

**Department of Defense**

**Environmental Liabilities**  
**Best Practices Guide**



May 2006

**Table of Contents**

**MESSAGE FROM THE UNDER SECRETARY OF DEFENSE (COMPTROLLER) ..... iv**

**INTRODUCTION..... 1**

**PREPARING FOR AN AUDIT..... 7**

*AUDITORS ARRIVAL..... 10*

*WHAT INFORMATION IS NEEDED?..... 11*

*WHAT IS THE AUDITOR TRYING TO DETERMINE? ..... 11*

*WHAT ARE AUDITORS VALIDATING? ..... 12*

*WHAT IS EVIDENTIAL MATTER?..... 13*

**IDENTIFYING ENVIRONMENTAL LIABILITIES..... 15**

*DUE CARE..... 15*

*COMPLETENESS..... 15*

**RECORDING ENVIRONMENTAL LIABILITIES ..... 18**

*WHEN SHOULD AN ENVIRONMENTAL LIABILITY BE RECORDED? ..... 19*

**DOCUMENTING ENVIRONMENTAL LIABILITIES ..... 21**

*PROCESS..... 21*

*RISK ASSESSMENT..... 22*

*TRANSACTION..... 24*

*SUPPORT..... 28*

**REPORTING ENVIRONMENTAL LIABILITIES..... 31**

*RECOGNITION..... 31*

*MATERIALITY ..... 33*

*DISCLOSURES ..... 35*

*Fluctuations .....35*

*Abnormality.....36*

*Note 14 Schedule Disclosures .....36*

*General Narrative Disclosures .....42*

**APPENDIX A LIST OF ACRONYMS ..... 43**

**APPENDIX B REGULATIONS AND REFERENCES ..... 44**

**APPENDIX C USACE MOA ..... 46**

**APPENDIX D SUMMARY SHEET ..... 55**

**APPENDIX E DOCUMENTATION CHECKLIST ..... 58**

**APPENDIX F SAMPLE AUDIT TRAIL ..... 59**

**APPENDIX G THANKS TO CONTRIBUTORS ..... 68**

Figures

**Figure 1 Environmental Liability & Contingent Liability Reporting ..... 5**  
**Figure 2 Federal GAAP Hierarchy ..... 6**  
**Figure 3 GIS Solution ..... 16**  
**Figure 4 Accounting Process Flow ..... 18**  
**Figure 5 Flowchart..... 22**  
**Figure 6 Combined Risk..... 23**  
**Figure 7 Management Review ..... 25**  
**Figure 8 Square Footage Calculation..... 29**  
**Figure 9 Estimated Cost of an Environmental Liability ..... 31**  
**Figure 10 Materiality ..... 34**  
**Figure 11 Disclosures Addressing Dollar Values in Note 14 Schedule ..... 37**

Symbols used in this Guide

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**Indicates a suggested best practice**



**Indicates a case study**

This best practices guide on environmental liabilities was developed for financial managers, accountants, and technical professionals throughout Department of Defense (DoD).

This guide is based upon policy contained in the Federal Accounting Standards Advisory Board (FASAB) Statements of Federal Financial Accounting Standards (SSFAS), FASAB Statements of Federal Financial Accounting Concepts (SFFAC), FASAB Technical Releases, Department of Defense Financial Management Regulation (DoDFMR), Office of the Secretary of Defense (OSD) Guidance, Financial Accounting Standards Board (FASB) Financial Accounting Standards (FAS), and FASB Interpretations.

This information is presented to assist in audit preparations and should not be construed as policy. Users of this guide should note that examples and practices used by various companies and agencies are provided for discussion and illustration only. Simple adherence to this guide does not represent actions sufficient to support audit tests and documentation requirements.

**MAY 25 2006**

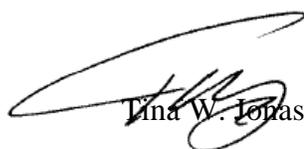
**MESSAGE FROM THE UNDER SECRETARY OF DEFENSE (COMPTROLLER)**

The Department of Defense (DoD) is committed to making financial management as accurate and efficient as its armed forces. Significant business transformation is underway, and we are dedicated to helping you achieve critical goals. The Department must produce reliable, fairly stated financial statements. The Environmental Liabilities Best Practices Guide assists financial management, accounting, and technical professionals throughout DoD to implement management tools and techniques that advance financial improvement.

The Guide provides best practices for approaching an audit and properly accounting for and supporting environmental liabilities in financial statements. Department of Defense professionals responsible for managing and accounting for environmental liabilities will find it useful. Environmental and accounting professionals in private industry, other federal agencies, and DoD Components were surveyed to garner a broad perspective of how various organizations manage and successfully report environmental liabilities in financial statements. Information related to audits, environmental liability accounting, best practices, and illustrative case studies are included and will prove invaluable as you move forward with financial improvement efforts.

Best practices and guidance are grouped into five sections: Preparing for an Audit; Identifying Environmental Liabilities; Recording Environmental Liabilities; Documenting Environmental Liabilities; and Reporting Environmental Liabilities. This Guide will help you prepare for an audit, and work with auditors and managers to better understand treatment of environmental liabilities in DoD financial statements.

The Department's financial community cannot accomplish this alone. Your thoughtful dedication and attention to detail are essential. Thank you for your commitment to the Department of Defense and for your continual support of our mission.



Tina W. Jonas

## INTRODUCTION

This guide conveys best practices and clarifies how to identify, record, document, and report environmental liabilities to help ensure that liabilities are accurately presented and properly supported in the Department of Defense (DoD) financial statements. Best practices are presented as options for entities to adopt, not as requirements. Entities may choose to adopt parts of or all of the best practices presented.

Auditable financial statements are important for two reasons: First, is the confidence factor. The FASAB has identified Citizens and Citizen Intermediaries, *the public*, as the primary users of government financial statements.<sup>1</sup> The people of the United States entrust their tax dollars to the Department. They “invest” their money in the governing of their nation. Like investors of private companies, the public depends on financial statements to show the financial health of the government. By producing *auditable* financial statements, DoD assures American citizens that an accurate financial picture is presented in the statements.

Second, there is a legal requirement. In the 1990s, Congress passed sweeping financial management reform legislation including the Chief Financial Officers (CFO) Act of 1990, the Government Performance and Results Act (GPRA) of 1993, the Government Management Reform Act (GMRA) of 1994, and the Federal Financial Management Improvement Act (FFMIA) of 1996. Such legislation aims to: 1) improve financial management; 2) promote accountability and reduce costs; and 3) emphasize results-oriented management.

***These Acts require financial statements to be:***

- ✓ ***Complete***
- ✓ ***Accurate***
- ✓ ***Auditable***

Financial statement audits examine financial records and reports to verify that the figures in the financial reports are relevant, complete, and fairly stated. Producing, maintaining, and disseminating adequate records and information also meets decision-making, control management, and reporting requirements. Audits generally focus on ensuring that transactions are posted in accordance with Generally Accepted Accounting Principles (GAAP). GAAP is a set of rules and guidelines, derived from a variety of sources, governing the accounting of transactions underlying financial statements. Generally Accepted Auditing Standards (GAAS), published by the American Institute of Certified Public Accountants (AICPA), and Generally Accepted Government Auditing Standards (GAGAS), issued by the Comptroller General of the United States, direct financial audits of governmental entities. In addition to the prescribed procedures performed under a GAAS audit, the auditor assesses internal controls and tests

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<sup>1</sup> Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Concepts No. 4: Intended Audience and Qualitative Characteristics for the Consolidated Financial Report of the United States Government* (Washington, D.C., March 2003).

compliance with laws and regulations. The audit results in a disclaimer of opinion or an opinion on the fair presentation of the financial statements and the entity's internal controls, and a report on its compliance with laws and regulations that are material to the financial statements.

The Under Secretary of Defense (Comptroller) oversees DoD financial management activities, including a budget of over \$400 billion and environmental liabilities of \$65 billion. The Comptroller develops and implements Department-wide financial policy and financial management systems. Each Military Department has an Assistant Secretary (Financial Management & Comptroller) who exercises the department comptroller function and advises their respective Secretary and Chief of Staff on financial management.

The Under Secretary of Defense for Acquisition, Technology, and Logistics is responsible for all matters relating to the DoD acquisition system. This includes research and development; advanced technology; developmental test and evaluation; production; logistics; installation management; military construction; procurement; environment management; and nuclear, chemical, and biological matters.

The Defense Finance and Accounting Service (DFAS) provides accounting support for many DoD Components. Accounting offices within Components submit financial information to DFAS for inclusion in budget execution and financial statement reports.

The Department of Defense Office of Inspector General (DoD OIG) serves as an independent and objective office within DoD responsible for conducting, supervising, monitoring, and initiating; audits, investigations, and inspections. The DoD OIG provides leadership and coordination; recommends policies that promote economy, efficiency, and effectiveness; and prevents and detects fraud and abuse. The DoD OIG has conducted a series of audits addressing the financial reporting process.

Along with the DoD OIG, there are a number of internal audit organizations in DoD. These organizations provide professional, independent, and objective auditing services that help DoD make informed decisions, resolve issues, use resources effectively and efficiently, and satisfy statutory and fiduciary responsibilities.



### **Understanding Roles and Responsibilities**

Achieving a clean audit requires the participation of both the financial and functional communities. Some of the major responsibilities of each group are listed below. Additional detail on the responsibilities of these communities can be found in Section 3.0 of the *Guidance for Recognizing, Measuring, and Reporting Environmental Liabilities not Eligible for DERP Funding*.

**Functional Community** – The functional community is responsible for the “detection, classification, tracking, estimating, and correction of environmental issues.”<sup>2</sup> In developing the liability estimates for the financial statements, the functional community’s responsibilities include:

- Assigning responsibility for developing estimates.
- Assigning authority to view and change estimates.
- Retaining supporting documentation for the estimates.

**Financial Community** – The financial community in conjunction with the functional community is responsible for establishing the processes and procedures to produce auditable liability estimates. The processes and procedures developed by the financial community should include:

- Identifying situations where an environmental liability estimate is needed.
- Identifying the factors that may affect the estimate.
- Determining whether the estimate are prepared and presented in accordance with applicable accounting principles and sufficient disclosure is provided.

**Audit Community** - The audit community will review the life-cycle of the processes and procedures used by the functional and financial community to identify, capture, track, classify, estimate, and report environmental liabilities on financial statements. The auditors will focus attention on proper recognition, measurement, presentation, and disclosure of a liability.

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A liability is a line item reported on the balance sheet and/or disclosed in the notes to the financial statements. It is an economic risk expressed in monetary terms. A liability exists if there is a *probable* and *measurable* future outflow or other sacrifice of resources as a result of a *past transaction or event*.<sup>3</sup>

The first element of this definition is *probable* – is a future outflow or other sacrifice of resources likely? If an outflow is more likely to occur than not, then it is *probable*. Probability is assessed on current facts and circumstances, including the law that provides operational authority. Suppose DoD purchased a tank to hold petroleum, and later, that tank leaked. The Department is obligated to clean up the site. Cleanup will more likely than not require a future use of resources, therefore, the liability is probable.

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<sup>2</sup> Office of the Deputy Under Secretary of Defense (Installations & Environment), *Guidance for Recognizing and Reporting Environmental Liabilities Not Eligible for Defense Environmental Restoration Program Funding*. (Washington, D.C., November 2005).

<sup>3</sup> Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards No. 5: Accounting for Liabilities of the Federal Government* (Washington, D.C., December 1995).

The second element of this definition is *measurable*. If a liability is reasonably estimable, then it is *measurable*. Continuing with the example of the tank leaking petroleum, and considering that DoD Components have experience with petroleum leaks, it is possible to estimate cleanup costs based on data collected from studies. The liability is measurable.

The final element of this definition is a *past transaction or event*. A liability does not exist if the event creating the liability has not occurred. Consider the leaking tank; it is possible the tank would never leak the petroleum. Therefore, DoD would not report a liability unless the tank begins to leak. However, knowing that upon disposal of the tank DoD will be required to clean it up to prevent harm to the environment, the Department assumes a liability at the time the tank is placed into service. In this situation, DoD reports costs associated with a future clean close. The liability covers the cost of taking legally required samples, draining and disposing the sludge in the tank, and disposing of the tank. The liability does not assume soil contamination because none has yet to occur.

The Department of Defense Financial Management Regulation (DoDFMR) defines an *environmental liability* “as a probable and measurable future outflow or expenditure of resources that exist as of the financial reporting date *for environmental cleanup costs* resulting from past transactions or events.”<sup>4</sup> This narrows our liability definition to only those costs associated with an environmental cleanup. In this context, environmental cleanup costs includes costs associated with environmental restoration of environmental sites; corrective actions; and environmental costs associated with the future disposal of facilities, equipment, munitions, or closure of facilities. Cleanup costs may include, but are not limited to, decontamination, decommissioning, site restoration, site monitoring, closure, and post closure costs related to DoD operations that result in hazardous waste. To be considered an environmental cleanup cost, there must be an environmental-related legal driver. Suppose DoD purchased the tank for holding a liquid that does not adversely impact the environment, such as water. There would be no environmental liability even if the water tank leaked, because there is no law requiring the clean up of leaking water.

Environmental liabilities are different from contingent liabilities. Environmental liabilities are recognized on the balance sheet and in Note 14, Environmental Liabilities and Disposal Liabilities. Uncertainties around the amount of the liability could exist. However, there is no question that a liability exists. Keep in mind that uncertainty as to the timing of the cleanup action does not alleviate the requirement to recognize the liability. Contingent liabilities are recognized on the balance sheet and in Note 15 Other Liabilities or Note 16 Commitments and Contingencies. Contingent liabilities reported in Note 16 have uncertainties around both the amount of the liability and if a liability even exists.

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<sup>4</sup> Department of Defense, *Financial Management Regulation* Vol. 4, *Accounting policy and Procedures*, Chapter 13: *Environmental and Nonenvironmental Liabilities* (Washington, D.C., October 2005).

**Figure 1 Environmental Liability & Contingent Liability Reporting**

<b>Environmental Liability</b>		
	Reasonably Estimable	Not Reasonably Estimable
Probable	Liability is measured and reported in Note 14 and the Balance Sheet	Minimum amount is reported on the Balance Sheet and the uncertainty is disclosed in Note 14
<b>Contingent Liability</b>		
	Reasonably Estimable	Not Reasonably Estimable
Probable	Liability is measured and reported in Note 15 and the Balance Sheet	Contingency is disclosed in Note 16 to the Balance Sheet
Reasonably Possible	Contingency is disclosed in Note 16 to the Balance Sheet	Contingency is disclosed in Note 16 to the Balance Sheet
Remote	Not Disclosed	Not Disclosed

Reported liabilities are a snapshot of resources expected to be given up in the future. Interested parties get a reasonable measurement of what resources, tied to current operations, the entity will expend in the future. Projected expenditures and an accurate picture of the true costs associated with assets become clear. Capturing future outflows tied to current operations is a substantial change from traditional governmental accounting and better represents the government's financial position. Accurate financial information is important for both the public and managers. Since the public cannot access much of the information DoD managers can access, the public relies on financial statements to present a reasonable picture of the government's financial health. Managers rely on this information to make informed decisions. Financial statements provide managers with the following:

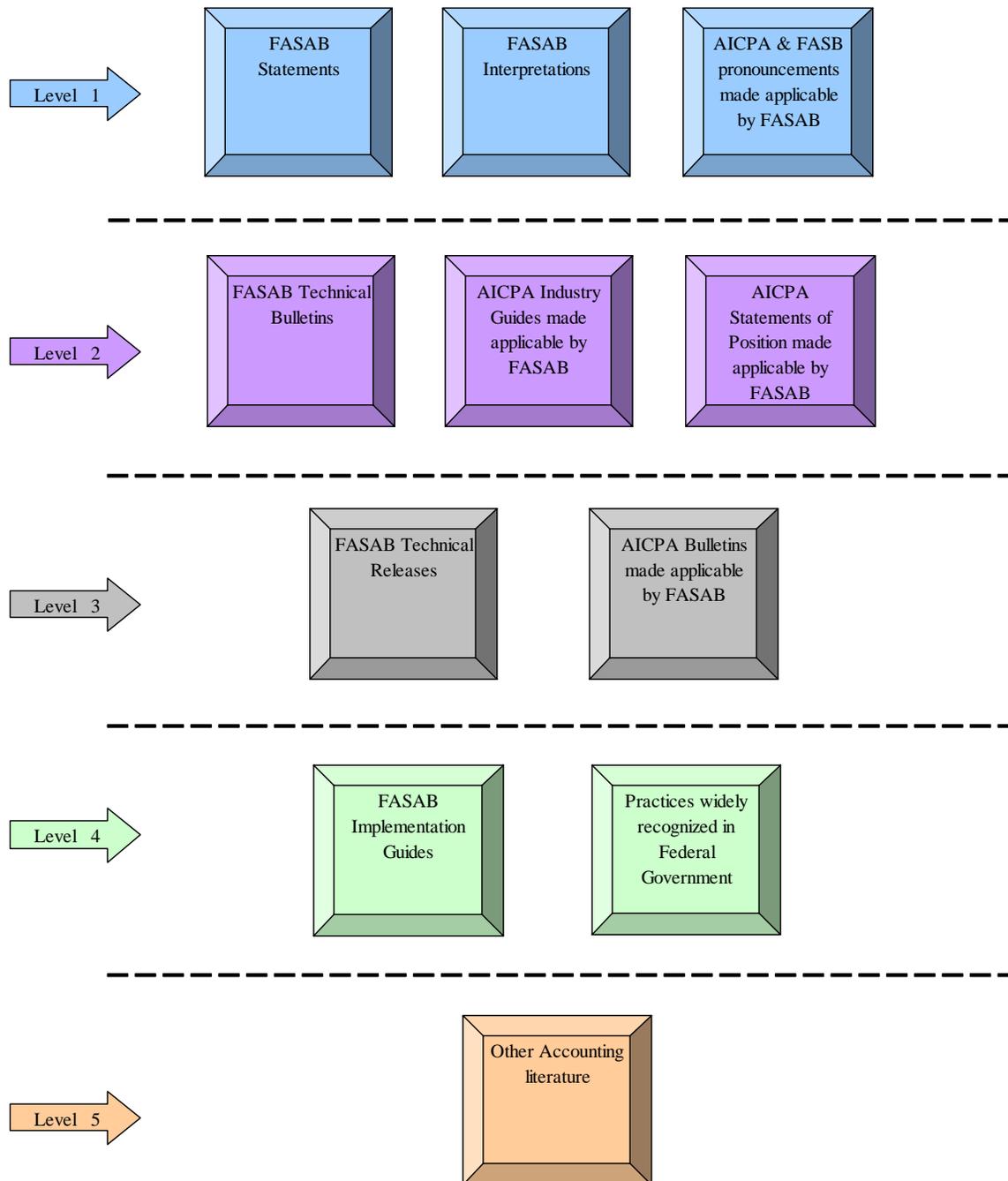
- Comparative information on alternatives when contemplating resource allocations.
- Insight into the effectiveness and sustainability of past decisions.
- Input into property management decision making and future planning related to sites with environmental liabilities.
- Input into negotiations on land transfer actions, including early transfers for Base Realignment and Closure (BRAC) sites.

By capturing the environmental liability associate with future disposal cost at the time an asset is placed into service, managers can better judge the future expenditures associated with the assets. Further, using accrual accounting (matching the timing of the expenses and the timing of benefits created by the asset that are associated with the liability) managers gain insight into the full effect that asset will have on cost of operations. Being able to assess costs fully and clearly is crucial to making informed decisions.

This Guide is based upon policy for environmental liabilities contained in Federal Accounting Standards Advisory Board (FASAB) Statements of Federal Financial Accounting Standards (SSFAS), FASAB Statements of Federal Financial Accounting Concepts (SFFAC), FASAB Technical Releases, Department of Defense Financial Management Regulation (DoDFMR), Office of the Secretary of Defense (OSD) Guidance, Financial Accounting Standards Board (FASB) Financial Accounting Standards (FAS), and FASB Interpretations. (See Appendix B for

complete reference list) Combined with additional authoritative accounting literature, these policies form the Federal Generally Accepted Accounting Principles (GAAP), which govern the federal accounting and auditing professions. For the Federal Government, auditors are not able to express an opinion or state that financial statements are presented fairly and are in conformity with Federal GAAP if the financial information departs from accounting principles publicized by FASAB. The Federal GAAP hierarchy consists of five levels:

**Figure 2 Federal GAAP Hierarchy**



## PREPARING FOR AN AUDIT

To guide the Components in preparing for an audit, the OUSD (C) outlined the following five phases for achieving financial improvement:<sup>5</sup>

- **Discovery and Correction** – Management identifies deficiencies and implements corrective actions.
- **Validation** – Management validates financial information after corrective actions are completed.
- **Assertion** – Management asserts to DoD OIG the reliability of the financial information.
- **Assessment** – DoD OIG does a limited review of controls and procedures to determine if the financial information is a credible candidate for a full financial audit.
- **Audit** – DoD OIG audits the organization's financial statements that management asserted were ready for audit and that passed DoD OIG assessment.

By following this guidance and progressing through the five phases, audit readiness and ultimately financial improvement is attainable.

The federal budget and accountability process has two distinct but equally important purposes. The first is to provide a financial measure of federal expenditures, receipts, deficits, and debt levels and their impact on the economy both in the short and long term. The second is to provide the means for the Federal Government to efficiently collect and allocate resources to meet national objectives.

A good budget process is not simply a mathematical task; it is the major policymaking tool for the Federal Government. The budget clearly identifies priorities. It explains not only how much money is to be spent for each program, but also how that money will be used and how it will meet the goals and objectives of each department. Through audits and accountability reports, a program's effectiveness and efficiency is evaluated. Programs that demonstrate better results are more likely to see budget increases. Conversely, programs unable to demonstrate program success can realistically expect budget cuts.

In DoD, Military Departments, the Other Defense Organizations (ODOs), and the many programs and appropriations contained within these groups are audited. In the past, program management offices have assumed that the accountants are the only ones that need to be involved in the audits. On the contrary, the auditors will be visiting and reviewing processes and controls throughout each organization.

Everyone in your program management office needs to understand that future funding for your program could be affected if an effective system of internal controls is not in place and functioning. Everyone who interacts with the auditors must understand the possible

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<sup>5</sup> Office of the Under Secretary of Defense (Comptroller), *Memorandum: Financial Improvement Initiative Business Rules* (Washington, D.C., June 23, 2004).

repercussions of a poor audit result. Working together with the auditor, both before and during the audit, can yield many benefits including:

- Less time spent by your staff providing information and fielding questions.
- Fewer disruptions to your critical work processes.
- Feedback to assist you in improving your performance and internal controls.

Many companies get buy-in on their approach by passing their methodology by their auditors for soundness. Auditors must stay independent but may develop a professional relationship to foster a supportive environment. The Federal Inspector General (IG) developed a vision statement and statement of reinvention principles, which incorporate this concept. The principles express how the IG builds relationships with program managers to help with program improvements. They envision themselves as agents of positive change.



### **Get Buy-In from Auditors**

Private industry regularly involves auditors in the development of their methodology and environmental liabilities processes. Auditors attend meetings and discussions relating to the preparation and reassessment of methodologies used for environmental liabilities. Although the auditors cannot create the methodology or process, they can indicate when a methodology or process may be heading in the wrong direction. Not only does this help provide a better process, it ensures all interested parties share the same basic understandings of the methodologies.

The DoD OIG developed a Memorandum of Agreement signed by both the DoD OIG and the United States Army Corps of Engineers (USACE) detailing the needed documentation for acquisition costs and capitalized improvements for real and personal property assets. Getting the key players to agree on adequate support enabled USACE to issue specific instructions that ensured consistency and adequacy. (Appendix C includes a copy of this MOA.)

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Preparing for an audit is simplified if the audited organization has conducted frequent, routine self-assessments or internal audits to ensure work complies with requirements. However, whether or not these self-assessments or internal audits are in place, certain preparatory actions should be taken when an organization receives notice of an audit.



## Be Proactive

In anticipation of auditors' needs, the Environmental Protection Agency (EPA) developed a reconciliation process where environmental liabilities reported last year are compared to environmental liabilities being reported this year. When sites are removed or added, EPA ensures justification and documentation exists supporting the removal or addition of the sites and includes this in their audit package.

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The auditee is responsible for the following:

- Establishing a professional, positive attitude about the audit.
- Participating in the audit.
- Providing all relevant materials and resources to the audit team in a timely manner.

The following planning activities will help the audited organization prepare for the auditors:

- **Manage the "information needs" list** – An "information needs" list, also referred to as a "prepared by client" list, should be provided by the auditors. Examples of items generally included in an information needs list are standard operating procedures, flowcharts and risk assessments. This list itemizes working papers required by the auditors for each financial statement line item and schedules completion date. Responsibility for the preparation of each schedule should be immediately assigned to specific employees, and this information communicated to the auditors in a timely manner.
- **Demonstrate that functioning internal controls are in place** – Professional standards require auditors to obtain a reasonable understanding of internal controls to plan the audit. Past audits have identified internal controls as a weakness for DoD environmental liabilities. Recommendations from these audit reports should be implemented to strengthen internal controls. Documenting the systems of internal controls, or updating existing documentation, can be made more efficient by having the appropriate and qualified staff from your office assist the auditors in obtaining this information. Any significant changes to specific internal controls should be brought to the auditors' attention so that the potential impact of the changes can be assessed well in advance of the critical audit completion target, and audit plans can be adjusted accordingly.
- **Communicate with staff** – Dealings between your staff and the auditors can be made more productive when each understands the other's expectations and needs.

Communication can be facilitated by the following:

- **Designate an audit coordinator** – The audit coordinator should know financial and functional operations and be able to answer any questions about internal controls, financial statements, policy and procedures, and systems used by the organization or direct inquiries to the appropriate individual. Your staff and the audit staff should know who the audit coordinator is and the types of audit-related concerns they can bring to this person. This individual should not be the sole contact. The audit coordinator is merely a provider of information and contacts.
- **Mark Calendars** – Have your staff mark their calendars for when the auditors will be performing the interim and final fieldwork. They should be available to the auditors during this time.
- **Distribute the "information needs" list** – Ensure the appropriate staff responsible for the information preparation receives the "information needs" list. Staff should mark the schedule or working paper completion date on their calendars. As well, it may be useful to meet with staff a few weeks prior to the arrival of the auditors to assess their progress.
- **Determine priorities and communicate these to staff** – There will likely be conflicts that your staff will encounter between the auditors' needs and the normal duties of your staff. Significant conflicts should be resolved by the audit coordinator.

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### **Communication is Key**

If engineers, accountants, and auditors are working with different definitions of what is an environmental liability, it is likely the audit will not produce useful results. The Department of Energy has approached this issue by ensuring there are point people, trained in accounting and engineering aspects of environmental liabilities, who stay with an auditor during field visits. These point people are able to translate accounting and engineering terminology for the auditor and can lead the auditor to the right people to obtain the information they need.

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## **AUDITORS ARRIVAL**

When the auditors arrive, it is important to ensure they have the necessary resources to complete their audit work as quickly and efficiently as possible. The following suggestions may facilitate the audit process:

- Introduce the auditors to the audit coordinator and discuss the types of questions and concerns that can be brought to the coordinator's attention.
- Provide a contact list to the auditors. It should note the key people for each section, their phone numbers, and office locations.

- Assign an individual to locate documents for the auditors. Your staff should be able to gather information more quickly and with fewer disruptions. They should gather any known documentation ahead of time.
- Arrange for the auditors to have access to an appropriately sized room or desk space, phone, storage space, secure filing, parking, etc. Discuss these needs with the senior auditor one to three weeks prior to their arrival to ensure that the needed resources will be ready.
- Prepare a binder that includes a photocopy of all schedules requested, draft financial statements, and other necessary working papers.
- Schedule frequent chats with the senior auditor to discuss the progress of the audit and any problems or difficulties encountered. Open communication regarding audit progress and staff concerns can minimize last minute difficulties.

## **WHAT INFORMATION IS NEEDED?**

Reliable and timely information is essential to ensuring accountability, managing for results, and making well-informed decisions. Historically, such information has not always been available in the Federal Government. Cost and performance data necessary to effectively run performance-based agencies must be generated.

Basic accounting systems consist of a general ledger, general journal, and detailed supporting ledgers for revenues and expenditures. Ideally, information is entered into accounting systems every time a business event impacts an asset, liability, or DoD's financial position. Such a business event triggers an accounting transaction. When a transaction occurs, it posts information to specific databases and accounts and, in turn, triggers a set of rules.

For example, when chemical contamination at a site (a potential financial liability) is identified (an event) future cost data is estimated (a transaction) and posted into the accounting system. Certain data fields must be filled in as a result of this transaction, such as the expected amount to be paid and the asset associated with the chemical contamination (i.e. parcel of land).

## **WHAT IS THE AUDITOR TRYING TO DETERMINE?**

The DoDFMR requires environmental liability source documentation be retained for the life of the liability. After the liability is eliminated, the documentation is generally retained for 6 years and 3 months in accordance with applicable retention and disposal requirements.<sup>6</sup> When an audit is conducted, the auditor examines source documentation to support the transaction. Source documentation might include the assumptions used in the cost model, test data results,

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<sup>6</sup> Department of Defense, *Financial Management Regulation Vol. 4, Accounting Policy and Procedures*, Chapter 13: *Environmental and Nonenvironmental Liabilities* (Washington, D.C., October 2005). National Archives and Records Administration, *General Records Schedules: Transmittal No. 8* (Washington, D.C., December 1998).

qualifications of the person creating the cost estimate, and a map with coordinates of the site location. Acceptable supporting documentation must be:

- **Sufficient** – Enough documentation must be available for an auditor to form an opinion.
- **Competent** – Documentation must be valid and reliable.
- **Relevant** – Documentation must be related to what is being supported.

Source documentation should include at a minimum the process of reporting the cost-to-complete estimates and disposal liabilities, qualifications of the cost estimate preparer, and adequate management review.

Documentation should be stored where it is readily accessible with originals controlled so the documents are available as long as necessary for audit purposes. If the supporting documentation does not exist or match the information contained in the accounting system, the auditors record a discrepancy. The greater the number of discrepancies – or the more significant the discrepancies – the greater the likelihood auditors will find the financial statement information unreliable and thus be unable to render an opinion or will render an adverse opinion.

## **WHAT ARE AUDITORS VALIDATING?**

When financial statements are submitted for audit, management is making certain assertions, both explicit and implicit, about the content of the statements and accompanying notes. The five broad categories of financial statement assertions<sup>7</sup> follow:

- **Existence or Occurrence** – Management is attesting that the account balances are *not overstated* (i.e. cost estimates are not included in the account balances when they are not a responsibility of the entity). The assets and liabilities recorded in the balance sheet existed as of a given date; revenue and expenditures occurred during the period being reported; and the amounts recognized accurately reflect the required accounting transactions.
- **Completeness** – Management is attesting that the account balances are *not understated* (i.e. environmental site cost estimates that are the responsibility of the entity have not been excluded from the account balances). All information that should be included in the financial statements is presented.
- **Valuation or Allocation** – Management is attesting that the account balances are *accurate* (i.e. based on known information the cost estimate is accurate). All calculations are correct and the assets, liabilities, revenues, and expenditures are valued at the appropriate amounts.
- **Rights and Obligations** – Management is attesting that the account balances are *owned by* (Assets) or are the *responsibility of* (Liabilities) the entity.

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<sup>7</sup> American Institute of Certified Public Accountants, *Statements on Auditing Standards 31: Evidential Matter* (August 1980).

- **Presentation and Disclosure** – Management is attesting that the account balances are *properly classified* and appropriate disclosures have been made.

The auditors perform tests and obtain evidential matter to verify these assertions.

## **WHAT IS EVIDENTIAL MATTER?**

The auditors must obtain evidential matter to support all findings and recommendation. Types of evidence include: 1) analytical evidence, which includes computations or the reviewing of relationships; 2) testimonial evidence, which includes both internal and external responses to inquires or interviews; 3) documentary evidence, which is any permanent evidence that has been created; and 4) physical evidence, which is obtained through observation or direct inspection.

Just as there are different forms of evidence, auditors can obtain evidences in different ways. General procedures auditors use to obtain evidence include:

- **Analytical** – The auditor may use techniques that highlight relationships. For example, the auditor may compare the environmental liabilities reported in Fiscal Year (FY) 2004 for a specific program to the environmental liability reported in FY 2005 for that same program. The auditor may be looking for large increases or decreases and support for the fluctuation.
- **Tracing** – The auditor may start with a source document and follow it through the process to the financial statements. This verifies the “completeness assertion” by ensuring the source document was captured in the financial statements.
- **Vouching** – The auditor may start with an amount in the financial statements and work back through the process to the source document. This procedure verifies the “existence or occurrence assertion,” ensuring that the amount recorded in the financial statements has supporting documentation justifying its inclusion.
- **Computation** – The auditor may check the mathematical accuracy performed by the auditees.
- **Inquiry** – The auditor may question or interview individuals to obtain testimonial evidence.
- **External Confirmation** – The auditor may request information from third parties to corroborate evidence obtained from the auditee.
- **Inspection** – The auditor may obtain documentation from examining material such as records or documents. For example, the auditor may examine the property record for an environmental liability site to verify the assumptions used when developing the estimate.
- **Observation** – The auditor may directly view actions performed by the auditee.
- **Sampling** – The auditor may apply auditing procedures to a portion of the universe being audited in order to draw conclusions about the whole universe.

Just as management must produce support to verify financial assertions, the auditors must support the opinion they express on the representations of the financial statements. Auditing standards require auditors to collect evidence to support their opinion. How evidential matter is obtained can influence its validity. For example, information obtained from an independent source is considered more reliable than information obtained solely from within the entity. The belief is that an outside source has fewer motives for presenting erroneous information. Furthermore, the stronger an entity's internal controls, the more assured auditors are that the evidence collected is reliable. Finally, evidence obtained directly by the auditors, such as physical examination or observation, is considered more credible than evidence obtained indirectly.

## IDENTIFYING ENVIRONMENTAL LIABILITIES

### DUE CARE

Part of identifying environmental liabilities includes demonstrating due care. Due care requires a reasonable effort is made to identify contamination and/or operations that generate hazardous waste. This ensures realistically identifiable environmental liabilities are discovered and reported. Examples of exercising due care includes:<sup>8</sup>

- Review of recorded chain-of-title documents (including restrictions, covenants, and any possible liens) and good faith inquiry and investigation into prior uses of the property.
- Investigation of aerial photographs that are available through government agencies that may reflect prior uses.
- Analysis to estimate the existence of uninvestigated sites based on information from known sites.
- Inquiry into records that are available from federal, state, and/or local jurisdictions that show whether there has been a release or potential release of hazardous substances on the property (and adjacent property, if suspected contaminators exist).
- Visual site inspection of any portions of the property where environmental contamination is likely or suspected.
- Investigation of complaints regarding abnormal health conditions.

### COMPLETENESS

When auditing the environmental liability line on the balance sheet, auditors verify management's assertion that the information presented is complete. It is the entity's responsibility to support this assertion. Demonstrating you have included your entire universe of environmental liabilities in the financial statements and, more specifically, proving all environmental liabilities are identified and associated costs captured is important. When verifying completeness, auditors will begin at the supporting source documents and trace to the accounting records. Having strong processes in place to ensure completeness could reduce the amount of testing required by the auditors. Reconciling environmental sites with property records strengthens the control environment for capturing all environmental liabilities.

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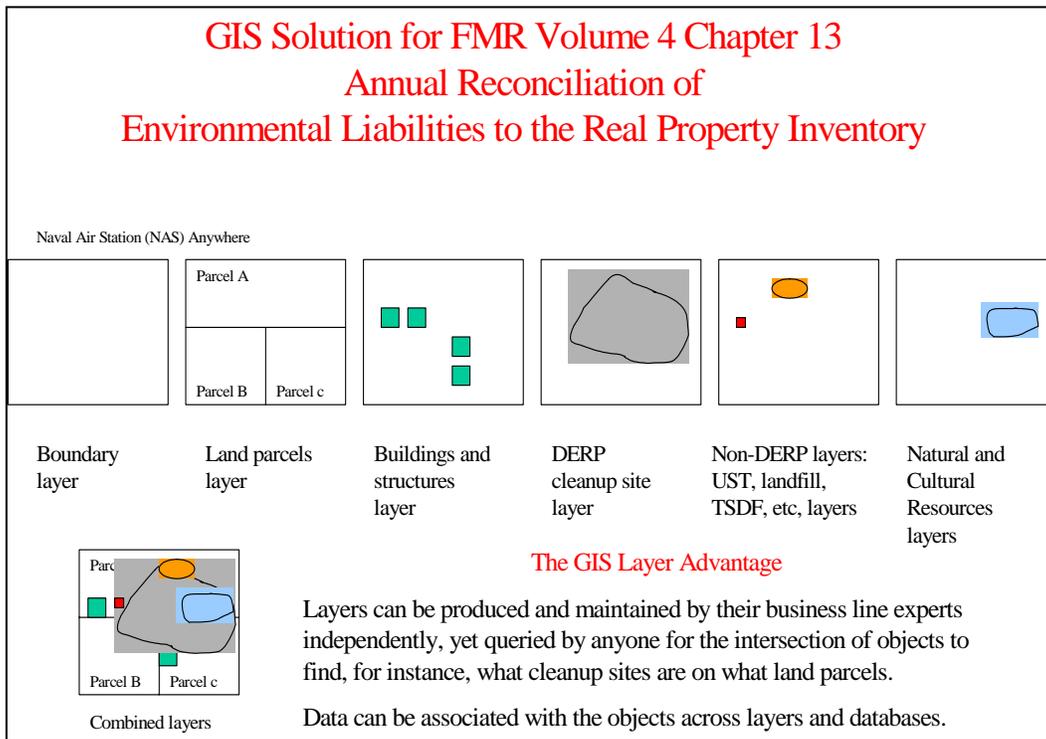
<sup>8</sup> Federal Accounting Standards Advisory Board, *Federal Financial Accounting and Auditing Technical Release No. 2: Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government as a Reasonable Effort to Identify Contamination* (Washington, D.C., March 1998).



### Reconciliation of Liability

The Department of Navy proposes linking environmental liabilities to assets using Geographic Information System (GIS) maps with intersecting coordinates. Various map layers link assets, such as land parcels or buildings, to locations of environmental sites, such as cleanup sites or landfills. As shown in Figure 3, map layers produced and maintained by business-line experts can be combined and queried for intersections. This example shows six layers: Boundary; Land Parcel; Buildings and Structures; Defense Environmental Restoration Program (DERP) Cleanup Site; Non-DERP site; and Natural and Cultural Resources. Merging these six layers shows Land Parcel A has two buildings, one DERP cleanup site, two Non-DERP sites, and one Natural and Cultural Resource related to it. This picture illustrates the link between the asset (Land Parcel A) and the environmental sites (DERP and Non-DERP).

**Figure 3 GIS Solution**



Demonstrating completeness with this technique has two elements: establishment of a baseline and sustainment. Many environmental liabilities are identified through ongoing environmental management activities required by environmental regulations. When the regulations are enacted, environmental staff conducts assessments to identify regulated processes. The assets associated with these processes comprise the Environmental Liabilities baseline; they have been

reviewed for environmental liabilities and can be supported with the following documentation:

- Law driving the environmental issue.
- Methodology used to assess environmental impact.
- Results of assessment.

This documentation should be kept for each asset previously checked. For sustainment, property records are compared to environmental site records with GIS map coordinates as the common denominator. As assets are added, modified (to include a change in use), or deleted from property records, a flag is raised prompting a check in the environmental site records. Conversely, as environmental sites are identified, updated, or completed in the environmental records, a flag is raised prompting a check in the property records.

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### **Forecasting**

Private industry illustrated a second technique, narrower in scope, for demonstrating completeness dealing with “comebacks.” Comebacks are environmental liabilities connected to a previously sold asset where the original owner is responsible for the liability. Private industry addresses this concern by forecasting their “comeback” rate based on historical data. For example, historical data indicates 10 percent of an entity’s environmental liabilities cost are attributed to comebacks. If an entity’s environmental liability is \$25 million, the estimated comeback cost is \$2.5 million. The entity adds \$2.5 million to the \$25 million for a total estimated environmental liability of \$27.5 million.

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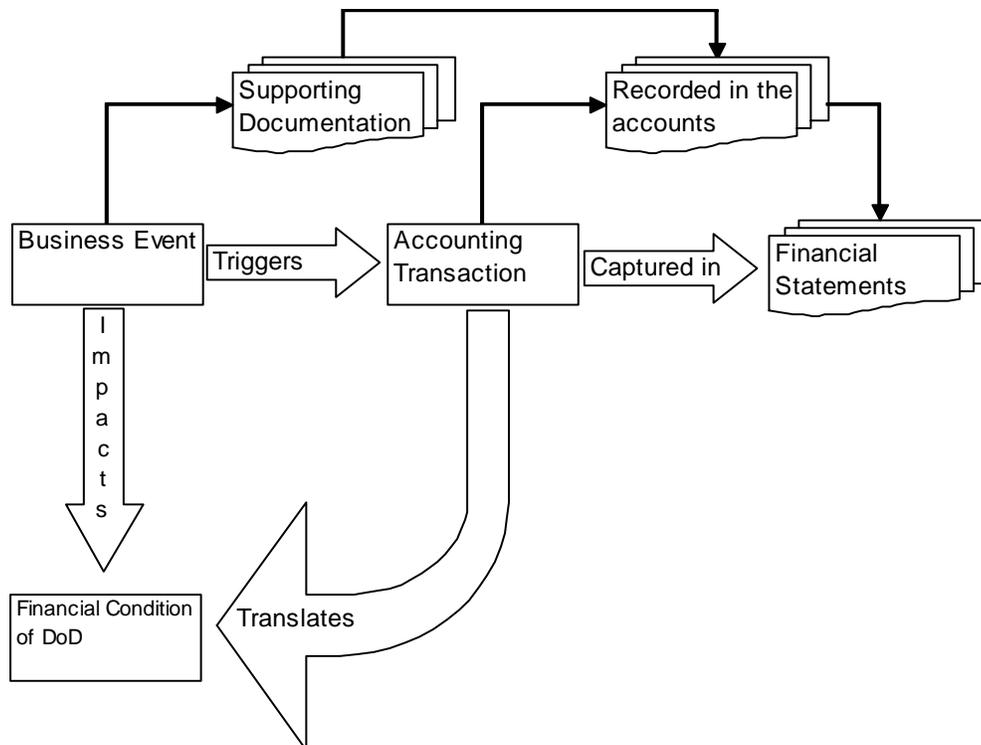
## RECORDING ENVIRONMENTAL LIABILITIES

Business events, such as opening a landfill, trigger accounting transactions. Transactions represent the impact the business event has on the financial condition of an entity and are recorded in system accounts, such as Estimated Cleanup Cost Liability (United States Standard General Ledger (USSGL) Account 2995). Double entry accounting, a proven method for capturing the financial impact of business events, records the transactions in the accounting system. Double entry accounting is based on the following accounting equation:

$$\text{Assets} - \text{Liabilities} = \text{Net Position}$$

When a liability is increased, either an asset needs to increase or the net position needs to decrease to keep the equation in balance. When the landfill is opened, the recognized portion of the environmental cost increases the environmental liability. The accounting equation will not automatically balance when the liability is increased. A corresponding entry must be made to Future Funded Expenses (USSGL Account 6800) to reduce the net position. The double entry captures the financial impact of this transaction by recording the liability (a future relinquish of resources) and the expense (the cost of doing business during this accounting period). The accounts are summarized and categorized before being presented in the financial statements.

**Figure 4 Accounting Process Flow**



When recording environmental liabilities, the estimates should include the costs required to comply with federal, state, local regulations, or permits, whichever is more stringent. If there are multiple plausible scenarios for estimating the disposal cost (i.e. you could pull out an underground storage tank and dispose of it or you could keep the tank in place and fill it with sand) the following hierarchical approach can be used to determine what scenario will be used to develop the estimate and record the liability:

- First, conduct asset assessments to determine expected scenario, based on known requirement (federal, state, or local law, or based on permit) or historical practice for a comparable case.
- Second, use the most likely value based on technical and regulatory scenario most likely to occur.
- Third, disclose the range of amounts and use the minimum cost.

The DoD financial community depends on the functional community to capture source documents for business events. Recording environmental liabilities in an organized and automated environment is ideal.



## Databases

The Department of Energy (DOE) records their Non-Legacy waste (waste not belonging to the environmental management program established September 30, 2000) estimates, assumptions, and key data in a database and updates it at least twice a year. Private industry also uses databases to record and monitor environmental liabilities. One company, with environmental sites worldwide, maintained and controlled their database by having a dedicated team of 12 personnel reviewing and updating the environmental liability data, which covered over 3,000 cleanup sites in the United States alone. Edit checks in the database help ensure all required information is entered into the database. Both DOE and private industry provide an organized environment to record, track, and monitor environmental liabilities.

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## **WHEN SHOULD AN ENVIRONMENTAL LIABILITY BE RECORDED?**

Environmental liabilities are recorded when the business event affects the financial statements. Remember, an environmental liability exists if a measurable future outflow or expenditure of resources is probable for activities or operations resulting from environmental legal requirements. For the example landfill, the liability is recorded when the landfill is opened. If the landfill was placed into services after September 30, 1997, the liability is systematically recognized as the landfill is used. If it was placed into services prior to October 1, 1997, the liability is fully recognized.

Systematic recognition involves posting an expense in incremental amounts over time as the landfill capacity is used. Even though the landfill will continue operations for some time, for financial statements the liability needs to be matched to the period of use. As soon as an event or transaction resulting in a probable sacrifice of future resources for an environmental cleanup occurs, the liability is captured for the financial statements. In addition to systematically recognizing costs associated with landfills put into service after September 30, 1997, we need to systematically recognize disposal cost with environmental legal drivers.

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### **Environmental Disposal Costs**

Spills-R-Us Agency is acquiring new vehicles and fuel storage tanks. At the time the vehicles and the fuel tanks are placed into service, what disposal costs will be recognized as liabilities?

The amount of the *Environmental* disposal costs associated with the assets should be disclosed at the time the assets are placed into service and systematically recognized as a liability over the life of the assets. Because there is no legal driver mandating the disposal of the vehicle, they could choose to park it in a junkyard. However, the sludge accumulated in the fuel tank cannot be left in place. Spills-R-Us has a legal requirement to dispose of the waste. This requires a recognition of a liability. *Non-environmental* disposal costs are not recorded as a liability and are not expensed until Spills-R-Us formally decides to remove or dispose of the assets. The accounting treatment differs because no requirement to dispose of the non-environmental assets exists dictating how the non-environmental assets are treated at disposal.

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## DOCUMENTING ENVIRONMENTAL LIABILITIES

Quality documentation is complete, organized, relevant, and clear and covers the process and the transaction. It is vital that documentation supports management's assertions. Benefits of quality documentation include:

- Preventing knowledge loss.
- Creating consistency.
- Communicating expectations and accountability.
- Providing clarity and transparency.
- Presenting a record of past events.

Furthermore, when an auditor performs an audit, proof that the financial statements conform with GAAP is collected. The easier it is for the auditor to understand the documentation provided, the easier it is to prove conformity.

### **PROCESS**

Documentation of a process includes narrative descriptions, such as Standard Operating Procedures (SOPs), and pictorial representations, such as flowcharts. The goal is to present the process in an easily understandable format without cutting details that explain the process. Terminology must be clear to prevent misinterpretation. Use flowcharts as an aid supporting the narrative. Again, the clearer the process documentation is to the auditor, the easier it is to verify that the financial statements are fairly stated.

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#### **Linked SOPs**

To document a complex process, DFAS developed a system of SOPs consisting of linked narratives and flowcharts. The system includes a high-level flowchart and a high-level narrative of the flowchart. Additionally, it includes flowcharts and narratives for each subprocess. Embedded links allow the user to easily view overall processes and subprocesses as necessary. This provides an organized and easily navigated documentation of the complex process.

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By presenting relatively complex processes in a simple format, auditors are able to understand the workflow behind the environmental liability estimates. Flowcharts are useful tools for documenting processes and are easily understood by most people. They give a picture of information in various displays, such as the traditional vertical flowchart showing the sequential flow of a process, or a horizontal flowchart showing the process flow both sequentially and across departments.

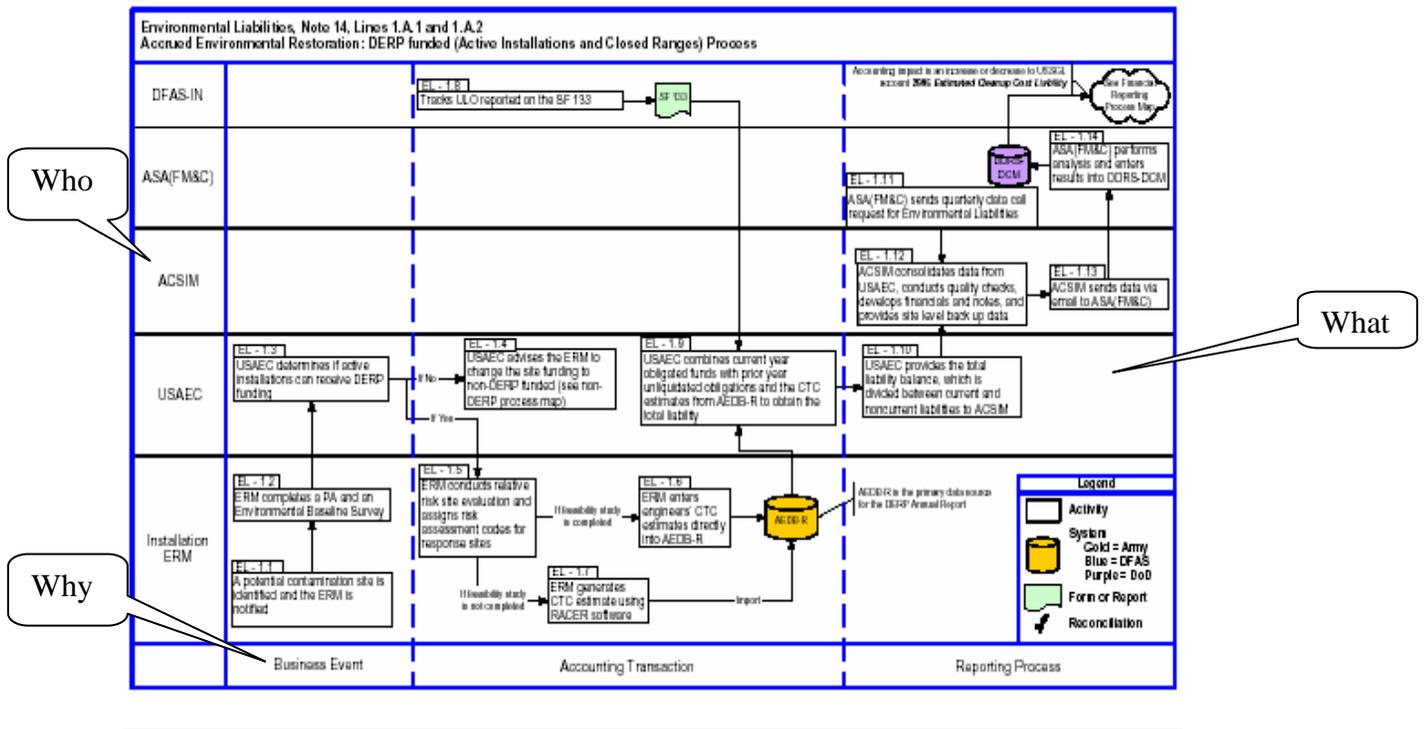
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**Swimlane Flowchart**

The Department of Army uses a narrative and a matrix flowchart with swimlanes (Figure 5) to document their environmental liabilities process. The flowchart shows the process flow sequentially, across organizations and departments, and by rationale. This presents an informative, concise, and organized picture of their environmental liabilities process. An auditor can easily see what is occurring, why it is occurring, and who is responsible throughout this process.

**Figure 5 Flowchart**



**RISK ASSESSMENT**

In addition to SOPs and flowcharts, documented risk assessments of the environmental liability process are a critical piece of evidence during an audit. Risk assessments demonstrate awareness of potential risks and the controls in place to mitigate these risks to the auditors. Every process has inherent risk. In the accounting world, inherent risk is the possibility of a material misstatement occurring when no internal controls are in place to respond to this risk. For example, one element of the environmental liability process is determining when to include a cleanup site as a liability. A risk factor to evaluate is the possibility of an environmental site being included in the liability even though the liability did not exist at the reporting date. The

inherent risk could be low, moderate, or high. Professional judgment is necessary and some aspects to consider include:

- Volume of transactions.
- Complexity of the process.
- Extent the process is automated.

If the volume of transactions is low and the process is highly automated and simple, the inherent risk is low. High volume and a complex, manual process increase the opportunity for errors or data manipulation, creating a higher inherent risk.

If an entity’s control environment is strong, the likelihood of a misstatement is reduced. Conversely, if controls are weak, the likelihood of a misstatement increases. This is control risk – the possibility that a material misstatement could occur and will not be prevented or detected by internal controls. Professional judgment is necessary when evaluating the control risk for determining whether cost estimates in the liability balance were included when the responsibility for the obligation did not exist at the reporting date. On-going reviews of cost estimates included in liabilities increases the probability that estimates for sites that should *not* be included in the liability are caught. Whether the risk is low, moderate, or high might involve asking a few more questions: At what level are the reviews performed? How extensive are the reviews? How frequently are the reviews performed? Such questions support the control risk assessment.

Combined risk is prepared based on the inherent and control risk assessments. The combined risk is that: 1) a financial statement assertion is susceptible to material misstatement (inherent risk), and 2) such misstatement is not prevented or detected on by internal controls (control risk).



**Combined Risk Matrix**

Although assessing combined risk relies heavily on professional judgment, the Defense Commissary Agency (DeCA) uses a matrix to help support their combined risk assessment. This gives a framework for consistency and a method for documenting the rationale used in assessing combined risk.

**Figure 6 Combined Risk**

Inherent Risk Assessment	Control Risk Assessment		
	High	Moderate	Low
High	High	Moderate/High	Moderate
Moderate	Moderate/High	Moderate	Low/Moderate
Low	Moderate	Low/Moderate	Low

## **TRANSACTION**

Documenting an environmental liability transaction requires more detail than a traditional transaction. Environmental liabilities are based on estimates. Estimates, by definition, are subjective and have an element of uncertainty. Documenting the support for developing the estimate involves maintaining records on cost itemization and assumptions, and documentation of management reviews and estimators' qualifications.

Management reviews are an important internal control in the process. Mistakes happen, but reviewing estimates may detect mistakes before they are reported as a liability. Documentation showing when reviews were conducted, what was reviewed, and who conducted the reviews should be retained as support.



### **Document Reviews**

The Department of Energy has two separate review processes in place, one for legacy waste and another for non-legacy waste. For legacy waste, initial estimates and any updates to the estimates are approved through a formal review process. Baselines are reviewed at the headquarters level, and adjustments are reviewed at different levels based on thresholds. For high dollar adjustments, there is a Baseline Change Control Process, which includes a review by a board. Each step of the review process is documented.

For non-legacy waste, estimates are maintained in a database, which documents the reviews. For example, assume a change is made to an estimate in the field. The database captures the change made, the date, justification for the change, and who made the change. The manager receives notification and reviews the change. The manager's approval or disapproval of the change is captured in the database. A disapproved change is sent back to the field for action. Approved changes are brought to the attention of Headquarters. Headquarters reviews and approves, or disapproves the change. Headquarters' review is also documented in the database.

For both legacy and non-legacy waste, Headquarters receives annual written assurance from the project managers that the projects for which they are accountable have correct estimates and complete documentation in support of those estimates.

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**Use a Checklist for Reviews**

The Marine Corps uses a checklist during Management Reviews to ensure no item is overlooked, and to document what, when, and who reviewed the liability. After verifying the items listed, management fills out this checklist.

**Figure 7 Management Review**

<b>Environmental Liability</b>			
<b>Management/Supervisory Review and Approval</b>			
Project Name/Identification: _____			
Criteria	Yes	No	Comment
Were sound estimating methodology and reasonable assumptions used?	<input type="checkbox"/>	<input type="checkbox"/>	
Did the estimator compare prior year estimates to the current year estimate?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the estimate include all relevant phases and costs to complete the project?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the estimate consistent with the operational plans of the entity?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the estimator have the proper qualifications and required training to prepare the estimate?	<input type="checkbox"/>	<input type="checkbox"/>	
Is there an adequate audit trail?	<input type="checkbox"/>	<input type="checkbox"/>	
Is there adequate documentation to support the underlying assumptions used to develop the estimate?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the supervisor agree with the underlying assumptions used to develop the estimate?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the estimate maintained in the current cost basis?	<input type="checkbox"/>	<input type="checkbox"/>	
Date of Review _____			
Reviewer's Name _____			
Reviewer's Signature _____			

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### **Have Different Reviews**

In private industry, both the functional and financial areas review estimates. Environmental liabilities are both engineering and accounting estimates. To ensure that the liability is reasonable and adheres to accounting estimate standards, the business manager and financial manager review the estimates.

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Working with accounting estimates involves considerable subjectivity. Important evidence to include as supporting documentation includes qualifications for personnel involved in developing the environmental liability. Demonstrating qualified individuals developed the estimates is a fundamental internal control and mitigates inherent risks when working with estimates. Developing a method to support and document qualifications demands knowing what constitutes and demonstrates a qualification. When examining qualifications, apply the “reasonable person test” – what would a reasonable person view as “qualified”? Next, look at how the qualifications are demonstrated. For example, if specialized experience is a qualification, then a copy of a résumé detailing the specialized experience is a good way to demonstrate this qualification. If education is a qualification, then a copy of a transcript or degree is a good way to demonstrate qualification. The answers to these questions may vary. However, the documentation must support the qualification required. Documents that can be used to demonstrate qualification include:

- Résumés.
- Transcripts.
- Certifications.
- Degrees.
- Professional registrations.
- Acknowledgement of training (i.e. certificate of completion).

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### **Qualifications**

Demonstrating qualification varies from company to company, and agency to agency. Generally, engineers who produce cost estimates hold an engineering certification. The Department of Energy uses a combination of résumés and certifications to prove qualifications for government employees and contractors. The contractors’ résumés and certificates are included as part of the contract file. As an extra assurance that proper documentation exists, DOE periodically tests the assertion that estimates are prepared by a qualified candidate by conducting quality reviews of résumés and certifications.

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Supporting an environmental liability transaction includes documenting cost estimate preparation. This may involve applying specialized methods for estimation, analyzing historical costs, and conducting technical analyses. Maintain documentation that shows data sources, estimating methods, and rationale used to develop the estimate. Examples include:

- Cost estimates and underlying assumptions.
- Estimating model used.
- Cleanup or closure methodology.
- Permits and approvals.
- Contracts, invoices, and disbursement documents.
- DD Forms 1354, Transfer and Acceptance of Military Real Property.
- Engineering (ENG) Forms 3013, Work Order/Completion Record.
- Work orders.

The types of documentation accumulated depend upon what is being supported.

As new information is obtained, cost estimates are revised and documented. Documentation should include:

- Reason for the revision.
- Rationale and justification for the adjustments to the estimate.
- Date of the adjustments.
- Information about the approving official, such as name and contact information.



### **Include Summary Sheets with Cost Estimates**

Include a summary document with the cost estimate that includes:

- **Background Information** – estimator name, date completed, other pertinent information.
- **Cleanup Methodology** – steps needed to complete the project.
- **Assumptions** – items that were unknown at the time the estimate was developed yet necessary to complete the estimate (such as remediation level).
- **Physical Aspects/Units** – tangible assets of a project such as acres of land and number of monitoring wells.
- **Quantity** – amount needed of a particular physical aspect/unit.
- **Cost per Unit** – cost to purchase a particular physical aspect/unit.

- **Cost Elements** – parts of a particular cost/estimate.
- **Supervisory Review** – documented approval of an estimate.
- **Project Changes** – documented and approved increase or decrease costs.
- **Cost Adjustment** – recognition of additional costs or the removal of costs when parts of the project are funded.

Private industry and the U.S. Marine Corps use summary sheets to document cost estimates and revisions. (See Appendix D for the Marine Corps template.)

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## **SUPPORT**

Generally Accepted Government Auditing Standards (GAGAS) require auditors to approach each audit with professional skepticism. They define professional skepticism as "...an attitude that includes a questioning mind and a critical assessment of evidence.... Auditors neither assume that management is dishonest nor assume unquestioned honesty."<sup>9</sup> Consequently, every assertion and any information presented in the financial statements cannot be assumed correct; it must be supported.

Sufficient support allows an auditor to verify the assertions are true and the information provided is fairly stated. Audit trails provide this level of support and serve two purposes. First, regulation requires audit trails. The DoDFMR states, "If the accounting system does not retain the basic source document, an audit trail shall be established and maintained to allow for verification of the authenticity of the document by the accountant responsible for operating the accounting system."<sup>10</sup> Second, audit trails show the sequence of events behind the information provided in the financial statements. Integrity of the data supporting the financial statements is vital. The information reported in the financial statements must be reliable to be useful. An auditor follows an audit trail by vouching back to the source documents from the accounts or by tracing from the source document up to the accounts. Audit trails are fundamental to an audit. (See Appendix E for a sample checklist for general documentation to include in an audit folder. See Appendix F for a sample audit trail.)

Support must exist at the time of the audit. This control requirement ensures documentation was not fabricated to conceal fraud, waste, or abuse. If an auditee were not required to have documentation at the time of the audit, they could potentially create false documents to mislead auditors. Entities are therefore required to produce supporting documentation in a timely manner when requested by the auditor, usually within 48 hours.

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<sup>9</sup> General Accounting Office, *Government Auditing Standards 2003 Revision*, Chapter 3: *General Standards* (Washington, D.C., June 2003).

<sup>10</sup> Department of Defense, *Financial Management Regulation Vol. 1, General Financial Management Information, Systems and Requirements*, Chapter 2: *Conceptual Framework* (Washington, D.C., December 1998).

Consistently applied methodologies enable auditees to explain why a certain methodology was used. It is very difficult to show how an approach is reasonable if it is not consistently applied. Auditors can quickly point out that a good approach should be used majority of the time.

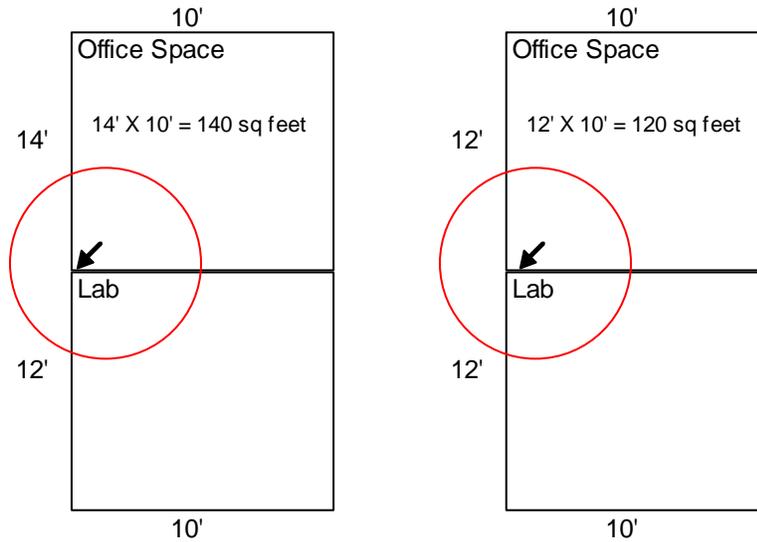
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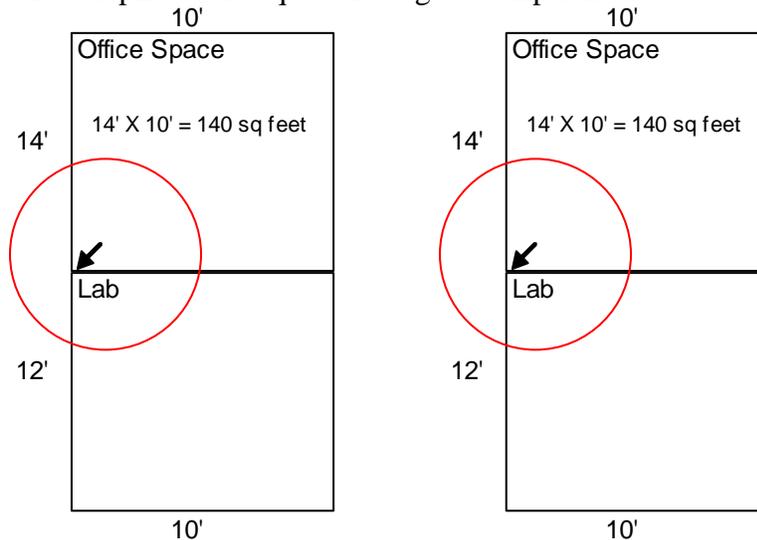
### Consistency with CAD

The Department of Energy uses computer-aided design (CAD) software for square footage assumptions when developing environmental cost estimates. However, the auditors' field tests resulted in significantly different computations.

**Figure 8 Square Footage Calculation**



DOE's investigation into the differences showed that placing the computer mouse a fraction off from the original calculation point was the cause. Policy now requires that the initial lines be saved. Now when the auditors conduct field tests, they are able to replicate the square footage assumptions.



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### **Environmental Liability Support Philosophy**

The Department of Energy's approach to ensuring liabilities are supported includes:

- Making good business rules.
- Getting auditor buy-in.
- Documenting decisions.
- Consistently applying rules.
- Documenting any departures from business rules.

Good business rules apply logic. For example, when estimating the cost of spent fuel from nuclear operations, logic suggests the fuel would not have a 2-year life. Radioisotopes in spent fuel have half-lives (the time it takes for one-half of a quantity of radioactivity to decay) ranging from 2 days to perpetuity. To deal with the great uncertainty surrounding measuring the life, DOE developed a business rule that assumes a 75-year life for environmental liabilities. This rule was negotiated with the IG, and DOE secured the buy-in of their auditors. DOE documented the business rule and required its consistent application. If, however, the estimator has data indicating a different life would provide a better estimate, the better estimate overrides the rule as long as it is justifiable and documented.

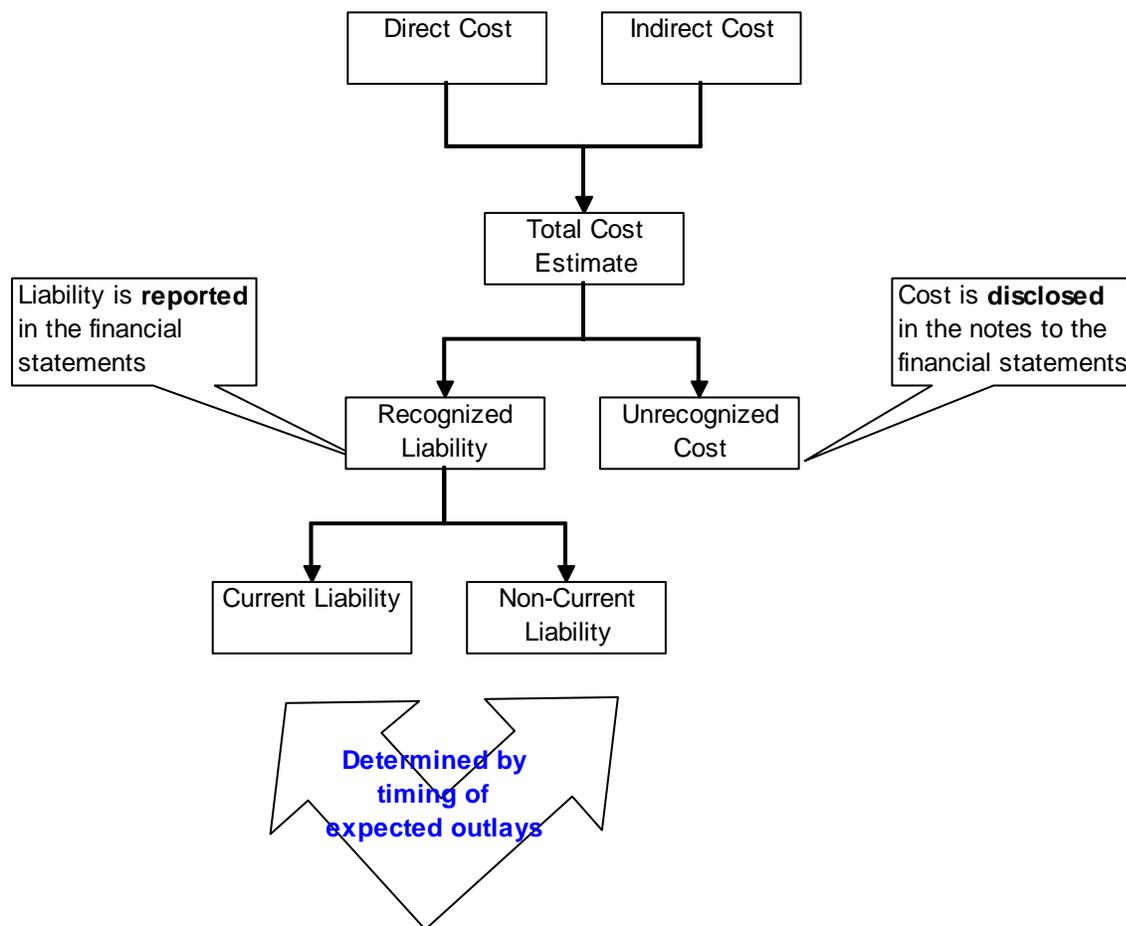
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## REPORTING ENVIRONMENTAL LIABILITIES

### RECOGNITION

Environmental liabilities are calculated from cost estimates as shown in figure 9. Cost estimates comprise direct costs, such as materials used for cleanup, and indirect costs, such as administrative support that cannot be directly traced to the project but are allocated to the project.

**Figure 9 Estimated Cost of an Environmental Liability**



After developing the cost estimate, determine what amount should be recognized on the balance sheet for the reporting period in which the liability occurred. (The unrecognized cost is discussed in the notes accompanying the financial statements.) If the full liability will not be recognized immediately, then systematically allocate the environmental liability over time using the life or capacity of the asset associated with the liability to determine the recognized liability. Even if payment of the environmental liability is not expected within the reporting period, systematic recognition allows an entity to capture this cost of doing business in the reporting period it occurred.



### **Systematic Recognition of a Landfill**

In 2003, Spills-R-Us Agency opens a landfill, operating on a cell basis. The landfill area is 200 acres, consisting of 40 cells with a combined capacity of 9 million cubic yards. For each year of operation, the estimated costs for closure and post-closure care are as follow:

2003= \$19,550,000

2004= \$19,691,000

2005= \$20,055,332

In 2004, Spills-R-Us determined 10 cells of the landfill are unusable, reducing the landfill's total capacity to 6.75 million cubic yards. For each year of the operation, the capacity use for the landfill is as follows:

2003= 3,000,000 cubic yards

2004= 1,875,000 cubic yards

2005= 1,875,000 cubic yards

Using the formula  $((a*b)/c)-d = e$ , the liability recognized in the current period can be calculated for 2003, 2004, and 2005.

a = Estimated total current cost

b = Cumulative capacity used

c = Total estimated capacity

d = Amount previously recognized

e = Cleanup expense recognized in the current period

#### **2003 Recognized Liability**

$$\frac{\$19,550,000 * 3,000,000}{9,000,000} = \$6,516,666.67$$

#### **2004 Recognized Liability**

$$\frac{\$19,691,000 * 4,875,000}{6,750,000} - \$6,516,666.67 = \$7,704,611.11$$

#### **2005 Recognized Liability**

$$\frac{\$20,055,332 * 6,750,000}{6,750,000} - \$14,221,277.78 = \$5,834,054.22$$

By 2005, the full liability of \$20,055,332 was recognized. The formula captures the reduction in capacity, allowing the systematic recognition of the landfill's environmental liability based on capacity.

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The recognized liability is further categorized as a current or a non-current liability and is disclosed in Note 14 Environmental Liabilities and Disposal Liabilities. The current liability shows the amount of the recognized liability that is expected to be outlay over the next 12 months from the end of the current reporting period. This requirement estimates resources that will be sacrificed in the near future and provides a view of the current economic risk.

## **MATERIALITY**

Materiality also affects the recognition of environmental liabilities and involves considerable judgment of quantitative and qualitative measures. The DoDFMR reads, “Information shall be reported in the financial statements when it is significant enough in *magnitude or nature* to make a *difference* to a reasonable person relying on it.”<sup>11</sup> Materiality refers to that concept of making a difference – will exclusion of financial information likely influence the user’s judgment or conclusions on the financial statements? If the answer is yes, it is material.

Consider the relative size and characteristics of the exclusion when determining influence. Emphasizing this stance FASB states, “Magnitude by itself, without regard to the nature of the item and the circumstances in which the judgment has to be made, will not generally be a sufficient basis for a materiality judgment.”<sup>12</sup> Judging materiality based on the nature of the exclusion is subjective and not always simple. Professional standards require that rationale and justification documentation for *immateriality* also be maintained.

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### **Compare Apples to Apples**

Spills-R-Us Agency is assessing materiality of environmental costs associated with the disposal of their aircrafts. Spills-R-Us purchased 400 aircraft, their entire inventory, prior to October 1, 1997. Consequently, systematic recognition of disposal liabilities will not need to be addressed in this case study. Based on historical data, Spills-R-Us estimates it will cost \$1 million to dispose of each aircraft. Further, they estimate that 3 percent, or \$30,000, of the disposal cost relates to environmental cleanup. Based on the 3 percent estimate, would the environmental liability associated with the aircraft disposal be *immaterial*?

Figure 10 presents two scenarios similar in all respects except for total environmental liabilities and total public liabilities. In both scenarios, management judged the quantitative materiality to be 2 percent of the environmental liabilities line and 1 percent of total public liabilities line on the balance sheet.

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<sup>11</sup> Department of Defense, *Financial Management Regulation Vol. 1, General Financial Management Information, Systems and Requirements*, Chapter 2: *Conceptual Framework* (Washington, D.C., December 1998).

<sup>12</sup> Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 2: Qualitative Characteristics of Accounting Information* (Norwalk, Connecticut, May 1980).

Simply using 3 percent of the aircraft disposal cost as the measure of materiality results in an improper determination in Scenario A. The environmental cost associated with the disposal of the aircraft is 4 percent of the environmental liabilities line and 3 percent of the total public liabilities line on the balance sheet, which exceeds management’s quantitative materiality threshold.

When evaluating materiality, comparisons must demonstrate if items are immaterial. For example, justifying the exclusion of environmental disposal cost relating to aircrafts by showing only 3 percent of a plane’s disposal cost is related to environmental cleanup cost may or may not demonstrate immateriality. However, comparing 1) the environmental liability cost for all airplanes to the total environmental liability line on the balance sheet; and 2) environmental liability cost for all airplanes plus any other liabilities considered immaterial to the total public liabilities can demonstrate quantitative representation of immateriality.

**Figure 10 Materiality**

	<b>Scenario A</b>	<b>Scenario B</b>
Cost to dispose of aircraft	1,000,000.00	1,000,000.00
Percent of cost that is Environmental	3%	3%
Environmental Cost per aircraft	30,000.00	30,000.00
Number of aircrafts being disposed	400	400
Total Environmental Cost to Dispose of Aircrafts	12,000,000.00	12,000,000.00
Total Environmental Liabilities	300,000,000.00	1,000,000,000.00
Percent of Environmental Liabilities to dispose of Aircrafts to Total Environmental Liabilities	<b>4%</b>	<b>1%</b>
Other Immaterial liabilities	15,000,000.00	15,000,000.00
Total Liabilities considered immaterial	27,000,000.00	27,000,000.00
Total Public Liability	1,000,000,000.00	3,000,000,000.00
Percent of total liabilities considered immaterial to total public liability	<b>3%</b>	<b>0.90%</b>

← < 2 %

← < 1 %

## **DISCLOSURES**

Financial statement disclosures provide relevant information in notes or narratives about the amounts reported on the financial statements and unrecognized costs. These disclosures ensure that the financial statements are fully informative and transparent. Write notes so that even readers who may not have a detailed knowledge of accounting principles can understand the information. Disclosure narratives should explain issues plainly but with adequate detail. The narrative describes the balances rather than simply providing a list or statement as to which site or program the balance is attributable.

Report and present environmental liabilities in the financial statements and Note 14, Environmental Liabilities and Disposal Liabilities, as illustrated in the [DoDFMR](#). Certain disclosures associated with recognized environmental liability balances and unrecognized costs must be addressed in each reporting period within the financial statement note. Maintain documentation to support the environmental liability recognition and disclosure for the life of the liability and in accordance with retention guidelines. Following the Note 14 Environmental Liabilities and Disposal Liabilities schedule, provide concise disclosures pertaining to fluctuations and abnormalities in environmental liabilities balances presented in the schedule.

### **Fluctuations**

In Note 14, disclose any differences between comparative periods when the differences meet at least one of two requirements: 1) the difference equals or exceeds +/- 10 percent for the *same line item*; or 2) the difference equals or exceeds +/- 2 percent of the *current period's total assets*.

When such a fluctuation in comparative periods occurs, provide a detailed explanation and concise answers to the following questions:

- How much is the fluctuation?
- Who caused the fluctuation?
- What business event caused the fluctuation?
- Why did the fluctuation happen?
- When, during the last four quarters, did the primary business event occur causing the fluctuation? (This helps identify which disclosures are likely to be in effect for the current fiscal year end.)<sup>13</sup>

Be descriptive and provide examples of fluctuations in disclosures. The fluctuations, even though applicable to only one line item, may include more than one individual unit or site.

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<sup>13</sup> Department of Defense, *Financial Management Regulation* Vol. 6B, *Form and Content of the Department of Defense Audited Financial Statements*, Chapter 10: *Notes to the Financial Statements* (Washington, D.C., February 2006).

BP



### **Review and Explain Fluctuations Incrementally**

The Navy discloses fluctuations to environmental liabilities throughout the year. Each quarter, the Navy computes and documents fluctuations in the amount of its reported environmental liabilities. When the time comes to prepare financial statements, the Navy has incrementally compiled the calculations and explanations needed for its annual disclosures. Furthermore, by explaining the reasons for the changes throughout the year in a narrative, an audit trail of changes over time is created.

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## **Abnormality**

Disclose all abnormal account balances found in financial statement lines and note schedules in Note 14, Environmental Liabilities and Disposal Liabilities. Abnormal account balances are those in which the normal balance (debit or credit) is reversed. For environmental liabilities the normal account balance is a credit, representing a responsibility. If the account balance was a debit, this would indicate a negative responsibility. This is not normal and requires an explanation. When an abnormal balance occurs, provide a detailed explanation that addresses the following questions:

- How much is the abnormality?
- Who caused this abnormality?
- What business event caused the abnormality?
- Why did the abnormality happen?
- When, during the last four quarters, did the abnormality occur?
- When will the abnormality be resolved?<sup>14</sup>

## **Note 14 Schedule Disclosures**

The five disclosures contained in Figure 11 address dollar values reported in Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures. If information supporting the values is not available, or additional qualifications of the values are needed, provide a narrative disclosure in addition to the table. Explain the reasons why the information is not available and project when the information will be provided.

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<sup>14</sup> Department of Defense, *Financial Management Regulation* Vol. 6B, *Form and Content of the Department of Defense Audited Financial Statements*, Chapter 10: *Notes to the Financial Statements* (Washington, D.C., February 2006).

**Figure 11 Disclosures Addressing Dollar Values in Note 14 Schedule**

<b>Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures</b>	Current FY (Amount in thousands)	Prior FY (Amount in thousands)
(a) Amount of operating and capital expenditures used to remediate legacy waste. Legacy wastes are the remediation efforts covered by IRP, MMRP, and BD/DR regardless of funding source.		
(b) The unrecognized portion of the estimated total cleanup costs associated with general property, plant and equipment.		
(c) The estimated cleanup costs associated with general property, plant, and equipment placed into service during each fiscal year.		
(d) Changes in total cleanup costs due to changes in laws, regulations, and /or technology.		
(e) Portion of the changes in estimated costs due to changes in laws and technology that is related to prior periods.		

**Expenditures for Legacy Waste.** Line (a) captures expenditures related to the remediation of legacy waste and includes outlays for resolving environmental liabilities associated with the Installation Restoration Program (IRP), Military Munitions Response Program (MMRP), and Building Demolition/Debris Removal (BD/DR).

**Unrecognized Cleanup Costs.** Line (b) captures the amount of the unrecognized portion of the estimated cleanup associated with General Property, Plant, and Equipment (GPP&E). When considering systematic recognition of an environmental cost, take special note of the date the GPP&E asset was placed into service. For GPP&E placed into service after September 30, 1997, associated closure and cleanup costs are systematically recognized over the useful life of the asset. The unrecognized portion of cleanup costs equals the total cleanup costs minus that already recognized on the financial statements. Remember, cleanup costs associated with contamination (environmental restoration of environmental sites and corrective actions) are recognized only when the contamination is discovered. Prior to the discovery of contamination, only closure costs (environmental costs associated with the future disposal of facilities, equipment, munitions, or closure of facilities) are included in the environmental liability estimate. If cleanup costs or closure costs are not reasonably estimable, the uncertainty regarding the estimate is disclosed in the note and the minimum amount reported on the balance sheet. For example, if there is no known technology to cleanup a particular site, then known cost, such as a remedial investigation/feasibility study,<sup>15</sup> should be reported on the balance sheet.

**Estimated Cleanup Costs Put in Service in the Current Fiscal Year.** Line (c) captures the estimated clean up costs for GPP&E placed into service in the current fiscal year.

**Changes to Laws, Regulations, and/or Technology.** Lines (d) and (e) reference the changes to the value of total estimated environmental cleanup costs as a result of changes to laws, regulations, and technology. For example, if a newly published law or standard expands the scope of a cleanup or requires the use of a new technology, the financial impact on the liability

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<sup>15</sup> Federal Accounting Standards Advisory Board, *Federal Financial Accounting and Auditing Technical Release No. 2: Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government as a Reasonable Effort to Identify Contamination* (Washington, D.C., March 1998).

should be disclosed here. It may be difficult and burdensome for an activity to identify every instance where a change in technology or regulation impacts the value of a liability. Activities should consider it likely that a small number of law and technology changes will lead to a majority of liability increases, and the majority of the changes to laws and technology will have smaller impacts. Activities may find it beneficial to develop a methodology to identify and capture the impact of the biggest cost drivers and to set materiality thresholds. Keep in mind, the threshold materiality levels must be documented and supported. Perform an analysis to justify the thresholds established.

CS



### Disclosing Closure Costs

Reconsider the tank scenario. Spills-R-Us Agency places an underground storage tank into service. The Resource Recovery and Conservation Act (RCRA) dictates various cleaning, sampling, and record keeping requirements. No contamination or leakage exists in the area. Engineers estimate closure costs of \$100,000. The tank has a 20-year useful life, based on DoDFMR Guidance.

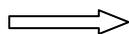
**Scenario A:** The tank is placed into service in FY 2006, the current fiscal year.

Systematically recognize the liability:  $\$100,000/20 \text{ years} = \$5,000 \text{ per year}$

In FY 2006, Note 14 Environmental Liabilities and Disposal Liabilities Line 1B2:  
 $\$5,000 \text{ per year} * 1 \text{ year} = \$5,000$

#### Scenario A: Note 14 Environmental Liabilities and Disposal Liabilities

As of <i>September 30, 2006</i>	FY 2006			FY 2005
	Current Liability	Noncurrent Liability	Total	Total
<b>(Amounts in thousands)</b>				
<b>1. Environmental Liabilities— Nonfederal</b>				
B. Other Accrued Environmental Liabilities— Active Installations				
2. Environmental Closure Requirements	\$0	\$5	\$5	\$0



**Scenario A: General Disclosure Table**

<b>Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures</b>	FY 2006	FY 2005
<b>(Amounts in thousands)</b>		
→ (b) The unrecognized portion of the estimated total cleanup costs associated with general property, plant and equipment.	\$95	\$0
→ (c) The estimated cleanup costs associated with general property, plant, and equipment placed into service during each fiscal year.	\$100	\$0

**Scenario B:** It is now FY 2006, and an underground storage tank was placed into service in FY 2002. The cost is material, therefore, a restatement is required. A prior period adjustment will be performed. In this scenario, no cleanup cost is reported in line (c) of the General Disclosure Table because the tank was not placed into service in the current year.

Systematically recognize the liability:  $\$100,000/20 \text{ years} = \$5,000 \text{ per year}$   
 In FY 2006, Note 14 Environmental Liabilities and Disposal Liabilities Line 1B2:  
 $\$5,000 \text{ per year} * 5 \text{ years} = \$25,000$

**Scenario B: Note 14 Environmental Liabilities and Disposal Liabilities**

<i>As of September 30, 2006</i>	FY 2006			FY 2005
	Current Liability	Noncurrent Liability	Total	Total
<b>(Amounts in thousands)</b>				
<b>1. Environmental Liabilities—Nonfederal</b>				
B. Other Accrued Environmental Liabilities—Active Installations				
→ 2. Environmental Closure Requirements	\$0	\$25	\$25	\$20

**Scenario B: General Disclosure Table**

<b>Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures</b>	FY 2006	FY 2005
<b>(Amounts in thousands)</b>		
→ (b) The unrecognized portion of the estimated total cleanup costs associated with general property, plant and equipment.	\$75	\$80
→ (c) The estimated cleanup costs associated with general property, plant, and equipment placed into service during each fiscal year.	\$0	\$0

**Scenario C:** It is now FY 2006, and an underground storage tank was placed into service in FY 2002. The cost is immaterial and as such does not require a restatement. A prior period adjustment will be not performed. In this scenario, no cleanup cost is reported in line (c) of the General Disclosure Table because the tank was not placed into service in the current year.

Systematically recognize the liability:  $\$100,000/20 \text{ years} = \$5,000 \text{ per year}$

In FY 2006, Note 14 Environmental Liabilities and Disposal Liabilities Line 1B2:  $\$5,000 \text{ per year} * 5 \text{ years} = \$25,000$

**Scenario C: Note 14 Environmental Liabilities and Disposal Liabilities**

<i>As of September 30, 2006</i>	FY 2006			FY 2005
	Current Liability	Noncurrent Liability	Total	Total
<b>(Amounts in thousands)</b>				
<b>1. Environmental Liabilities—Nonfederal</b>				
B. Other Accrued Environmental Liabilities—Active Installations				
→ 2. Environmental Closure Requirements	\$0	\$25	\$25	\$0

**Scenario C: General Disclosure Table**

<b>Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures</b>	FY 2006	FY 2005
<b>(Amounts in thousands)</b>		
→ (b) The unrecognized portion of the estimated total cleanup costs associated with general property, plant and equipment.	\$75	\$0
→ (c) The estimated cleanup costs associated with general property, plant, and equipment placed into service during each fiscal year.	\$0	\$0

**Scenario D:** It is now FY 2006, and an underground storage tank was placed into service in FY 1995. Since the tank was placed into service before October 1, 1997, total estimated cost of the environmental liabilities is recognized in the initial year the liability was recorded – 1995.

**Scenario D: Note 14 Environmental Liabilities and Disposal Liabilities**

<i>As of September 30, 2006</i>	FY 2006 (Current Year)			FY 2005
	Current Liability	Noncurrent Liability	Total	Total
<b>(Amounts in thousands)</b>				
<b>1. Environmental Liabilities— Nonfederal</b>				
B. Other Accrued Environmental Liabilities— Active Installations				
→ 2. Environmental Closure Requirements	\$0	\$100	\$100	\$0

**Scenario D: General Disclosure Table**

<b>Note 14 Environmental Liabilities and Disposal Liabilities Schedule Disclosures</b>	FY 2006	FY 2005
<b>(Amounts in thousands)</b>		
→ (b) The unrecognized portion of the estimated total cleanup costs associated with general property, plant and equipment.	\$0	\$0
→ (c) The estimated cleanup costs associated with general property, plant, and equipment placed into service during each fiscal year.	\$0	\$0

When considering cleanup costs, remember these points about disclosing environmental liabilities:

- **Legal Drivers** – In order to be considered an environmental liability, there must be a legal driver. In the case study above, RCRA requires that the tank be cleaned up after it is taken out of service. Because the regulation was in place at the time the asset was put into service, the liability must also be recognized at that time.
- **Systematic Recognition** – For long-lived assets, the liability for the asset disposal may need to be recognized over the asset's useful life.<sup>16</sup> If the GPP&E associated with the liability was placed in service prior to October 1, 1997, and the costs are not intended to be recovered through user charges, recognize the liability in the initial year it is recorded. If the GPP&E associated with the liability was placed in service after September 30, 1997, and the costs are intended to be recovered through user charges, recognize the liability systematically over the useful life of the asset.
- **Perpetuity of Activity** – Although an activity may be expected to continue as a going-concern, there is still a requirement to recognize a liability for closure cost associated with the asset retirements within the activity. An activity can be viewed as continuing for an eternity, but assets will eventually need to be replaced.



### Establishing Thresholds

When it comes to changes in laws, regulations, and technology, the Navy chose to narrow its scope - it focuses its attention on sites valued at greater than \$3 million, allowing them to capture the key drivers affecting cost changes. The Navy also incorporates optimization studies across all projects that use a particular technology and uses the studies to support disclosure statements.

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### General Narrative Disclosures

Activities should also be prepared to provide narrative disclosures related to the following topics:

- Applicable laws and regulations of cleanup requirements.
- Methods for assigning cleanup costs to current operating periods.
- Description of the types of environmental liabilities and disposal liabilities identified.
- Nature of the estimates and disclosure information regarding possible changes due to inflation, deflation, technology, or applicable laws and regulations.
- Description of the level of uncertainty regarding the accounting estimates used to calculate the reported environmental liabilities.

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<sup>16</sup> Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 143: Accounting for Asset Retirement Obligations* (Washington, D.C., June 2001).

## APPENDIX A LIST OF ACRONYMS

AICPA	American Institute of Certified Public Accountants
BD/DR	Building Demolition/Debris Removal
BRAC	Base Realignment and Closure
CAD	Computer-Aided Design
CFO Act	Chief Financial Officers Act
DeCA	Defense Commissary Agency
DERP	Defense Environmental Restoration Program
DFAS	Defense Finance and Accounting Service
DoD	Department of Defense
DoD OIG	Department of Defense Office of Inspector General
DoDFMR	Department of Defense Financial Management Regulation
DOE	Department of Energy
EPA	Environmental Protection Agency
FAS	Financial Accounting Standards
FASAB	Federal Accounting Standards Advisory Board
FASB	Financial Accounting Standards Board
FFMIA	Federal Financial Management Improvement Act
FIP	Financial Improvement Plan
FISCAM	Financial Information System Controls Audit Manual
FY	Fiscal Year
GAAP	Generally Accepted Accounting Principles
GAAS	Generally Accepted Auditing Standards
GAGAS	Generally Accepted Government Auditing Standards
GIS	Geographic Information System
GMRA	Government Management Reform Act
GPP&E	General Property, Plant, and Equipment
GPRA	Government Performance and Results Act
IG	Inspector General
IRP	Installation Restoration Program
MMRP	Military Munitions Response Program
MOA	Memorandum of Agreement
ODOs	Other Defense Organizations
OSD	Office of the Secretary of Defense
OUSD(C)	Office of the Under Secretary of Defense (Comptroller)
RCRA	Resource Recovery and Conservation Act
SAS	Statement of Auditing Standards
SFFAC	Statements of Federal Financial Accounting Concepts
SOPs	Standard Operating Procedures
SSFAS	Statement of Federal Financial Accounting Standards
TSDf	Treatment, Storage, and Disposal Facility
USACE	United States Army Corps of Engineers
USSGL	United States Standard General Ledger
UST	Underground Storage Tank

## APPENDIX B REGULATIONS AND REFERENCES

American Institute of Certified Public Accountants, *Statements on Auditing Standards 31: Evidential Matter* (August 1980).

Department of Defense, *Financial Management Regulation Vol. 1, General Financial Management Information, Systems and Requirements*, Chapter 2: *Conceptual Framework* (Washington, D.C., December 1998).

Department of Defense, *Financial Management Regulation Vol. 4, Accounting policy and Procedures*, Chapter 13: *Environmental and Nonenvironmental Liabilities* (Washington, D.C., October 2005).

Department of Defense, *Financial Management Regulation Vol. 6B, Form and Content of the Department of Defense Audited Financial Statements*, Chapter 10: *Notes to the Financial Statements* (Washington, D.C., February 2006).

Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Concepts No. 4: Intended Audience and Qualitative Characteristics for the Consolidated Financial Report of the United States Government* (Washington, D.C., March 2003).

Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards No. 5: Accounting for Liabilities of the Federal Government* (Washington, D.C., December 1995).

Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards No. 6: Accounting for Property, Plant, and Equipment* (Washington, D.C., November 1995).

Federal Accounting Standards Advisory Board, *Federal Financial Accounting and Auditing Technical Release No. 2: Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government as a Reasonable Effort to Identify Contamination* (Washington, D.C., March 1998).

Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 2: Qualitative Characteristics of Accounting Information* (Norwalk, Connecticut, May 1980).

Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 143: Accounting for Asset Retirement Obligations* (Washington, D.C., June 2001).

General Accounting Office, *Government Auditing Standards 2003 Revision*, Chapter 3: *General Standards* (Washington, D.C., June 2003).

National Archives and Records Administration, *General Records Schedules: Transmittal No. 8* (Washington, D.C., December 1998).

Office of the Under Secretary of Defense (Comptroller), *Memorandum: Financial Improvement Initiative Business Rules* (Washington, D.C., June 23, 2004).

Office of the Under Secretary of Defense (Comptroller), *Memorandum: Financial Improvement Initiative Assertion Package Criteria and Organization* (Washington, D.C., November 15, 2004).

Office of the Deputy Under Secretary of Defense (Installations and Environment), *Management Guidance for the Defense Environmental Restoration Program* (Washington, D.C., September 2001).

Office of the Deputy Under Secretary of Defense (Installations and Environment), *Guidance for Recognizing, Measuring, and Reporting Environmental Liabilities not Eligible for Defense Environmental Restoration Program Funding* (Washington, D.C., November 15, 2005).

## APPENDIX C USACE MOA

JUN 9 2004

MEMORANDUM OF AGREEMENT  
SUPPORT FOR RECORDED BOOK COST OF GENERAL PROPERTY, PLANT,  
AND EQUIPMENT ASSETS  
U.S. ARMY CORPS OF ENGINEERS, CIVIL WORKS

**Purpose.** To develop alternate methods to estimate and support the acquisition costs and capitalized improvements for real and personal property assets with remaining useful lives and administrative costs associated with land. In addition, to develop procedures for ensuring that the construction-in-progress costs that will be assigned to the assets in the future are supported.

**Auditing Guidance.** The American Institute of Certified Public Accountants Statement of Auditing Standard (SAS) Number 31, “Evidential Matter,” requires that sufficient, competent evidential matter be obtained through inspection, observation, inquiries, and confirmations to afford a reasonable basis for an opinion regarding the financial statements under audit. The auditor’s work consists of obtaining and evaluation evidential matter concerning the assertions in financial statements. Assertions are representations by management. Management assertions regarding the valuation of assets address whether the assets have been included in the financial statements at appropriate amounts.

**Accounting Guidance.** Statement of Federal Financial Accounting Standards (SFFAS) No. 6, “Accounting for Property, Plant and Equipment,” defines general property, plant, and equipment (PP&E) as any PP&E used in providing goods or services. Major categories of PP&E generally included land, land rights, buildings, other structures, construction-in-progress, capital leases, and equipment. The accounting standard requires that all general PP&E be recorded at cost. Costs should include all costs incurred to bring the PP&E to a form and location suitable for its intended use. For general PP&E in existence before October 1, 1998 (the effective date of SFFAS No. 6), the standard allows for the use of cost estimates, if the historical cost information necessary to comply with the standard had not been maintained. In accordance with the standard, estimates shall be based on:

- cost of similar assets at the time of acquisition or
- current cost of similar assets discounted for inflation since the time of the acquisition.

DoD Regulation 7000.14-R, the “DoD Financial Management Regulation,” volume 4, chapter 6, “Property, Plant and Equipment,” August 2000, states that the dollar value assigned to an asset shall be supported by appropriate documentation. Documentation (original documents and/or hard and electronic copies of original documentation) should

be maintained in a readily available location, during the applicable retention period, to permit the validation of information pertaining to the asset, such as the acquisition cost, the acquisition date, and cost of improvements. Supporting documentation may include, but not be limited to, purchase invoices, sales and procurement contracts, Engineer Form 3013, "Work Order/Completion Report," construction contracts, work orders, and other such documentation generated independently of the entity in possession of the property. A combination of these documents is often required to validate information pertaining to the asset. Supporting documentation for land may include, but not be limited to, offers to sell, purchases, deeds, and condemnation files.

**Record Retention Requirements.** DoD Regulation 7000.14-R, "DoD Financial Management Regulation," volume 1, chapter 9, "Financial Records Retention," August 2000, states that all financial records, both paper and electronic, documenting the acquisition of DoD PP&E shall be maintained for at least the minimum period specified in the applicable General Records Schedule (GRS) issued by the National Archives and Records Administration (NARA).

**NARA Requirements for Real Property Record.** The NARA GRS No. 3, item 1 requires that records, other than abstract or certificates of title, relating to real property acquired after December 31, 1920, be retained until 10 years after unconditional sale or release of the government of conditions, restrictions, mortgages, or other liens. Records related to real property acquired prior to January 1, 1921, are not covered by the GRS and must be scheduled by submission of a SF 115 to NARA.

**NARA Requirements for Personal Property Records.** NARA GRS No. 3, item 3 requires that the routine procurement files (including contract, receipt, inspection, and payment) related to transactions (including construction contracts) other than real property that exceed \$2,000 be retained until 6 years and 3 months after final payment. Files pertaining to transactions, including construction contracts, at or below \$2,000 should be retained until 3 years after final payment.

**Army Guidance.** The Army record retention guidance is inconsistent. The Deputy Chief of Staff, Army G-4, recognizing the problem with conflicting guidance, revised Army Regulation 710-2, "Supply Policy Below the National Level," February 25, 2004, to require that source documentation for capital assets be kept by the property book office for the life of the asset. All other asset documentation is to be kept for 6 years. Engineer Regulation 37-1-29, "Financial Management of Capital Investments," November 30, 2002, requires that all capitalized asset files be maintained for 10 years after the disposal of the asset. However, Engineer Form 3013 and supporting documentation are to be maintained and disposed in accordance with Army Regulation 25-400-2, "The Army Records Information Management System (ARIMS)." The Director, U.S. Army Records Management and Declassification Agency develops ARIMS policy and procedures and administers the ARIMS program for the Deputy Chief of Staff, Army G-1. The U.S. Army Records Management and Declassification Agency's retention and disposal policy for property management refers to Army Regulation 710-2. Chapter 16 (draft),

Engineer Regulation 405-1-12, "Real Estate Handbook," states that all capitalized asset files will be retained for 6 years and 3 months after the disposal of the asset.

**Record Retention Agreement.** For real property placed in service after FY 1998, the U.S Army Corps of Engineers (USACE) agrees to maintain all the documentation (original documents and/or hard and electronic copies of original documentation) in a readily available location for the life of the assets in accordance with NARA record retention requirements. For administrative costs associated with land acquired after FY 1998, USACE agrees that the districts must retain documentation supporting those costs in accordance with SFFAS No. 6, the DoD Financial Management Regulation, and NARA requirements. For personal property acquired after September 30, 2002, USACE agrees that the districts must follow SFFAS No. 6, the DoD Financial Management Regulation, and the NARA requirements for personal property records along with their own implementing policy.

## **PART I. REAL PROEPRTY**

**Background.** The USACE uses several types of buildings and structures to perform its mission, such as dams, bridges, reservoirs, and locks. As of September 30, 2003, USACE reported that the acquisition value (book cost) of its general PP&E totaled \$44.3 billion. The major asset classes were buildings and other structures, \$31.1 billion; land, \$8.1 billion; construction-in-progress, \$3.8 billion; and equipment, \$1.2 billion. The DoD Financial Management Regulation requires that the owner maintain supporting documentation for assets in a readily available location during the applicable retention period. This permits the validation of information pertaining to the asset, including acquisition cost, acquisition date, and cost of improvements.

**The Problem.** The lack of documentation to substantiate the book cost of a significant portion of USACE real property assets and the administrative costs associated with land, is a major audit impediment to determining whether USACE, Civil Works, general PP&E is fairly stated. The primary reason for the unsupported costs was that USACE district offices did not maintain documentation long enough because of the conflicting guidance. In addition, for the real property amount reported on the financial statements, USACE did not have accurate subsidiary ledger information on the quantity, type, and value of buildings and other structures to support those costs.

To compensate for the lack of supporting documentation and subsidiary ledger information, USACE issued specific guidance on how the districts should estimate the acquisition cost of real property. USACE district work groups allocated the capitalized project costs, by feature of work, to each item in the real property inventory using available real estate, financial, and operations data. To the extent possible, costs associated with each feature of work were to be allocated to the individual items of real property that related to the feature. If appropriate data were not available or real estate costs did not agree with the accounting records, the work group was to use the cost data provided by the finance and accounting office and estimate the original acquisition or

construction cost of each item of real property. After assigning costs of all real property items in accordance with the accounting records, the Chairman of the Real Property Work Group or representatives of the district's Real Estate and Resource Management offices were responsible for signing an attestation statement. The attestation indicated that costs assigned to the individual items were based on actual real estate records, where available, and/or an estimated cost based on project cost/general ledger records in the Corps of Engineers Management Information System (COEMIS). Cost estimates assigned to the individual items were based on the professional judgment of the work group using the total costs reflected in each feature of work.

USACE developed procedures to ensure that the ledgers remained in balance and that the inventory data were entered into the Real Estate Management Information System (REMIS). At that time, USACE used REMIS as the subsidiary ledger. Beginning in December 1993, USACE began converting financial accounting records from COEMIS to the Corps of Engineers Financial Management System (CEFMS). USACE district offices completed the conversion of general ledger and detailed subsidiary information from COEMIS to CEFMS at different times. The last district office converted to CEFMS in March 1998. Unlike COEMIS, CEFMS accounted financially for individual real property assets by property identification code. At the time of conversion, USACE used the information from the REMIS and the COEMIS/CEFMS conversion spreadsheets to establish values for individual property identification codes and populate the general ledgers in CEFMS.

**Agreement.** All parties acknowledge that the dollar value assigned to an asset will be supported by appropriate documentation. SFFAS No. 6 and the DoD Financial Management Regulation allow the use of alternate methods to estimate and support the acquisition cost for real property assets with remaining useful lives for transactions occurring before October 1, 1998. This Memorandum of Agreement documents an agreement between the Office of the Inspector General of the Department of Defense (OIG DoD), the principal auditor for USACE, and USACE, in coordination with the General Accounting Office and the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer. The agreement is an alternate method to estimate and support the acquisition costs for real property with remaining useful lives, administrative costs associated with land, and procedures for ensuring that the construction-in-progress costs that will be assigned to assets in the future are supported.

USACE agrees that SAS Number 31, "Evidential Matter," requires that the auditor consider the nature, competence, and sufficiency of evidential matter presented by management. Evidential matter supporting the financial statements consists of underlying accounting data and corroborating information available to the auditor. For evidential matter to be competent, it must be both valid and relevant. For evidential matter to be sufficient and competent, the auditor must obtain information that forms a reasonable basis for an opinion.

USACE also agrees to disclose in the notes to its Civil Works financial statements that assets put in service prior to CEFMS did not have adequate external support thus

alternate agreed upon procedures were used. USACE will include the total number of asset (to include cost) put in service before deployment of CEFMS.

**Buildings and Other Structures.** The OIG DoD agrees that the use of COEMIS/CEFMS conversion spreadsheets could be used to support the book cost of the real property (buildings and other structures) in existence before USACE converted the asset to CEFMS. Consequently, the baseline date for each asset will vary depending upon when it was converted to CEFMS. Each spreadsheet must be accompanied by an attestation statement from USACE Real Estate and Resource Management personnel that indicates that costs assigned to the individual items were based on actual real estate records, where available, and/or an estimated cost based on project cost/general ledger records in the COEMIS. In lieu of original supporting documentation indicating the acquisition date, the conversion spreadsheet or other documentation supporting the spreadsheet could be used to support the placed-in-service date established in CEFMS. USACE based the conversion procedures on the premise that the accounting records in COEMIS reflected the actual cost of the projects and would eventually serve as the basis for assigning the cost of the project to the individual property identification codes. Consequently, when the USACE completes its work on obtaining conversion spreadsheets with attestation statements for each project, the OIG DoD plans to perform other analytical procedures that would be used to determine the reasonableness of the COEMIS cost information associated with converted projects and the costs assigned to high-dollar-value assets.

For those projects for which a conversion spreadsheet is available, but an attestation statement is not provided to the auditors, USACE will obtain and provide a written statement from Real Estate and Resource Management personnel in the responsible district offices. These district personnel will attest that the costs assigned to the individual items were based on actual real estate records, where available, and/or an estimated cost based on project cost/general ledger records in the COEMIS. USACE will also furnish an attestation statement as to the reasonableness of the placed-in-service date if the conversion spreadsheet or other documentation supporting the spreadsheet does not indicate an acquisition date. If the original COEMIS/CEFMS spreadsheets are not available, USACE will re-create the spreadsheets using the same information and methodology used to create the originals. USACE will then annotate on the spreadsheets "non-original" and attest to the information and the methodology used to re-create them. If it is impossible to re-create a new spreadsheet, then USACE agrees to obtain appraisals and/or engineering estimates for missing conversion spreadsheets. A written statement describing the estimating methodology should accompany the appraisals and/or estimates and be attested to by responsible Real Estate and Resource Management personnel. USACE will clearly identify the methods/basis used to compute the estimated cost for any asset for which the conversion spreadsheet is missing. If any costs cannot be supported with documentation, USACE agrees to either reduce the book cost of the building or other structure by the amount of the unsupported costs or track the unsupported amounts by property identification code. When USACE completes the work related to the unsupported book cost, the OIG DoD agrees to consider the risk associated with relying on the unsupported amounts in auditing the financial statements.

USACE agrees that acquisition costs initially recorded in CEFMS, capitalized improvements made to existing assets since the conversion spreadsheet was prepared, and increases in acquisition cost from those recorded on the COEMIS/CEFMS conversion spreadsheets will be supported by independent source documents as prescribed in Engineer Regulation 405-1-12, Chapter 16. In instances where the required documentation cannot be obtained, USACE agrees to obtain appraisals and/or engineering estimates as detailed in the DoD FMR, volume 4, chapter 6, with a written attestation. If any costs remain that cannot be supported with documentation or by an appraisal or engineering estimate, USACE will either reduce the book cost of the building or other structure by the amount of the unsupported costs or track the unsupported amounts by property identification code.

Because the OIG DoD will review only the COEMIS/CEFMS conversion spreadsheets for 43 sampled projects, USACE agrees to determine the availability of COEMIS/CEFMS conversion spreadsheets and written attestation statements for the assets in the projects not sampled. USACE agrees to reconcile differences between what was recorded in COEMIS at the time of conversion and what was distributed to the individual property identification codes on the conversion spreadsheets for entry into CEFMS. For changes made to existing assets since the development of the conversion sheet and new assets placed in service since the conversion, USACE agrees to ensure that sufficient source documentation exists in files maintained by the respective districts to substantiate the book cost recorded in CEFMS. Source documentation, such as an appraisal, or a written attestation statement should support the acquisition cost of revolving fund real property assets. USACE agrees to maintain all the documentation (original documents and/or hard and electronic copies of original documentation) in a readily available location, for the life of the assets.

**Construction-in-Progress.** USACE agrees to establish and implement procedures by November 15, 2004, that require that COEMIS costs that are associated with assets still in construction-in-progress be supported before associated assets are placed in service. In the new procedures, the Engineer Form 3013 for each transferred asset will indicate the dollar value of the capitalized costs originating in COEMIS for which sufficient source documentation does not exist. The Engineer Form 3013 will also identify the costs that originated in CEFMS that are supported by original documentation. USACE will obtain and provide a written statement from responsible USACE district personnel attesting that the costs assigned to the individual property identification codes were based on actual costs, where available, and/or an estimated cost based on project cost/general ledger records in COEMIS. USACE will attach the written statement with the supporting documentation, such as the CEFMS cost detail ledger as of the date of the conversion, to the Engineer Form 3013. The written statement, supporting documentation, or the Engineer Form 3013 will describe the types of goods or services that are associated with the capitalized costs for which sufficient source documentation does not otherwise exist. If any costs cannot be supported using this methodology, the book cost of the building or other structure will be reduced by the amount of the unsupported costs.

**Administrative Costs Associated With Land.** Reportable land costs are composed of the cost to acquire land tracts and all costs necessary to bring a tract of land to a form suitable for its intended use. This includes the administrative costs. Administrative costs associate with land on the FY 2003 Civil Works Balance Sheet represent approximately 70 percent of the \$8.1 billion recorded value for land. As with other real property, supporting documentation is not available for most of these administrative costs. To identify the administrative cost component, USACE agrees to separately identify total land tract costs and total administrative costs for each property identification code per district by May 2004.

From each of the districts, USACE will request the FYs 1994 to 1998 conversion data, the associated COEMIS/CEFMS conversion spreadsheets, and the signed attestation statements for all projects. The attestation statements indicate that costs assigned to the individual items were based on actual real estate records, where available, and/or an estimated cost based on project cost/general ledger records in COEMIS. For missing FYs 1994 to 1998 conversion spreadsheets or attestation statements, USACE will re-create the spreadsheets using the same information and methodology used to create the original spreadsheets. USACE will then annotate on the spreadsheets “non-original” and attest to the information and the methodology used to re-create them. If USACE cannot reconstruct the conversion spreadsheets, USACE will write off the recorded amounts or provide valid estimates. For administrative costs associated with land acquired after its conversion to CEFMS, USACE agrees that the districts must retain documentation supporting those costs in accordance with SFFAS No. 6, the DoD Financial Management Regulation, and NARA requirements.

The OIG DoD agrees to accept the conversion spreadsheets with signed attestation statements as alternative documentation that will approximate actual costs for the pre-CEFMS unsupported administrative costs of land. The baseline date will vary for each item depending upon when it was converted to CEFMS. Because the COEMIS or conversion data is alternative documentation, USACE agrees to select a judgmental sample of the available conversion spreadsheets from a minimum of one project each at five Power Marketing Administration districts and five non-Power Marketing Administration districts. USACE engineers will then validate the accuracy of the conversion data used to estimate project cost on the selected projects. USACE will provide the engineer-validated estimates to the IG DoD auditors. USACE also agrees to disclose all unsupported administrative (those costs not supported by actual real estate records or estimates) in the financial statement notes.

USACE agrees to reconcile differences between what was recorded in COEMIS at the time of conversion and what was distributed to the individual items on the conversion spreadsheets for entry into CEFMS. For changes made to existing items since the development of the conversion sheet and new items placed in service since the conversion, USACE agrees to ensure that sufficient source documentation exists in files maintained by the respective districts to substantiate the administrative costs recorded in CEFMS. USACE agrees to maintain all the documentation (original documents and/or

hard and electronic copies of original documentation) in a readily available location, for the life of the items.

## **PART II. PERSONAL PROPERTY**

**Background.** USACE uses several different types of equipment assets to perform its mission such as forklifts, trucks, cranes, barges, and boats. The equipment portion of PP&E generally includes assets with an acquisition value of \$25,000 or more. It does not include land, buildings and structures, and construction-in-progress. The net book value of equipment in the USACE principal statements in FY 2002 was \$650.8 million. The DoD Financial Management Regulation requires that supporting documentation for the assets be maintained by the owner in a readily available location during the applicable retention period. This permits the validation of information pertaining to the asset, including acquisition cost, acquisition date, and cost of improvements.

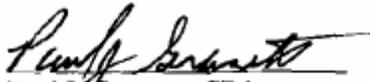
**Problem.** USACE did not maintain adequate documentation to support all of the values recorded in CEFMS for a significant number of items of equipment reviewed. This occurred because USACE had not developed the controls necessary to ensure personnel adhered to existing policies and procedures for retaining documentation and valuing assets in the absence of historical data. The valuation problem resulted in the audit conclusion that USACE could not adequately support about \$47.5 million of the \$650.8 million disclosed on the FY 2002 financial statements as the value of equipment.

**Agreement.** For personal property assets acquired as of September 30, 2002, USACE agrees, when original supporting documentation for personal property assets is no longer available, that the asset costs need to be determined and documented using acceptable methods of estimating costs. Acceptable procedures for valuing assets for which historical cost documentation is no longer available include:

- appropriation or other Congressional information,
- Plant Replacement and Improvement Program documentation, if it can be used or adjusted to estimate the value of the assets at the time it was placed in service.
- estimated cost based on the cost of similar assets at the time of original acquisition, and
- current cost of similar assets, discounted for inflation since the time of acquisition.

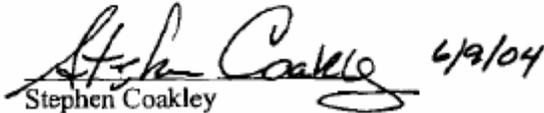
USACE agrees to document the estimate on the USACE Internal Equipment Valuation (in Lieu of Supporting Documentation) form and have it certified by responsible personnel. For personal property acquired after September 30, 2002, USACE agrees that the districts must retain documentation supporting those costs in accordance with SFFAS No. 6, the DoD Financial Management Regulation, and NARA requirements.

This Memorandum of Agreement, once agreed to by all parties, will represent the official baseline for supporting the book cost of individual USACE, Civil Works, general PP&E. The official baseline dates are not rolling baselines; therefore, alternative valuation methodologies for real and personal property will not be accepted for any transactions that occur after the asset's baseline period. The undersigned agree that this memorandum expresses our understanding of the actions that the OIG DoD and USACE agree to take.



Paul V. Granetto, CPA

Assistant Inspector General, Defense Financial Auditing Service  
Office of the Inspector General of the Department of Defense



Stephen Coakley

Director, Resource Management  
U.S. Army Corps of Engineers

## APPENDIX D SUMMARY SHEET

### Environmental Liability Audit Trail Documentation

1. Project Name/Identification:
2. Estimator's Name:
3. Estimator's Qualifications:
4. Date Estimate Completed:
5. Applicable Laws and Regulations:
6. Short description of the methodology (e.g., processes or steps) needed to complete the project:
7. Assumptions made to complete the estimate because information was unknown:
8. Estimating Method/Cost Estimate Rationale:

*Note: Cost elements are outlined on Table 1.*

9. For closure requirements for projects put into service after 30 September 1997, the method for assigning the estimated total project costs to current operating periods (i.e., physical capacity, passage of time).
10. Current Fiscal Year Environmental Liability Estimate:
11. Cost Basis (Year) for Estimate:
12. Previous Fiscal Year Environmental Liability Estimate:
13. Percent Change from Previous to Current Estimate:
14. Allocation of changes (i.e., Additions, Deletions, and Prior Period Adjustments) in the total estimated project cost to reason for change.

*Note: Table 2 shows the allocation of changes in amounts and percentages because of changes in laws or regulations, technology, installation plans, inflation/deflation, or payments/funding; and shows the portion of the change in the estimate that relates to prior period operations for units or sites put into service after 30 September, 1997.*

15. Additional comments or information needed to describe the conditions surrounding the cost estimate or project.



Table 2. Project Name/Identification  
Allocation of Estimate Change

<b>Change In Ending Balance Attributable To The Following Reasons</b>	<b>Amount of Change Attributable to the Reason</b>	<b>Percent of Change Attributable to the Reason</b>	<b>Amount of Change Related to Prior Fiscal Year Operations for Sites and Units Put Into Service after September 30, 1997</b>	<b>Explanation for Change</b>
Legal or regulatory changes				
Technology changes				
Plan changes for units or sites				
New Projects				
Missing Projects				
Changes for existing projects in the price of goods and services (i.e., inflation, deflation)				
Payment/Funding to Implement Project during the current fiscal year				
Additional Information/Other				
<b>Total Change</b>		100 %		

## APPENDIX E DOCUMENTATION CHECKLIST

General Documentation Audit Folder Check List		
Item	Description	v
1	Documentation of the procedures, processes, and control points for deriving the environmental liability balance is included in the audit folder. Documentation includes the systems that are used and the flow of data from field level to departmental level. Documentation could include Standard Operating Procedures, Cycle Memorandums and/or flow charts.	<input type="checkbox"/>
2	Are all General Ledger transaction detail and supporting information from feeder systems available for all other transactions that make up the environmental liability balance, including all accounting adjustments that have an effect on the ending balance of a line item reported on the financial statements? Does the total of the detail equals the balance of the line item?	<input type="checkbox"/>
3	Evidential matter that supports the transactions in Item 2 or a map of where the evidential matter is located for easy and expedient retrieval is included in the audit folder.	<input type="checkbox"/>
4	Prepare a summary of validation work performed by management Service auditors, Internal auditors, or independent public accounting firms to establish audit readiness, as applicable.	<input type="checkbox"/>
5	Are all the corrective actions in your Financial Improvement Plan (FIP) for the material deficiencies related to the environmental liability balance complete?	<input type="checkbox"/>
6	Summary of Corrective Actions Taken from Item 5 above is included.	<input type="checkbox"/>
7	Organization charts indicating key personnel and their responsibilities and phone lists are included in the audit folder.	<input type="checkbox"/>
8	For all the systems identified in Item 1 above, has there been a Financial Information System Controls Audit Manual (FISCAM) or Statement of Auditing Standard (SAS) 70/88 audits conducted on the systems? - If yes, include the audit report, date, point of contact in the audit folder.- FOLDER IS COMPLETE - If no, complete Items 9-17.	<input type="checkbox"/>
9	A description of the major hardware and software of the system and interfaces with other systems is included in the audit folder.	<input type="checkbox"/>
10	A description of the types of data the system produces for the financial statements, e.g., accounting transactions is included in the audit folder.	<input type="checkbox"/>
11	A description of telecommunications devices and networks used with the system is included in the audit folder.	<input type="checkbox"/>
12	Obtain a copy of the most recent certifications and accreditations of the system.	<input type="checkbox"/>
13	The system location(s) and end user locations are included in the audit folder	<input type="checkbox"/>
14	The location(s) of system documentation is included in the audit folder	<input type="checkbox"/>
15	The type, dollar value, and number of transactions processed in the system in a month and in a year is included in the audit folder	<input type="checkbox"/>
16	A list of the type of system users (a type of user would be described as a certain category of employees or an organizations activity with-in an Agency) is included in the audit folder.	<input type="checkbox"/>
17	List of On-going or Planned Reviews are included in the audit folder.	<input type="checkbox"/>

## APPENDIX F SAMPLE AUDIT TRAIL

### Example: Toxic Installation Groundwater Remediation Program (TIGR)

<b>Environmental Liability</b>			
<b>Management/Supervisory Review and Approval</b>			
<b>Project Name/Identification:</b> <u>TIGR</u>			
<b>Criteria</b>	<b>Yes</b>	<b>No</b>	<b>Comment</b>
Were sound estimating methodology and reasonable assumptions used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Consistent with other similar sites
Did the estimator compare prior year estimates to the current year estimate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Does the estimate include all relevant phases and costs to complete the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the estimate consistent with the operational plans of the entity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Does the estimator have the proper qualifications and required training to prepare the estimate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimator has XXX certification and 25 years of experience
Is there an adequate audit trail?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sufficiently documented in the esimation package
Is there adequate documentation to support the underlying assumptions used to develop the estimate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sufficiently documented in the esimation package
Does the supervisor agree with the underlying assumptions used to develop the estimate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the estimate maintained in the current cost basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Date of Review <u>  8/30/06  </u> Reviewer's Name <u>  James Davis  </u> Reviewer's Signature <u>          J.D.          </u>			

**Final Cost to Complete Estimate for TIGR Groundwater Cleanup**

<b>Toxic Installation Groundwater Remediation (TIGR) Program - Project Number #12345678</b>		
Operation and Maintenance of OU1 and OU2	<b>1,206,539.00</b>	See Schedule 2.b (A)
<b>Less:</b> OU costs for other Operable Units	<b>(50,640.00)</b>	See Schedule 2.b (B)
<b>Subtotal</b>	<b>1,155,899.00</b>	
<b>Add:</b> Bio Monitoring Support	<b>80,000.00</b>	See Schedule 2.a (C)
<b>Add:</b> Geo Technical Support	<b>95,000.00</b>	See Schedule 2.a (D)
<b>Subtotal</b>	<b>1,330,899.00</b>	
20% for Public Affairs and Legal Support (Base Support/Contingency)	<b>266,179.80</b>	See Schedule 2.a (E)
<b>Total Annual Costs</b>	<b>1,597,078.80</b>	
<b>Total Years</b>	<b>30</b>	
<b>Total Cost to Complete Estimate</b>	<b>47,912,364.00</b>	

## Memorandum For Record

### **Subject: Installation Action Plan (IAP) Cost to Complete Estimates for Toxic Installation Groundwater Remediation (TIGR) Program - Project Number #12345678**

1. This memorandum serves as a formal documentation of the information used to develop the remedial action cost to complete estimates for the Toxic Installation Groundwater Remediation (TIGR) Program- Project # 12345678.
2. An interim ROD to address the groundwater emanating from beneath the TIGR Program site was signed in September 1991. The selected remedy consists of groundwater extraction and treatment, with discharge of treated effluent to the Gunpowder River.
3. The groundwater extraction system consists of 14 extraction wells and currently produces a total withdrawal rate of 20-30 gallons per minute (gpm). The ground water treatment facility (GWTF) consists of metals precipitation, Air stripping, ultraviolet-oxidation (UV-OX), and activated carbon. Currently, the maximum GWTF treatment flow rate is 45 gpm. Studies to integrate the interim remedies currently in place project #23456781 and project # 345678912 into a single final remedy for the site have been completed.
4. Due to potential mounding of groundwater under the Permeable Infiltration Unit (PIU), the possibility exists that additional extraction wells and an increase in treatment capacity will be required in order to contain the contaminated plume.
5. For cost estimating purposes, it was assumed that 5 additional extraction wells would be needed west of the PIU. The average extraction well depth (23 feet) and the estimated withdrawal rate (10gpm) were obtained from consultants with the project geologist, John Rock (Toxic Waste Cleanup, Inc). Extraction system assumptions were based on the existing extraction system.
6. It was determined that 15 new monitoring wells would be needed based current protocols requiring three per extraction well.
7. Costs for down hole clearance of well locations was based on actual costs and was entered in RACER as a user defined estimate.
8. It was assumed that all of the new extraction and monitoring wells would be sampled once for a total of 20 samples. Two QA/QC samples were added by the RACER software bringing the total to 22 samples.
9. The additional extraction wells would require a corresponding increase in the maximum treatment capacity of the GWTF. Because current clarifier is already exceeding its design capacity, it was determined that a new clarifier would be needed, designed to 55gpm.
10. The 2000 ft of 1 lane gravel roads are required for drill rig and maintenance vehicle access to each to the proposed extraction and monitoring well sites.

11. The ordnance and explosive removal action is required for the clearing of access roads to each of the well. It was assumed that area to be cleared for the roads would be 2000 ft by 20 wide (.92 acre).
12. Based on the proposed locations of each of the extraction wells, 800 ft of 12 inch heat traced conduit would be required to encase all of the discharge lines from the extraction wells and the groundwater collection tank (extraction system design based on existing systems).
13. The RD cost was calculated in the RACER software using the percentage method.
14. The LTO cost based on actual operating costs.

Memo Prepared by: Joe Smith / (212) 313-4141

Memo Approved by: James Davis / (343) 454-5656

**Schedule 2a: Cost to Complete Estimate**

	<b>Installation:</b>	<b>Toxic Installation</b>		
	<b>Site Name:</b>	<b>Toxic Installation Groundwater Remediation Site</b>		
	<b>DSERT#:</b>	<b>567891234</b>		
	<b>Phase:</b>	<b>RAO Annual Costs</b>		
<b>A. Labor (Rates are fully loaded)</b>	<b>Unit Cost/Hour</b>	<b># of Units</b>	<b>Total Cost</b>	
See Section E. Other			<b>\$0</b>	
		<b>Subtotal: Labor</b>	<b>\$0</b>	
<b>B. Subcontractor</b>	<b>Unit Cost/Hour</b>	<b># of Units</b>	<b>Total Cost</b>	
See Section E. Other			<b>\$0</b>	
	<b>Subtotal: Subcontractor</b>		<b>\$0</b>	
<b>C. Material</b>	<b>Unit Cost/Hour</b>	<b># of Units</b>	<b>Total Cost</b>	
See Section E. Other			<b>\$0</b>	
	<b>Subtotal: Materials</b>		<b>\$0</b>	
<b>D. Analytical</b>	<b>Unit Cost/Hour</b>	<b># of Units</b>	<b>Total Cost</b>	
See Section E. Other			<b>\$0</b>	
	<b>Subtotal: Analytical</b>		<b>\$0</b>	
<b>E. Other</b>	<b>Unit Cost/Hour</b>	<b># of Units</b>	<b>Total Cost</b>	
GWTF O&M Contract	\$1,155,900.00	1	\$1,155,900.00	
Bio-Monitoring Support	\$80,000.00	1	\$80,000.00	(C)
Geo-Technical Support	\$95,000.00	1	\$95,000.00	(D)
		<b>Subtotal: Other</b>	<b>\$1,330,900.00</b>	
	<b>Base Support/Contingency (20%):</b>		\$266,180.00	(E)
	<b>Grand Total:</b>		<b>\$1,597,080.00</b>	
<b>Name</b>	<b>Title</b>	<b>Signature</b>	<b>Date</b>	
Joe Smith	Preparer			
James Davis	Supervisor			

**Schedule 2b: Operations & Maintenance Estimated CY2003 Budget (Contractor)**

<b>Toxic Waste Cleanup, Inc</b>			
<b>Operations &amp; Maintenance Estimated CY 2003 Budget</b>			
<b>For The TIGR Site</b>			
<b>TOTAL LABOR COST</b>	<b>\$747,454</b>	Salaries, Fringe Benefits, Overhead	<b>(B)*</b>
Engineering Consultant	\$16,480	To provide for annual survey of cap	<b>(B)*</b>
Training	\$412	Employee Training	
<b>SUBTOTAL Tech &amp; Special</b>	<b>\$16,892</b>		
Postage	\$1,442	For submittal of facility reports	
Telephone	\$412	Voice/data transmission, telephone alarms and beepers	
Cellular Phones	\$206	Cellular phones for communication	
<b>SUBTOTAL Communications</b>	<b>\$2,060</b>		
In-State Travel	\$1,030	Provide for travel expenses for specialized service, if needed	
<b>SUBTOTAL Travel</b>	<b>\$1,030</b>		
Natural Gas (Heat)	\$15,450	Natural Gas/Propane for heating buildings	
<b>SUBTOTAL Fuel &amp; Utilities</b>	<b>\$15,450</b>		
Mileage	\$20,758	For transportation cost associated with routine service	
<b>SUBTOTAL Vehicle O&amp;M</b>	<b>\$20,758</b>		
Equipment Rental	\$5,150	Equip. repair services by outside contractor	
Service Contracts	\$2,060	Generator preventive maintenance	
Equip. Rental	\$4,326	To rent copier & sampling equip.	
Advertising	\$515	To cover costs of advertising procurements	
Other Contractual Services	\$24,720	To provide for data validation of samples	
MES Lab Services	\$192,389	Lab services for permit and regulatory compliance	
Freight	\$1,545		
Trash Removal	\$1,030	Dumpster service for trash removal	
Septic Tank Service	\$1,112		
Bottled Water	\$1,030		
<b>SUBTOTAL Contract Services</b>	<b>\$233,877</b>		

Environmental Liabilities Best Practices Guide  
May 2006

Office Supplies	\$2,060	To prepare repots and maintain facility records	
Bldg & Household	\$1,030	Building and janitorial supplies	
Lab	\$9,270	Supplies and office equip for on-site lab analysis	
Small Tools	\$309	To effect preventive and minor corrective maintenance activities	
Uniforms	\$2,833	To provide operational staff with uniforms	
Other	\$8,240	To provide drums for sludge disposal	
Chemical	\$119,650	Process Treatment Chemicals	
Safety	\$5,150	Safety shoes, first aid kits, and fire extinguishers	
Repair Parts	\$16,480	To effect preventative and minor corrective repairs	
Shop	\$1,030	Minor shop items (nuts, washers, etc)	
Lubricants	\$309	Grease and oil	
<b>SUBTOTAL Supplies</b>	<b>\$166,361</b>		
<b>EDP Software</b>	<b>\$515</b>	To provide e-mail services	
<b>CADD/GIS Services</b>	<b>\$2,142</b>		
<b>SUBTOTAL EDP Supplies</b>	<b>\$2,657</b>		
<b>BUDGET TOTAL</b>	<b>\$1,206,539</b>		<b>(A)</b>
<b>Approved By</b>	<b>Date</b>		

**\* Explanation of (B): Other Operable Unit Cost**

- Total Expense for other operable unit: \$34,160 + \$16,480 = **\$50,640**
- Of the total labor costs, \$34,160 for other operable unit (cap) maintenance and repair  
     30 hrs/week x 52 weeks/yr = 1,560 hrs/yr  
     1,560 hrs/yr x \$21.90/hr = \$34,160/yr
- Engineering Consultant salary (\$16,480) to cover other operable unit (cap) survey

**Schedule 2c: US Army Center for Environmental Health (USACEHR) Activity Report**

<b>USACEHR Activity</b>		
<b>TIGR Program:</b> Groundwater remediation and restoration on Toxic Installation site.		
<ul style="list-style-type: none"> <li>• Remote consultation was provided to GWFT operators to assist with fish change out procedures and to evaluate specific response events or other unusual events. Activities also include coordination and monitoring of test organism culturing and delivery, field sampling of TIGR site stocked bluegill within remediation ponds at Toxic Installation to evaluate growth and reproduction, coordination of response driven water chemistry analysis, and development of an ABP computer operating instruction manual to assist GWTF operators while performing bio-monitoring maintenance. Provided consultation and diagnostic evaluation of system components during emergency events to provide overall assurance of accurate and reliable performance of bio-monitoring</li> <li>• Performed bi-weekly data archiving, analysis, and biweekly report generation and/or review for all bio-monitoring data generated during the performance period. Upgraded biweekly reports to provide greater uniformity and clarity. Completed reports were submitted via Army memorandum to the Toxic Installation Department of Safety Health and Environment.</li> <li>• Compiled a yearly summary of operation and response events for DSHE managers and draft summary of all site # 123456789 bio-monitoring data 1995 to present in its preparation.</li> <li>• Setup and organized a shared drive on the lab computer system network to serve as the data archive for all data pertinent to TIGR site monitoring efforts.</li> <li>• Support was provided to acquire, setup, and evaluate the bbe Daphnia Toximeter including a trip to the Lab'O'Rama Laboratory to collaborate on taximeter function. Also collaboration and toximeter training. Final report provided.</li> <li>• Provided consultation and support to perform ventilatory and IT/GEO-CENTERS toximeter validation studies of TIGR site relevant compounds (Zinc, Arsenic, 1,1,2,2-tetrachloroethane, a mixture of all three, and TIGR site influent)</li> <li>• Prototype operational program using a window based system with Intranet access was completed. System is now under review and assessment for implementation.</li> </ul>		
<b>In-House Budget FY01</b>		
<b>Toxic Installation Site Support</b>		
<b>Labor (Salary):</b>	<b>\$25,723</b>	
Biologist		
Chemist		
Technician		
Student Summer Hire	\$6,015	
<b>Subcontracts:</b>		
Director of Information, TIGR Site	\$9,145	
Contracts'R'Us, Inc	\$32,242	
<b>Travel</b>	<b>\$677</b>	
<b>Supplies &amp; Materials</b>	<b>\$9,544</b>	

Environmental Liabilities Best Practices Guide  
May 2006

<b>Overhead (20%)</b>	\$19,094	
<b>TOTAL In-house cost</b>	<b>\$102,440</b>	<b>(C)*</b>
<b>1. FY 2001 New TIGR Program Funding Information</b>		
<b>A. TIGR Site MIPR1FKOROE114 JONO:2V5E11</b>		
Funding Received: \$130K on 4-20-01		
<b>\$36K spent in FY01</b> ; \$93.6 carryover into FY02		
Current Balance as of 02-02: \$23K		
Note: Balance does not include the last pay period charges		
<b>B. TIGR Site MIPR1BKOROE038 JONO: 1MAN11</b>		
Funding received: \$11.9K on 11-00 and \$26K on 3-10; total funding received; \$37.9K		
<b>\$37.9K spent if FY01</b> ; no carryover into FY02		
<b>C. TIGR Site MIPRIFKOE115 JONO:2V5G11</b>		
Funding received \$47.7K on 3-13-01 and \$51.8K on 8-1-01; Total funding received \$99.4K		
\$42.1 spent in FY01; \$57.2K carried into FY02		
Current balance as of 2-02, \$15K. Note: Mary Sewell to ask for 2-month extension, as bulk of funding not received until 8-01.		
Note: Balance does not include the last pay period charges		
<b>D. TIGR Site MIPR2BKOROE023 JONO: 2VJQ11</b>		
Funding received: \$170K on 11-01.		
<b>\$3.8K spent in FY01</b>		
Balance as of 2-02: \$166.2K.		
<b>E. TIGR Site MIPR2BKOROE20</b>		
Funding received: \$10K on 11-01		
<b>\$1.2K spent in FY01</b>		
Balance as of 2-19-02: \$8.8K		
<b>* Explanation of Item (C) costs:</b> 78% of Total USACEHR costs used for bio-monitoring support		
\$102,440 * 78% = \$80,000 (appx)		

## **APPENDIX G THANKS TO CONTRIBUTORS**

Achieving financial improvement is a goal held by all. The great contributions from the diverse organizations listed below and included in this guide are a step towards this goal. Thank you for helping produce this guide.

### **Federal Agencies**

Department of the Army  
Department of the Navy  
Department of the Air Force  
Defense Logistics Agency  
Defense Commissary Agency  
Defense Finance and Accounting Service  
United States Army Corps of Engineers  
United States Marine Corps  
Department of Energy  
Environmental Protection Agency

### **Other Government**

Embassy of Australia

### **Private Industry**

Chevron Corporation and Environmental Management Company  
Cotton & Company LLP  
ExxonMobil Corporation

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