Department of Defense

Office of the Under Secretary of Defense (Comptroller)

Financial Improvement and Audit Readiness (FIAR)

KNOW YOUR BUSINESS
CONTROL YOUR FUTURE

Environmental Liabilities Best Practices Guide

February 2014

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This best practices guide on environmental liabilities was developed for financial managers, accountants, and technical professionals throughout the 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, FASAB Technical Bulletins, DoD Financial Management Regulation (FMR) and Office of the Secretary of Defense (OSD) Guidance.

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

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INTRODUCTION

Auditable financial statements are important for two reasons. Number one is the *confidence* instilled upon the public that their "investment" of tax dollars is properly managed and wisely spent. Secondly, audited financial statements are *legally required*. 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 aimed to: 1) improve financial management; 2) promote accountability and reduce costs; and 3) emphasize results-oriented management. These laws require Federal financial statements, including DoD, to be complete, accurate and auditable.

Departmental Challenges

However, auditability of DoD's financial statements has been elusive, and one problem area is environmental liabilities. The DoD has issued guidance related to environmental liabilities over several years (e.g., the Environmental Liabilities Recognition, Valuation, and Reporting Requirements Document, dated July 19, 2006); however, the recorded amounts and disclosures related to Environmental Liabilities on the Component as well as Defense-wide financial statements remain un-auditable for a variety of reasons. The auditability gap is attributable to several factors, including:

- Lack of centralized monitoring and oversight of environmental liability accounting and reporting (generally for non-DERP events);
- Incomplete fixed asset listings;
- Lack of comprehensive Defense-wide processes and controls for identifying and measuring environmental liabilities;
- Lack of a standardized methodology for quantifying potential environmental liabilities and clean-up costs in accordance with Federal accounting standards; and
- Inability to adequately support assumptions/factors used in calculating environmental liability estimates.

This 2014 update to the Best Practices Guide[1] seeks to further clarify how to identify, record, document, and report environmental liabilities to help ensure that liabilities are accurately presented and properly supported in the DoD financial statements.

Accounting Requirements

The guide details the accounting requirements that DoD and its Components must implement and conform to in order to achieve auditability. In addition, the guide includes a discussion of auditing considerations, specifically the procedures that auditors will likely perform to determine whether the recorded balances and disclosed information complies with Federal accounting standards. This includes demonstrating that:

[1] The Best Practices Guide was originally issued by OUSD(C) in May 2006.

- All environmental liabilities (funded and unfunded) for which the Component is responsible are included in the financial statements;
- All recorded environmental liabilities relate to actual instances of environmental contamination and/or situations for which closure and/or disposal costs are determined to be necessary;
- All instances of environmental liabilities have been identified, through positive assurance,[2] and are properly recorded and/or disclosed in the financial statements;
- Recorded liabilities are valued appropriately and the factors utilized to formulate the liability amounts (e.g., cost of remediation equipment) are valid; and
- Recorded environmental liabilities balances and disclosures in the financial statements are consistent with the Federal accounting standards.

In the next section, relevant authoritative guidance is introduced. Subsequent sections discuss roles and responsibilities, expand upon the steps necessary for compliance with the guidance, and conclude with a discussion of audit considerations with respect to environmental liabilities. Illustrative examples, useful tools, and recommendations for Components to help comply with Federal accounting requirements are provided in the appendices.

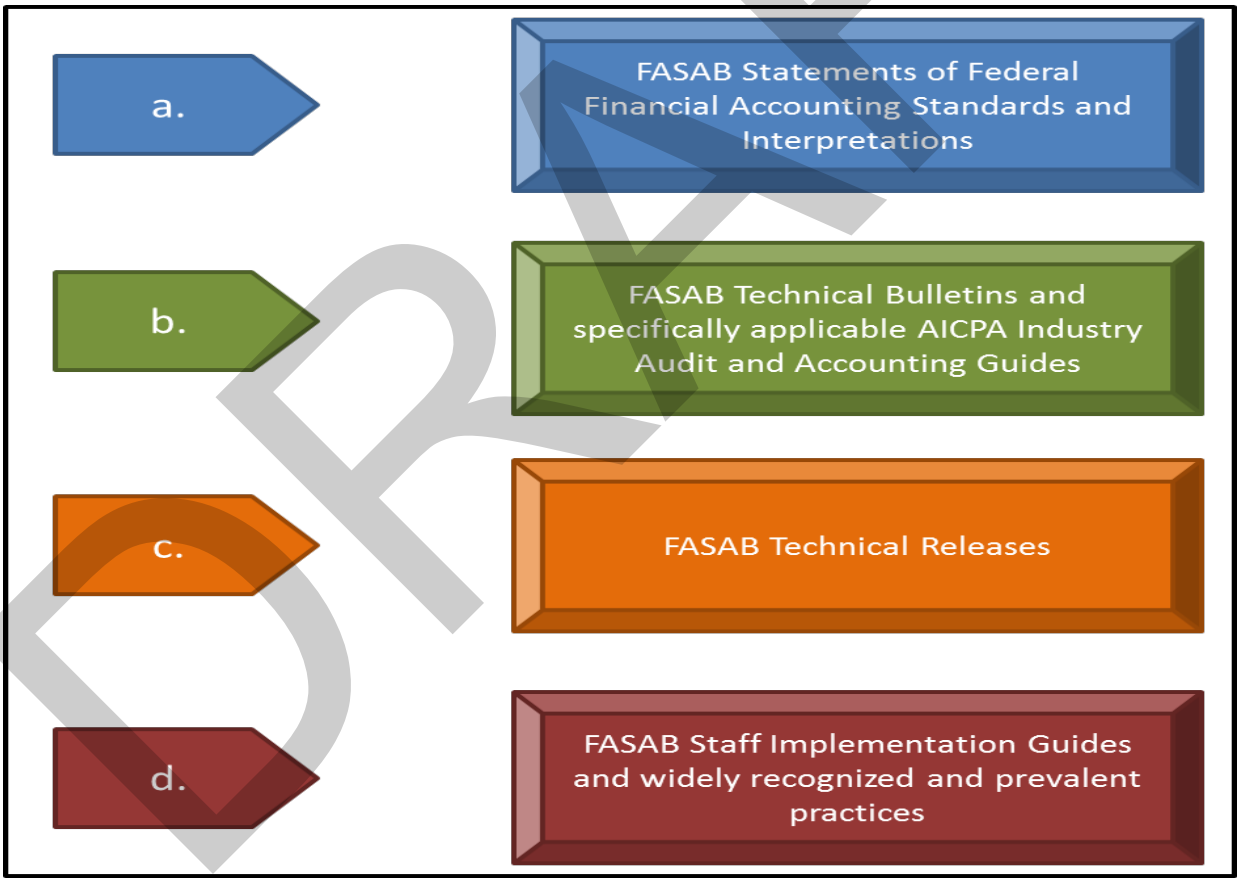
[2] Positive assurance means direct confirmation from each installation/location/site that a determination of potential environmental liabilities has been assessed, documented (potential environmental liability exists or does not exist), and is properly supported.

AUTHORITATIVE GUIDANCE

Hierarchy

This updated guide is based upon Federal accounting standards promulgated by the Federal Accounting Standards Advisory Board (FASAB) in its Statements of Federal Financial Accounting Standards (SFFAS), Technical Releases (TR) and Technical Bulletins (TB), which are incorporated into the hierarchy of generally accepted accounting principles (GAAP) for federal reporting entities (Federal GAAP). Federal GAAP hierarchy is defined by SFFAS No. 34, *The Hierarchy of Generally Accepted Accounting Principles, Including the Application of Standards Issued by the Financial Accounting Standards Board*, and consists of four levels of authority. These are depicted in Figure 1. Compliance with Federal GAAP is important because auditors are not able to express an opinion or state that financial statements are presented fairly and are in conformity with GAAP if the financial information departs from those accounting standards.

Figure 1 Federal GAAP Hierarchy



General Guidance

The first relevant standard is **SFFAS No. 5**, *Accounting for Liabilities of the Federal Government.* A liability is a line item reported on the balance sheet and/or disclosed in the notes to the financial statements and represents an economic risk expressed in monetary terms. Specifically, SFFAS No. 5, Paragraph 19, defines a liability for federal accounting purposes as "a probable future outflow or other sacrifice of resources as a result of past transactions or events." SFFAS No. 5 applies to all liabilities, including environmental liabilities. Environmental liabilities are recognized in the financial statements regardless of whether they appear in budgets or have future funding identified.

The first element of the liability 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. Clean-up will more likely than not require a future use of resources, therefore, the liability is probable.

The second element of the 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 clean-up costs based on data collected from studies; therefore, the liability is measurable.

The final element of the liability 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.[3] 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 DoD FMR defines an *environmental* liability for financial reporting purposes as "a future outflow or expenditure of resources that exist as of the financial reporting date *for environmental clean-up, closure and/or disposal costs* resulting from past transactions or events."[4] This narrows the liability definition to only those costs associated with an environmental clean-up. In this context, environmental clean-up costs includes costs associated with environmental restoration of environmental sites; corrective actions; and

[3] A type of closure in which hazardous wastes are removed for off-site treatment or disposal and there are no post-closure requirements.

[4] Department of Defense, *Financial Management Regulation* Vol. 4, *Accounting Policy and Procedures*, Chapter 13, *Environmental Liabilities* (December 2011)

environmental costs associated with the future disposal of facilities, equipment, munitions, or closure of facilities. Clean-up costs may include, but are not limited to, decontamination, decommissioning, transportation, site restoration, site monitoring, closure, and post-closure costs related to DoD operations that result in hazardous waste. To be considered an environmental clean-up 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.

Figure 2 shows a table summarizing reporting and disclosure requirements for environmental liabilities.

Figure 2 Environmental Liability Reporting & Disclosure

Probability of Future Outflows	Outflow can be Reasonably Measured	Range of Outflows can be Reasonably Measured	Outflow Amount or Range cannot be Reasonably Measured
Probable: Future outflows are more likely than not to occur	Recognize (record) a liability and related expense	Recognize (record) a liability and related expense for the best estimate or the minimum amount of the range (if no best estimate) and disclose the nature and range of estimated amounts of the liability	Disclose the nature of the liability with a statement that an estimate of the amount cannot be made
Reasonably Possible: Possibility of future outflows is more than remote but less than likely	Disclose the nature and estimated amount of the possible liability	Disclose the nature and range of estimated amounts of the liability	Disclose the nature of the liability with a statement that an estimate of the amount cannot be made
Remote: Possibility of future outflows is slight	No disclosure	No disclosure	No disclosure

Environmental Liability Standards

As reflected in the table above, recognition[5] and disclosure of environmental liabilities is dependent on the likelihood of occurrence and the ability to quantify associated costs. In March 1998, the FASAB issued **Federal Financial Accounting and Auditing Technical Release (TR) 2,** *Determining Probable and Reasonably Estimable for*

[5] Recognition means reporting a dollar amount on the face of the basic financial statements.

Environmental Liabilities in the Federal Government, as supplemental guidance with respect to these two critical factors in the context of environmental liabilities. TR 2 is comprised of two sections – Section 1 assists an agency in determining whether its environmental contamination meets the definition of probable (i.e., future outflow of resources will be required to clean up the contamination) and Section 2 offers guidance in quantifying the total cost of the clean-up. The following is an overview of these sections.

Defining Probable

TR 2, Section 1, identifies the following key factors that should be considered in determining whether a future outflow of resources for environmental clean-up is probable:

- Likely contamination – due care must be exercised to identify the presence or likely presence of contamination. If the agency is aware of contamination, having used the Due Care criteria described in TR 2, then the agency must determine whether the contamination is government related and the federal government is legally liable.
- Government related and legally liable – refers to instances where the government either caused contamination or is otherwise related to it in such a way that it is legally liable to clean up the contamination.
- Government acknowledged financial responsibility – if the contamination is not government related, determine whether authority exists to formally accept financial responsibility.
- No known remediation technology exists – if there is no known technology to clean up a particular site, then the known costs for which the entity is responsible, such as a remedial investigation/feasibility study (RI/FS) and/or costs to contain the contamination, will meet the probability test.

Appendix C provides an illustrative diagram from TR 2 to assist in making a determination of probable environmental liabilities.

Defining Reasonably Estimable

Once a determination of likelihood is made, then TR 2, Section 2 must be utilized in the determination and quantification of reasonably estimable environmental liabilities. TR 2, Section 2 identifies the following key factors in determining whether future outflows of resources can be reasonably estimated:

- Completion of an RI/FS or other study – completion of such at a particular site forms the basis upon which to estimate the environmental liability. The fact that an agency has not completed a study does not exempt the agency from making its best effort to estimate the environmental liability for financial reporting purposes.
- Experience with similar sites and/or conditions – if no study has been completed, determine whether a site appears to be similar to any other site or condition where experience has been gained through either a completed study or actual

remediation. Similar sites or conditions could be related to other Federal entities or private sector corporations.

- Availability of remediation technology – if no remediation technology exists, then remediation costs would not be reasonably estimable, but the entity would be required to recognize the costs to contain the contamination and any other relevant costs, such as costs of future studies.

The quantification of the estimated liability may be a specific amount or range of amounts. If one amount within the range is a better estimate than any other amount within the range, guidance requires recognition of that "best" estimate. If no amount within the range is deemed the best estimate, the minimum amount in the range is recognized. Estimated costs should be based on the clean-up plan, assuming current technology and current costs.

Appendix D provides an illustrative diagram from TR 2 to assist in making a determination and quantification of reasonably estimable environmental liabilities.

Clean-up Costs

While SFFAS No. 5 and TR 2 apply to all types of environmental liabilities, the FASAB's **SFFAS No. 6,** *Accounting for Property, Plant and Equipment,* addresses clean-up costs from federal operations known to result in hazardous waste. SFFAS No. 6, Chapter 4 provides guidance related to recording clean-up costs associated with hazardous waste removal, containment, or disposal. Additionally, SFFAS No.6 is applicable only in situations where clean-up costs must be deferred until the related property, plant and equipment (PP&E) is either permanently or temporarily shut down. When environmental clean-up is part of on-going operations or the result of an accident, SFFAS No. 6 is not applicable.

SFFAS No. 6, paragraph 95, notes that clean-up cost estimates should consider the overall clean-up plan, including such factors as level of restoration, applicable laws and regulations and current technology, and the total current cost that would be incurred if all equipment, facilities and services were acquired in the current period. Additionally, clean-up cost estimates should be re-evaluated and periodically revised as conditions and assumptions change.

The accounting treatment required in SFFAS No.6 depends on whether the PP&E is designated as general PP&E (paragraphs 97 – 100) or stewardship PP&E (paragraphs 101 – 103). Specifically:

- General PP&E in operation – recognize an expense and accumulate a liability for estimated clean-up costs in a systematic, rational manner based on physical capacity of the associated PP&E (when possible), or useful life of the PP&E; recognition begins on the date the PP&E is placed into service. (See Appendix J for an example.) Furthermore, changes in cost estimates are recorded in the period they are made and paid costs reduce the accumulated liability.

- Stewardship PP&E – total estimated clean-up costs related to stewardship PP&E are expensed and a liability is established in the period the stewardship PP&E is placed into service. Subsequent re-estimations are recorded in the period they are made and the liability is reduced as actual costs are paid.

In 2010, the FASAB published **Technical Release (TR) 11**, *Implementation Guidance on Clean-up Costs Associated with Equipment,* to assist Federal entities in determining when recognition of an environmental liability is required with respect to hazardous waste associated with equipment and when clean-up costs are expenses as part of routine[6] operations, and includes examples for each situation. As noted in TR 11, the distinction is dependent upon the timing of the clean-up operation; clean-up costs that occur when general PP&E operations cease must be estimated at the time the asset is placed into service and recognized periodically while the asset is in use. For example, costs for a "clean close"[7] of an underground storage tank are incurred only after the tank is no longer in use. Per SFFAS 6 and TR 11, those costs must be estimated at the time the storage tank is placed into service and recognized periodically over its useful life.

TR 11 includes additional illustrative examples of its application, and Appendix E of this guide contains a diagram from TR 11 as an aid in determining proper accounting treatment for equipment-related clean-up costs.

In October 2011, the FASAB issued **Technical Release (TR) 14**, *Implementation Guidance on the Accounting for the Disposal of General Property, Plant and Equipment*, to further clarify requirements relating to the disposal of general PP&E. With respect to PP&E-related clean-up costs, TR 14 specifically notes that full recognition is required when the asset is "permanently removed from service" rather than in the instance of a temporary cessation of operations. In the example cited above, if the underground storage was emptied temporarily (with the intent of re-use at a later date), the costs for a clean close would continue to be accrued (recognized) periodically, even though the tank is currently idle.

Asbestos

Asbestos-related environmental liabilities are addressed specifically in the accounting literature. Potential environmental liabilities arising from asbestos are divided into two categories:

1. Friable – asbestos posing an immediate health threat
2. Nonfriable – asbestos not posing an immediate health threat[8]

In response to a concern that Federal agencies were not giving due consideration to removal of nonfriable asbestos, the FASAB issued **Technical Bulletin (TB) 2006-1,**

[6] In this context, "routine" means occurring on a regular basis as part of day-to-day operations.
[7] A type of closure in which hazardous wastes are removed for off-site treatment or disposal and there are no post-closure requirements.
[8] Note: These definitions relate to timing of the potential hazard and are not the scientific definitions.

Recognition and Measurement of Asbestos-Related Clean-up Costs, in September 2006; TB 2006-1 became effective on October 1, 2012.[9]

TB 2006-1 does not modify or alter the accounting requirements for recognizing and disclosing environmental liabilities; rather TB 2006-1 specifically requires DoD Components to consider friable and nonfriable asbestos-related clean-up costs in determining their environmental liabilities. For example, if a building on a DoD facility is being renovated and asbestos is discovered, clean-up costs have to be estimated and recorded as an environmental liability. Likewise, if asbestos is known to exist in a building scheduled for renovation (e.g., in old floor tile completely covered by newer, non-asbestos floor tile), the potential liability may require disclosure in the financial statement footnotes and if reasonably estimable, recognition in the balance sheet.

In 2010, the FASAB issued **Technical Release (TR) 10,** *Implementation Guidance on Asbestos Clean-up Costs Associated with Facilities and Installed Equipment*, which provides a framework for identifying and assessing factors related to estimation of asbestos clean-up costs. TR 10 guidance applies to Federal "real property," which it defines as Federal facilities and installed equipment containing any form of asbestos. Further, TR 10 suggests specific steps for identifying, assessing and estimating asbestos clean-up costs, and includes illustrative examples.

Appendix F shows a diagram from TR 10 to assist in implementing a process for determining and quantifying asbestos clean-up costs.

Now that you have an understanding of the authoritative accounting guidance applicable to environmental liabilities, we will discuss the importance of well-defined roles and responsibilities, and then provide more detailed guidance on identifying, recording, documenting and reporting environmental liabilities.

[9] The FASAB delayed the effective date of TB 2006-1 on two separate occasions; TB 2009-1 (delaying the effective date until fiscal year 2012), and TB 2011-2, which made TB 2006-1 effective in fiscal year 2013.

ROLES AND RESPONSIBILITIES

Management Responsibilities

It is incumbent upon management to ensure all aspects (quantitative and qualitative) of estimating environmental liabilities and clean-up costs are thoroughly documented and supported, and technically sound. For example, internal controls indicating review and approval of the estimates should be signed off (e.g., by the various levels of approvers) and documentation (e.g., cost of clean-up) detailing the computed estimate must be available.

Remember though that a high level, abbreviated description of a “review” control coupled with a sign-off does not provide enough information related to the purpose of the control or to determine whether the control will achieve its objective. The auditors need to know more. Foundational to understanding and evaluating any control -- but especially a “review” control -- and its relevance to the financial statement audit opinion, the auditors must first understand:

- The intended purpose of the control (i.e., which likely sources of potential misstatement the control is intended to address and what, exactly, the reviewer is expected to accomplish);
- Exactly how the control operates (i.e., the reviewer's specific activities and at what level of precision they are performed; the purpose of the control often provides insight into the precision at which the control operates);
- The source of information used in executing the control and what controls management has in place to establish reliability; and
- The types of evidence available to support a conclusion about the effective operation of the control.

The auditor must understand what the control operator (i.e., the reviewer) does and how the reviewer executes the control in order to assess the level of precision and effectiveness of control design. Factors include:

- Level of aggregation – a control that is performed at a more granular level is more precise than one performed at a higher level;
- Consistency of performance – a control that is performed routinely and consistently generally is more precise than one performed sporadically;
- Criteria for investigation – what are the specific criteria and/or thresholds used to determine when follow-up/investigation is to be performed;
- Predictability of expectations – assess the extent to which effectiveness depends on the development of sufficiently precise expectations to highlight potential material misstatements.

Documentation should be stored and retained in a manner that facilitates timely retrieval for auditors. Furthermore, Components should develop and implement roles and responsibilities, especially in situations where ambiguity could impede

auditability (e.g., defining whether the host entity or a tenant entity has responsibility for asbestos removal).

Proper accounting for environmental liabilities (and ultimately achieving a clean audit opinion) requires a coordinated effort among several key participants to ensure environmental liabilities are identified, assessed, quantified and reported, and adequately supported. Accordingly, roles and responsibilities should be defined across several layers both inside and outside the organization.

External Roles and Responsibilities

Externally, landlord/tenant duties and obligations need to be clearly defined with respect to potential environmental liabilities. Determining who is responsible for environmental clean-up and/or restoration is critical to prevent under- or overstatement of environmental liabilities. Per the FMR, Volume 4, Chapter 13, DoD Components are responsible for reporting environmental liabilities for the real property and equipment assets recorded on their own financial statements. Guidance regarding the determination of the financial reporting component for General PP&E can be found in the FMR, Volume 4, Chapter 6. The responsible party (either the landlord or tenant) must determine the likelihood of environmental damage/contamination, develop and record/disclose clean-up cost estimates, and build and maintain an appropriate audit trail.

Internal Roles and Responsibilities

Internally, roles can be broadly defined between the functional and financial communities. The responsibilities of these two groups are:

Functional Community – The functional community is responsible for the "detection, classification, tracking, estimating, and correction of environmental issues."[10] In developing the liability estimates for the financial statements, the functional community's responsibilities include:

- Assigning responsibility for developing estimates, including monitoring external factors that could affect the estimate (e.g., new technology);
- 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;

[10] 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*. (October 2005)

- Identifying the factors that may affect the estimate;
- Determining whether the estimate is prepared and presented in accordance with applicable accounting principles and sufficient disclosure is provided.

Defining roles and responsibilities is a critical step towards compliance with Federal accounting requirements for environmental liabilities (and achieving auditability). The functional and financial communities must adopt these common goals and work together to reach them.

IDENTIFYING ENVIRONMENTAL LIABILITIES

Due Care

Part of identifying environmental liabilities includes demonstrating due care. Due care requires that a reasonable effort be 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 include:[11]

- 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 related notes) 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 degree of testing required by the auditors. Reconciling environmental sites with property records strengthens the control environment for capturing all environmental liabilities. First though, a discussion of what constitutes a "site" is in order.

Various definitions of the term "site" exist among DoD issuances and Federal GAAP. These definitions are each tailored for the purpose of the particular authoritative guidance or accounting standard where it resides, per the table below.

Generally, the terms location/installation refers to all environmental clean-up at a particular place. The term "site" refers to the various clean-up projects or areas of contamination awaiting clean-up at a location/installation. Thus, a particular

[11] 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* (March 1998)

location/installation could have many contaminated sites. While further parsing of the term “site” exists in the authoritative guidance, such as “environmental site” or “environmental liability site” and real property site consisting of land only, facility or facilities only, land and all the facilities thereon.

This Guide does not redefine the term “site”, but clarifies the different uses of the term in order to assist reporting entities with the completeness and accuracy of Defense-reported environmental liabilities amounts. Figure 3 summarizes the various definitions of “site” and their sources.

Figure 3 “Site” Definitions

Item	“Site” Definition	Source
1	**A “site” is defined as a physical place where contamination has occurred. A “location” can be composed of many sites; a site can contain many “conditions”.** It may be practical for an agency to combine similar conditions or sites into one large site or location.	**TR 2**, *Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government,* Section 2, Key Determinants and Positions, 2.Expereince With Similar Site and/or Conditions (p.1707)
2	**Site**. **A distinct area of an installation containing one or more releases or threatened releases of hazardous substances treated as a discrete entity or consolidated grouping for response purposes**. Installations may have more than one site. Formerly Used Defense Site* (FUDS) projects are the same as sites.	**DoDM 4715.20** *DERP Program Manual*, Glossary (p.95)
3	**Site - Plant, Property, & Equipment (PP&E) activity, asset, or facility either existing or previously removed, for which there is an associated environmental liability**. A non-DERP site is given a unique name, and within installations is a distinct piece of equipment, facility, structure or area treated as a discreet entity. Installations and ranges typically have more than one site.	***Guidance for Recognizing, Measuring, and Reporting Environmental Liabilities not eligible for DERP funding*** (Oct 2005), Glossary (p.30)
4	**Environmental site**. **An environmental site is a real property asset or combination of assets with a discrete location(s) for which there is an environmental issue that requires evaluation**. Environmental sites must be reviewed to determine if future environmental work required at the site meets the definition of environmental liability.	**FMR Volume 4, Chapter 13**, *Environmental Liabilities*, para 130103 Definitions (p.13-6)

Item	"Site" Definition	Source
5 **5a** **5b** **5c**	**Site**. **Physical (geographic) location that is or was owned by, leased to, or otherwise possessed by a DoD Component**. Each site is assigned to a single installation. **A site may exist in one of three forms:** 1. **Land only**, where there are no facilities present and where the land consists of either a single land parcel or two or more contiguous land parcels. 2. **Facility or facilities only**, where the underlying land is neither owned nor controlled by the government. A stand-alone facility can be a site. If a facility is not a stand-alone facility, it must be assigned to a site. 3. **Land and all the facilities** thereon, where the land consists of either a single land parcel or two or more contiguous land parcels.	**DoDI 4165.14**, *Real Property Inventory and Forecasting,* Enclosure 2, para E2.1.22 (p.11)

*These formerly used defense sites were once owned or controlled by DOD but are now owned by states, local governments, and individuals. The U.S. Army Corps of Engineers is responsible for identifying, investigating, and cleaning up hazardous, toxic, and radioactive wastes, ordnance and explosive wastes, and unsafe buildings if DoD caused the unsafe condition.

Once sites[12] are identified, Components should have a structured process in place and working at the installation level to provide reasonable assurance that all known contaminated sites and hazardous operations are included in the reported environmental liability cost estimates. One example of such a control would be to perform a comparison of the clean-up sites and hazardous waste operations actually being reported by specific programs on each installation to a comprehensive inventory of all sites and hazardous waste operations located on each installation that was prepared without regard to reporting program or Defense component use.

The FMR requires Components to maintain records of environmental sites and equipment that contribute to DoD environmental liabilities and reconcile them with PP&E records at least annually, per FMR Vol 4, Chap 13, para 130203 F, as follows:

<u>Environmental Liability Site Inventory</u>

1. Real Property. The Real Property Inventory (RPI), maintained on behalf of DoD by the military Departments, is the official DoD facility inventory. Any DoD Component that maintains a database of real property-related data for its own

[12] From this point forward, the term "site" in this document refers to environmental sites.

purpose must reconcile with the official DoD RPI or establish an accurate functional crosswalk.

(a) Record in the real property records whether the real property associated with the record has been reviewed for environmental issues.
(b) Record the project number for each environmental clean-up, closure, and/or disposal project associated with the real property record.
(c) The responsible environmental program office maintains records of each project and associates it with the applicable real property records. This office also maintains a project file for each environmental project.

2. Equipment. To the extent that environmental liabilities associated with equipment disposals are reported in systems other than property systems, environmental liabilities should be reconciled to the accountable property records to ensure all assets are reviewed.

Real Property Data Reconciliation Requirements

Per 10 U.S. Code 2682, *"Facilities for Defense Agencies"*, a real property facility used by an Activity or Agency of the Department of Defense (other than a Military Department) shall be under the jurisdiction of a Military Department designated by the Secretary of Defense. Thus, the Military Departments maintain the authoritative real property records for DoD. Simultaneously, the Agencies and activities maintain pertinent real property information to support financial statement reporting requirements, budget formulation and execution, as well as daily operation and management of the assets they occupy and use in support of their missions.

DoD policy requires an annual reconciliation of all real property data for property occupied or used by Defense Agencies or Field Activities with the supporting Military Department or Washington Headquarters Service (WHS), per DoDI 4165.14, para 4.3.3.

Objectives of the completed reconciliation include: All assets exist at the right location and right size specified for the asset, per the *Real Property Data Reconciliation Requirements* (January 21, 2010):

- All tenant Components and corresponding space allocations are accurately accounted for,
- All managed responsibilities, such as which Components are responsible for funding acquisition, sustainment and operation of the asset, are accurately reported,
- All acquisition and capital improvement costs and associated depreciation expenses are accurately recorded,
- All disposed assets have been removed from the records.

Reconciling the Components' installation-level environmental records to installation-level property records (each real property asset, each parcel, and each real property

site) as required and then using the corrected site inventories to determine that all sites with clean-up or corrective action costs and all hazardous waste operations with clean-up or closure costs are included in financial reports of environmental liabilities and are all reported by the appropriate Defense component.

RECORDING AND DOCUMENTING 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 Clean-up Cost Liability (United States Standard General Ledger (USSGL) Account 2995).

The following table (Figure 4) provides a summary of scenarios, triggering events and accounting treatments:

Figure 4 Triggering Events

Scenario	Liability Driver/ Accounting Event	Accounting Treatment
A. Deferred clean-up cost (deferred until the end of the useful life of the PP&E)	PP&E is acquired and it is known to produce hazardous waste --the clean-up cost	The clean-up cost associated with general PP&E should be recognized over its useful life, similar to how the depreciation expense is recorded. <SFFAS 6, para 97 & 99>
B. Clean up associated with purchasing a storage facility	Purchasing a storage facility for hazardous waste from past operations	Capitalization of costs to treat environmental contamination, requires the expensing of facilities that treat, store or dispose of existing wastes generated by past operations. < FASB Emerging Issues Task Force Issue 90-8>
C. Government related event – accidents [Government-related events are non-transaction events that involve interaction between the federal government and its environment. The event may be beyond the control of the federal entity.]	An accident involving hazardous material has occurred that is caused by the government operations	Government-related events resulting in a liability should be recognized in the period the event occurs if the future outflow or other sacrifice of resources is probable and the liability can be measured, or as soon thereafter as it becomes probable and measurable. <SFFAS 5, para 27, 28, & 29> SFFAS 6, *Accounting for Property, Plant &*

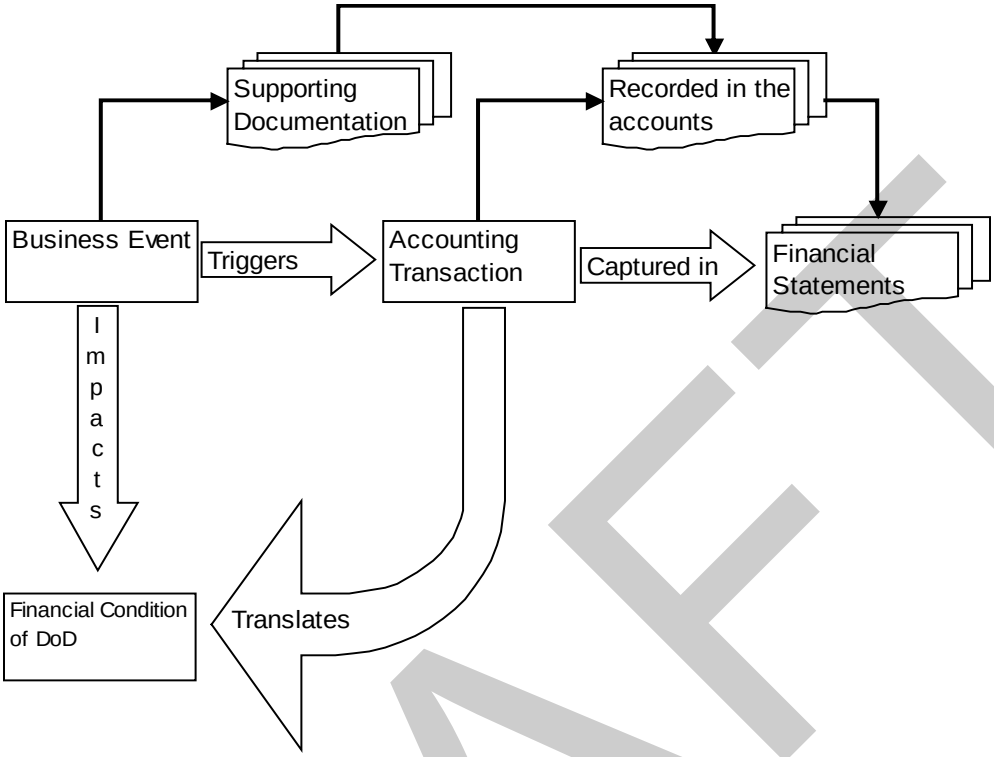
Scenario	Liability Driver/ Accounting Event	Accounting Treatment
		Equipment does not apply to this type of clean-up since the clean-up effort is not deferred until operation of associated PP&E ceases either permanently or temporarily. <SFFAS 6, para 93>
D. Government related events – ongoing as part of operations	Record and recognize clean-up cost that is related to ongoing federal operations	The hazardous waste is cleaned up as soon as it is created. As a result, the estimated future clean-up liability will not be reported. SFFAS 6, *Accounting for Property, Plant & Equipment* does not apply to this type of clean-up since the clean-up effort is not deferred until operation of associated PP&E ceases either permanently or temporarily. <SFFAS 6, para 93> TR 14, *Implementation Guidance on the Accounting for the Disposal of General Property, Plant and Equipment* clarifies, but does not change, guidance provided in SFFAS 6. <TR 14, para 3>
E. Government-acknowledged events [Government-acknowledged events are those non-transaction based events that are of financial consequence to the federal government because it chooses to respond to the event.]	Hazardous waste was caused by a non-federal entity or from a natural disaster but due to the federal government's responsibility to provide public welfare, the government assumes financial responsibility for cleaning up the waste	Recognize the liability and expense when both of the following two criteria have been met: 1. The Congress has appropriated or authorized (i.e., through authorization legislation) resources, and

Scenario	Liability Driver/ Accounting Event	Accounting Treatment
		2. An exchange occurs (e.g., when a contractor performs repairs) or nonexchange amounts are unpaid as of the reporting date (e.g., direct payments to disaster victims), whichever applies." <SFFAS 5, para 31>
F. Friable & Nonfriable asbestos containing material	The **existence** of asbestos, (not the legal requirement to remove, contain, or dispose of the asbestos) triggers the requirement to estimate a liability for asbestos-related clean-up costs. (Performance of the asbestos-related clean-up – what is required and when – is not in scope of this Best Practices Guide) Asbestos-related clean-up costs, the costs of removing, containing, and/or disposing of (1) asbestos-containing materials from property, or (2) material and/or property that consist of asbestos-containing material at permanent or temporary closure or shutdown of associated PP&E. are estimated when the associated PP&E is placed in service. Certain types of nonfriable asbestos-containing material such as roofing,	Once the estimated asbestos clean-up cost associated with the removal, containment, or disposal of the real property has been determined, recognition of the expense and accumulation of the liability begins on the date the PP&E is placed into service, continue in each period that operation continues, and be completed when PP&E ceases operation. <SFFAS 6, para 98, TB 2006-1, para 37> As reestimates are made, the cumulative effect of changes in total estimated asbestos-related clean-up costs related to current and past operations are recognized as expense and the liability adjusted in the period of change in estimate. <SFFAS 6, para 96 and 99>

Scenario	Liability Driver/ Accounting Event	Accounting Treatment
	flooring, siding, and other materials that when repaired, renovated, removed, contained, disposed of, or otherwise disturbed do not become friable and do not require additional costs above and beyond repair, renovation, removal, containment, or disposal costs to prevent them from becoming friable. However, if there are additional costs incurred to prevent the nonfriable asbestos-containing material from becoming friable or if it could potentially become friable as part of the repair, renovation, removal, containment, or disposal process, such costs should be included in the estimate of asbestos-related clean-up costs.	

Business events that trigger accounting transactions are the first step in the accounting flow process. Figure 5 illustrates this process and the relationships between the business event, accounting transaction and the financial statements, as well as highlighting the importance of supporting documentation.

Figure 5 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 disposal cost (e.g., removal and disposal of an underground storage tank versus keeping the tank in place and filling 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 requirements (federal, state, or local law, or based on permit) or historical practice for a comparable case.
- Second, use the most likely value based on the technical and regulatory scenario most likely to occur.
- Third, disclose the range of amounts and record the minimum cost.

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

When Should an Environmental Liability be Recorded?

Environmental liabilities are recorded (recognized) when the business event affects the financial statements. Remember that an environmental liability exists if a measurable future outflow or expenditure of resources is probable for activities or operations resulting from environmental legal requirements. Key factors (tests) to be considered in

determining whether a future outflow of resources from a federal agency for environmental clean-up is **probable** are:

1. Likely contamination;
2. Government related and legally liable;
3. Government acknowledged financial responsibility; monies appropriated/transaction occurred; and
4. No known remediation technology exists.

These tests for determining likelihood assume a past transaction or event has occurred (i.e., past or present operation, contribution and/or transportation of waste), and apply to both active and closed sites.

Consider a landfill as an example; the liability is recorded when the landfill is opened. If the landfill was placed into service after September 30, 1997, the liability is systematically recognized as the landfill is used. If it was placed into service 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 reporting purposes, 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 clean-up occurs, the liability is captured for the financial statements. See Appendix J for an example of systematic liability recognition related to a landfill operation.

In addition to systematically recognizing costs associated with landfills put into service after September 30, 1997, disposal costs with environmental legal drivers should be systematically recognized. For example, assume a DoD Component acquires new vehicles and fuel storage tanks. What disposal costs should be recognized as liabilities at the time the vehicles and tanks are placed into service?

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 (e.g., it could be parked in a junkyard), no environmental liability would be recorded with respect to the vehicles. Any *non-environmental* disposal costs would be expensed when incurred. However, the sludge accumulated in a fuel storage tank cannot be left in place; the DoD Component has a legal requirement to dispose of the waste. This requires recognition of an environmental liability. The accounting treatment differs because no legal requirement exists dictating how the non-environmental assets are treated at disposal.

As a final point, remember that environmental liabilities are recorded at <u>full</u> cost, without regard to budgeted, funded or unfunded amounts. Components must estimate the full

and complete costs of the environmental liabilities from beginning to end; this is the amount recorded and recognized in accordance with the accounting standards.

How Should an Environmental Liability be Documented?

Quality documentation of environmental liabilities is complete, organized, relevant, and clear, and covers both the process and the transaction. Documentation must support management 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, in performing an audit, the auditor collects evidence that the financial statements conform to GAAP. The easier it is for the auditor to understand the documentation provided, the easier it is to prove conformity.

Documentation of environmental liabilities must cover all aspects of the full accounting cycle, including process documentation, risk assessment documentation, evidence of site reconciliations, support for determinations of likelihood (probable, reasonably possible and remote), support for the estimate and factors used in the calculations, and support for actual costs incurred (such as contracts and invoices).

Process Documentation

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 that supports 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.

By presenting relatively complex processes in a simple format, auditors are able to understand the workflow behind the environmental liability estimates. (Auditors will likely utilize a specialist when auditing environmental liabilities; see the section on audit considerations for more information.)

Risk Assessment Documentation

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 to the auditor an awareness of potential risks and the controls in place to mitigate those risks. 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 clean-up 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. Additionally, areas such as environmental liabilities that require complex accounting estimates elevate the level of 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 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 are included when the responsibility for the obligation did not exist at the reporting date. On-going reviews of cost estimates included in liabilities, which is an example of a control activity, mitigate (i.e., reduce) the risk of material misstatement of environmental liabilities. Other factors such as depth and frequency of the reviews also affect the control risk assessment.

Documenting Determination of Likelihood

Components are required to recognize a liability for environmental clean-up costs resulting from past transactions or events when a future outflow or other sacrifice of resources is probable and reasonably estimable. Probable relates to the likelihood of an outflow of resources, while reasonably estimable pertains to the ability to reliably quantify in monetary terms the outflow of resources that will be required.

Components must thoroughly document determinations of likelihood for each site. Such documentation includes field or site surveys, management's basis for any assumptions, engineering or other technical reports, and rationale for the determination.

Transaction Documentation

Documenting an environmental liability transaction requires more detail than a traditional transaction. Environmental liabilities are based on complex 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.

Estimates are based on subjective as well as objective factors and, as a result, judgment is required to estimate an amount at the date of the financial statements. Management's judgment is normally based on its knowledge and experience about past

and current events and its assumptions about conditions it expects to exist and courses of action it expects to take. An entity's internal control may reduce the likelihood of material misstatements of accounting estimates. The entity should consider the following factors when developing a reasonable cost estimate:

1. Accumulation of relevant, sufficient, and reliable data on which to base an accounting estimate.
2. Preparation of the accounting estimate by qualified personnel.
3. Adequate review and approval of the accounting estimates by appropriate levels of authority, including-
   - Review of sources of relevant factors
   - Review of development of assumptions
   - Review of reasonableness of assumptions and resulting estimates and evaluate whether the assumptions are consistent with each other, the supporting data, relevant historical data, and industry data
   - Consideration of the need to use the work of specialists
   - Consideration of changes in previously established methods to arrive at accounting estimates
   - Consideration of changes in the business or industry that may cause other factors to become significant to the assumptions.
4. Comparison of prior accounting estimates with subsequent results to assess the reliability of the process used to develop estimates.
5. Consideration by management of whether the resulting accounting estimate is consistent with the operational plans of the entity.

Additional elements (tests) for consideration in determining whether outflows of resources can be **reasonably estimated** as it relates to **Government-related** and **legally liable** include:

1. Completion of a Remedial Investigation/Feasibility Study (RI/FS) or other Study;
   - If a RI/FS has been completed for a particular site, the RI/FS would form the basis upon which to begin estimating the liability,
   - The fact that an entity does not have a department-wide comprehensive study completed does not exempt an agency from making its best effort to estimate a liability for financial statement purposes, or for recognizing a liability for that portion of its obligation that can be estimated.
2. Experience with Similar site and/or Conditions,
   - If there is a similar site or condition with experience gained (through actual clean-up and/or a completed study to compare), the estimate for recognizing a liability for a site could be based on the similar experience or conditions., In addition, the estimated cost of a future study (if required) should be recognized. (Future studies could result in improved estimates.);

- If there is no comparable site and/or condition, remediation costs for a site would not be considered reasonably estimable at that time, but the entity would recognize the anticipated cost of conducting a future study, if required, plus any other identifiable costs.

3. Availability of Remediation Technology
    - If no remediation technology exist, then remediation costs would not be estimable, but the entity would be required to recognize the costs to contain the contamination and any other relevant costs, such as costs of future studies;
    - If the technology is available, then remediation costs are reasonably estimable, and the agency would recognize the best estimate and current cost.
    - In certain instances, the RI/FS or other study may conclude that even though technology *does* exist to remediate, containment should be considered as one of the options by the entity. If the entity has yet to make a decision and they may in fact choose containment rather than remediation, and assuming containment is not precluded by other involved parties (i.e., EPA, individual states and/or local jurisdictions), the agency would consider the estimated cost of containment when calculating the estimated costs to be recognized based on the type and length of contamination required.
    - If management has not determined what remedial action should be taken for a contaminated *active* site, the cost of containment at the end of the facility's useful life, plus the cost of a study, if not yet done, should be considered as the low end of the range of future clean-up costs.
4. Quantification of the Estimate
    - The estimated liability may be a specific amount or a range of amounts. If some amount within the range is a better estimate than any other amount within the range, that amount is recognized. If no amount within the range is a better estimate than any other amount, the minimum amount in the range is recognized.
    - Estimated costs should be based on the clean-up plan, assuming current technology and current cost.

Developing the Liability Estimate

Estimating environmental remediation liabilities involves an array of issues at any point in time. In the early stages of the process, cost estimates can be difficult to derive because of uncertainties about a variety of factors. For this reason, estimates developed in the early stages of remediation can vary significantly; in many cases, early estimates later require significant revision. The following are some of the factors that are integral to developing the cost estimates:

- The extent and types of hazardous substances at a site
- The range of technologies that can be used for remediation
- Evolving standards of what constitutes acceptable remediation

- The number and financial condition of other potentially responsible parties and the extent of their responsibility for the remediation (that is, the extent and types of hazardous substances they contributed to the site)

An estimate of the range of an environmental liability typically is derived by combining estimates of various components of the liability (such as the costs of performing particular tasks, or amounts allocable to other potentially responsible parties but that will not be paid by those other potentially responsible parties), which are themselves likely to be ranges. For some of those component ranges, there may be amounts that appear to be better estimates than any other amount within the range; for other component ranges, there may be no such best estimates. Accordingly, the overall liability that is recorded may be based on amounts representing the lower end of a range of costs for some components of the liability and best estimates within ranges of costs of other components of the liability.

At the early stages of the remediation process, particular components of the overall liability may not be reasonably estimable. This fact should not preclude the recognition of a liability. Rather, the components of the liability that can be reasonably estimated should be viewed as a surrogate for the minimum in the range of the overall liability.

For example, a sole potentially responsible party that has confirmed that it sent waste to a Superfund site and agrees to perform a remedial investigation and feasibility study may know that it will incur costs related to the remedial investigation-feasibility study. The potentially responsible party, although aware that the total costs associated with the site will be greater than the cost of the remedial investigation-feasibility study, may be unable to reasonably estimate the overall liability because of existing uncertainties; for example, regarding the kinds and quantities of hazardous substances present at the site and the technologies available to remediate the site. However, this lack of ability to quantify the total costs of the remediation effort does not preclude recognition of the estimated cost of the remedial investigation-feasibility study. In this circumstance, a liability for the best estimate (or, if no best estimate is available, the minimum amount in the range) of the cost of the remedial investigation-feasibility study and for any other component remediation costs that can be reasonably estimated shall be recognized in the entity's financial statements.

Uncertainties relating to the entity's share of an environmental remediation liability do not preclude the entity from recognizing its best estimate of its share of the liability or, if no best estimate can be made, the minimum estimate of its share of the liability, if the liability is probable and the total remediation liability associated with the site is reasonably estimable within a range.

Supporting the Estimate

An objective in a financial statement audit for the audit team is to obtain sufficient appropriate audit evidence about whether management's accounting estimates are reasonable and the related disclosures are adequate and in conformity with generally accepted accounting principles. Auditors are required to evaluate an entity's

management process for developing an accounting estimate, which involves three components that must be addressed in the audit:

(1) Data – factual information about past and current conditions,
(2) Assumptions – predictions of future outcomes, and
(3) Models – applications or spreadsheets that translate data and assumptions, applying relevant accounting principles, to produce an estimate.

These three factors are addressed as the auditor obtains an understanding of management's process; all three are potential sources of misstatement within the financial statements.

To support all elements of the environmental liability estimates, consider factors that are relevant to evaluating the reasonableness of accounting estimates, including:

- Determining that the method of measurement is appropriate based on the circumstances;
- Considering the source, relevance, and reliability of data;
- Testing whether the data utilized for the estimate is accurate and complete;
- Evaluating whether significant assumptions are reasonable;
- Evaluating whether the accounting estimate has been properly determined using the data and assumptions; and
- Determining whether the estimate has been reviewed and approved at appropriate levels.

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.

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 affiliations
- Acknowledgement of training (i.e. certificate of completion)

Supporting an environmental liability transaction includes documenting end-to-end 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
- Clean-up 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

Because cost estimates are complex and changing at irregular intervals, it is a good practice to include a summary sheet with each cost estimate. This summary sheet should include:

- **Background Information** – estimator name, date completed, other pertinent information.
- **Clean-up 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.

Building an Audit Trail

Sufficient support provides an audit trail that allows an auditor to verify management's assertions about the information reported in the financial statements. Audit trails serve two purposes. First, regulation requires audit trails. The FMR states, "DoD Components shall ensure that audit trails are maintained in sufficient detail to permit tracing of transactions and balances from their sources to amounts reported in their [financial management] systems or to the amounts reported in their transmission to DFAS. Audit trails are necessary to demonstrate the accuracy, completeness, and timeliness of a transaction." [13] 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 up from the source document to the accounts. Audit trails are fundamental to an audit. (See Appendix G for a sample checklist of general documentation to include in the environmental liability estimate 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.

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 is not consistently applied. Auditors can quickly point out that a good approach should be used a majority of the time.

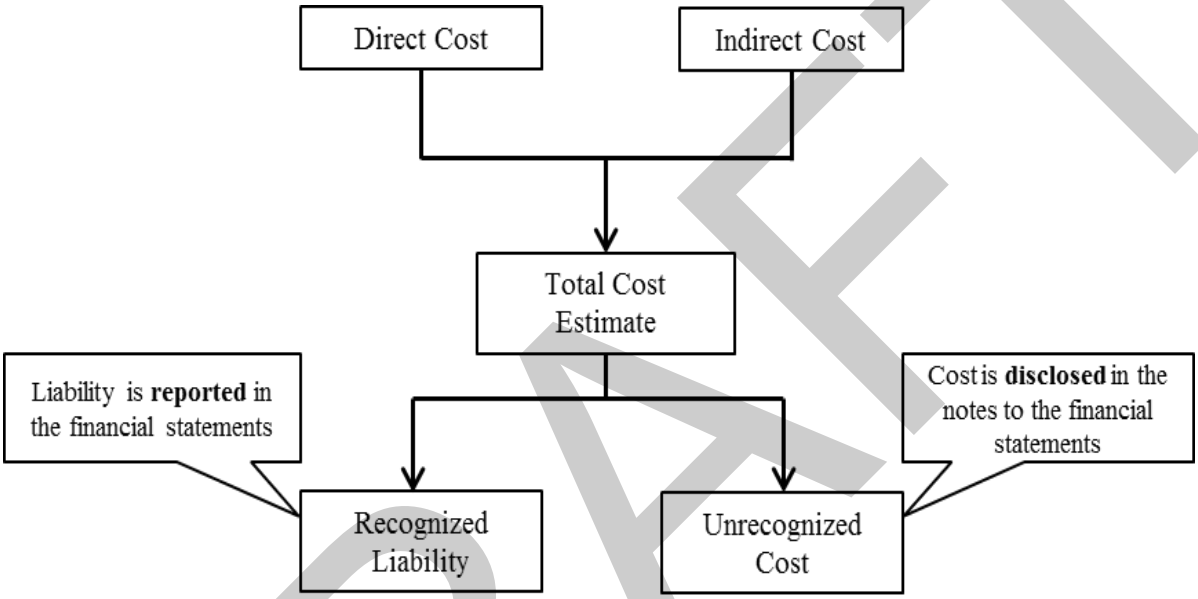
[13] Department of Defense, *Financial Management Regulation* Vol. 6A, *Reporting Policy*, Chapter 2: *Financial Roles and Responsibilities* (August 2011)

REPORTING ENVIRONMENTAL LIABILITIES

Recognition

Environmental liabilities are calculated from cost estimates as shown in Figure 6. Cost estimates comprise direct costs, such as materials used for clean-up, and indirect costs, such as administrative support that cannot be directly traced to the project but are allocated to the project.

Figure 6 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. This could depend on the nature of the environmental hazard and the underlying property type. 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 the cost in the appropriate reporting period.

In preparing cost estimates, Components shall ensure that:

- Their reporting systems accumulate both total and site level data and forward any relevant and significant changes in a timely fashion
- Their cost estimates include, on a current cost basis, all anticipated costs required to affect the correction/closure/disposal of the site, as well as the costs of complying with applicable legal, regulatory, and policy requirements. This requires that Components' cost estimates must be based on technologies currently available, and include the cost of completing studies, clean-up, removal, or closure or disposal activities, including post-closure monitoring costs

- They are using approved cost estimating methods. The generally accepted methods are:
    - Parametric cost modeling using a system that has been verified, validated, and accredited according to DoDI 5000.61 [such as RACER]
    - Comparison with similar sites and/or activities or class of property
    - Site specific engineering estimate
- Their cost estimates and environmental liability reports are developed and implemented using a formal, documented process. This process must allow for the identification and tracking of all changes made to a source document, from the point of its creation through the use of its information in the final report. There must be a formal process for tracking the documentation retained by a component to identify data sources, estimating method, and rationale used
- There must be clear documentation of management's review of the estimates and this source documentation must be retained in accordance with the FMR and records management policies. This documentation must also include an evaluation of environmental disposal liability disclosure and documentation practices as part of a Component-specific environmental self-auditing program

Materiality

The concept of materiality also affects the recognition of environmental liabilities and involves considerable judgment of quantitative and qualitative measures. Materiality refers to the idea 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.

Auditors also consider materiality when planning and performing an audit, and may employ different materiality thresholds during different phases of the audit as risk assessments evolve. Generally Accepted Auditing Standards[14] include the following definition of materiality:

> "The concept of materiality is applied by the auditor when both planning and performing the audit, and in evaluating the effect of identified misstatements on the audit and uncorrected misstatements, if any, on the financial statements. In general, misstatements, including omissions, are considered to be material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users that are taken based on the financial statements. Judgments about materiality are made in light of surrounding circumstances, and involve both qualitative and quantitative considerations."

What constitutes materiality will be unique for each DoD Component, but materiality is usually calculated by determining an appropriate materiality base then multiplying the base by a percentage. Generally, a relatively low materiality base and/or percentage

[14] Generally Accepted Auditing Standards are promulgated by the American Institute of Certified Public Accountants (AICPA) as Statements on Auditing Standards, which are published by the AICPA as the Codification of Statements on Auditing Standards (AU-C). The materiality definition is excerpted from AU-C Section 200, paragraph .07.

results in a higher level of testing by the auditor (because the lower materiality threshold means more transactions will be selected for testing); this can be referred to as a conservative approach to the audit and is typical in first-year audits). For purposes of this document, the term will refer to testing materiality.

For DoD audit readiness purposes, FIAR has recommended 99% coverage of material balances in the financial statements. Accordingly, a one percent (1%) materiality level for testing environmental liabilities is suggested using total liabilities as a base. However, remember that determining materiality involves judgment of both quantitative and qualitative factors.

Components can refer to the Financial Audit Manual (FAM) issued jointly by the Government Accountability Office (GAO) and the President's Council on Integrity and Efficiency (PCIE) Section 230 for additional guidance regarding materiality. Of course, in a financial statement audit, the auditor will ultimately determine materiality.

> Note 1: Additional audit requirements concerning materiality are found in AU-C Section 320, *Materiality in Planning and Performing an Audit*; AU-C 320.04 notes that determining materiality is a matter of the auditor's professional judgment. AU-C 320.A3 further states that materiality for a governmental entity "may be influenced by law or regulation."
>
> Note 2: To help gauge materiality, refer to the FIAR Guidance (November 2013), Appendix A, Figure 8, which shows the 2010 fiscal year-ending balances of the Department's environmental liabilities by Component.

Disclosures

Financial statement disclosures in accompanying notes provide relevant information in narratives and tables about the amounts reported on the financial statements. These disclosures ensure that the financial statements are fully informative and transparent. The footnotes should be written so that even readers who may not have a detailed knowledge of accounting 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. General financial statement disclosure requirements are specified in the FMR, Volume 6B, Chapter 10, as well as the Office of Management and Budget's Circular A-136.[15]

Specific disclosures with respect to environmental liabilities (Note 14 in the DoD Annual Financial Report), are also incorporated in FMR Volume 4, Chapter 13, section 130202, and are provided below:

- Sources of clean-up, closure and disposal requirements (applicable laws/regulations)

[15] OMB Circular A-136, *Financial Reporting Requirements*, specifies the form and content of federal financial statements and is updated annually.

- Method for assigning estimated total clean-up, closure and disposal costs to current periods (e.g., physical capacity of the asset)
- Unrecognized environmental liability amounts for assets requiring systematic recognition
- Material changes in the total estimate due to changes in laws, technology or plans, including portions related to current and prior periods
- Nature of cost estimates and information regarding possible changes inflation/deflation, technology, plans or applicable laws and regulations
- Description of the type of environmental liabilities identified

When considering clean-up costs, remember these points about disclosing environmental liabilities:

- **Legal Drivers** – In order to be considered an environmental liability, there must be a legal driver.
- **Systematic Recognition** – If the PP&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 PP&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.

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

- Applicable laws and regulations of clean-up requirements.
- Methods for assigning clean-up costs to current operating periods.
- Description of the types of environmental 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.

PREPARING FOR AN AUDIT

Considerations

As with any amount reported in the financial statements, the auditor will perform procedures in order to accomplish the objectives of the audit. These objectives and audit procedures are summarized in Figure 7 below.

Figure 7 Audit Objectives and Procedures

Audit Objective	Audit Procedures*
Assess the entity's internal control environment	• Document business processes in which environmental liabilities are identified, quantified, recorded and disclosed through inquiry and observation • Conduct tests of key controls identified in the process narrative(s) • Document entity-level controls through inquiry and observation
Determine if the Environmental Liabilities balance is materially misstated	• Select sample environmental liability transactions, request supporting documentation, analyse and review supporting documentation to determine if transactions are properly supported • Analyze cost estimates (discussed in more detail below) • Perform analytical procedures with respect to environmental liabilities (e.g., calculate the change in the balance from the prior period, and inquire about analyse the causes of the fluctuation)
Determine whether proper disclosures have been made	• Review the disclosures made and compare them against requirements specified in OMB Circular A-136 and the FMR
Identify laws and regulations directly affecting reported amounts	• Research laws and regulations governing environmental liabilities and determine whether the entity has complied with all requirements

*Note: This table provides illustrative examples of typical audit procedures and is not meant to be all-inclusive.

Auditing Accounting Estimates

Generally Accepted Government Auditing Standards require auditors to approach each audit with professional skepticism, which is defined as "…an attitude that includes a questioning mind and a critical assessment of evidence… auditors assume neither that management is dishonest nor of unquestioned honesty."[16] Consequently, information presented in the financial statements cannot be assumed correct; it must be supported.

[16] Government Accountability Office, *Government Auditing Standards 2011 Revision,* Chapter 3, *General Standards* (December 2011)

Because environmental liabilities consist primarily of estimates, auditors have special considerations to address, which are discussed in this section. Furthermore, in addition to making a determination of probable environmental liabilities and the quantification of reasonably estimable environmental liabilities, Component management must ensure that sufficient documentation is available for financial statement auditors to perform their auditing procedures. This requirement applies to all types of environmental liabilities. This section discusses audit considerations with respect to environmental liabilities.

As noted earlier, the AICPA issues Statements on Auditing Standards; the Codification of Statements on Auditing Standards (AU-C) is the authoritative source for Generally Accepted Auditing Standards and are incorporated by reference into Government Auditing Standards by the GAO.

Estimates are a critical part of determining environmental liabilities. **AU-C Section 540, *Auditing Accounting Estimates, including Fair Value Accounting Estimates, and Related Disclosures,*** addresses the auditor's responsibilities relating to accounting estimates such as environmental liabilities. The DoD Component is responsible for developing accounting estimates (e.g., environmental liabilities) included in the financial statements. Estimates are typically based on qualitative as well as quantitative factors and, as such, judgment is required to estimate an amount as of the date of the financial statements. The DoD Component's judgment is normally based on its knowledge and experience about past and current events, and assumptions about future conditions and planned courses of action.

It should be noted, however, that a written statement referencing management's judgment concerning an estimate, without other documentation required by Federal accounting standards, does not constitute sufficient, supporting documentation. Full and complete support for all facts and assumptions used in quantifying reasonably estimable environmental liabilities must be available for financial statement auditors to perform their auditing procedures.

Consistent with AU-C 540.13, financial statement auditors may utilize one or more of the following procedures to determine the reasonableness of a recorded environmental liability:

- Review and test the process used by management to develop the estimate – the auditor may rely on internal controls in-place; perform substantive audit procedures; or a combination of the two. The resulting tests may include the following:
    - Understanding the nature of the estimate
    - Obtaining evidence relating to the underlying data and its reliability
    - Evaluating the calculation of the estimate (e.g., model developed by management) for appropriateness
    - Determining the reasonableness and appropriateness of the significant assumptions

    - Comparing prior period estimates to actual results to assess the reliability of the process implemented by management
- Develop an independent expectation of the estimate to corroborate the reasonableness of management's estimate – the auditor may develop his/her own estimate, which may include:
    - Leveraging industry knowledge and industry data to develop an independent expectation
    - Comparing independent expectations to actual results to determine reasonableness
- Assess subsequent events and/or transactions prior to completion of fieldwork to ensure completeness of the recorded environment liability.

Furthermore, the subjective element of making an accounting estimate creates the potential for management bias, which may affect the estimate. The financial statement auditor may look for indicators of management bias and, if observed, will evaluate the impact on the estimate and the financial statements.

In evaluating accounting estimates, the auditor must also consider whether special expertise is needed. AU 540.14 states "the auditor should consider whether specialized skills or knowledge with regard to one or more aspects of the accounting estimates is required in order to obtain sufficient appropriate audit evidence." If a specialist is required, additional standards apply with respect to the specialist's work, as discussed below.

Audit consideration of environmental liabilities may require special competencies to properly analyze and evaluate determinations of likelihood and cost estimates. **AU-C Section 620, *Using the Work of an Audit Specialist***, addresses the auditor's requirements for using a specialist, and AU-C 620.A1 specifically includes environmental liabilities as an area where non-audit expertise may be necessary. In determining whether a specialist is needed, the auditor will consider such factors as the nature, significance and complexity of the matter, the risk of material misstatement and the expected nature of the audit procedures to be performed. Additionally, the auditor will consider whether management has used a specialist in preparing the financial statements. It should be noted, however, that the decision to utilize an environmental specialist is made at the discretion of the auditor.

Provisions of Laws and Regulations

GAO/PCIE FAM Section 245, *Identify Significant Provisions of Laws and Regulations,* addresses identifying the significant provisions of laws and regulations the auditor may evaluate related to compliance controls to test compliance with the provision. These provisions are (1) those for which compliance can be objectively determined; and (2) those that have a direct and material effect on the determination of financial statement amounts. The FAM classifies provisions of laws and regulations in the following categories:

- Transaction-based provisions are those for which compliance is determined on individual transactions (e.g., the Prompt Payment Act)
- Quantitative-based provisions are those that require the accumulation/summarization of quantitative information for measurement
- Procedural-based provisions are those that require the entity to implement policies and procedures to achieve certain objectives

The auditor may test compliance with indirect laws and regulations. For example, if the auditor becomes aware that the entity has operations similar to those of another entity that was recently in noncompliance with environmental laws and regulations, the auditor may test compliance with such laws and regulations. The auditor may also test provisions of direct laws and regulations that do not meet the materiality criteria but that are deemed significant because they are qualitatively material, such as laws and regulations that have generated significant interest by the Congress, the media, or the public.

Preparation

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 as the audit approaches.

The Component 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 Components prepare for the auditors:

- **Manage the "information needs" list** – An "information needs" list, also referred to as a "prepared by client" or PBC list, should be provided by the auditors. Examples of items generally included in an information needs list are standard operating procedures, flowcharts, points of contact, property schedules and trial balances. This list itemizes documents required by the auditors for each financial statement line item. Responsibility for the compiling and preparing each PBC item 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 assess control risk to plan the audit. Documenting the internal controls, or updating existing documentation, can be accomplished more efficiently by designating appropriate and qualified staff to assist the auditors. 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 as early as possible, and the auditor can plan accordingly.

Specific policies, procedures and control activities must be designed, developed and implemented to meet the objectives noted in the Introduction section, and an overall control framework is an essential first step. An effective control framework is important to ensure adherence to environmental liability requirements (as well as achieving auditability). An overall framework of controls should include the following:

  - Emphasis by senior management on the importance of proper preparation and documentation of environmental liabilities
  - Preparation of estimates by qualified personnel
  - Review and approval of estimates at appropriate levels of authority
  - Utilization of approved estimation tools and techniques
  - Standards for required documentation for all facets of the estimate (determinations of likelihood, cost factors, assumptions, etc.)
  - Assessments of the reliability of the estimation process (including consideration of industry standards and best practices)

- **Communicate with staff** – Interaction between Component personnel and the auditors can be more productive when each understands the other's expectations and needs.

Communication is critical. If engineers, accountants, and auditors are working with different definitions of what constitutes an environmental liability, it is likely the audit will not produce useful results. It may be helpful to designate Component personnel who understand accounting and engineering aspects of environmental liabilities to accompany auditors during field visits. These contacts can facilitate communication between the functional and financial communities and the auditor, making the audit more efficient and effective.

Auditor 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:

- In the audit kickoff or entrance conference, 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 and include their contact information 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 audit manager one to three weeks prior to their arrival to ensure that the needed resources will be ready.

- Schedule regular briefings with the lead auditor(s) 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 are Auditors Validating?

When reporting financial information, management is making assertions about the content of the information. The five broad categories of financial statement assertions[17] are:

- **Existence or Occurrence** – Management is asserting that 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 asserting that all information that should be included in the financial statements is presented.
- **Valuation or Allocation** – Management is asserting 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 asserting that the account balances are *owned by* (Assets) or are the *responsibility of* (Liabilities) the entity.
- **Presentation and Disclosure** – Management is asserting 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. For environmental liabilities, this means determining whether:

- Cost estimates used to develop environmental liability estimates document cost information and identify:
  - Sources of requirements (i.e., applicable laws and regulations)
  - Methods for assigning estimated total costs to current reporting periods
  - Material changes in the total estimated costs of activities and the portion of the change in estimate that relates to prior fiscal year operations
  - Disclosure of information regarding possible changes due to inflation, technology, applicable laws, regulations, and policies
- Data used to calculate cost estimates and subsequent environmental liability estimates are properly documented, reliable and complete
- Cost estimates include, on a current cost basis, all anticipated costs required to affect the correction/closure/disposal of the site, as well as the costs of complying

[17] Government Accountability Office/President's Council on Integrity and Efficiency Financial Audit Manual, Section 235, paragraph .02 (July 2008)

with applicable legal, regulatory, and policy requirements. (Components' cost estimates must be based on technologies currently available, and include the cost of completing studies, clean-up, removal, or closure or disposal activities, including post-closure monitoring costs)

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.

SUMMARY AND RECOMMENDATIONS

While the DoD has made progress with regard to properly identifying, recognizing, disclosing and supporting environmental liabilities, there is still room for improvement. With the deadline for audit (FY 2017) rapidly approaching, it is critical that DoD Components focus sufficient attention on this important area.

This guide has sought to provide a solid foundation for each Component so financial reporting of environmental liabilities can be accomplished in compliance with Federal accounting standards. To that end, several recommendations are included in Appendix H, which can help both the functional and financial communities, at sites and Component headquarters, develop sound business processes and effective internal controls that will serve to eliminate a DoD material weakness.

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
DoD FMR	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	Federal 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 Conservation and Recovery Act
SAS	Statement of Auditing Standards
SFFAC	Statements of Federal Financial Accounting Concepts
SOPs	Standard Operating Procedures
SFFAS	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, *Clarified Audit Standards (AU-C) Section 500: Audit Evidence* (December 2012).

Department of Defense, *Financial Management Regulation* Vol. 4, *Accounting Policy and Procedures*, Chapter 13: *Environmental Liabilities* (December 2011).

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* (February 2006).

Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards No. 34: The Hierarchy of Generally Accepted Accounting Principles, Including the Application of Standards Issued by the Financial Accounting Standards Board* (July 2009).

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

Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards No. 6: Accounting for Property, Plant, and Equipment* (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* (March 1998).

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

Financial Accounting Standards Board, *Accounting Standards Codification (ASC) 410-20: Asset Retirement Obligations* (July 2009).

Government Accountability Office, *Government Auditing Standards 2011 Revision,* Chapter 3: *General Standards* (December 2011).

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

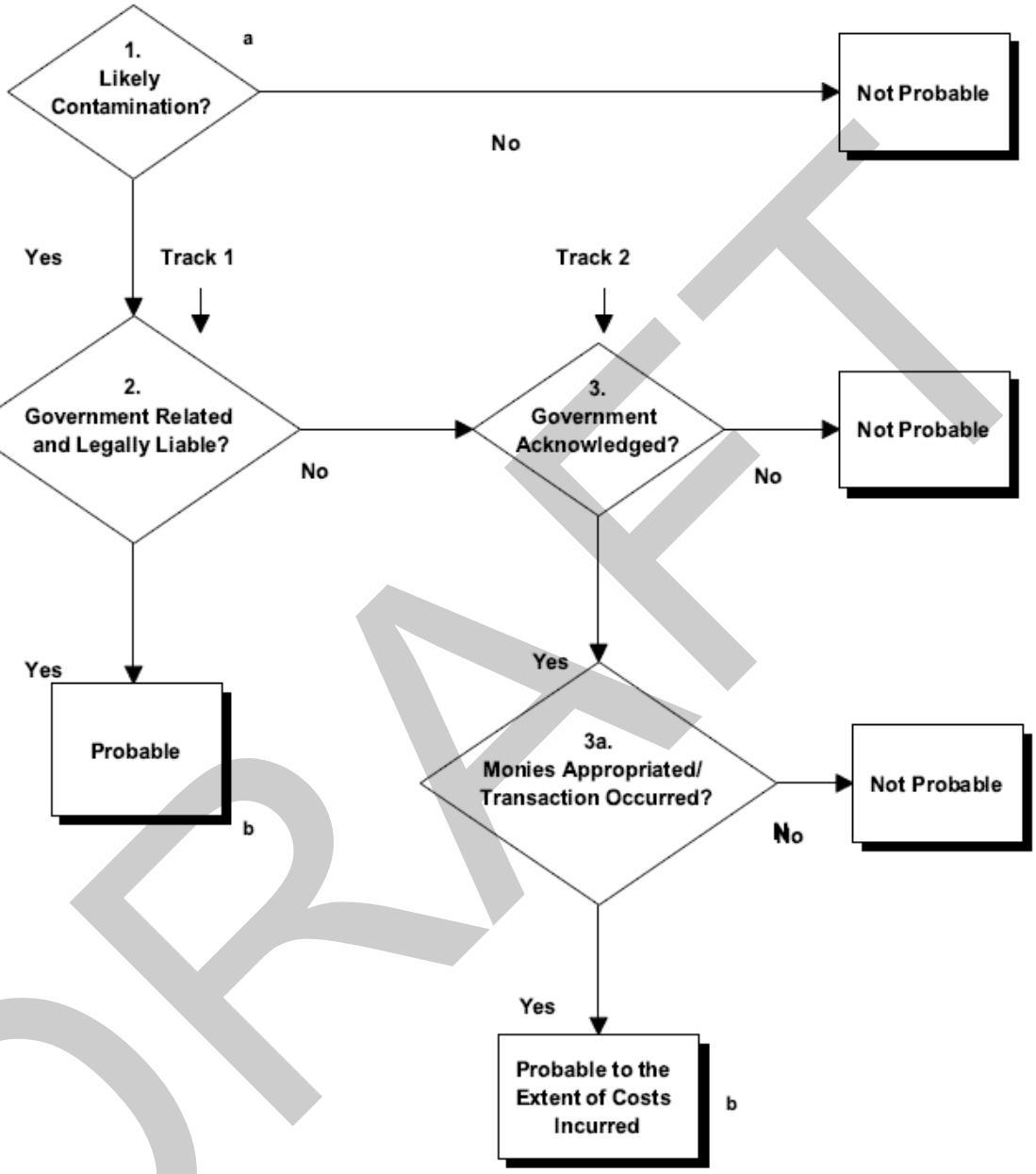
Office of the Under Secretary of Defense (Comptroller), *Memorandum: Financial Improvement Initiative Business Rules* (June 2004).

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

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* (October 2005).

Title 10, United States Code, §2682, *Facilities for Defense Agencies*

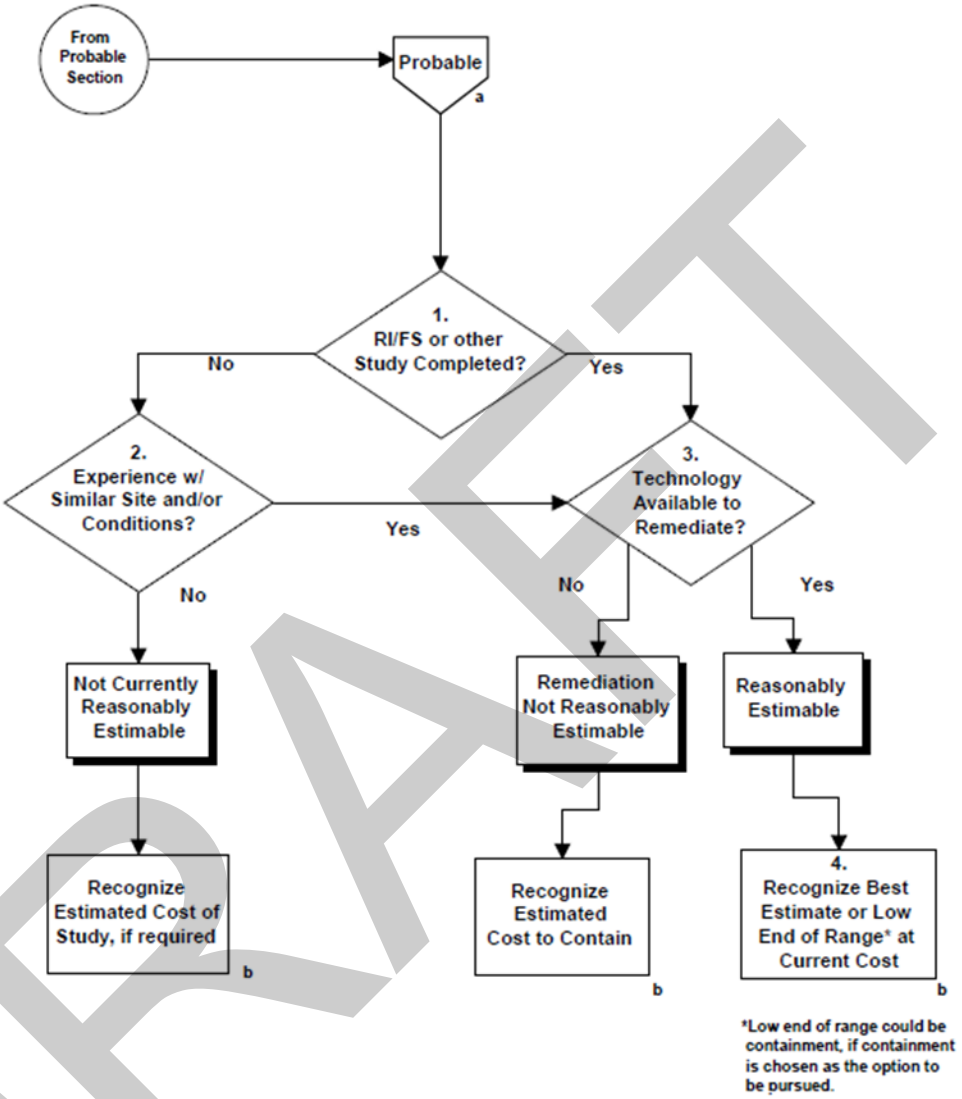
APPENDIX C – DETERMINATION OF PROBABLE



[a] See discussion on "due care".

[b] If *no known technology exists*, then it would be probable to the extent of any required study costs, costs associated with containment, or any other monies obligated or spent. However, given that the actual remediation is not feasible, the actual remediation costs would not meet the probable criteria.

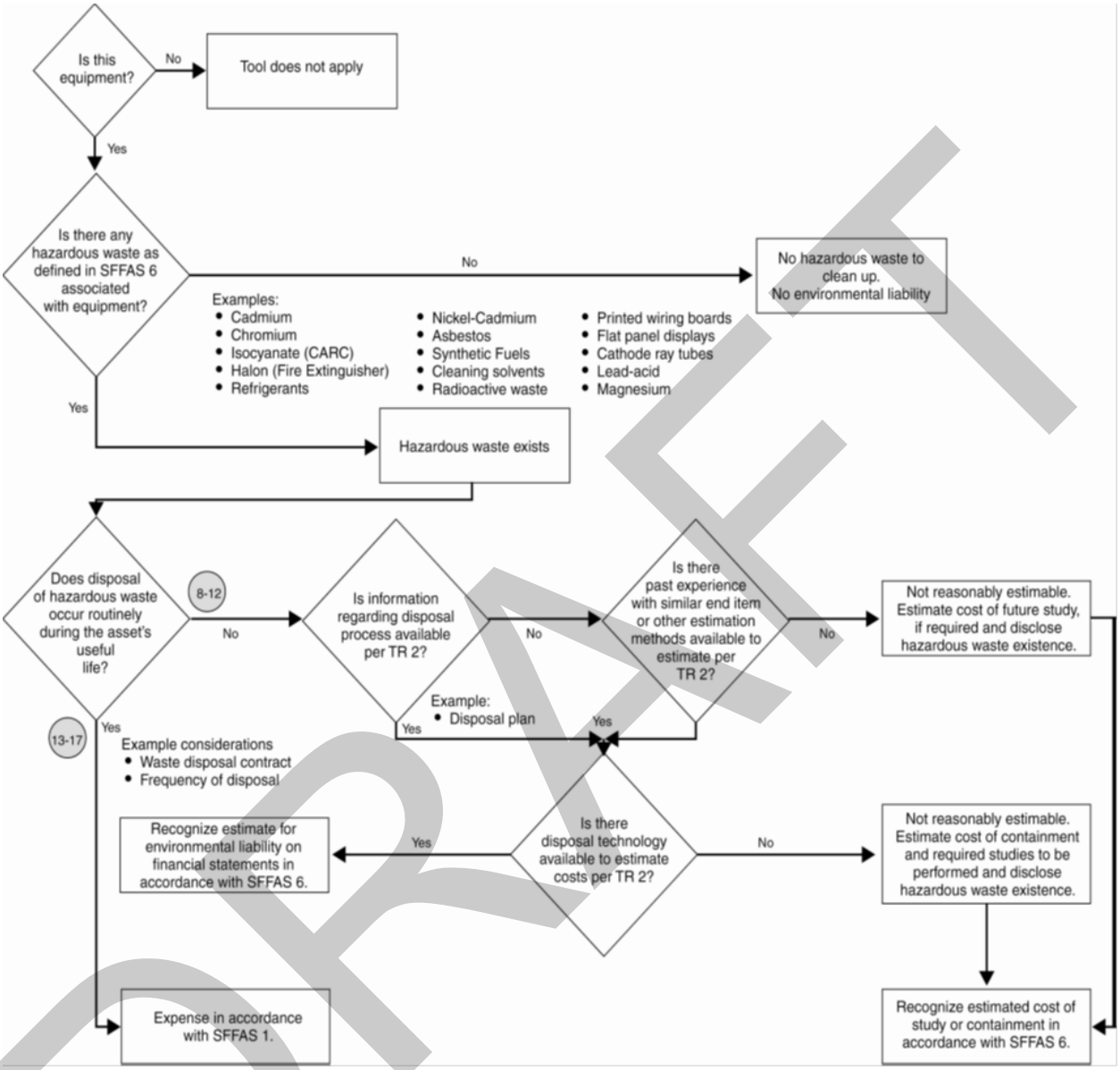
APPENDIX D – DETERMINATION OF REASONABLY ESTIMABLE



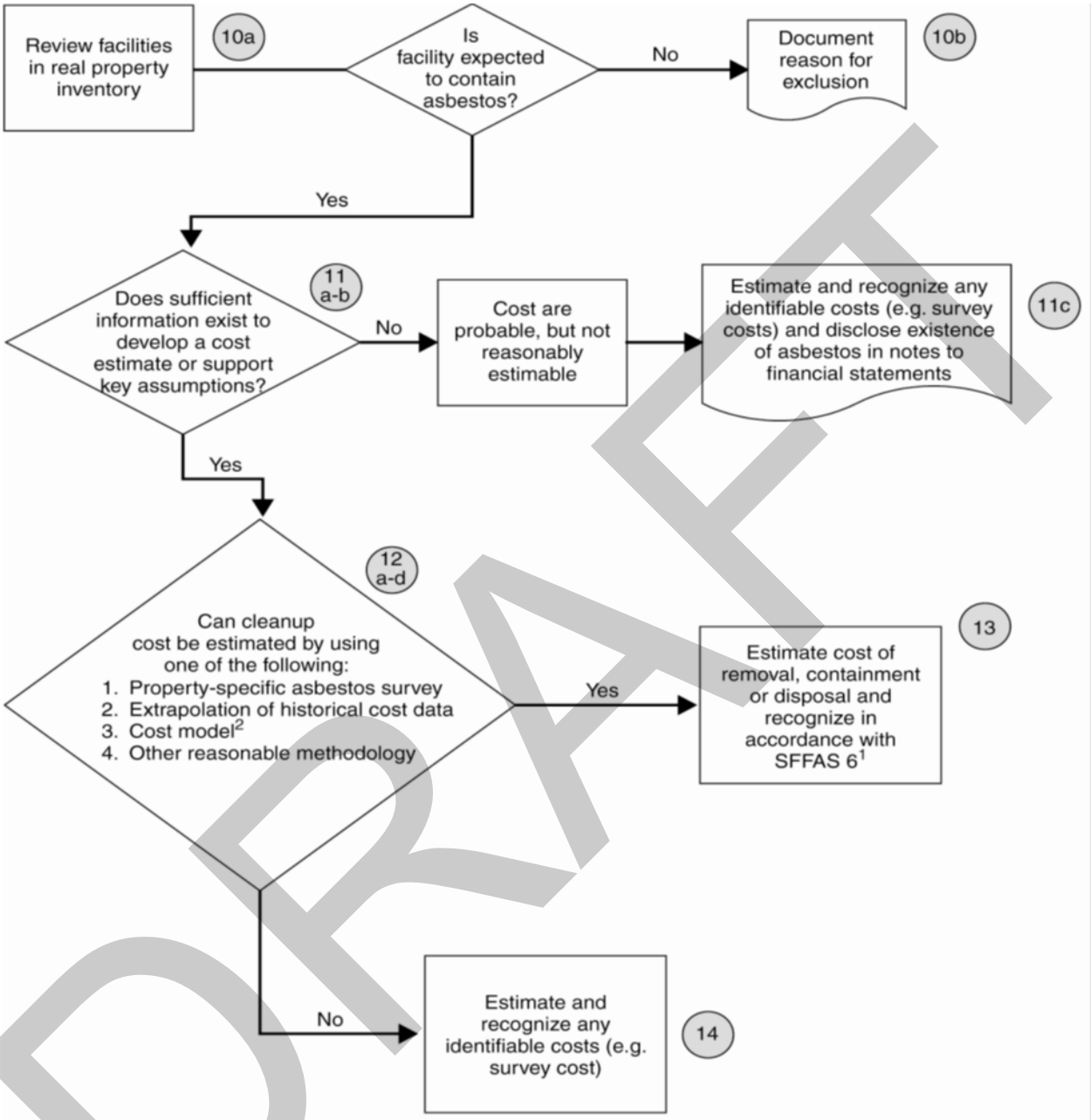
[a] Probable refers to track 1 (government related) which is found in Section 1. Track 2 (government acknowledged) is not applicable.

[b] With all tracks, see SFFAS #6 PAR. 107-111 and SFFAS #5 par. 40-42 for disclosure requirements.

APPENDIX E – RECOGNIZING EQUIPMENT DISPOSAL ENVIRONMENTAL LIABILITIES



APPENDIX F – GENERAL APPROACH TO ASBESTOS CLEAN-UP COSTS



[1]In accordance with the requirements of SFFAS 6, pars. 97 & 101, and TR2.

[2]A cost model is a framework upon which an estimating methodology is developed. The model may use mathematical equations to convert resource data into cost data and require users to enter a minimal amount of information to generate cleanup cost estimates.

APPENDIX G – DOCUMENTATION CHECKLIST

Environmental Liabilities General Documentation Checklist		
Item	**Description**	**✓**
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 memos and/or flow charts.	☐
2	Is 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 equal the balance of the line item?	☐
3	Evidential matter that supports the transactions in Item 2 or a notation as to where the evidential matter is located for easy and expedient retrieval is included in the audit folder.	☐
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.	☐
5	Are all corrective actions in your Financial Improvement Plan (FIP) for the material deficiencies related to the environmental liability balance complete?	☐
6	A summary of corrective actions taken (from Item 5 above) is included.	☐
7	Organization charts indicating key personnel, their responsibilities and contact information are included in the audit folder.	☐
8	For all systems identified in Item 1 above, has there been a Financial Information System Controls Audit Manual (FISCAM) or SSAE No. 16 audit conducted on the systems? If yes, include the audit report, date and point of contact in the audit folder and STOP. If no, CONTINUE with Items 9 – 17.	☐
9	A description of the major hardware and software of the system(s) and interfaces with other systems is included in the audit folder.	☐
10	A description of the types of data the system(s) produces for the financial statements (e.g., accounting transactions) is included in the audit folder.	☐
11	A description of telecommunications devices and networks used with the system(s) is included in the audit folder.	☐
12	Obtain and include a copy of the most recent certifications and accreditations for the system(s).	☐
13	System(s) and end user locations are included in the audit folder.	☐
14	The location(s) of systems documentation is included in the audit folder.	☐
15	The type, dollar value, and number of transactions processed by the system(s) in a month and in a year are included in the audit folder.	☐
16	A list of the type of system users (e.g., a certain category of employee or an organization activity within the Component) is included in the audit folder.	☐
17	A list of on-going or planned reviews is included in the audit folder.	☐

APPENDIX H – RECOMMENDATIONS

Recommendations	Environmental Liability Category			Deficiency Addressed		
	DERP	Asbestos	Non-DERP	Monitoring & Oversight	Processes & Controls	Estimation Methodolog
Baseline Effort						
Individual Sites						
1. Conduct a complete site inventory and assess for potential environmental liability	X	X			X	
2. Determine if the potential environmental liability is DERP-eligible (refer to the DERP Manual, Enclosure 3, Section 2, page 16)	X				X	
3. Determine the DERP program, if DERP eligible (Installation Restoration, Military Munitions Response, Building Demolition/ Removal)	X				X	
4. Develop cost estimates for the DERP phases as defined in the DERP Manual (anticipated costs for each phase must be determined when they are reasonably estimable)	X					X
5. Maintain financial data supporting all elements of cost estimates (and any actual costs) by site and phase (the aggregate cost from preliminary assessment to site closeout represents recognized and/or disclosed environmental liability), including documentation on site closure.	X				X	
6. Eliminate sites from the site inventory not likely to contain asbestos because (a) surveys or property records indicate minimal likelihood of asbestos (e.g. date of construction); (b) property records indicate asbestos has been		X			X	

Recommendations	Environmental Liability Category			Deficiency Addressed		
	DERP	Asbestos	Non-DERP	Monitoring & Oversight	Processes & Controls	Estimation Methodolog
removed; or (c) asset type indicates presence of asbestos is unlikely						
7. For remaining sites, collect information affecting clean-up costs (i.e. method of renovation or demolition, Federal/state/ local regulatory requirements for asbestos management, type/amount/location of expected asbestos)		X			X	
8. Develop and document the estimated cost of clean-up using (a) property-specific surveys, if available, (b) extrapolation of costs based on similar properties; (c) an approved cost model; or (d) other reasonable methods		X				X
9. Review a complete listing of site equipment and determine if any hazardous waste is associated with the equipment			X		X	
10. Examine acquisition or other relevant information (e.g., operating records) and determine whether materials created or used within the process constitute hazardous waste			X		X	
11. Determine if hazardous waste associated with equipment occurs routinely as part of the equipment's operation (i.e., routine hazardous waste removal and disposal [see Appendix E]; if yes, the costs should be expensed concurrently)			X		X	
12. Determine whether costs can be reasonably estimated for removal, containment and/or disposal of the hazardous waste when the equipment is disposed			X		X	

Recommendations	Environmental Liability Category			Deficiency Addressed		
	DERP	Asbestos	Non-DERP	Monitoring & Oversight	Processes & Controls	Estimation Methodolog
13. Estimate costs for removal, containment and/or disposal of hazardous waste associated with the equipment (relevant factors from TR-2 are listed on page 4)			X			X
14. Ensure that all determinations of likelihood (e.g., probable) and cost estimates are reviewed and approved by designated officials	X	X	X	X	X	
15. Ensure all documentation supporting determination of probability and quantification of costs are submitted to Component HQ for approval and retention	X	X	X	X	X	
Component HQ						
16. Designate a point of contact (POC) at each site[18] responsible for identifying, tracking, monitoring and reporting instances of environmental liabilities	X	X	X	X		
17. Reconcile site and equipment inventories to the financial records	X	X	X		X	
18. Review and approve site determinations of likelihood of occurrence and measurability	X	X	X	X		
19. Develop overall assumptions (not site-specific) for preparing cost estimates (e.g., expected inflation for a long-term clean-up project) that represent management's judgment of the most likely circumstances and events with respect to the relevant factors	X	X	X			X
20. Assess the appropriateness of the information provided by sites	X	X	X	X		

[18] The term "site" can refer to a location, facility, asset or a group of locations, facilities or assets. A POC should be designated for a site or group of sites, as appropriate for each Component.

Recommendations	Environmental Liability Category			Deficiency Addressed		
	DERP	Asbestos	Non-DERP	Monitoring & Oversight	Processes & Controls	Estimation Methodolog
21. Consult the FIAR Guidance and verify that risks and financial reporting objectives for Environmental Liabilities have been addressed	X	X	X		X	
22. Create a centralized repository of the supporting documentation to ensure availability for financial statement auditors	X	X	X		X	
Sustainment						
Individual Sites						
23. Implement processes that allow for identification of each instance of potential environmental liability and determination of probable environmental liabilities, as described in Appendices A and D	X	X			X	
24. Implement processes that provide for assessment of hazardous waste associated with equipment placed into service, as described in Appendix E			X		X	
25. Implement processes to ensure sites and equipment are periodically re-assessed for potential environmental liabilities	X	X	X		X	
26. Ensure that documentation supporting events, assumptions and data is properly retained and stored, and can be provided to the auditor in a timely manner	X	X	X		X	
Component HQ						
27. Establish a process for identifying situations for which accounting estimates are required	X	X	X		X	
28. Establish a process for on-going review and analysis of events,	X	X	X		X	

Recommendations	Environmental Liability Category			Deficiency Addressed		
	DERP	Asbestos	Non-DERP	Monitoring & Oversight	Processes & Controls	Estimation Methodolog
conditions, assumptions and data in order to determine whether accounting estimate revisions are appropriate						
29. Periodically re-evaluate assumptions for preparing cost estimates (e.g., expected inflation for a long-term clean-up project) that represent management's judgment of the most likely circumstances and events with respect to the relevant factors	X	X	X			X
30. Develop a method to accumulate relevant, sufficient and reliable data on which to base determinations of likelihood and cost estimates	X	X	X		X	
31. Conduct an annual data call and obtain positive confirmation from the designated POCs regarding the status of existing liabilities and occurrence of new liabilities	X	X	X	X		
32. Establish a method for supervisory review and approval of the estimate and underlying data and assumptions	X	X	X	X		
33. Approve all accounting estimates and ensure recognition and disclosure in accordance with applicable accounting standards	X	X	X	X		

APPENDIX I – GLOSSARY

Clean close – A type of closure in which hazardous wastes are removed for off-site treatment or disposal and there are no post-closure requirements. <*DoDM 4715.20 Glossary pg. 90*>

Clean-up – Actions taken to remediate environmental contamination that may include (but are not limited to) decontamination, decommissioning, site restoration, site monitoring, closure, and post closure costs.
<*SFFAS No. 5, par. 85*>

Clean-up costs – The costs of removing, containing, and/or disposing of (1) hazardous waste from property, or (2) material and/or property that consists of hazardous waste at permanent or temporary closure or shutdown of associated PP&E. <*SFFAS No. 6, par. 85*>

Closure with waste in place – A type of closure in which hazardous wastes remain at the site with potential post-closure requirements. < *DoDM 4715.20 Glossary pg. 90*>

Contingency – An existing condition, situation, or set of circumstances involving uncertainty as to possible gain or loss to an entity. The uncertainty will ultimately be resolved when one or more future events occur or fail to occur. Resolution of the uncertainty may confirm a gain (i.e., reduction of a liability) or a loss (i.e., incurrence of a liability). <*SFFAS No. 5, par. 35*>

Contingent liability – An amount that should be recorded when a past event or exchange transaction has occurred, a future outflow or other sacrifice of resources is probable, and the future outflow or sacrifice of resources is measurable. <*SFFAS No. 5, par. 38 as amended by SFFAS No. 12*>

Cost model – A framework upon which an estimating methodology is developed. The model may use mathematical equations to convert source data into cost data and require users to enter a minimal amount of information to generate clean-up cost estimates. <*TR 10, footnote 10*>

Disclosure – The reporting of information in notes or narrative regarded as an integral part of the basic financial statements. <*FASAB Consolidated Glossary*>

Estimated total clean-up costs – An projection of the full cost to remediate an instance of environmental contamination or damage that should contemplate: (a) the clean-up plan, including the level of restoration to be performed, current legal or regulatory requirements and current technology; and (b) the current cost that would be paid if all equipment, facilities, and services included in the estimate were acquired during the current period. <*SFFAS No. 6, pars. 94-96*>

General Property, Plant and Equipment (GPP&E) – Tangible assets that: (a) have an estimated useful life of two years or more; (b) are not intended for sale in the ordinary

course of operations; (c) are acquired or constructed with intent of being used (or available for use) by the entity; AND (d) have an acquisition cost that equals or exceeds a capitalization threshold. Examples of GPP&E include real property, leasehold improvements, equipment, and weapons systems. *<FMR Vol 4, Chapter 6, 060103>*

Hazardous waste – A solid, liquid, or gaseous waste, or combination of these wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. *<SFFAS No. 6, par. 86>*

Installed equipment "fixture" – Those equipment items that are (1) permanently attached to realty, or (2) if not permanently attached, (a) are necessary and indispensable to the completion and operation of the building, or (b) the structure was designed and built for the purpose of housing the equipment.
<GAO-01-179SP Appropriation Law-Vol. IV (16-191)>

Permanently removed from service – Occurs when an asset's use is terminated AND documentary evidence is available that supports management's decision to permanently remove the asset from service. If only one of these two business rules occur, a need for the "permanent" removal of an asset from service has not occurred. *<FMR Vol 4, Chap 13, 130103 F>*

Positive assurance – Direct confirmation from each installation/location/site that a determination of potential environmental liabilities has been assessed, documented (potential environmental liability exists or does not exist), and is properly supported. *<Based on the definition of positive confirmation from AU-C 505.06>*

RACER – Remedial Action Cost Engineering and Requirements System; a parametric model used to estimate environmental liability costs. *<Defined in the Non-DERP Guidance, Appendix A, pg. 14>*

Recognition – The process of formally recording or incorporating an item into the financial statements of an entity as an asset, liability, revenue, expense, or the like. A recognized item is depicted in both words and numbers, with the amount included in the statement totals. Recognition comprehends both initial recognition of an item and recognition of subsequent changes in or removal of a previously recognized item. *<FASAB Consolidated Glossary>*

Remedial investigation/feasibility study (RI/FS) – A comprehensive data collection and site characterization study (RI) that evaluates alternative clean-up actions and recommends one (FS). *<TR 2, footnote 10>*

Removal from service – An event that terminates the use of a General Property, Plant and Equipment (GPP&E) asset (e.g., shutdown of a facility). Removal from service may occur because of a change in the manner or duration of use, change in technology or obsolescence, damage by natural disaster, or identified as excess to an entity or DoD Component's mission needs. General removal of an asset is not the same as "permanent removal from service". <*FMR Vol 4, Chap 13, 130103 H*>

Routine – Occurring on an ongoing basis as part of day-to-day operations. <*Adapted from the original release of TR 11, Appendix D, Glossary*>

Site – A distinct area of an installation containing one or more releases or threatened releases of hazardous substances treated as a discrete entity or consolidated grouping for response purposes; a physical place where one or more instances of environmental contamination has occurred; a PP&E activity, asset or facility for which there is an associated environmental liability. A location can have multiple sites and sites with similar conditions can be combined into one large site or location. <*Extracted from these sources:*
DERP Management Manual Glossary; TR 2, Section 2; Non-DERP Guidance Glossary; FMR, Volume 4, Chapter 13>

Stewardship PP&E – Tangible assets classified as either PP&E of historical, natural, cultural, educational significance; artistic importance; or having significant architectural characteristics (Heritage Assets); OR land and land rights owned by the Federal government but not acquired for or in connection with GPP&E.
<*FMR Vol 4, Chap 6, 060103*>

Verification, Validation and Accreditation (VV&A) – A process for DoD modeling, simulations, and associated data used to support DoD processes, products and decisions. <*DoDI 5000.61*>

APPENDIX J – SYSTEMATIC RECOGNITION EXAMPLE

Suppose that DoD Component Agency (DCA) began operating a landfill on October 1, 2010. The landfill area is 200 acres consisting of 40 cells with a combined capacity of 9,000,000 cubic yards. Knowing that it will be responsible for environmental clean-up, DCA estimates closure and post-closure costs for the landfill will be $21,000,000, and anticipates the landfill will be operational for 3 years.

In accordance with SFFAS No. 6, DCA's accounting staff will record the environmental liability systematically based on the landfill's capacity using the following formula:

((A*B)/C) – D

where:

A = Estimated total cost
B = Cumulative capacity used
C = Total estimated capacity
D = Amount(s) previously recognized

At the end of FY 2011, DCA has used one-third of the landfill's total capacity. Accordingly, an accounting entry is posted to record an environmental liability of $7,000,000 as shown below.

((21,000,000*3,000,000)/9,000,000)-0 = 7,000,000

Now, assume that in January 2012, DCA engineers determine that 10 of the landfill's cell are unusable, which reduces total capacity to 6,750,000 cubic yards. Also assume DCA used an additional 1,875,000 cubic yards of the landfill in FY 2012 and the closure/post-closure cost estimate has been revised to $21,825,000. The figures needed to recognize the FY 2012 environmental liability are:

A = $21,825,000
B = 4,875,000 cubic yards
C = 6,750,000 cubic yards
D = $7,000,000

Using our formula, the amount recorded in FY 2012 is:

((21,825,000*4,875,000)/6,750,000)-7,000,000 = 8,762,500

In FY 2013, DCA has determined that total closure and post-closure costs will be $23,440,000. Again, using our formula, the FY 2013 amount recognized is calculated as follows:

((23,440,000*6,750,000)/6,750,000)-15,762,500 = 7,677,500

The table below summarizing the amounts recognized in general ledger account 2995 over the three-year life of the landfill shows the liability balance at September 30, 2013.

FY	Current Expense	Cumulative Liability
2011	$7,000,000	$7,000,000
2012	8,762,500	15,762,500
2013	7,677,500	23,440,000

Note that the cumulative liability equals the total closure/post-closure clean-up costs of $23,440,000.