness. The Quality Assurance handbook outlines procedures for conducting technical quality, functional quality, and requirements reviews. During FYs 2002 and 2003, AEC personnel conducted 279 technical, functional, and requirements-based reviews on the projects submitted through the EPR database. These reviews are documented in a published annual review report.

The quality assurance reviews conducted by AEC were generally restricted to the information contained within the EPR database and were generally focused on ensuring that the projects had correct requirements, quality and accurate data, and justified funding purposes. The quality assurance reviews did not review source documentation or evaluate the estimate methodology or audit trail, which are requirements of the FMR because the quality assurance handbook does not require it. The quality assurance reviews in place were not sufficient to ensure that the accounting standards outlined in the FMR were met.

Reporting of Environmental Liabilities

Deputy Under Secretary of Defense (Installations and Environment) personnel expressed concern that only a portion of the non-DERP environmental liabilities is currently being identified and reported. The financial statements reflect only the highest priority projects, which are Class 0, 1, and 2H. The personnel believe that there is a risk that other environmental liabilities are present but are not being captured or reported.

Financial Reporting Guidance

Army non-DERP activities did not follow financial reporting guidance and may have errantly reported \$15.16 million in environmental liabilities, as “Other” liability for FY 2002. The FMR states that non-DERP costs on Note 14 of the financial statements represent the costs to correct environmental problems that are not eligible for funding under the DERP program. The FMR states that line 1.A.2.d. of Note 14 is entitled “Other,” and covers environmental liabilities that are not corrective actions, closure requirements, or environmental responses at active ranges. The FMR also requires DoD to recognize contingent liabilities on Note 16 if any of the conditions for a liability are not met and there is a reasonable possibility for a loss. The Statement of Federal Financial Accounting Standards No. 5 states that a contingent liability should be disclosed in the notes to the financial statements when one or more of the following conditions are not met.

- A past event or transaction has occurred.
- A future outflow or sacrifice of resources is probable, which is more likely than not.

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- The future outflow or sacrifice of recourses is measurable or estimable.

The amount reported on the “Other” line item is generated from projects listed on a spreadsheet from Rock Island Arsenal. Personnel at Rock Island stated they have not conducted investigations to determine the contamination at each site. Therefore, without investigating each site, the future outflow of resources is not measurable or estimable. In the future the Army may be required to disclose these estimates as contingent liabilities on Note 16.

Appendix G. Management Comments on the Findings A and B and Audit Response

Management Comments on Finding A and Audit Response

The Army partially agreed with finding A discussion relating to DERP active installations, FUDS, and BRAC. The Army generally agreed with finding A as it related to non-DERP. The Army agreed that documentation and audit trails needed improvement, but included the following comments relating to documentation, supervisory reviews, quality assurance reviews, feeder systems, and management controls.

Army Comments on Army Environmental Liability Documentation. The Army disagreed with report statements regarding the Rocky Mountain Arsenal DERP active installation documentation example noting that reporting rather than documentation was the actual issue.

Although the Army agreed that FUDS documentation and audit trails need improvement, they stated that the FUDS cost estimates are reliable and accurate. The Army agreed that adequate documentation did not exist at the field level, but believed that adequate documentation did exist centrally at the Corps of Engineers Omaha Center. Most FUDS estimates were performed by the Omaha Center's "centralized process" and that the audit did not review the centralized process or the Omaha Center internal controls. The Omaha Center's centralized process developed consistent and repeatable estimates through upload of FUDSMIS data elements into RACER and consistently applying cost estimating assumptions.

The Army agreed that documentation of audit trails were deficient for FY 2002 BRAC environmental liability estimates and stated that there should be auditable environmental cost estimates for financial statements. The Army planned to develop installation action plans for any projects extending beyond FY 2005. However, the Army objected to report statements that the Army BRAC Office adjusted environmental liability estimates because of potential budget constraints. The BRAC Office as program manager and the decision maker exercised its judgment in reviewing installation prepared estimates and predicting a "most likely scenario" to be used for the estimates. Installations did not provide sufficient justification for a change in remediation strategy that resulted in increases. The Army stated that this sometimes led to BRAC Office disagreement with BRAC installation-level estimators.

The Army agreed with finding statements that non-DERP activities had inadequate supporting documentation. By the end of September 2005 AEC would ensure installations have adequate supporting non-DERP documentation and would maintain the documentation in the Army Environmental Database-Cleanup Compliance System.

Audit Response. We disagree with the Army comment regarding Rocky Mountain Arsenal. We concluded that Rocky Mountain Arsenal had no supporting documentation for an audit trail regarding the conversion of the program management estimates to the DSERTS site database reported to the AEC.

An adequate audit trail and sufficient supporting documentation did not exist for the estimates developed by either the Omaha Center's, contractor, or district personnel. We reviewed the Omaha Center's central process for developing FUDS estimates. The Omaha Center only had access to raw data inputs from FUDSMIS in developing OEW project estimates and maintained only FUDSMIS extracts as documentation of the estimates. Source records and documentation that support the FUDSMIS extracted data were not maintained at the Omaha Center. Although centrally developing the estimates does assist with consistency and reliability, maintaining adequate documentation is also a requirement outlined in both the FMR and the FUDS Manual. The Omaha Center's documentation was not adequate to support an effective audit trail as defined by the FMR. The FUDS Manual gives individual district FUDS project managers the ultimate responsibility to develop and report costs in the FUDSMIS. Therefore, all supporting documentation for the estimates should be located at the individual district. In addition, DERP guidance requires that supporting documentation exist at the time of an audit. We believe that an effective audit trail must exist for all estimates reported on the financial statements no matter what process or method is used to develop the estimates.

We disagree with the Army comments regarding BRAC Office reviews of installation estimates. In several instances installation-calculated environmental liability estimates exceeded reported financial statement amounts. We do not agree that the installation estimate increases resulted from a change in remediation strategy but rather were a more accurate estimate of existing strategies. The auditors requested but did not receive documentation of the remediation strategy reviews performed by the BRAC Office. Based on verbal and e-mail comments by BRAC Office and installation officials, we maintain that Army BRAC estimates were influenced by budget and funding constraints. We provided further details on this issue in our Appendix E response to Army comments.

Army Comments on Supervisory Reviews. The Army stated that signed installation action plans served as documentation of supervisory review. The Army questioned whether an example for Aberdeen Proving Grounds reflected a lack of an active installation supervisory review. The Army partially agreed that FUDS activities had inadequate supervisory review documentation. The Army believed that the term "supervisory review" was too restrictive, and that FUDS district project managers are more qualified to review estimates, rather than the cost estimator's direct supervisor because the project manager has more knowledge about project details. The Army agreed that non-DERP activities have inadequate documentation of supervisory reviews. The Army stated that non-DERP activities will be included in installation action plans and the signed copy of the plan will be documentation of supervisory review. Beginning in FY 2004 a supervisory review checklist will be included in the installation action plans to

document the review of DERP active installation and non-DERP liability estimates. The Army is drafting a checklist to document FUDS reviews.

Audit Response. Although installation and AEC management do approve DERP installation action plans, the approval process does not include verification of critical elements such as supporting documentation and audit trail. DERP active installation personnel stated to us that the management approval process includes reviewing the cleanup strategy and whether the installation can perform the cleanup plan within budget constraints. In response to the Army comments we revised the Aberdeen Proving Grounds example.

We agree that the Corps of Engineers can designate an official other than the supervisor of the estimator to perform the supervisory review. However, we found that district project manager reviews focused solely on a programmatic review of the estimates to ensure that cost allocation met proposed fiscal year funding. We believe that the supervisory review must analyze the estimate for accuracy, completeness, and reasonableness, not just cost allocation.

The planned DERP active installation, FUDS, and non-DERP checklists should help resolve supervisory review issues and facilitate an appropriate documented review if the checklist includes review of critical elements such as supporting documentation and audit trail.

Army Comments on Quality Assurance Reviews. The Army disagreed with report statements regarding the AEC timing of AEC performed quality assurance reviews of DERP active installation and BRAC FY 2002 estimates. The Army stated that the AEC quality assurance reviews took place during the FY 2002 data call. The Army disagreed with report statements regarding the AEC quality assurance review of Rocky Mountain Arsenal noting that the AEC had completed the quality assurance review for the Arsenal. The Army agreed with finding statements that Army did not implement adequate non-DERP quality assurance procedures and that the Army did not follow FMR guidance for developing estimates for non-DERP liabilities. By September 2005, AEC would implement a non-DERP quality assurance program similar to the DERP and BRAC programs and would ensure installations achieve appropriate supervisory review and quality assurance in accordance with the Army Chief Financial Officer strategic plan.

Audit Response. Although the Army performed a quality assurance review of 41 DERP active installation and BRAC estimates reported in FY 2001, AEC did not complete the last of the 41 reviews until September 2002, a full year after the Army reported the environmental liability estimates on the FY 2001 financial statements and just prior to the FY 2002 fiscal year end. Because AEC finalized the review after the Army reported the estimates the review had little effect on the FY 2002 financial statements.

Although AEC started a FY 2002 quality assurance review of Rocky Mountain Arsenal, AEC stopped the review because of a lack of a record trail and crosswalk between project site and RCTCS site estimates. As noted in the report, AEC did not include Rocky Mountain Arsenal in its FY 2002 quality assurance review compilation.

Army Comments on Controls Over Feeder Systems. The Army agreed that that controls over the RCTCS/DSRTS feeder system were inadequate for FY 2002 BRAC environmental liability estimates. The Army disagreed with report statements characterizing the non-DERP EPR system as a feeder system.

Audit Response. We consider the EPR to be a feeder system because it is the source of non-DERP environmental liability data for the Army financial statement reporting. Based on Army comments we expanded the finding discussion on feeder systems to discuss the EPR.

Army Comment on Management Corrective Actions. The Army noted that several specific environmental liability control improvements are presently being implemented in the Army Chief Financial Officer Strategic Plan, the Army Environmental Cleanup Strategic Plan, and individual program management strategic plans for DERP active installations, DERP-FUDS, BRAC and non-DERP programs. The completion goal for the various strategic plan initiatives was September 2005. The finding did not address the development of non-DERP program guidance and the AEC development of the Army Environmental Database-Cleanup Compliance as the non-DERP feeder system. The Army planned to implement the new feeder system by the end of September 2005. The new non-DERP feeder system would allow estimators to revise estimates without creating a discrepancy with RACER estimates.

Audit Response. Based on the Army comments we revised the management corrective action discussion to note the development of the new Army non-DERP program guidance, the new non-DERP feeder system, and environmental liability control improvements presently being implemented in the Army Chief Financial Officer Strategic Plan the Army Environmental Cleanup Strategic Plan and individual program management strategic plans for DERP active installations, DERP-FUDS, BRAC and non-DERP programs.

Army Comment on Management Controls. The Army disagreed with report statements that identified a material management control weakness relating to Army DERP, BRAC, and non-DERP environmental liabilities not being adequate to ensure the data and processes used by the Army to report environmental liability estimates on the financial statements were reliable. The Army stated that in-process corrective actions identified in the Army Chief Financial Officer Strategic Plan would improve the reliability of data and processes used by the Army to report environmental liability estimates on annual financial statements. The Army noted that it was on course to achieve milestones of a qualified opinion to its annual financial statements in FY 2007 and an unqualified opinion in FY 2010.

Audit Response. We believe that a material management control weakness existed at the time of this review relating to relating to Army DERP, BRAC, and non-DERP environmental liabilities. Army compliance with Recommendations A.1., A.2., and A.3., including the in-process corrective actions noted in the report and in the Army management comments, should alleviate the material management control weaknesses.

Management Comments on Finding B and Audit Response

The Army concurred with finding B but made no further comment. The Air Force did not comment on finding B. The Navy made several comments relating to the VV&A review of the CTC-NORM system that is addressed below.

Navy Comments on Electronic Cost Estimating System Guidance. The Navy agreed with report statements that the Navy technically complied with existing DoD and Navy modeling and simulation requirements. However, the Navy disagreed with report statements that the Navy modeling and simulation guidance did not include specific requirements for VV&A of modeling systems and that risk was increased because the Navy did not update its modeling and simulation guidance as required by current DERP guidance. The Navy noted that the accreditation effort was well beyond substantial completion prior to the issuance of the current DERP guidance on September 28, 2001. The NAVFAC performed the VV&A in conjunction with the Navy Model and Simulation Management Office to ensure compliance with DoD and Navy instructions. Navy policies and procedures are designed to be flexible to address the unique situation of each VV&A and that the accreditation authority may tailor the process to meet specific requirements and objectives. The report language implied that the Navy should have stopped the VV&A process after one year of effort to formalize the policies and procedures used to conduct the VV&A. The Navy VV&A process was not affected by the issuance of the current DERP guidance, as the guidance does not contain any specific or substantive requirements for conducting VV&As.

Audit Response. We do not consider the 2001 CTCNORM VV&A to be in compliance with the current DERP guidance requirements. CTCNORM VV&A documentation provided no indication of revising Secretary of the Navy Instruction 5200.4 or accompanying Navy Model and Simulation Management Office guidance. The report presents the events of the 2001 CTCNORM VV&A and makes no explicit or implied comment on the NAVFAC management decision to issue a final accreditation of the CTCNORM on October 18, 2001, without apparent consideration of the revised DERP guidance issued three weeks earlier. Report Recommendation B.1 allows the Navy the opportunity to comply with the revised DERP guidance by documenting the revision to its modeling and simulation applications policies, procedures, and guidelines to allow performance of a VV&A for an environmental liabilities cost estimating system. Although we agree the current DERP guidance does not contain specific technical requirements for conducting environmental liability cost estimating systems VV&As, it does require reviewing and coordinating DoD VV&A policies and procedures, and integrating DoD publications into the Component's program. The guidance also requires developing implementation and supplementation documents for DoD Instruction 5000.61, and establishing VV&A policies, procedures, and guidelines for modeling and simulation applications.

Navy Comments on Face Validation Method. The Navy disagreed with selected report statements regarding the CTCNORM VV&A face validation method, noting that the statements gave the impression that the Navy conclusion to perform a face validation was flawed. The NAVFAC, in consultation with the Navy Model and Simulation Management Office, determined that face validation was the only practical means of validation because of the lack of long-term

historical data needed to perform a quantitative comparison. The Navy noted a report statement regarding current environmental liability data not being available to perform a validated comparison of estimated to actual costs.

Audit Response. The NAVFAC accreditation authority accepted the decision of the contract accreditation team to perform a face validation based on the previously stated four risk assessment guidelines. Neither the VV&A report nor the accompanying VV&A documentation provides any support for the stated NAVFAC decision to perform a face validation. The audit report statement noted by the Navy regarding project data not being available to perform a validated comparison of estimated to actual costs were in fact NAVFAC statements from a July 24, 2003, NAVFAC memorandum to us. The audit report attributes the statements to NAVFAC. We did not validate the accuracy of the NAVFAC statements.

Navy Comments on Accreditation Risk Assessment. The Navy disagreed with report statements that the risk assessment guidelines used by the CTCNORM accreditation team were questionable. Beyond the risk assessments used, a low-risk determination was valid given the relative impact of the CTCNORM tool to assist in estimating specific project costs. Cleanup projects also involve reliance on the professional judgment of the estimator for projects that may be executed several years later. The original estimates would differ from executed costs because of changes in project requirements. The Navy concluded that isolating only the impact of the tool to the cost justifies a lower risk.

Audit Response. The CTCNORM accreditation team used only the four questionable risk assessment guidelines noted in the finding discussion to justify a relative low impact of the CTCNORM tool. The Navy comments did not attempt to defend those guidelines but rather offer additional justification. Although we agree that the use of any environmental cost estimating system requires the reliance on the professional judgment of a qualified and trained estimator and use of the best information known at the time of estimate, we disagree that the tool itself is only a minor factor. Application of a consistent, verified, and validated environmental cost estimating system tool is essential in providing reliable estimates. Environmental cost estimating systems should be used to annually capture new information, including project requirements changes, and to recalculate resulting cost estimates.

Appendix H. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller)/Chief Financial Officer
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)
Under Secretary of Defense for Acquisition, Technology, and Logistics
Deputy Under Secretary of Defense (Installations and Environment)

Department of the Army

Assistant Secretary of the Army (Financial Management and Comptroller)
Auditor General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Naval Inspector General
Auditor General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Department of the Air Force

Combatant Command

Inspector General, U.S. Joint Forces Command

Other Defense Organizations

Director, Defense Finance and Accounting Service
Director, Defense Logistics Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform
House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform
House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform

Under Secretary of Defense (Comptroller)/Chief Financial Officer Comments



COMPTROLLER

UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

MAR 12 2004

MEMORANDUM FOR THE DEPUTY INSPECTOR GENERAL FOR AUDITING,
DEPARTMENT OF DEFENSE

SUBJECT: Draft Report on Environmental Liabilities Required To Be Reported on Annual
Financial Statements (Project No. D2003CB-0037)

I appreciate the opportunity to comment on your subject draft report, even though there are no recommendations for my office. I am very concerned over your assertion of the intentional misrepresentation of the Base Realignment and Closure (BRAC) environmental liability in the Department of the Army's fiscal year (FY) 2002 financial statements. Your report should recommend that the Army further investigate the assertion and take appropriate action, including action against the individuals involved, to prevent this misrepresentation from occurring in the future. Appropriate action could also involve ethics training.

Your report asserts that the BRAC Office instructed two installations to use FY 2001 environmental liability estimates as their FY 2002 reported estimates. Your report further states "The methods used by the BRAC Office to reduce installation estimates included requesting a more optimistic cost assumption, use of an inappropriate clean up strategy, reporting FY 2001 estimates instead of FY 2002 estimates, and allowing submitted projects to be omitted in the FY 2002 financial statements." The type of behavior you are describing cannot be tolerated in the Department, if we are to maintain the public's trust that we are good stewards of the resources that we are provided.

My staff point of contact on this matter is Mr. James L. Ariail, Jr. He may be reached by e-mail: james.ariail@osd.mil or by telephone at (703) 693-5657.

A handwritten signature in black ink, appearing to read "D. S. Zakheim".

Dov S. Zakheim

cc: DUSD(I&E), ASA(I&E)

Deputy Under Secretary of Defense (Installations and Environment) Comments



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

APR 06 2004

MEMORANDUM FOR DIRECTOR, CONTRACT MANAGEMENT DIVISION
INSPECTOR GENERAL DEPARTMENT OF DEFENSE

THROUGH: DIRECTOR, ACQUISITION RESOURCES & ANALYSIS *WS 4/14/04*

SUBJECT: DoD Response to Recommendations from DoD IG Draft Report
D2003CB-0037, "Report on Environmental Liabilities Required To
Be Reported on Annual Financial Statements" dated February 19,
2004

Thank you for the opportunity to comment on the subject report. This office concurs with the draft report recommendations. Our response to recommendation A.1. of the report is attached.

Our primary action officer is Mr. Gregory Schirf, (703) 604-1732.

Alex A. Beehler

Assistant Deputy Under Secretary of Defense
(Environment, Safety, and Occupational Health)

Attachment:
As stated



DOD IG DRAFT REPORT – DATED FEBRUARY 19, 2004
PROJECT NO. D2003CB-0037

“ENVIRONMENTAL LIABILITIES REQUIRED TO BE REPORTED
ON ANNUAL FINANCIAL STATEMENTS”

Recommendation # A.1: We recommend that the Deputy Under Secretary of Defense (Installations and Environment) develop and implement program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. At a minimum, the guidance should include a quality assurance and quality control program requirement at installation, intermediate, and headquarters levels to specify that:

- a. adequate documentation for data used to report environmental liabilities is prepared to include the underlying basis, assumptions, and methodology used in developing the estimates;
- b. estimates are developed by a qualified estimator and reviewed for reasonableness; and
- c. adequate documentation of supervisory reviews and quality assurance review scope and results are maintained.

DoD Response: Concur. The Defense Environmental Restoration Program (DERP) guidance covering DERP active, DERP FUDS, and BRAC already has these types of policies in place, but further guidance is planned by the end of FY2004 to ensure that these recommendations are fully addressed. The Deputy Under Secretary of Defense (Installations and Environment) plans to issue guidance for the non-DERP program during FY 2004 that will fully address the recommendations of the draft report.

Department of the Army Comments



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
INSTALLATIONS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

MAR 23 2004

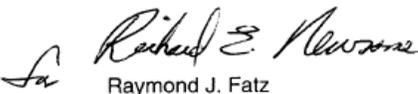
MEMORANDUM FOR DEPUTY AUDITOR GENERAL FOR INSTALLATIONS
MANAGEMENT

SUBJECT: Report on Environmental Liabilities Required To Be Reported on Annual
Financial Statements (Project No. D2003CB-0037)

Reference memorandum from the Department of Defense Inspector General,
dated February 19, 2004, subject as above, regarding the Army Audit Agency, HQDA
Tracking # 40327413, dated March 1, 2004.

This office has reviewed the subject document and the comments are attached.

Questions regarding these comments should be directed to Mr. Rick Newsome,
(703) 697-1987.


Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA(I&E)

Attachment

**Army Response to the DoDIG Report on
“Environmental Liabilities Required To Be Reported on Annual Financial Statements”
Project No. D2003CB-0037
February 19, 2004**

The Army has reviewed the subject report with particular attention to Section A, and Appendices A, C, D, E and F. Management comments are provided for applicable recommendations, findings, and the material management control weakness discussed in Section A and Appendices A, C, D, E and F.

RECOMMENDATIONS IN SECTION A. ARMY ENVIRONMENTAL LIABILITIES

RECOMMENDATION A.1.a.

“DoDIG recommends the DUSD (I&E) develop and implement program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. At a minimum, the guidance should include a quality assurance and quality control program requirement at installation, intermediate, and headquarters levels to specify that:

- a. adequate documentation for data used to report environmental liabilities is prepared to include the underlying basis, assumptions, and methodology used in developing estimates.”

Army Response to Recommendation A.1.a.: The Army partially concurs with this recommendation. Following are comments and action taken or planned with scheduled completion goals are provided.

Comments:

At this time, DUSD (I&E) has not provided program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. However, when this additional guidance is available, the Army will implement accordingly. Until that time, the Army will implement the suggested criteria presented in DoDIG’s November 2003 draft document *Achieving Auditable Environmental Liabilities*. Also, the Army has already incorporated specific tasks in the Assistant Secretary of the Army (Financial Management and Comptroller) *Army Chief Financial Officer (CFO) Strategic Plan* as well as the *Army Environmental Cleanup Strategic Plan* and individual *Program Management Plans* (for active Defense Environmental Restoration Program (DERP), Formerly Used Defense Sites (FUDS) DERP, Base Realignment and Closure (BRAC) and non-DERP).

Active DERP and BRAC specific:

Actions taken or planned:

The United States Army Environmental Center (USAEC) will ensure installations have adequate documentation and will also maintain the documentation at USAEC in the Army Environmental Database – Restoration (AEDB-R) in accordance with the *Army CFO Strategic Plan*.

Attachment

* The Army is referring to an OIG DoD environmental liabilities best practices working draft provided to, and at the request of, the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer to aid in improving future environmental liability submissions. The OIG DoD will not issue the working draft in final form.

Completion Goal: Sep 2005

FUDS specific:

For the FUDS Military Munitions Response Program (MMRP), projects are estimated centrally by the United States Army Corps of Engineers (USACE) Center of Expertise. Although adequate documentation did not exist at the field level, the report does not acknowledge that it does exist centrally at the Center of Expertise. By not clarifying this, the report leads the reader to believe that no documentation for cost estimating factors exists at all.

Actions taken or planned:

A cost estimate plan is being considered for development; detailed MMRP data dictionary and Archive Search Reports supplements will be distributed to the field; other actions that would improve the audit trail are being considered. Achieving reliable documentation is monitored in the *Army CFO Strategic Plan*.

Completion Goal: Sep 2005

Non-DERP specific:

The USAEC will ensure installations have adequate documentation and will also maintain the documentation at USAEC in the Army Environmental Database – Cleanup Compliance (AEDB-CC) in accordance with the *Army CFO Strategic Plan*.

Completion Goal: Sep 2005

RECOMMENDATION A.1.b.

“b. estimates are developed by a qualified estimator and reviewed for reasonableness.”

Army Response to Recommendation A.1.b: The Army concurs with comments.

Comments: At this time, DUSD (I&E) has not provided program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. However, because the findings of this report found estimators properly qualified to perform environmental cost estimating, until the additional guidance is available for implementation, the Army will continue to ensure that all estimators are trained and qualified and that all estimates are reviewed for reasonableness.

RECOMMENDATION A.1.c.

“c. adequate documentation of supervisory reviews and quality assurance review scope and results are maintained.”

Army Response to Recommendation A.1.c.: The Army partially concurs with this recommendation. Following are comments and action taken or planned with scheduled completion goals are provided.

Comments:

At this time, DUSD (I&E) has not provided program guidance to improve the development, recording, and reporting of environmental liabilities on DoD and Service financial statements. However, when this additional guidance is available, the Army will implement accordingly. Until that time, the Army will implement the suggested criteria presented in DoDIG's November

2003 draft document *Achieving Auditable Environmental Liabilities*. Also, the Army has already incorporated specific tasks in the Assistant Secretary of the Army (Financial Management and Comptroller) *Army Chief Financial Officer Strategic Plan* as well as the *Army Environmental Cleanup Strategic Plan* and individual *Program Management Plans* (for active DERP, FUDS DERP, BRAC and non-DERP).

Active DERP and BRAC specific:

Actions taken or planned:

Supervisory review will be noted by signature in the Installation Action Plan (IAP). Beginning in Fiscal Year (FY) 2004, a signed Supervisory Review Check List will be included in the IAP to document supervisory review of the liability estimates. The same action can be implemented for BRAC with the exception that IAPs will only occur at installations that are either partial BRAC (included in the active side's portion of their IAP) or exceeding the FY05 remedy in place/response complete (RIP/RC) goal for BRAC. BRAC installations exceeding this FY05 goal will have an IAP by the end of FY05. Quality Assurance, already in place with active DERP and BRAC will continue under the USAEC Program Management Branch. Achieving appropriate supervisory review and quality assurance is monitored in the *Army CFO Strategic Plan*.

Completion Goal: Sep 2005

FUDS specific:

The USACE agrees that documentation would simplify audits. However the term "supervisory review" is too restrictive and may not produce the best results for USACE. USACE is developing a checklist to document cost estimate reviews to be conducted by the Project Manager. In USACE the Project Manager is generally not the supervisor of the cost estimator, but would be more qualified to perform a review than the cost estimator's supervisor who would generally know very little about a specific project. Request that "supervisory review" be replaced with "management review" or "supervisory/management review" or make it clear that a review by a Project Manager would qualify as a supervisory review.

Actions taken or planned: A Checklist has been drafted to document management reviews. Procedures for quality assurance reviews are being developed. Procedures for tracking both are being considered. Achieving appropriate supervisory review and quality assurance is monitored in the *Army CFO Strategic Plan*.

Completion Goal: Sep 2005

Non-DERP specific:

Non-DERP activities are currently being incorporated into the IAP, therefore supervisory review will be noted by signature in the IAP for non-DERP activities also. Beginning in FY04, a signed Supervisory Review Check List will be included in the IAP to document supervisory review of the liability estimates. Quality Assurance, already in place with active DERP and BRAC, will be implemented for non-DERP activities under the USAEC Program Management Branch. Achieving appropriate supervisory review and quality assurance is monitored in the *Army CFO Strategic Plan*.

The USAEC will ensure installations achieve the appropriate supervisory review and quality assurance in accordance with the *Army CFO Strategic Plan*.

Completion Goal: Sep 2005

* The Army is referring to an OIG DoD environmental liabilities best practices working draft provided to, and at the request of, the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer to aid in improving future environmental liability submissions. The OIG DoD will not issue the working draft in final form.

RECOMMENDATION A.2.a.

"We recommend the Army Assistant Chief of Staff for Installation Management require the Army Commander, Base realignment and Closure office, establish procedures to verify that Army Base Realignment and Closure environmental liability estimates are true and meaningful as required by the Financial Management Regulation and not adjusted because of budgetary constraints."

Army Response to Recommendation A.2.a: The Army non-concurs with this recommendation. The following comments are provided.

Comments:

In accordance with the responses to Recommendations A.1.a and A.1.c, the Army agrees that the BRAC Division should establish procedures to achieve auditable environmental cost estimates for financial statements. However, the Army strongly objects to the suggestion that estimates were adjusted because of potential budget constraints.

The BRAC Division conducted reviews of the cost-to-complete (CTC) and made changes based on what the BRAC Division believes is the most likely remediation scenario. This was not done in a vacuum. These decisions were made in coordination with the field offices, installations, and USAEC and reflect the program manager's discretion to direct BRAC implementation strategies.

Appendix E of the IG report seems to imply that the Army BRAC program should be using worst-case scenarios and regulatory driven requirements to estimate its environmental liabilities. This contradicts the Chief Financial Officers Act of 1990 that directs the use of "most probable environmental liabilities", not the worst case. To clarify the issue of "regulatory driven requirements," the BRAC Division does not disagree that it should program dollars necessary to comply with environmental regulations. However, often times the regulatory community (state and/or the Environmental Protection Agency (EPA)) pushes for more extensive, and expensive, remediation than required by law. When these circumstances arise, the Army BRAC Division often directs the installation to pursue a more cost effective remedial solution while still complying with environmental regulations.

The Army BRAC Division disagrees that the rejection of FY02 estimates at two installations resulted in an understatement of the Army liabilities. During the review of the CTC, the BRAC Division determined that installations did not provide sufficient justification for the change in remediation strategy that resulted in the increases. The BRAC Division therefore directed the installations to continue to pursue the remediation strategy previously agreed to and documented in the FY01 CTC.

The BRAC Division did explain that the BRAC program's total liability has not been reduced commensurate with the annual investment in the program (i.e. it hovers around \$1 billion in spite of \$150M to \$300M annual investment). For this reason the BRAC Division has applied additional scrutiny to all environmental liabilities, which prompted the CTC review conducted in the summer of FY02.

Actions taken or planned: BRAC will use the same procedures as active installations for developing cost estimates, importing the estimates into AEDB-R and ensuring that the estimates are consistent throughout the reporting process (underway).

Completion Goal: Sep 2005

RECOMMENDATION A.2.b

“We recommend that the Army Assistant Chief of Staff for Installation Management require the Commander, U.S. Army Corps of Engineers, establish a district and division level quality control program to assess the reliability of the processes and controls used to develop, approve, and forward the environmental liability estimates before the estimates are reported.”

Army Response to Recommendation A.2.b.: The Army concurs with this recommendation and also provides the following comments.

Comment: Most of the FUDS estimates are developed centrally because it can be difficult for districts and divisions to feel the importance of spending program management dollars annually updating cost estimates for projects that may not start for 5, 10 or 30 years. These estimates account for most of the FUDS reported liability. There are internal controls in place for these. The report did not reflect this.

Actions taken or planned: Plan of action is being developed.

Completion Goal: Sep 2005

FINDINGS AND RECOMMENDATIONS IN SECTION B. – ENVIRONMENTAL LIABILITY ELECTRONIC COST ESTIMATING SYSTEMS

Findings. The Army concurs with the findings and provides no comments.

Actions taken or planned: The Army, including USACE, and the Air Force are looking at possible options for corrective actions.

RECOMMENDATION B.1. *Applicable to Navy. Not applicable to Army and USACE.*

RECOMMENDATION B.2.

“We recommend that the Commander, Air Force Civil Engineering Support Agency issue guidance requiring that future environmental liabilities electronic cost estimating system verification, validation, and accreditation efforts comply with the following:

- a. September 2001 Defense Environmental Restoration Program Management Guidance, Section 15.7., requirements for policy, procedures and guidelines for environmental liabilities modeling and simulation applications.
- b. Air Force Instruction 16-1001 requirements that the verification and validation agents submit a separate verification and validation report documenting verification and validation activities, results, and recommendations.
- c. DoD Instruction 5000.61 and Air Force Instruction 16-1001 requirements that information and data on verification, validation, and accreditation activities be readily available through the DoD Modeling and Simulation Resource Repository system, including DoD Component verification, validation, and accreditation policies and

procedures, of verification and validation results, and accreditation documentation.”

Army Response to Recommendation B.2.: The Army concurs with comment.

Comment: The Army and USACE are currently planning to work with the Air Force to assist with getting corrective actions completed for Remedial Action Cost Engineering Requirements (RACER).

Actions taken or planned: The Army and USACE are currently planning to work with the Air Force to assist with getting corrective actions completed for RACER.

FINDINGS IN SECTION A. ARMY ENVIRONMENTAL LIABILITIES

The findings in Section A. *Army Environmental Liabilities* of this report are not easily discernable. The Army’s opinion of the overarching finding is that DoDIG believes that the Army did not implement adequate quality control programs to ensure the reliability and accuracy of environmental liability estimates.

DERP-Specific Findings:

1. The Army did not have adequate audit trails to ensure that documentation was readily available to support the underlying assumptions of estimates. (Table 2 – 184 of 231 estimates had inadequate documentation/audit trails).
2. The Army did not routinely document supervisory reviews of environmental liability estimates. (Table 3 – 0 of 231 estimates had documented supervisory reviews). Supervisors reviewed some estimates, but no documentation showing specifically what the supervisor reviewed.
3. The Army did not implement adequate quality assurance (QA) / quality control (QC) programs to ensure the reliability and accuracy of environmental liability estimates. The DoDIG identified inconsistencies between the USAEC QA reviews and the DoDIG reviews regarding adequacy of documentation and audit trails. Also, the USAEC QA reviews had little effect on the program since they were not finalized until late fall 2002.
4. The Army did not follow Financial Management Regulation (FMR) guidance and DERP management guidance by not updating and reporting liability estimates in current year dollars.
5. DERP activities lacked effective and reliable controls over feeder systems. (Table 4 - 163 of 231 estimates not accurately reflected in feeder databases).

Army Response to Findings: The Army partially concurs with these findings. The Army agrees that documentation of adequate audit trails are deficient and that for the FY02 Financial Statement controls over the Restoration Cost-to-Complete System (RCTCS) / Defense Site Environmental Restoration Tracking System (DSERTS) feeder system were not in place. The following comments are provided.

Comments:

Reporting, not documentation, was an issue at the Rocky Mountain Arsenal. Upon completion of the Army quality assurance review it was determined the Arsenal maintained documentation on 31 projects yet was forced to report on 72 RCTCS/DSERTS estimates. Army management made the decision to consolidate the RCTCS/DSERTS estimates to match the supporting documentation, however as stated in the DoDIG report these actions were not reflected in the FY02 liability estimates. We agree there may be differences between the DoDIG and USAEC reviews but the reference to Rocky Mountain Arsenal diminishes the effort the Army has put forth in implementing a quality assurance review program.

The documentation of supervisory review for active installations is built into the Army's DERP IAP program. A signed IAP is documentation of supervisory review and approval. Beginning in FY 2004, a signed Supervisory Review Check List will be included in the IAP to document supervisory review of the liability estimates. It is not clear how the Aberdeen Proving Ground example given reflects a lack of supervisory review.

The internal quality control program to ensure Army activities (active and BRAC installations) reported complete and correct data was implemented at the USAEC. For FY02, the USAEC reviewed all environmental liability estimates during the data call. Procedures for conducting the review are included in the FY02 CTC Review Plan.

Non-DERP-Specific Findings:

1. The Army did not implement adequate QA procedures to ensure the reliability and accuracy of the reported environmental liability estimates. The USAEC QA reviews did not include reviews of source documentation or evaluate the estimate methodology or audit trail.
2. The Army did not follow FMR guidance and did not establish guidance for developing estimates for non-DERP environmental liabilities.

Army Response to Findings: The Army concurs with these findings and also offers the following comments.

Comments:

The findings do not acknowledge that the Army is developing program guidance and a data reporting system similar to DERP to adequately report liabilities. Also, DoDIG should have noted that the Environmental Program Requirements (EPR) is not a feeder system and therefore controls over feeder systems were not reviewed for this report. For non-DERP, the USAEC is developing and releasing the AEDB-CC feeder system for use in FY 2005. This AEDB-CC feeder system is capable of importing RACER estimates as well as entering and revising CTC estimates and is a more accurate cost estimating automated process that will reduce the possibility of errors currently received via the EPR web based system. In addition, the AEDB-CC feeder system will allow estimators to revise estimates without creating a discrepancy with the RACER estimate.

FUDS-Specific Findings:

1. The USACE did not have adequate audit trails to ensure that documentation was readily available to support the underlying assumptions of estimates. (Table 2 – 299 of 300 estimates had inadequate documentation/audit trails).
2. The USACE did not routinely document supervisory reviews of environmental liability estimates. (Table 3 – 0 of 300 estimates had documented supervisory reviews) and did not use a uniform supervisory checklist.
3. The USACE did not implement adequate QA/QC programs to ensure the reliability and accuracy of environmental liability estimates. The USACE did not implement quality control programs at the District or Division level and relied on its Center of Expertise to perform limited reviews when funds were available. Recommendations were not always implemented.
4. The USACE did not follow FMR guidance and DERP management guidance and did not update and report liability estimates in current year dollars.
5. USACE activities lacked effective and reliable controls over feeder systems. (Table 4 – 197 of 300 estimates not accurately reflected in the Formerly Used Defense Sites Management Information System (FUDSMIS) database).

Army Response to Findings: The Army partially concurs with these findings. The USACE agrees that documentation of adequate audit trails is deficient. The following comments are provided.

Comments: USACE agrees that documentation and audit trails need improvement, however USACE believes that the vast majority of cost estimates for future projects are reliable and accurate based on existing information. USACE staff is not aware of any substantive review of the approximately 45 data elements and the actual cost estimating process for the "non-active" FUDS MMRP projects, which account for most of the FUDS liabilities. Only 3 data elements were reviewed, as stated in footnote 1 on p. 40. More importantly, the auditors did not review the Center of Expertise's centralized process for developing consistent, repeatable estimates through uploads of FUDSMIS data elements to RACER and consistent application of cost estimating assumptions. USACE believes this process reflects strong internal controls in generating the estimates, and it is an entirely separate process from developing an adequate audit trail and conducting QA/QC reviews.

The report emphasizes one of the main thrusts of The Codification of Statements on Auditing Standards, Section 342, is the review of the data and processes used to generate the estimates. The Results section of the Executive Summary, the most prominent section of the report, needs to incorporate the statements made on page 29, second paragraph, that the auditors "did not conduct detailed substantive testing of the Army DERP, ...estimates..." and that they "did not evaluate or make an assessment on the accuracy of the reported environmental liability." Including this point in the Executive Summary will avoid the potential misperception that the estimates are not at all reliable.

page 44

Revised

page 33

Revised

BRAC-Specific Findings:

1. The Army did not have adequate audit trails to ensure that documentation was readily available to support the underlying assumptions of estimates. (Table 2 – 108 of 143 estimates had inadequate documentation/audit trails).
2. The Army did not routinely document supervisory reviews of environmental liability estimates. (Table 3 – 31 of 143 estimates had documented supervisory reviews). Installation personnel considered submittal of estimates to higher-level management as supervisory review.
3. The Army did not implement adequate QA/QC programs to ensure the reliability and accuracy of environmental liability estimates. The DoDIG identified inconsistencies between the USAEC QA reviews and the DoDIG reviews regarding adequacy of documentation and audit trails. Also, the USAEC QA reviews had little effect on the program since results were not finalized until late fall 2002 and no formal action was taken by the BRAC Division to implement findings.
4. The Army did not follow FMR guidance and DERP management guidance and the BRAC Division applied predetermined criteria that included a self-generated \$1B ceiling constraint which limited the total environmental liability recognized.
5. BRAC activities lacked effective and reliable controls over feeder systems. (Table 4 - 69 of 143 estimates not accurately reflected in feeder databases).

Army Response to Findings: The Army partially concurs to these findings. The Army agrees that documentation of adequate audit trails are deficient and that for the FY02 Financial Statement controls over the RCTCS/DSERTS feeder system were not in place. However, the Army strongly objects to the inference that "estimates were adjusted because of potential budget constraints". This is mentioned in the Executive Summary (page ii, third paragraph, line five) and throughout the document when referring to BRAC. The following specific comments are provided.

Comments: The Army does not agree with the findings concerning compliance with Environmental Liabilities Guidance - BRAC Guidance. The report states that the Army BRAC Division reduced FY02 environmental liability estimates based on funding constraints. There is no basis for this statement. As we explained to the DoDIG, the BRAC Division conducted a review of the CTC with the Field Offices and installations, during which several changes were made based on a change in remediation or execution strategy. The Army BRAC Division did not arbitrarily change site estimates. In conducting the CTC review, the Army BRAC Division provided direction to the field offices and installations as to what the Army believes is the most likely remediation scenario. There is significant judgment involved with predicting the "most likely remediation scenario" and the BRAC Division sometimes disagrees with the installation or executors on the remediation strategy. However, as the program manager, the BRAC Division is the decision maker on what remediation strategy to pursue at a given installation. The Army agrees that there should be better documentation of this decision process.

FINDINGS AND RECOMMENDATIONS IN SECTION C. – NAVY NUCLEAR-POWERED SHIP DISPOSAL ENVIRONMENTAL LIABILITIES.

Not applicable to the Army

FINDINGS AND RECOMMENDATIONS IN SECTION D. – DEFENSE LOGISTICS AGENCY CONTINGENT ENVIRONMENTAL LIABILITIES.

Not applicable to the Army

Appendix A. Scope and Methodology

Finding in Appendix A. Material management control weaknesses were identified for the Army, as defined by DoD Instruction 5010.40. The Army DERP, BRAC, and non-DERP management controls were not adequate to ensure the data and processes used to report environmental liability estimates on the financial statements were reliable.

Army Response to Finding in Appendix A: The Army non-concurs with this finding. Beyond the existing program guidance, the Army has been taking measures to improve the reliability of data and processes used to report environmental liability estimates for the Army DERP, BRAC, and Non-DERP since this FY02 Army financial statement audit was conducted. The Army is reinforcing these measures through the development and implementation of tasks in the CFO Strategic Plan. These additional tasks will ensure the adequacy of supporting documentation, ensure the documentation of supervisory review on all project cost estimates, and ensure the completeness of all cost estimates. The Army is on course to achieve the two major milestones identified in the Army CFO Strategic Plan. These milestones consist of receipt of a qualified opinion on the financial statements by FY07 and an unqualified opinion by FY10. Findings and recommendations regarding adequate documentation of environmental liability estimates, completeness of estimates, supervisory reviews, and qualifications of the estimators are in the main body of the text in Section A and the Army has provided a response to those findings.

Appendix B. Prior Coverage

No Army comments

Appendix C. Army DERP Active Installations Environmental Liabilities

Finding in Appendix C. The process used by the Army to develop, review, approve, and forward the DERP active installation environmental liabilities on the financial statements had material internal control weaknesses including a lack of (1) adequate audit trails, (2) supporting documentation, (3) documented supervisory reviews and quality control reviews of the estimates, and (4) internal controls were not in place between the actual estimate and the RCTCS/DSERTS feeder system.

Army response to the findings in Appendix C. These findings are in the main body of the text in Section A and the Army has provided a response. Additional comments are provided below on specific findings in Appendix C.

Comments:

1. Page 34, Audit Trails and Documentation, 2nd sentence. "The lack of audit trails and supporting documentation occurred because staff at installations was not aware or did not follow ... guidance." Delete "was not aware or" because this contradicts DoDIG finding on estimator qualifications (page 9)

Page 38

2. Page 35, 1st paragraph, 3rd sentence. "Staff at Dugway and Camp Edwards were either unaware or did not follow the guidance. Delete "were either unaware or". See comment on estimator qualifications.

Page 39

4. Page 35, Undocumented Estimate Revisions. DoDIG statement regarding USAEC instructions to Redstone Arsenal environmental estimators is incorrect. Also, USAEC is fully aware of the requirements to maintain adequate documentation.

Page 39

5. Page 36, Consistency with Feeder System. Adjustments were made to the feeder system as a result of the Army's internal quality control program. Changes were made in consultation and approval with the installations

Page 39

6. Page 36, Adjustments to Feeder Systems. See comments above in "Consistency with Feeder System". "Staff at the USAEC attempted to go back and adjust estimates using RACER software to match the RCTCS/DSERTS database however they were unable to make the two systems agree." The Army disagrees and there is no evidence to support this allegation.

Pages 39-40
Revised

7. Page 37, Supervisory Review. The documentation of supervisory review for active installations is built into the IAP program. A signed IAP is documentation of supervisory review and approval. Beginning in FY 2004, a signed Supervisory Review Check List will be included in the IAP to document supervisory review of the liability estimates.

Deleted

8. Page 38, Army DERP Program Contingent Environmental Liability. Delete "for buried military munitions" from the second to last sentence. This is confusing as the Army determination of a contingent liability had nothing to do with buried military munitions. Also, throughout this paragraph change Military Munitions Response *Plan* to Military Munitions Response *Program*.

Page 41
Revised

Appendix D. Army DERP-FUDS Environmental Liabilities

Finding in Appendix D. The process used by the Army to develop, review, approve, and forward the FUDS DERP environmental liabilities on the financial statements had material internal control weaknesses including a lack of (1) adequate audit trails, (2) supporting documentation, (3) documented supervisory reviews and quality control reviews of the estimates, and (4) internal controls were not in place between the actual estimate and the FUDSMIS feeder system.

Pages 43-44

Comments:

1. Page 39, Control over FUDS Related Environmental Liabilities, 2nd sentence through the first paragraph of the Audit Trails and Documentation section. The text indicates that there was little documentation available. However this is not true for the centrally developed project cost estimates, the majority of the estimates. These cost estimates may not all exist at the field level, but they do exist at the Omaha center of expertise.

Page 44

2. Page 40, 4th paragraph, 8th line. The text indicates that there was a project that seemed to be "made up". That is not the case. We agree that the project file could not be located, however the file will be reconstructed with data available at other field offices within USACE.

Page 45

3. Page 41, 2nd paragraph. The paragraph states that no supporting documentation for \$1.1 billion in management and support costs were provided. However, no details are provided for what portion of the overall \$1.5 billion management and support costs are lacking supporting documentation. Future management and support costs are estimated from current costs. The Army cannot begin to address documentation regarding the \$1.1 billion until we are provided a better description.

Appendix E. Army BRAC Environmental Liabilities

Finding in Appendix E. The process used by the Army to develop, review, approve, and forward the BRAC environmental liabilities on the financial statements had material internal control weaknesses including a lack of (1) adequate audit trails, (2) supporting documentation, (3) documented supervisory reviews and quality control reviews of the estimates, and (4) internal controls were not in place between the actual estimate and the RCTCS/DSERTS feeder system.

Army response to the findings in Appendix E. These findings are in the main body of the text in Section A and the Army has provided a response. Additionally, the Army non-concurs with several specific findings in Appendix E. The following comments are provided.

Page 51

Comments:

1. Page 46 - BRAC Issues - The Army BRAC Division disagrees with the statement that it "failed to recognize the most probable environmental liabilities". As discussed above, the BRAC Division conducted reviews of the CTC and made some changes based on what the BRAC Division believes is the most likely remediation scenario. These decisions were made in coordination with the field offices, installations, and USAEC and reflect the program manager's discretion to direct BRAC implementation strategies.

Pages 51-52

2. Page 46 – BRAC Issues - The Army BRAC Division did not state that the environmental liability should not exceed \$1 billion. The BRAC Division did explain that the BRAC program's total liability has not been reduced commensurate with the annual investment in the program (i.e., it remains around \$1 billion in spite of \$150M to \$300M annual investment). For this reason the BRAC Division is applying additional scrutiny to all environmental liabilities, which prompted the CTC review conducted in the summer of FY02.

3. Page 47 - Optimistic Cost Assumption - The IG report seems to imply in this section that the Army BRAC program should be using worst case scenarios and regulatory driven requirements to estimate its environmental liabilities. This contradicts the Chief Financial Officers Act of 1990 that requires using the "most probable environmental liabilities", not the worst case. To clarify the issue of "regulatory driven requirements", the BRAC Division does not disagree that it should program dollars necessary to comply with environmental regulations. However, the regulatory community (state and/or the EPA) will request more extensive and expensive remediation than is required by law. When these circumstances arise, the Army BRAC Division often directs the installation to pursue a more cost effective remedial solution than is preferred by the regulatory community.

Page 52

4. Page 47 - Inappropriate Clean-Up Strategy - The Army BRAC Division disagrees with the assertion that the current remediation strategy at site SVAD-013, Old Burning Ground, Savanna Army Depot is inappropriate. The \$258M cost estimate that the DoDIG believes is appropriate is a worst case cost estimate that involved wide-scale excavation of an island in the bottomlands of the Mississippi River. The EPA and state have indicated that they would prefer removal of waste munitions in this open burn/open detonation area, however they understand there are technical difficulties and significant costs associated with this type of removal. They also understand that there are other risk management options at this site that may provide a more cost effective alternative that is also protective of human health and the environment. The Army does not agree with the DoDIG assertion that the most probable cleanup scenario at SVAD-013 will cost \$258M.

Page 52

5. Page 47 - Use of FY 2001 Estimates Instead of FY 2002 - The Army disagrees that the rejection of FY02 estimates at two installations resulted in an understatement of the Army liabilities. During the review of the CTC, the BRAC Division determined that the installation did not provide sufficient justification for the change in remediation strategy that resulted in the increases. The BRAC Division therefore directed the installations to continue to pursue the remediation strategy previously agreed to and documented in the FY01 CTC.

Page 52

Appendix F. Army Non-DEHP Environmental Liabilities

Finding in Appendix F. The process used by the Army to develop, review, approve, and forward the non-DEHP environmental liabilities on the financial statements had material internal control weaknesses including a lack of (1) adequate audit trails, (2) supporting documentation, and (3) documented supervisory reviews and quality assurance. Also, the DoDIG assessed that in the future the Army may be required to disclose certain estimates as contingent liabilities on the Note 16.

Army response to the findings in Appendix F. These findings are in the main body of the text in Section A and the Army has provided a response.

Appendix G. Report Distribution

Army has no comments.

Department of the Navy Comments



THE ASSISTANT SECRETARY OF THE NAVY
(FINANCIAL MANAGEMENT AND COMPTROLLER)
1000 NAVY PENTAGON
WASHINGTON, DC 20380-1000

INFO MEMO

March 19, 2004, 0800 hrs.

FOR: PROGRAM DIRECTOR, CONTRACT MANAGEMENT DIRECTORATE, OFFICE OF
INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

FROM: ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT AND
COMPTROLLER)

SUBJECT: DODIG DRAFT AUDIT REPORT OF 19 FEBRUARY 2004, ENVIRONMENTAL
LIABILITIES REQUIRED TO BE REPORTED ON ANNUAL FINANCIAL
STATEMENTS (PROJECT NO. D2003CB-0037)

- By the memorandum contained in subject audit (TAB B), Department of the Navy management was requested to provide comments on the applicable findings and recommendations.
- The environmental restoration managers from the Commander, Naval Facilities Engineering Command reviewed the subject audit. The Department of the Navy concurs with the recommendation that guidance meeting the Defense Environmental Restoration Guidance, Sep 01, will be issued in the future as environmental liability cost estimating system verification, validation, and accreditation efforts are conducted. Though the Department of the Navy agrees with the recommendation, per your direction, additional clarifying comments have been provided. The Department of the Navy's response and comments to the applicable findings and recommendations are found at (TAB A).
- My point of contact for this action is Warren Pfeiffer, (202) 685-6730 or e-mail warren.pfeiffer@navy.mil.

Attachments:

1. DON's Response and Comments (TAB A)
2. IG, DoD Audit (TAB B)

Prepared by: Warren Pfeiffer (202) 685-6730

DEPARTMENT OF THE NAVY RESPONSE
TO
DODIG DRAFT AUDIT REPORT OF 19 FEBRUARY 2004
*ENVIRONMENTAL LIABILITIES REQUIRED TO BE REPORTED ON ANNUAL
FINANCIAL STATEMENTS*
D2003CB-0037

DODIG Recommendation B.1: We recommend that the Commander, Naval Facilities Engineering Command issue guidance requiring future environmental liability electronic cost estimating system verification, validation, and accreditation efforts that comply with the September 2001 DERP Management Guidance, section 15.7., requirements for policies, procedures, and guidelines for environmental liabilities modeling and simulation applications.

Response: Concur, that for future environmental liability electronic cost estimating system verification, validation, and accreditation (VV&A) efforts, we will issue specific VV&A guidance in compliance with the current September 2001 DERP Management Guidance. However, the DOD IG recommendation language is ambiguous, and may be interpreted that the Department of the Navy's (DON) Cost-to-Complete (CTC) accreditation completed on 18 October 2001 was not in compliance with the current DERP guidance, and as a result, additional effort is necessary. The current DERP guidance was issued on 28 September 2001. The DON CTC accreditation was signed only two weeks later. The accreditation effort was well beyond substantial completion prior to the issuance of the current DERP guidance. **Moreover, the current DERP guidance only requires that the Services issue their own policies for conducting VV&As. The current DERP guidance itself does not contain any specific or substantive requirements for conducting VV&As.** We object to reopening the VV&A completed on 18 October 2001, and requiring additional efforts because the DoD IG may feel that the CTC VV&A was not in compliance with the current DERP guidance. The CTC VV&A was conducted in full compliance with current and previously issued DERP guidance. NAVFAC completed the VV&A in accordance with DoD Instruction 5000.61, SECNAV Instruction 5200.4, and under the close consultation and guidance of the Navy Model and Simulation Management Office. As stated by the IG in the draft report, the Navy's VV&A was "technically complying with existing DoD, Navy, and Air Force modeling and simulation requirements."

3. Attachment (a) contains further comments on specific statements made in the draft report. The points-of-contact on this issue is Mr. Brian Harrison (202) 685-9318 and Mr. Rob Sadorra (202) 685-9306.

TAB A

DEPARTMENT OF THE NAVY COMMENTS
TO
DODIG DRAFT REPORT OF 19 FEBRUARY 2004
*Environmental Liabilities Required
To Be Reported on Annual Financial Statements*
PROJECT NO. D2003CB-0037

Issue #1: Naval Facilities Engineering Command's (NAVFAC) compliance with DERP Guidance

DODIG Report Statement "the Navy did not update existing Navy modeling and simulation policies and procedures for compatibility with VV&A review of environmental liabilities parametric cost estimating systems as required by the DERP program guidance of September 2001. Thus the risk...was increased because the Government cannot be assured of the VV&A review quality" (Page 14).

Page 16

DODIG Report Statement, "Although the revised DERP guidance did apply to the Navy VV&A of the CTCNORM, it became effective approximately one month before the system was accredited" (Page 15).

Page 17

DON Comment:

We disagree with the statement that risk was increased because the Navy did not provide updated VV&A guidance as required by the latest DERP Guidance. The DERP Guidance was issued on 28 September 2001. The Department of the Navy's (DON) Cost-to-Complete (CTC) Accreditation was signed only two weeks after, on 18 October 2001. The accreditation effort was well beyond substantial completion prior to the issuance of the DERP guidance. Furthermore, in working in conjunction with the Navy Model and Simulation Management Office (NAVMSMO), NAVFAC performed the VV&A with what were considered to be the best policies, procedures and practices. The IG report language, as written, implies that the Navy should have stopped finalization of the VV&A process only two weeks prior to signature, and after one year of intensive effort, only to formalize the same policies and procedures that we used to conduct the VV&A. Our VV&A process was not affected by the issuance of the DERP guidance, as the guidance itself does not contain any specific or substantive requirements for conducting VV&As. We do not agree that this factor increased the risk. As stated in the report, the Navy was "technically complying with existing DoD, Navy, and Air Force modeling and simulation requirements" (Page 14).

Page 16

Issue #2: Available VV&A Guidance

DODIG Report Statement, "None of the modeling and simulation guidance documents included specific requirements for VV&A of financial related modeling systems" (Page 15).

Page 17

DON Comment:

We disagree with the statement. Extensive Navy policies and procedures identified below are in place for the performance of VV&As:

- Secretary of Navy Instruction 5200.40, "Verification, Validation, and Accreditation of Model and Simulations", April 19, 1999.
- Department of the Navy Model and Simulation Verification, Validation, and Accreditation Implementation Handbook, dated February 2001, issued by the Navy Model and Simulation Management Office (NAVMSMO).

Navy policies and procedures are designed to be flexible to address the unique situation of each VV&A. As stated in paragraph 4c of SECNAV Instruction 5200.40, "The DON VV&A process is flexible. The Accreditation Authority may tailor the process to meet specific requirements and objectives while working within existing resource constraints".

Unique issues, such as those specific to the VV&A of environmental liabilities cost estimating system, are handled within each VV&A effort. NAVFAC worked closely with personnel at NAVMSMO through the entire VV&A project to ensure compliance with DoD and SECNAV Instructions, and the implementation handbook. The VV&A of CTC was one of the first times these requirements were applied to a cost estimating system, and the guidance and participation of NAVMSMO was invaluable to assist interpreting and tailoring the requirements to this unique VVA project.

Issue #3: Face Validation

DODIG Report Statement, "The face validations were used because the verification and validation agents and the independent accreditation agent assigned unsupported low-risk determinations" (Page 6).

DON Comment:

There are several important reasons for the use of legitimate face validation techniques, such as the fact that it was the only practical means of validation given the lack of long-term historical data needed to use in a quantitative comparison. The IG statement gives the impression that the Navy conclusions are flawed, and is misleading by drawing attention to only one reason in the summary. NAVFAC, in consultation with NAVMSMO, determined that this technique was a solid approach, as well as being practical. As stated only later in the DoD draft report, "the project data for the current environmental liability are not available for use in a validated comparison because of the nature and longevity of projects within the program, and developing the quality and quantity of project data necessary for a statistically valid comparison will take some time" (page 20).

Page 16

Pages 21-22

Issue #4: Risk Assessment

DODIG Report Statement, "we consider the risk assessment guidelines that the accreditation team used questionable" (page 18).

DON Comment:

We disagree with the statement. Beyond the four criteria identified in risk assessment, the low risk determination is valid given the relative impact of the tool. The CTC system is a tool to assist an estimator in estimating the cost of a specific project. It must be realized that estimating cost for the Navy cleanup program involves much more than an estimating tool due to its unforeseen nature. Cost estimating professionals rely on a variety of tools to do their job, and most importantly, their own professional judgment. In addition, project requirements change within the environmental cleanup program as progress is made during the investigation phase, and these requirements are refined as more information becomes available at each site. As more information is gathered, more data can be used to develop an estimate and other estimating methods can be employed. It is unlikely that the requirements for a project at a site is conceived will be the same as the requirements for that project when the project is executed several years later. As a result, the original estimates will differ from the executed costs. In separating these factors and isolating only the tool, the impact of the tool to the cost justifies a lower risk. For example, consider assuming constructing a landfill cap to address an old landfill site and estimating a budgetary cost for that project several years before construction. It may be only one year before construction that you realize that capping the landfill may not be the most effective solution. Instead, you might decide to excavate and remove the landfill material. The significant change in cost is driven by the fundamental change in project requirements, and the effect of the tool used to estimate the original cost is minor.

Issue #5: Recommendation for NAVFAC

The DOD IG draft report provides a single recommendation for NAVFAC, "that the Commander, Naval Facilities Engineering Command issue guidance requiring future environmental liability electronic cost estimating system verification, validation, and accreditation (VV&A) efforts that comply with the September 2001 DERP Management Guidance, section 15.7, requirements for policies, procedures, and guidelines for environmental liabilities modeling and simulation applications."

DON Comment:

The DON concurs that for future environmental liability electronic cost estimating system verification, validation, and accreditation efforts, we will issue specific VV&A guidance in compliance with the current September 2001 DERP Management Guidance. However, the DOD IG recommendation language is ambiguous and may be interpreted that the previous Navy Cost-to-Complete (CTC) accreditation was not in compliance with the current DERP guidance, and as a result, additional effort is necessary. The current DERP guidance was issued on 28 September 2001. The Navy CTC accreditation was signed only two weeks after, on 18 October 2001. The accreditation effort was well beyond substantial completion prior to the issuance of the current DERP guidance. **Moreover, the current DERP guidance only requires that the Services issue their**

own policies for conducting VV&As. The current DERP Guidance itself does not contain any specific or substantive requirements for conducting VV&As. We object to reopening the VV&A completed on 18 October 2001, and requiring additional efforts because the DoD IG feels that the CTC VV&A was not in compliance with the current DERP guidance. The CTC VV&A was conducted in full compliance with current and previously issued DERP guidance. NAVFAC completed the VV&A in accordance with DoD Instruction 5000.61, SECNAV Instruction 5200.4, and under the close consultation and guidance of the Navy Model and Simulation Management Office. As stated by the IG in the draft report, the Navy's VV&A was "technically complying with existing DoD, Navy, and Air Force modeling and simulation requirements."

Department of the Air Force Comments



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

CB-0037

23 MAR 2004

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR
AUDITING OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/IL
1030 Air Force Pentagon
Washington DC 20330-1670

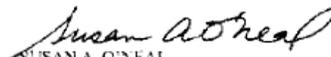
SUBJECT: DoDIG Draft: *Environmental Liabilities Required to be Reported on Annual Financial Statements*, 19 Feb 2004, D2003CB-0037

This is in reply to your memorandum requesting the Assistant Secretary of the Air Force (Financial Management and Comptroller) to provide Air Force comments on the subject report.

The subject report recommended the Commander, Air Force Civil Engineering Support Agency (AFCESA) issue guidance requiring future environmental liability electronic cost estimating system verification, validation and accreditation (VV&A) efforts comply with:

- a. September 2001 Defense Environmental Restoration Program Management Guidance, section 15.7
- b. Air Force Instruction 16-1001 *Verification, Validation and Accreditation* that requires VV&A agents to submit a report documenting VV&A activities, results and recommendations
- c. DoD Instruction 5000.61 *DoD Modeling and Simulation (M&S) Verification, Validation, and Accreditation* and Air Force Instruction 16-1001 *Verification, Validation and Accreditation* that requires information and data on VV&A activities readily be available through the DoD Modeling and Simulation Resource Repository system, including DoD component VV&A policies and procedures, verification and validation results and accreditation documentation.

The Air Force concurs with these recommendations and directs the Commander of AFCESA to accomplish this goal as soon as possible. If you or members of your staff have any questions, please call Dr Thomas Harter, HQ USAF/ILEVA, 703-604-0590. e-mail: mailto:thomas.harter@pentagon.af.mil.


SUSAN A. O'NEAL
Asst DCS/Installations & Logistics

cc:
SAF/FMPS
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