



NASA Procedural Requirements

COMPLIANCE IS MANDATORY

NPR 8590.1

Effective Date: June 14,
2007

Expiration Date: June 14,
2012

[Printable Format \(PDF\)](#)

Request Notification of Change (NASA Only)

Subject: NASA Environmental Compliance and Restoration (ECR) Program

Responsible Office: Environmental Management Division

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Chapter 4. Cost and Unfunded Liability Estimation

4.1 Purpose

Provide a consistent, replicable procedure for estimating the costs of restoration projects and other projects eligible for ECR funding. Develop cost estimates for restoration activities that can be used as inputs for NASA's financial statements.

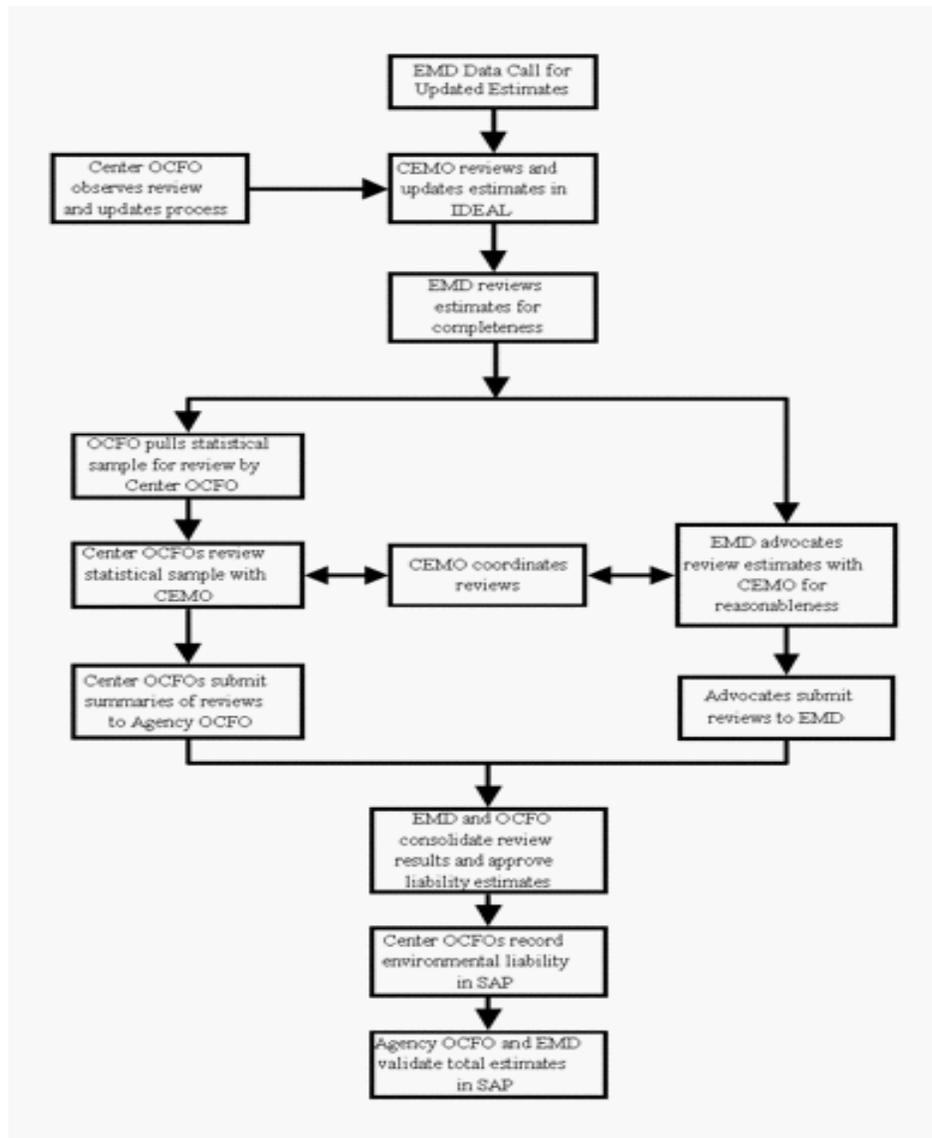
4.2 Requirements

- a. Restoration project cost estimates shall be performed using IDEAL.
- b. Cost estimates shall include contractor costs, materials, equipment, energy, contingency, applicable contract fees, and burdens.
- c. Cost estimates recorded in IDEAL that are used for financial statement purposes are subject to audit. The CEMO and other NASA organizations that prepare remediation project cost estimates shall retain adequate documentation to identify data sources, estimating methods, and rationales for assumptions and decisions employed to derive the cost estimate. Documentation of changes in assumptions from prior years' estimates shall be provided. Any changes or revisions to the estimate and the reasons for those changes/revisions shall also be noted in the estimate. Documentation of management reviews shall also be retained. Any estimate produced shall be based on site-specific information, engineering estimates, or validated cost models.
- d. For EMI projects, the CEMO shall provide a cost estimate either using IDEAL or an equivalent cost estimating system. If the project involves facility construction, life-cycle cost analysis is required under NPR 8820.2 (Chapter 3.16) Facility Project Implementation Guide.
- e. The CEMO is the official repository for all records, both electronic and hardcopy, to support cost estimates for environmental restoration projects. Cost estimates and supporting documentation shall be retained in accordance with the NASA Records Retention Schedules (NRRS) for NASA Accounting and Financial Information Systems, specified in NPR 1441.1, Chapter 9, NRRS 9. Program management documentation for cleanup projects undertaken under TSCA, CERCLA, and RCRA and official records of compliance agreements shall be retained in accordance with the records retention schedules specified in NPR 1441.1 Chapter 8, NRRS 8.

4.2.1 The Unfunded Environmental Liability Estimation, Review, and Approval Process

The cost estimate serves as the liability estimate for restoration projects. Liability estimates follow two distinct (and often parallel) paths to completion. The Headquarters Office of the Chief Financial Officer (OCFO) as well as the Headquarters EMD work in tandem to reach consensus on the final Agency Unfunded Environmental Liability Estimate. The following flow chart depicts the various steps taken by each party (see Figure 4-1).

**Figure 4-1:
The Unfunded Environmental Liability Estimation, Review, and Approval Process**



4.3 Roles and Responsibilities

4.3.1 NASA Headquarters Office of the Chief Financial Officer

The Office of Chief Financial Officer is responsible for:

- Providing guidance and policy on the estimation of unfunded environmental liabilities.
- Providing direction to Center Offices of the Chief Financial Officer on review of estimates.
- Coordinating with the Headquarters EMD on approval of estimates and developing a summary of Agency unfunded liability estimate.
- Directing Center Offices of the Chief Financial Officer to record liability estimates in NASA's financial management system.
- Recording and preparing the unfunded environmental liability and contingent liability information in the financial statements and providing input for preparing necessary disclosures in the footnotes to the financial statements.

4.3.2 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- Providing guidance and direction on the estimation of liability and costs to Center Environmental Management Offices.
- Ensuring that IDEAL training and software are made available to personnel responsible for ECR project cost estimation.

- c. Initiating data calls at midyear and year end to Centers to update their liability estimates.
- d. Facilitating the sharing of experiences and information among Centers/Component Facilities so that IDEAL cost estimates for similar projects at different locations can be developed consistently.
- e. Providing independent quality assurance to review estimates for errors and adequacy of documentation.
- f. Performing management reviews of ECR program projects cost estimation.
- g. Developing estimate for civil servant labor required to implement the ECR program.
- h. Developing a closure liability estimate for removing tanks from service at the end of their useful life.
- i. Gathering and summarizing contingent liability information during the liability estimate review process.

4.3.3 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Ensuring that every Restoration Project funded by the ECR program has a cost estimate in IDEAL that meets the definition of probable and reasonably estimable. Estimates may use IDEAL's parametric estimation capability or be created with a User Defined Estimate, based on external documentation.
- b. Providing notice to the Headquarters EMD of any liabilities that are reasonably possible but are either not probable or not reasonably estimable. Notice shall be in the format specified by HQ.
- c. Ensuring that mark-ups and contingencies are based on Center-specific factors to reflect anticipated actual costs to complete the project.
- d. Ensuring that cost estimates are prepared only by ECR Project Managers who have been trained in accounting standards for liability estimates.
- e. Ensuring that ECR Project Managers use consistent approaches and assumptions for different projects at the Center/Component Facility along with considering Center/Component Facility-specific factors.
- f. Ensuring retention of documentation of all ECR cost estimates until funding is no longer needed (unless additional retention time is required by law or NPR 1441.1).
- g. Documenting the rationale(s) for all assumptions and decisions used to derive a cost estimate and maintaining documentation for cost estimates for reasonably possible sites/facilities including rationales for applications of any contingencies. All parameters used in IDEAL cost estimates, other than the IDEAL default values, require supporting documentation.
- h. Determining cleanup levels based upon mission needs, site-specific factors, current and future land uses, risk evaluation, negotiations with regulators, and/or public comments.
- i. Ensuring that any and all leaking storage tanks are identified as a project and have a liability estimate associated with that project. For regulated tanks that are not leaking, closure liability estimates associated with removing tanks from service at the end of their service lives will be estimated at the Agency level.
- j. Updating the cost estimate and preparing supporting documentation at the end of the year in the event of the following:
 - (1) Any change in liability estimate in excess of \$200,000.
 - (2) New site information (e.g., scope changes, additional contamination identified).
 - (3) Unexpected performance of restoration technology/option (e.g., soil vapor extraction is removing contaminants more or less effectively and expeditiously than expected).
 - (4) Scheduling changes (e.g., site delays).
 - (5) Regulatory actions (e.g., Federal, state, or local regulators determine that no further action is necessary at a site).
 - (6) New or revised regulations (e.g., more stringent requirements for a specific contaminant may require extended cleanup operations).
 - (7) Improvements in technologies for assessment and treatment.
- k. Identifying potential contingent liabilities.
- l. Sharing lessons learned with HQ and other Centers/Component Facilities.

4.3.4 NASA Center Office of the Chief Financial Officer

The Center Office of the Chief Financial Office is responsible for:

- a. Reviewing IDEAL estimates prepared by the CEMO to ensure conformance with generally accepted accounting principles.
- b. Reviewing IDEAL estimates for reasonableness and whether the estimate can be supported by documentation. Scope of review is defined by the Agency Office of the Chief Financial Officer.
- c. Processing approved estimates in the NASA financial management system.

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