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BUREAU OF LAND MANAGEMENT

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Subject
H-1703-5 – ENVIRONMENTAL AND DISPOSAL LIABILITIES (Public)

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1. Explanation of Materials Transmitted: This release contains the Bureau of Land Management's (BLM) handbook for Environmental and Disposal Liabilities. The handbook supplements the BLM's Manual Section 1703-Hazard Management and Resource Restoration and provides detailed guidance for the BLM's EDL processes and procedures.

2. Reports Required: None.

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| None | All of H-1703-5<br>(Total: 53 sheets) |

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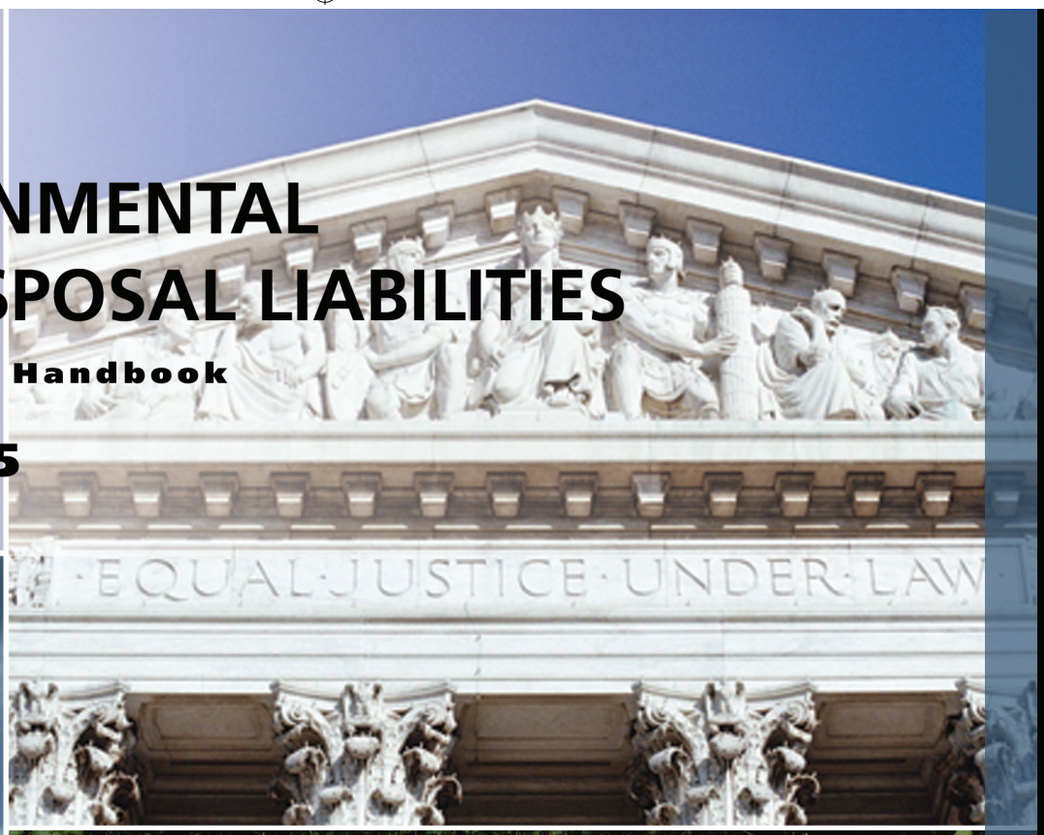
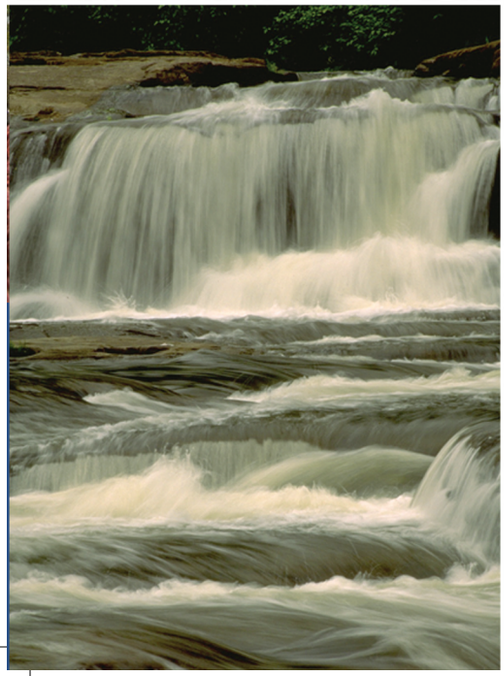
BLM

# ENVIRONMENTAL AND DISPOSAL LIABILITIES

**BLM Manual Handbook**

## H-1703-5





U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NATIONAL SYSTEM OF PUBLIC LANDS

**TABLE OF CONTENTS**


| | Page |
|---|---|
| 1.0 Introduction | 4 |
| 1.1 Responsibilities | 4 |
| 2.0 Environmental and Disposal Liabilities Identification | 5 |
| 2.1 Environmental Location of Concern | 6 |
| 2.2 Due Care | 7 |
| 2.3 Deconstruction and Renovation Activities | 8 |
| 3.0 Liability Status | 9 |
| 3.1 Probable | 9 |
| 3.2 Reasonably Possible | 11 |
| 3.3 Remote | 11 |
| 4.0 Environmental and Disposal Liabilities Cost Estimating | 11 |
| 5.0 Recording and Reporting | 12 |
| 5.1 Recording | 12 |
| 5.2 Reporting | 13 |
| 5.2.1 Recognized EDL Amounts | 14 |
| 5.2.2 Disclosed EDL Amounts | 15 |
| 6.0 Prioritization Process | 16 |
| 6.1 Procedures for Site Prioritization | 16 |
| Glossary of Terms | 17 |
| List of Appendices | |
| Appendix A Applicable Standards and Guidance | 19 |
| Appendix B Site Verification/Field Inspection Checklist | 21 |
| Appendix C Cost Estimating Guides | 24 |
| Appendix D EDL Cost Estimate Documentation Sheet | 29 |
| Appendix E EDL Ranking Tool | 46 |
| Appendix F Flowchart | 47 |
| Appendix G Acronyms/Abbreviations | 48 |

## 1.0 INTRODUCTION

The current directive from the Office of Management and Budget (OMB) requires Federal agencies to prepare annual audited financial statements in accordance with the Chief Financial Officers Act of 1990 (Public Law 101-576) and the Government Management Reform Act of 1994 (Public Law 103-356). OMB also requires quarterly unaudited financial statements in accordance with OMB Circular A-136, *Financial Reporting Requirements*.

Per Statement of Federal Financial Accounting Standard Number (No.) 5, *Accounting for Liabilities of the Federal Government* available at (www.fasab.gov), Federal agencies are required to report information on contingent environmental liabilities in their financial reports. Agencies are required to recognize a contingent liability when a future outflow or other sacrifice of resources as a result of past transactions or events is *probable* and *measurable.* Contingent liabilities that do not meet the criteria of *probable*, but are *reasonably possible,* are disclosed in the notes to the financial statement.

The Bureau of Land Management (BLM) is required to report contingent environmental liabilities to the Office of Financial Management (PFM) on a quarterly basis. The BLM complies with this request by uploading information related to contingent environmental liabilities from the Abandoned Mines Site Cleanup Module (AMSCM) of the Protection and Response Information System (PRIS) to the Department of the Interior's (Department) Environmental and Disposal Liabilities (EDL) Database. This handbook is intended to provide a consistent approach for estimating and reporting contingent environmental liabilities.

### 1.1 Responsibilities

Responsibilities for the management of EDLs are shared by the state office program leads and the equivalent-level accounting personnel. The BLM state office program leads are responsible for identifying EDLs, generating and reviewing cleanup cost estimates, and maintaining the associated documentation on a site-by-site basis. The BLM's accounting personnel are responsible for coordinating with the state office program leads, performing a reasonableness check on reported liability amounts, and for ensuring the liability is correctly categorized as recognized or disclosed according to generally accepted accounting principles (GAAP).

At the Department level, the Office of Environmental Policy and Compliance (OEPC) is responsible for managing the Department EDL Database used to record contingent environmental liabilities and to provide guidance to the BLM state office program leads. The PFM is responsible for coordinating with the OEPC and BLM accounting personnel, consolidating the individual liabilities, and ensuring that the total liability is recognized or disclosed according to GAAP.

The OEPC and PFM will conduct periodic management reviews of selected EDL sites to check the adequacy of the cleanup cost estimates and the documentation. The BLM must retain adequate documentation of the management reviews, as well as, documentation that identify the data sources, cost estimating method, and assumptions used for preparing the cleanup cost estimates.

## 2.0 ENVIRONMENTAL AND DISPOSAL LIABILITIES IDENTIFICATION

Contamination can occur from past or current operations (such as solid waste landfills; treatment, storage, or disposal facilities; ware yards; firing ranges; mine and mill sites) or unsanctioned activities (such as illegal dumping) that result in releases of hazardous substances or petroleum to the environment. The BLM is required to routinely attempt to identify contamination on public land and report that information to responsible officials and the Department.

*Note: Physical safety hazard remediation at abandoned mine land (AML) sites, which do not have an environmental component, are not reported as EDLs.*

In order to ensure that the BLM identifies and reports EDLs consistently, BLM-specific EDL identification processes will meet, at a minimum, the following criteria:

- A site that is suspected to be contaminated based on known past activities or observed physical indicators, but where due care has not been conducted, will be identified as a location of concern (LOC) (see Section 2.1).

- A site WILL NOT be identified as an EDL until due care has been completed. If the due care results indicate that further action (study or cleanup) representing a future outflow of resources is warranted, the site will be identified as an EDL (see Section 2.2).

In general, environmental compliance and operation and maintenance (O&M) activities are not considered EDLs. Examples of activities that are NOT EDLs include:

1. Permit requirements such as monitoring and reporting under the Resource Conservation and Recovery Act (RCRA), National Pollutant Discharge Elimination System (NPDES), or other permits.

2. Indoor air quality corrective measures (with the exception of actions required as part of a cleanup such as volatile contamination in buildings associated with leaking underground storage tanks (UST) or groundwater plumes).

3. Radon mitigation (radon is a naturally-occurring gas).

4. Environmental audits.

5. Water and sewage systems maintenance and monitoring.

6. Routine disposal of hazardous materials, chemicals, or waste or Federal personal property as defined by the General Services Administration (e.g., computers).

7. Underground and Aboveground Storage Tanks (UST/AST) operation costs (e.g., installation of leak detectors, upgrading fill pipes, tank replacements).

8. Physical safety hazard mitigation at AML sites, which do not have an environmental component, are not EDLs (e.g., mine audits).

9. Physical parameter criteria (e.g., surface water turbidity, dissolved oxygen, biological oxygen demand, pH).

**2.1 Environmental Location of Concern**

The process for identifying an environmental location of concern may vary between offices because of different organizational structures, operations, geographic areas, and resources. The BLM is expected to work with other Federal or state agencies, and local governments and communities to identify LOCs on BLM land. The BLM will examine property/facility inventories and conduct land inspections.

Each BLM office maintains a property/facility inventory. Property/facility inventories will be routinely evaluated to identify areas where releases of hazardous substances or petroleum may have occurred. These areas should be inspected routinely. If physical conditions indicate a release or the threat of release of hazardous substances or petroleum may have occurred, appropriate BLM officials will be notified and steps undertaken to ensure that any environmental liabilities are identified and reported.

Additionally, BLM personnel should routinely conduct mission-related work that involves inspection of the land within their jurisdiction, custody, or control, such as mining claim, grazing allotment, concessions, and public access area inspections. During these inspections, physical indicators of the release or the threat of release of hazardous substances or petroleum releases will be noted. Physical indicators may include, but are not limited to, stained soil, solvent or petroleum odor, scorched earth, discolored vegetation, illegal dumps, dead animals, discolored water in a stream, surface water sheen, etc. Prior to conducting any additional environmental activities, BLM personnel should verify that the abnormal site conditions are on land within their jurisdiction, custody, or control.

The BLM officials will determine if the abnormal physical condition falls under one of the following scenarios:

1. Sufficient evidence exists that indicates the site is an EDL.

It can be further evaluated or cleaned up using current fiscal year funding.

2. Additional support including technical services or site-specific funding is needed for due care to be conducted to determine if a release has occurred that warrants further study or cleanup.

*Note: If the site contains only solid waste or if the site can be evaluated and cleaned up using current fiscal year funding, then the site is neither a LOC nor an EDL. Related cleanup costs are recorded as current fiscal year expenditures.*

**2.2 Due Care**

In many circumstances actions are necessary to confirm the presence of the release or the threat of a release of hazardous substances to determine whether further action is warranted. These actions constitute the "due care" process. The BLM is responsible for identifying and tracking its LOCs. The release or the threat of a release of hazardous substances at an LOC must be confirmed through due care by or under the oversight of an Environmental Professional with the BLM with the appropriate credentials to properly make this determination. Activities conducted during the due care-process may include, but are not limited to:

- Review recorded chain-of-title documents (including restrictions, covenants, and any possible liens) and good faith inquiry and investigation into prior uses of the property.

- Investigate aerial or satellite photographs that may reflect prior uses, areas of distressed vegetation, or changing population centers.

- Inquire into records that are available from Federal, state, tribal, and/or local jurisdictions that show whether there has been a release or suspected release of hazardous substances or petroleum on the property (and adjacent property that could impact the BLM property).

- Investigate complaints regarding abnormal health conditions or concerns raised by the public.

- Inspect visually any portions of the property where contamination by hazardous substances or petroleum is known or suspected.

- Collect and analyze selected samples.

- Document findings:

    - Do not record sites as EDLs until environmental due care has been conducted. For the BLM, this is accomplished through the site verification process.

- Sites that will be cleaned up within 1 year of completion of due care or that are funded through current fiscal year funds should not be recorded as EDLs.

The number and type of activities necessary to appropriately assess the site will be determined by or under the oversight of the Environmental Professional. If the results of due care indicate that it is likely that contamination is present, further study is required or future cleanup, and a future outflow of resources will be required, the LOC will become an EDL site and must be recorded as such in AMSCM. In the BLM, due care fulfills the BLM site verification policy for sites being addressed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

If additional support is required for due care to be conducted, the area will be identified as an LOC. The anticipated costs associated with conducting due care are not recorded as EDLs because a determination has not been made as to the presence or suspected presence of contamination.

If, however, contamination is not present, the level of contamination is NOT significant enough to warrant study or cleanup, or cleanup is warranted but the volume is NOT significant and can be accomplished using current fiscal year funds, then the LOC is NOT an EDL. The date and results of the due care conducted must be documented and retained in the BLM case file for the site. If cleanup is warranted, the date the cleanup is accomplished should also be documented and retained in the case file for the site.

**2.3 Deconstruction and Renovation Activities**

Many building materials used in the construction or past renovation of BLM facilities contain hazardous substances (e.g., asbestos, paint containing heavy metals). These building materials, while in an undisturbed or encapsulated state (e.g., non-friable asbestos, not flaking), do not pose a health risk and are not subject to cleanup under applicable environmental laws. The generally recognized best management practice for such materials is to monitor them, but leave them undisturbed. If these materials become friable and are released to the environment, they would need to be cleaned up.

The Federal Accounting Standards Advisory Board established a requirement in 2006 for federal entities to account for all future asbestos-related cleanup and disposal costs as an EDL regardless of the current physical condition of the asbestos-containing materials (Technical Bulletin 2006-1). For accounting purposes, buildings or structures with building materials containing greater than 1 percent asbestos are EDLs and subject to the identification, documentation, and reporting requirements presented in this handbook. The liability recorded is the estimated costs to abate and dispose of the asbestos-containing materials if such actions would constitute an increased, reasonably estimable cost relative to the normal closure, sale, or demolition costs of the facility. This requirement is only applicable to asbestos-containing materials, and is not applicable to building materials containing other hazardous substances (e.g., heavy metals in paint).

## 3.0 LIABILITY STATUS

An LOC will be identified as an EDL if the results of the due care indicate that a release of hazardous substances or petroleum to the environment has occurred that warrants further study or cleanup, and the cleanup is not part of routine current fiscal year funding. If it is determined that the LOC meets the criteria of an EDL, it will be tracked in AMSCM as an EDL.

Once an EDL has been identified, its liability status will be determined. Liability status is the likelihood that the BLM will incur a future outflow or other sacrifice of resources (costs) for some or all of the study or cleanup at an EDL site. The likelihood classifications are *probable* (P), *reasonably possible* (RP), or *remote* (R).

Often, the BLM expends resources to study or cleanup contamination at an EDL site in order to protect public health and the environment even though a determination regarding the BLM's legal liability has not been decided. The BLM has the right to pursue cost recovery for costs expended from responsible parties for past and future costs. However, for planned cleanup actions, the EDL liability status, as used here for Federal financial accounting purposes, is determined as a current cost estimate without consideration of potential future cost recovery. Any site classified for purposes of the financial reporting of EDLs is not deemed an admission of legal liability by the BLM, or to be used in any judicial or administrative proceeding designed to address legal liability or responsibility for any site. When BLM has an existing agreement, order or other legally binding document, then the terms and conditions of the existing agreement or other legally binding document govern the estimated amount reported or disclosed. The BLM state office program leads and accountants should consult with the Solicitor's Office to reach conclusions on the likelihood of a legal liability, or the status of a legally binding agreement, order, or other document.

### 3.1 Probable

An EDL has a liability status of *probable* (a future outflow or other sacrifice of resources is likely to occur) only when a determination has been made (in consultation with the Solicitor's Office, if necessary) that at least one of the following is true:

a. The BLM caused or contributed to the contamination and cleanup is warranted.

b. The BLM determines that an outflow of resources is expected pursuant to a duty or responsibility pertaining to statute or regulation.

c. The BLM has agreed to assume responsibility for cleanup costs in an existing interagency agreement, settlement agreement, or similar legally binding document.

d. The BLM is required to incur cleanup costs under an existing court decision or administrative order.

e. The BLM may determine, in rare circumstances, that it will expend future resources for cleanup-related activities.

In general, if a determination has not been made regarding whether any of the criteria for *probable* apply (a through e), and a cleanup action is planned, the expected future outflow of resources (costs) is *probable to the extent of that expected outflow and where such outflow is not expected to be recovered from a potentially responsible party (PRP). In reporting outflows, only costs estimated to be spent by the government should be entered. Future cost that could be paid by a PRP will not be reported.* If a legally binding agreement, order, or other document is entered into by the BLM in which the BLM commits to undertake environmental cleanup or other document assigning environmental cleanup responsibility to the BLM is issued subsequent to the initiation of the cleanup action, the expected future outflow of resources (estimated costs) will be adjusted based on the requirements of the legally binding document.

Government-acknowledged financial responsibilities do not meet the criteria necessary to be recognized as a future liability (i.e., a *probable* EDL*)*. A government-acknowledged financial responsibility occurs when the BLM did **not** cause or contribute to the contamination and it **is not otherwise liable** for the cleanup costs, but the BLM chooses to accept financial responsibility to protect the public health and welfare, or the environment. When an appropriation has been issued and the BLM has incurred cleanup costs, any unpaid amounts for work performed are included as accounts payable on the financial statements.

The BLM will now treat AML sites as "government-acknowledged" for purposes of listing such sites on the Departmental environmental and disposal liabilities financial reports. With this classification, subsequent analysis will then determine, on a case-by-case basis, whether the BLM's potential liability with respect to AMLs would be classified as *probable*, *reasonably possible,* or *remote*. The BLM considers abandoned mines as "government acknowledged" because under the 1872 Mining Law, miners could stake a mining claim on public lands and extract mineral resources without the permission or the control of the Federal government, which held bare legal title to the public lands on which the mining occurred. Federal Courts have recognized the Federal land managing agency should not be liable under these circumstances. (see *United States v. Friedland*, 152 F. Supp. 2d 1234 (D. Colo. 2001); *Coeur d'Alene Tribe v. Asarco*, Inc., 280 F. Supp. 2d 1094 (D. Idaho 2003)). Defining AML sites as "government acknowledged" recognizes the strong legal defenses retained by the Federal government land management agency is consistent with the cited Federal court holdings, more accurately reflects the status of information on the ground at particular sites, and does not lead to a premature, misleading recognition of such sites as "liabilities."

**3.2 Reasonably Possible**

An EDL has a liability status of *reasonably possible* if the likelihood that a future outflow or other sacrifice of resources will be required is less than *probable* but greater than *remote*.

The EDL process involves uncertainty; therefore, there are circumstances where the likelihood of a future outflow of resources is not obvious. For example, contamination may be present on BLM land, but the BLM has not determined whether it caused or contributed to the contamination (e.g., a potential upgradient source that may have migrated on to BLM land). If no cleanup action is currently planned, the BLM may classify this site as *reasonably possible* or *remote*.

When a PRP is willing to conduct the cleanup at a site, but its financial viability is questionable, the BLM may classify the site as a *reasonably possible* EDL**.**

### 3.3 Remote

An EDL has a liability status of *remote* if the likelihood that a future outflow or other sacrifice of resources will be required is slight (less than *reasonably possible*).

Examples of *remote* EDLs include:

- A site where a financially viable PRP responsible party(s), per agreement, is or will be actively cleaning up the contamination and incurring all the costs.
- Inaccessible locations where contamination is unlikely to pose a risk to human health or the environment (cleanup is not warranted).
- A site where additional expenditures are not expected to occur, but information has not been received (e.g., closure letter from the regulating agency) to document and support removing the site from the EDL report.

## 4.0 EDL COST ESTIMATING

If an EDL has a liability status of *probable* or *reasonably possible*, every reasonable effort should be made to develop a total cleanup cost estimate. The BLM requires a cost estimate, or at least a portion of the total cost estimate, (e.g., cost to study) for *probable* and *reasonably possible* EDLs within 1 fiscal year of identification. The BLM does not require cost estimates to be developed for EDLs that have a liability status of *remote*. See Appendix B for detailed information on developing and maintaining costs estimates.

Cost estimates, the date the cost estimate was generated, and the planned and actual completion dates (in the fiscal year) will also be recorded in the database. The relevancy of the cost estimate will be captured in the database by the user selecting the cost estimating method used (e.g., independent government cost estimate (IGCE), contractor

supplied, professional judgment based on known comparable site costs, or model) will be captured in the database.

If a total cleanup cost estimate cannot be developed for any reason, a cost estimate should be developed for any required studies (such as a preliminary assessment/site inspection). As the cleanup process progresses, the cleanup cost estimates recorded as EDL cost estimates will be adjusted as new information is obtained and as work is completed. New information that would affect the cost estimate includes, but is not limited to, the determination of the type and extent of contamination, results of an engineering evaluation/cost analysis, or completion of a record of decision. If no portion of the cleanup cost is estimable, the BLM should document that a cost estimate cannot be made and the reason why.

## 5.0 RECORDING AND REPORTING

No later than 1 week before the end of each quarter, the BLM must provide the PFM and OEPC with information on its estimated contingent environmental liabilities. This information is used to prepare quarterly and annual financial statements.

### 5.1 Recording

The BLM has developed the AMSCM within the PRIS. The AMSCM is used to track all BLM hazmat and AML sites. The BLM uploads EDL records from AMSCM to the Department EDL Database on a quarterly basis. The term "record" as used here refers to the information documented in AMSCM. The database is accessed through BASS on the (URL) *http://web.bass.blm.gov/bass2*. The database can be accessed by approved BLM personnel. Access to BLM data and specific privileges (such as edit, read-only) will be determined by the BLM system administrator and approved by the BLM user representative at the National Operations Center (NOC). Training on how to use AMSCM can be requested by contacting the NOC. There is also an AMSCM tutorial that provides background information about EDL issues, as well as instructions on using the database.

New sites are recorded in AMSCM as they are identified. Site-specific information and cleanup cost estimates can be revised as new information is obtained. Per memorandum "Environmental and Disposal Liabilities and Implementation of the Environmental Database System" issued by the Assistant Secretary-Policy, Management, and Budget (July 3, 2006), the BLM is required to follow a set schedule for reporting data in the Department EDL Database. At the start of the first business day of the new quarter, Departmental personnel will "freeze" (archive) the current data in the Department EDL Database. Once frozen, the quarterly data cannot be changed. If a situation arises within 1 week after the data has been frozen that may affect the materiality of the financial statements, the BLM AMSCM system administrator can request the Department to open the database.

The system administrator is responsible for the release of all contingent environmental liability data from AMSCM to the Department EDL Database. Financial personnel pull financial statements from the Department EDL Database. Before the end of the quarter, the BLM will inform the Department via email that the BLM has finished approving and certifying the sites. Reviews and approval by designated BLM personnel are recorded in the Department EDL Database quarterly.

## 5.2 Reporting

As used in this guidance, the term "reporting" means to recognize an amount on the face of financial statements or to disclose an amount, a range of amounts, or a comment regarding the uncertainty of the EDL cost estimate in the financial statements notes. The estimated recognized or disclosed amounts will be obtained from reports generated from AMSCM. Reports have been designed that will calculate individual and aggregate recognized and disclosed amounts.

Any new sites and revisions to existing sites that will be reported on the next financial statement can be made at any time during the current, active quarter by approved users in AMSCM. AMSCM requires users to provide site-specific general information including:

- Facility name and site name
- Location (region, city [if applicable]**,** state, zip [if applicable], latitude and longitude)
- Site type (e.g., landfill/dump, firing range, underground storage tank)
- Contaminants of concern
- Affected Media
- Stage (e.g., the stage of the cleanup process such as study, cleanup /remediation /removal, Long-Term Monitoring)
- CHF Site (identifies the EDL site as receiving cleanup funds under the Department's Central Hazardous Materials Fund [CHF] Program)
- Other additional funding sources that support EDLs (1010AML, 1640)
- Laws/Regulations applicable to the site
- EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) ID and name, or Federal Docket name (if applicable).

Specific Reporting Criteria for Hazardous Materials Sites, Abandoned Mine Lands Sites, and Orphaned and Abandoned Oil and Gas Wells:

1) <u>Criteria for inclusion of Hazardous Management and Resource Restoration (Hazmat and Abandoned Mine Land) sites:</u>

All sites where a release of hazardous substances has been identified and due care has been completed should be entered as an EDL in AMSCM. If a site can be completely cleaned up within 1 calendar year from the date of due care, that site should not be

entered as an EDL in AMSCM. Sites that will be cleaned up under CERCLA or other Federal and state regulations should also be included in the AMSCM EDL report.

2) Criteria for inclusion of legacy and orphaned oil and gas-related wells:

- Legacy wells – wells drilled by the Department of the Navy or U.S. Geological Survey in Alaska located on land now managed by the BLM.

- Orphaned wells – wells having no current operator of record and having insufficient bond available.

For all types of wells defined above, the estimated cost to cleanup the following conditions are considered EDLs:

- Surface contamination associated with wells known to be leaking saltwater, oil, or gas.

- Subsurface contamination associated with wells known to be leaking saltwater, oil, or gas as indicated through the results of borehole integrity testing only (i.e., documentation or data indicating that downhole contamination is occurring).

Wells can be listed by group or recorded as individual sites on the EDL report. Total cleanup cost estimates should be recorded. If the total cleanup cost cannot be estimated, the cost to study the site should be estimated and recorded on the EDL report.

### 5.2.1 Recognized EDL Amounts

The Department and the BLM are required to financially recognize an EDL when the future outflow or other sacrifice of resources is *probable* and *reasonably estimable*. If both these conditions exist, the EDL cost estimate, or the portion of the total cleanup cost that is estimable at this time, will be included in the amount recognized on the face of financial statements.

If the cost estimate is a single amount, this amount will be recognized. However, if the EDL cost estimate is a range of amounts, the minimum amount (lower limit [LL]) would be recognized. Although it is understood that the minimum amount of the range is not necessarily the amount that will ultimately be expended, it is not likely that the ultimate amount will be less than the minimum amount.

The EDL is designed to calculate the amount to recognize on financial statements. The recognized amount can be calculated for each site, and each DOI bureau. For EDLs having a liability status of *probable* (P), the sum of Cost to Study LL, Cost to Monitor LL, Other Costs LL, and Cleanup Cost LL, equal to the Total Cost LL, would be included in the amount recognized.

### 5.2.2 Disclosed EDL Amounts

The total estimated loss is disclosed in notes in financial statements. There are two conditions under which the EDL cost estimate is included in the estimated loss. The two conditions are described below.

- If the EDL has a liability status of *probable*, the entire range of the estimated total cleanup costs for *probable* sites is disclosed in notes associated with the financial statements. For example, if the estimated cost range was $100,000 to $1,000,000, $100,000 would be recognized and a range of $100,000 to $1,000,000 would be disclosed as the estimated loss.

- If the EDL has a liability status of *reasonably possible*, <u>no costs would be recognized, but the estimated total cleanup costs, or the range of estimated costs, would be included in the estimated loss, which is footnoted (disclosed) in the financial statements.</u>

The AMSCM has been designed to calculate the estimated loss amount that is disclosed in notes in the financial statements. The disclosed amount range can be calculated for each BLM site. In the database, the lower limit of the disclosed range is calculated as the sum of Cost to Study LL, Cost to Monitor LL, Other Costs LL, and Cleanup Cost LL, equal to the Total Cost LL for all sites with a liability status of *probable and reasonably possible*. The upper limit of the disclosed range is calculated as the sum of Cost to Study upper limit (UL), Cost to Monitor UL, Other Costs UL, and Cleanup Cost UL, equal to the Total Cost UL for all sites with a liability status of *probable and reasonably possible.*

If the aggregate of either the *probable* or *reasonably possible* EDL sites is not estimable, a comment that the EDL costs are not estimable at this time and an explanation would be included in the disclosure notes associated with the financial statements.

***Note: If an EDL has a liability status of remote, no reporting (i.e., recognizing or disclosing) is necessary in the financial statements, but sites are still tracked as EDLs in AMSCM and the Department EDL Database.***

## 6.0 PRIORITIZATION PROCESS

The BLM must rank and prioritize EDL sites and record the results in the AMSCM. The information is then uploaded into the Department EDL Database. This prioritization process nationally ranks Department contaminated sites as Priority 1, 2, or 3 and meets the Department's objective of identifying the most critical sites. This directive is detailed in Environmental Compliance Memorandum (ECM) 07-4 issued by the OEPC on December 21, 2007. Although the prioritization process will reside in the Department EDL Database, it is not part of the environmental contingency liability process. Therefore, it is not subject to review by financial auditors. The BLM is using the Department's EDL ranking tool (Appendix D), and the tool is in the AMSCM.

### 6.1 Procedures for Site Prioritization

***Step 1 - Numerical Ranking -*** The BLM must rank sites based on the key elements of consideration of human health and environmental risk, and legal factors. This will result in all sites being ranked in an ordinal fashion.

***Step 2 - Categorize Sites as Priority 1, 2, or 3 -*** Based on the ranking results, the BLM will categorize EDL sites as Priority 1, 2, or 3. Priority 1 sites will represent the highest priority sites based on potential risk.

***Step 3 - Verify Financial Liability Status -*** The BLM will verify that Priority 1 sites have a corresponding *probable* liability status. Priority 1 sites that are not *probable* require a defensible reason documented in the AMSCM. CHF sites will likely have a high rank and a corresponding *probable or reasonably possible* liability.

***Step 4 - Document Prioritization Results -*** The BLM will document the numerical ranking result and prioritization category for each EDL site in AMSCM. High-ranked sites that do not have a corresponding *probable* liability must have a defensible reason for the lower liability status documented in the EDL Database. The BLM is required to review and revise, as appropriate, the information in the EDL Database by the end of each quarter of each fiscal year.

**Glossary of Terms**

Various terms have been used to refer to environmental liabilities including environmental contingent liabilities, environmental contaminant liabilities, and environmental cleanup liabilities; all use the acronym ECL. As of Fiscal Year 2006, the Department adopted the term "environmental and disposal liability" (EDL) to be consistent with the terminology used in its annual Performance and Accountability Report (PAR). The following is a list of commonly used terms found within applicable environmental liability estimating and reporting standards and guidance.

- **Contaminated** - The terms "contaminated" and "contamination" used throughout this handbook referring to releases or the threat of releases of hazardous substances or petroleum that may pose a threat to human health or the environment.

- **Contingency** - An existing condition, situation, or set of circumstances *involving uncertainty* as to a possible gain or loss that will ultimately occur or fail to occur.

- **BLM Land -** Land or facilities under the BLM's jurisdiction, custody, or control including soil, surface water, groundwater, and sediments. For purposes of this definition, land that the United States owns in trust for an Indian tribe or individual Indian is not considered under the jurisdiction, custody, or control of the BLM solely because of its trust status.

- **Disclosure** - Information presented in notes that is considered an integral part of the basic financial statements. A disclosure should include the nature of the contingency and an estimate of the total range of possible liability.

- **Due Care** - The process followed by the BLM to use reasonable effort to examine a location of concern to identify the presence or likely presence of contamination at concentrations significant enough to require further study or cleanup. The due care process ***must*** be performed by or under the oversight of an environmental professional.

- **Environmental and Disposal Liability** - An anticipated future outflow or other sacrifice of resources (e.g., costs) where, based on the results of due care, further study or cleanup is warranted due to past or current operations that have environmental closure requirements or contaminated BLM lands.

- **Environmental Professional -** Someone who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases of hazardous substances or petroleum on, at, or to the BLM lands or facilities. See 1703 Manual Hazardous Management and Resource Restoration for the BLM's requirement for certification as an Environmental Professional.

- **Government-acknowledged Financial Responsibility -** When the BLM did not cause or contribute to the contamination and it is not otherwise liable for cleanup costs, but chooses to accept financial responsibility to protect public health and welfare, or the environment, the cleanup costs are considered government-acknowledged. All BLM AML sites are considered "government acknowledged."

- **Hazardous Substance** - The term "hazardous substance(s)" used throughout this handbook is an element, compound, mixture, solution, or substance as, defined in CERCLA § 101(14); 42 U.S.C. § 9601(14).

- **Liability -** For Federal financial accounting purposes, a future outflow or other sacrifice of resources (e.g., costs) as a result of past events or transactions for which the BLM is responsible. This definition is derived from generally accepted accounting principles and does not imply or infer legal liability.

- **Liability Status -** The likelihood (*probable*, *reasonably possible*, or *remote*) that the BLM will be required to incur a future outflow or other sacrifice of resources for some or all of the study or cleanup at an EDL site. This definition is derived from generally accepted accounting principles and does not imply or infer legal liability.

- **Location of Concern -** An area on BLM land that is suspected to be contaminated based on known past activities or observed and reported physical indicators, but where no due care has yet been conducted.

- **Probable** - A future outflow or other sacrifice of resources is likely to occur.

- **Reasonably Possible -** A future outflow or other sacrifice of resources (e.g., costs) that is more than *remote* but less than *likely.*

- **Recognition** - Reporting a dollar amount on the face of the basic financial statements.

- **Remote -** A future outflow or other sacrifice of resources (e.g., costs) that is slight, less than *reasonably possible*.

- **Report** - Estimated costs recognized on the Federal financial statements or disclosed in notes.

## *Appendix A Applicable Standards and Guidance*

The reporting of contingent environmental liabilities must conform to specific governmental accounting practices including:

- Statement of Federal Financial Accounting Standards (SFFAS) Number (No.) 5, *Accounting for Liabilities of the Federal Government*, as amended, issued by the Federal Accounting Standards Advisory Board.

- Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant, and Equipment*, as amended, issued by the Federal Accounting Standards Advisory Board.

- *Chief Financial Officers Act of 1990*, Public Law 101-576, 101st Congress-Second Session.

- *Government Management Reform Act of 1994*, Public Law 103-356, 103rd Congress-Second Session.

- *Financial Reporting Requirements*, OMB Circular A-136, issued by the Office of Management and Budget, revised annually.

Additional guidance developed to facilitate contingent environmental liabilities identification, cost estimating, and reporting requirements include:

- *Determining Probable and Reasonably Estimable For Environmental Liabilities in the Federal Government*, Federal Financial Accounting and Auditing, Technical Release Number 2 (Technical Release No. 2), issued by the Accounting and Auditing Policy Committee (AAPC).

- Technical Bulletin 2006-1, *Recognition and Measurement of Asbestos-Related Cleanup Costs,* issued by the Federal Accounting Standards Advisory Board, September 28, 2006.

- *Environmental Cleanup Liabilities and Materials Used in Facility Construction,* Director, Office of Financial Management (PFM) and Director, Office of Environmental Policy and Compliance (OEPC), dated October 1, 2003.

- *Updating Database of Sites with Potential Environmental Liability,* Assistant Secretary - Policy, Management and Budget (PMB), dated June 20, 2005.

- *Environmental and Disposal Liabilities and Implementation of the Environmental Database System,* Assistant Secretary - Policy, Management and Budget (PMB), dated July 3, 2006.

- *Statement of Principles for Collaborative Decision Making for Cleanup of Formerly Used Defense Sites on Federal Lands,* Director, Office of Environmental Policy and Compliance, Environmental Compliance Memorandum (ECM) 07-2, dated May 1, 2007.

- *Statement of Principles for Collaborative Decision Making at Mixed Ownerships Sites,* Director, Office of Environmental Policy and Compliance, Environmental Compliance Memorandum (ECM) 07-3, dated October 23, 2007.

- *Policy and Procedures for Prioritization of Environmental and Disposal Liability (EDL) Sites,* Director, Office of Environmental Policy and Compliance, Environmental Compliance Memorandum (ECM) 07-4, dated December 21, 2007.

- *Inflation Factors for Environmental and Disposal Liabilities,* Director, Office of Financial Management and Director (PFM) and Office of Environmental Policy and Compliance (OEPC), issued annually.

Copies of Departmental financial guidance can be found on PFM's public website: *http://www.doi.gov/pfm/finstate/index.html.* Copies of Departmental environmental policies can be found on OEPC's public website at *http://www.doi.gov/oepc/eclm.*

*Appendix B Form 1703-2*

**UNITED STATES**
**DEPARTMENT OF THE INTERIOR**
**BUREAU OF LAND MANAGEMENT**

**Abandoned Mine/HazMat Inventory**
**Site Verification/Field Inspection Checklist**

**1. Site Name**: _____

**2. Location**: Latitude/Longitude Decimal /Minutes/Seconds/Hour Seconds **or** UTM (Use NAD 83).

Latitude: _____ (Decimal) Longitude: _____(Decimal)

**3. UTM Zone**: _____ E: _____ N: _____ (7 numeric)

**4. Ownership**: (check all applicable) Acres: _____ (footprint of site)

☐ Municipal ☐ Private ☐ State ☐ BLM ☐ Other
☐ Mixed ☐ Split Estate ☐ USFS ☐ Unknown

**5. Feature Types** – minimum of one **6**. **Physical/Environmental/No Action Needed** = P/E/N
**7. Mitigation** – Sign/Fence/Both= S/F/B

| **Feature Types** | **P/E/N** | **S/F/B** | **Lat/Long(Decimal) or UTM** |
|---|---|---|---|
| **HAZMAT** | | | |
| Illegal Dump – Hazardous Waste | | | |
| Illegal Dump – Hazardous Waste | | | |
| Illegal Dump – Solid Waste | | | |
| Illegal Dump – Solid Waste | | | |
| Industrial Facility | | | |
| Industrial Facility | | | |
| Landfill | | | |
| Landfill | | | |
| Non-BLM Facility (such as DOE, DOD-FUDS) | | | |
| Non-BLM Facility (such as DOE, DOD-FUDS) | | | |
| Orphaned Well | | | |
| Orphaned Well | | | |
| Legacy Wells | | | |
| Legacy Wells | | | |
| Pipeline Leaks/Spills | | | |
| Pipeline Leaks/Spills | | | |
| Reserve Pits/Produced Water Pond/Other E&P Waste | | | |
| Reserve Pits/Produced Water Pond/Other E&P Waste | | | |
| Spills (Other than Pipelines) | | | |
| Spills (Other than Pipelines) | | | |
| Tanks (above Ground and Under Ground) | | | |
| Tanks (above Ground and Under Ground) | | | |
| Other | | | |
| Other | | | |

| AML | | | |
|---|---|---|---|
| Caved Adit/Decline/Tunnel | | | |
| Caved Adit/Decline/Tunnel | | | |
| Open Adit/Decline/Tunnel | | | |
| Open Adit/Decline/Tunnel | | | |
| Open Adit/Decline/Tunnel | | | |
| Caved Shaft/Incline/Stope | | | |
| Caved Shaft/Incline/Stope | | | |
| Open Shaft/Incline/Stope | | | |
| Open Shaft/Incline/Stope | | | |
| Open Shaft/Incline/Stope | | | |
| Open Shaft/Incline/Stope | | | |
| Highwalls/Pits | | | |
| Highwalls/Pits | | | |
| Highwalls/Pits | | | |
| Mine/Mineral Processing Mill | | | |
| Mine/Mineral Processing Mill | | | |
| Repository | | | |
| Repository | | | |
| Tailings | | | |
| Tailings | | | |
| Tailings | | | |
| Other | | | |
| Other | | | |
| | | | **(Additional rows to use as needed)** |
| **8. Additional Feature Types** | **P/E/N** | **S/F/B** | **Lat/Long(Decimal) or UTM** |
| | | | |
| | | | |
| | | | |

**9. Photograph Notes**:

**10. Field Notes and Comments**:

**11. INSPECTED BY**: **12. DATE OF INSPECTION:**

## Abandoned Mine/HazMat Inventory Site Verification/Field Inspection Checklist Instructions

1. Identify the area impacted by physical safety and/or environment hazards.

2. Enter the Latitude measurement (North or South of Site); Enter Longitude measurement (East or West of Site) or provide the UTM measurement.

3. Enter the Universal Transverse Mercator (UTM) measurement in decrees or provide the LAT/Long measurement.

4. Identify ownership by checking the appropriate box whether it is municipal (city or county government), Mixed (Private/Federal, State/Private, Corporation/Federal). State (State solely); BLM (BLM solely); USFS (United States Forest Service solely); Unknown (Ownership is unknown); Other (Ownership not identified). Check all applicable ownership(s).

5. Identify the feature type (e.g., Illegal Dump - Solid Waste, Landfill, Caved Adit, Highwalls/Pits, or Tailings). Indicate if the feature type is a HAZMAT site or AML site.

6. Indicate if the feature type is a Physical (P) or Environmental (E) hazard or No Action (N) is needed (P/E/N). Enter a P/E/N in the box.

7. Indicate if mitigation occurred at site location. Indicate if Signs (S) or Fencing (F) or Both (B) were installed. Enter an S/F/B in the box.

8. Identify any additional feature types. Indicate if the feature type is a Physical (P) or Environmental (E) hazard or No Action (N) is needed (P/E/N). Also, indicate if mitigation occurred at site location. Indicate if Signs (S) or Fencing (F) or Both (B) were installed. Enter an S/F/B in the box.

9. Indicate if photographs were taken. Provide notes of photographs taken.

10. Provide any field notes and comments about the site location.

11. The authorized BLM personnel inspected site should sign this block.

12. The authorized BLM personnel inspected site should provide the date of inspection.

*Appendix C Cost Estimating*

## Cost Estimating Guides

### Reasonably Estimable

Cost estimates should be based on the application of professional knowledge using all relevant information and meaningful site comparisons. Estimates should be reproducible and documentation supporting the estimates should be maintained.

Various key factors (tests) should be considered in determining whether future cleanup costs can be reasonably estimated. The factors are:

1. Completion of an Engineering Evaluation/Cost Analysis (EE/CA), Remedial Investigation/Feasibility Study (RI/FS), Corrective Measures Study (CMS), or Other Study.

2. Experience with a Similar Site and/or Conditions.

3. Availability of the Cleanup Technology.

The following discusses the three key factors:

1. **Completion of EE/CA, RI/FS, CMS, or Other Study**: The first test in determining whether future costs are reasonably estimable is to determine whether there is a completed study upon which to base an estimate. If an EE/CA, RI/FS, CMS, or other investigation study has been completed for a particular site, these studies would form the basis upon which to begin estimating the cleanup costs.

The fact that a site does not have a comprehensive study completed does not exempt the Bureau of Land Management (BLM) from making a best effort to estimate the cleanup costs for financial statement purposes, or for reporting a cost estimate for that portion of its obligation (or potential obligation) that can be estimated (see No. 2 below). The level of required documentation for cleanup cost estimates where a comprehensive study has not been completed will be much less than cleanup cost estimates for Environmental Disposal Liabilities (EDL) where a comprehensive study has been completed (see Section 4.2).

If the results of the study indicate that no contamination exists or no further action is warranted, then an EDL does not exist and it will be removed from the BLM's EDL inventory. The justification for removing the EDL from the inventory must be documented.

2. **Experience with Similar Site and/or Conditions**: If no study has been completed, the next test is to 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 cleanup. Similar sites or conditions used for developing a cost estimate can be associated with other Federal agencies or non-Federal entities (public or private).

If there is a similar site or condition with experience gained (through actual cleanup and/or a completed study), the EDL cost estimate for a site could be based on the similar experience or conditions. The quality of a cost estimate based on a similar site may be very different from the actual cleanup costs if the actual site conditions are different than those of the similar site. Future studies will result in improved estimates as site-specific conditions become known.

If no actual remediation or study costs of a similar site and/or condition exist, but cost estimates have been developed for similar sites, these similar site-cost estimates may be used. A cost estimate developed for a similar site type (such as a firing range, landfill) with comparable assumptions (e.g., comparable climates, comparable size, comparable contaminants) can be used as a single cost estimate, or a range of cost estimates developed for similar site types could be recorded. A range of similar site-type cleanup cost estimates would capture the variability of the unknown site conditions until site specific information is obtained.

3. **Availability of a Cleanup Technology**: If a study has been completed, or the BLM or another agency has experience with a similar site and/or condition as noted above, the next test is whether there is a technology available to achieve total cleanup. If no technology exists to achieve total cleanup, then total cleanup costs would not be reasonably estimable. The BLM would be required to report the costs to contain the contamination and any other relevant costs, such as costs of future studies, treatment, or monitoring that will be implemented to minimize and control the contamination. For example, the total cleanup of certain volatiles in groundwater is often difficult to achieve.

However, partial cleanup actions are implemented such as removal of the primary source of contamination, groundwater extraction and treatment, and long-term groundwater monitoring to ensure capture or natural attenuation is occurring. The costs of these actions are estimable and would be recorded. The BLM would calculate an amount to be recorded based on the type and length of containment required.

If a cleanup technology is available, then cleanup costs are reasonably estimable, and the BLM would record the best estimate at current cost. If no amount within a range of estimates is a better estimate than any other amount, the BLM should record a range of amounts. If the estimate is based on similar site criteria, the agency would also include the anticipated cost of an EE/CA, RI/FS, CMS or other study, if required. If management has not determined what cleanup action should be taken for an active contaminated site (current facility or operations), 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 estimated cleanup costs.

**Elements of the Cost Estimate**

EDL cost estimates should include any cleanup activity or portion of an activity that has not yet been completed, such as:

- Studies, plans, designs, removal activities, cleanup activities, and cleanup operations (including operation and maintenance costs of cleanup systems) necessary to comply with applicable legal and regulatory requirements, and the costs of contractors, engineers, and consultants.

- Do not include current fiscal year costs associated with routine operations. Only the current fiscal year costs associated with actions to close the operation in accordance with environmental regulatory requirements should be included.

- Current fiscal year costs associated with an environmental cleanup action or the closure of an inactive site, such as the costs associated with a groundwater treatment system, would be an EDL.

- Machinery and equipment dedicated to a response action (removal or remedial) that do not have alternative uses, and their associated operating and maintenance costs would be an EDL cost element.

- Compensation and benefits of government personnel that devote significant time to an environmental cleanup effort would be an EDL cost element.

- Site restoration activities conducted as part of an environmental cleanup would be an EDL cost element.

- Long-term monitoring (LTM) associated with a response action would be an EDL cost element.

**Total Cleanup Cost Estimates**

Estimates should be calculated for the total site cleanup cost, or for a range of the total cleanup costs. A range of the total cleanup costs would be reported if site conditions have not yet been fully determined, such as the extent and/or nature of contamination or if several cleanup alternatives are possible and a preferred alternative has not been selected. Reporting a range of costs allows the estimator to capture the uncertainty inherent when predicting future cleanup costs early in the cleanup process. The assumptions used to develop the low and high end of the cost estimate range must be documented such that the estimate is reproducible and easy to revise as new site information becomes available.

For sites subject to response under Comprehensive Environmental Response Compensation and Liability Act (CERCLA) that have one or more potentially responsible parties (PRP), but the BLM's cleanup financial responsibilities have not yet

been legally documented (under an agreement or other legally binding documents) the BLM can develop a cost range that reflects the BLM's likely financial liability (such as oversight of the cleanup or long-term monitoring) on the low end of the range, and the total cleanup costs on the high end of the range. The assumptions used for creating such a range must be documented.

If the preferred cleanup alternative has been selected, the total cleanup cost estimate will be developed based on the preferred alternative as documented in the proposed plan, Record of Decision (ROD), or other decision document. If the preferred alternative has not been selected, but a total cleanup cost estimate can be developed based on professional engineering judgment and similarities with other site conditions, the BLM should develop a total cleanup cost estimate though uncertainty exists. If several alternatives are possible, the cost estimate can be based on an assumed cleanup action, or cost estimates may be developed for different possible cleanup actions.

The BLM is encouraged to develop total cleanup cost estimates even if the preferred alternative has not been selected. These cost estimates will be used for reporting contingent liabilities on financial statements, and facilitate project and program management activities. They should not be misconstrued as a pre-decisional selection of the preferred alternative. As cost estimates are confidential, the BLM personnel and auditors must not disclose this information to external parties without consultation with the Solicitor's Office or other appropriate parties.

If the estimate is developed using a single assumed cleanup action, a range of costs could be developed to capture any uncertainty regarding actual site conditions. If a single preferred cleanup action is assumed, the reasons for selecting the action must be documented. However, the estimator may elect to develop cost estimates for several possible cleanup actions and record a range that captures the different actions. The different cleanup actions used for developing the cost estimate range and the assumptions used must be documented.

**Interim Cleanup Action Cost Estimates**

If the total cleanup cost is not currently estimable (possibly because no studies have been completed) cost estimates should be developed for those portions of the total cleanup cost (interim cleanup activities) that are known and estimable. Interim cleanup activities for which a cost is estimable, though the total cleanup cost is not, include site studies such as an EE/CA, RI/FS, CMS, etc., or monitoring activities (conducted as part of a study) if a cleanup technology is not available. Cost estimates for interim cleanup activities should be recorded under "study" in the EDL database.

**Quantification of the Cost Estimate**

Cost estimates must be based on site-specific information, and can be calculated using engineering estimates or cost models. Cost estimates are subject to audit, and therefore, adequate documentation identifying data sources, estimating method, rationale used, and

assumptions must be retained and readily accessible. Detailed backup materials that support the cost estimate reported must be maintained in the project files.

If a cost model is used for estimating EDL costs, the model must be accredited by organizations with experience in estimating environmental cleanup costs. Cost data can be obtained from a variety of sources:

- Cost estimating guides/references
- Cleanup action vendors or contractor quotes
- Professional judgment based on experience with similar projects
- Cost estimating software/ databases (e.g., Remedial Action Cost Engineering and Requirements [RACER])

Cost estimating guides or references (e.g., unit price books) can provide costs for a wide variety of construction activities, including those related to remedial actions. Some guides are specifically tailored to estimate costs for environmental remediation projects. Cost data in these references are sometimes broken down into labor, equipment, and material categories, and may or may not include contractor markups. Generally, each cost is associated with a specific labor and equipment crew, and production rate. Costs are typically provided on a national average basis for the year of publication of the reference. Quotes from cleanup action vendors or construction contractors can provide costs that are more site-specific in nature than costs taken from standard guides and references. These quotes usually include contractor markups and are usually provided as a total cost rather than categorized as labor, equipment, or materials. If possible, more than one vendor quote should be obtained. Quotes from multiple sources can be averaged, or the highest quote can be used in the cost estimate if the collected quotes seem to be at the low end of the industry range. Vendors or contractors can also be an important source of design-related information, including operating capacity, production rates, operating life, and maintenance schedules that may have implications for O&M costs.

Estimates and actual costs of similar projects can also be used as a source of cost data. Professional engineering judgment should be exercised where cost data taken from another project need to be adjusted to take into account site- or technology-specific parameters. Sources of actual cost data from government remediation projects are maintained by various Federal agencies. These sources include the Historical Cost Analysis System (HCAS) *http://www.frtr.gov/ec2/ecanalysissystem.htm* and Federal Remediation Technologies Roundtable (FRTR) cost and performance reports (*http://www.frtr.gov/costperf.htm*). HCAS and the FRTR reports are two initiatives that are currently being used to collect and record treatment technology costs in a standardized format.

If estimates and actual costs of similar projects are used to develop a cost estimate, the estimator should document the name of the similar site used, the similarities that justify use of this site's estimate or actual costs, and any adjustments applied (including an inflation factor if the estimate or actual cost used is not current). This information would

be maintained in the project file as detailed backup material that supports the cost estimate. Cost estimating software and databases can also be used as sources of cost data. The majority of available software tools are designed to estimate the cost for all or selected cost elements of an alternative. One such Government-sponsored software tool is the RACER cost estimating system, which is sponsored by the U.S. Air Force, U.S. Army Corps of Engineers, and the Department. More information on RACER can be found at the following internet site: *http://talpart.earthtech.com/racer.htm.*

The Department's Central Hazardous Materials Fund (CHF) Program uses RACER as a uniform method for estimating CERCLA-related cleanup costs. RACER has been reviewed and approved by PricewaterhouseCoopers (LLP) and is accredited to provide automated, consistent, repeatable, and documented estimates for environmental cleanup of contaminated sites.

**Periodic Review and Update**

Updates to cleanup cost estimates are required so that periodic financial statements are as accurate as possible. Future costs cannot be known with certainty; therefore, estimating requires the exercise of judgment. Cost estimates change when there is a material change in the status of the site, as cleanup process progresses, as more experience is acquired, and as additional information is obtained.

New or clarifying information that would affect a cost estimate may include:

- The type and extent of contaminants at the site.
- The identification, number and financial position of PRPs.
- The allocation of costs among PRPs based on judgments, assessments, or consent decrees.
- Data regarding the remediation experiences at other sites.
- Results of an EE/CA, RI/FS, CMS or other study.
- Approval of a ROD or other decision document.
- Refinements of the remediation plan.
- The type of technology available to remediate.
- Unanticipated problems identified during remediation.
- The type and duration of post-closure monitoring required.
- Unanticipated problems encountered during the post-closure monitoring period.
- New regulations regarding the appropriate method of disposing hazardous wastes.
- New laws regarding the acceptable levels of contamination.
- Actual cost expended for active cleanup sites.

As an example, the preferred alternative presented in the proposed plan can undergo changes as a result of public comment or new information such as additional site characterization data. Any changes to the selected cleanup alternative should be reflected in an updated EDL cost estimate. Even if no new site information has been obtained and no cleanup activities have occurred, the existing cost estimate will be reviewed at least annually and adjusted for inflation once annually. At the end of the fiscal year, BLM site

costs are inflated in the Department EDL Database if no changes to the cost estimate of a site have been made.

The BLM currently applies an inflation factor developed by the Department to adjust environmental cleanup cost-to-complete estimates. The inflation factors are obtained from *www.adeq.state.ar.us/hazwaste/branch_programs/rcra_financial_assurance.htm.* The escalation (or inflation factor) applied should be documented in the detailed backup materials that support the cost estimate. For sites where work has been completed within the fiscal year, but no new site information has been obtained that would alter the existing cost estimate, it would be appropriate to reduce the existing estimate by the cost of the work completed, since the last reporting period and apply the annual inflation factor (e.g., [existing estimate - cost of work completed] x [inflation factor]). In certain cases, the cost of the work completed may be immaterial compared to the total cleanup cost estimate (i.e., less than ±10 percent). In these cases, the BLM may decide not to change the cost estimate. If no work was completed within the fiscal year and no new site information has been obtained that would alter the existing cost estimate, the inflation factor alone would be applied to the previous cost estimate (e.g., existing estimate x inflation factor) once annually.

**Cost Estimate Documentation**

All cost estimates will be documented such that costs and underlying assumptions are clearly presented and understood. Documentation should include:

- Detailed backup materials that support the cost estimate for interim cleanup activities and total site cleanup (including assumptions used).
- Cost summary of individual cleanup alternatives.
- Comparative cost summary of cleanup alternatives (if costs for multiple alternatives are estimated).

The Department has developed a form for the appropriate documentation of cost estimates. The EDL Cost Estimate Documentation Sheet (Appendix D) is used by the BLM. If the total cleanup cost is estimable, the estimator should fill out the portion of the documentation sheet applicable to the total cleanup cost. However, if only a portion of the total cleanup cost is estimable, the applicable interim cleanup action sections of the documentation sheet should be filled out. The cost estimate should be presented by activity-based work elements and include all capital costs, all labor costs, annual O&M costs, and any periodic costs. The detailed backup materials that demonstrate how the work element costs were derived need to be maintained with the cost estimation documentation sheet in the project files.
All documentation associated with the development of a cost estimate or with the development of a revised cost estimate needed to support a site's listing as a contingent environmental liability in AMSCM ***must*** be retained by the preparing office. All applicable documentation should be readily accessible for review even after the site is no longer a contingent environmental liability.

Records should be maintained for no less than 2 years after the site cleanup action is complete. This retention applies to any required long-term site maintenance and LTM, but does not supersede any regulatory requirements (i.e., the National Contingency Plan). Cost estimates are also documented in the Department EDL Database.

## *Appendix D EDL Cost Estimates Documentation Sheet*

**EDL Cost Estimate Documentation Sheet**

**Disclaimer**

This form is designed to document the cost estimate for the referenced site in DOI's EDL report as required and defined by applicable federal accounting standards. Nothing on this form constitutes or should be construed as an admission of fact or the assertion, adoption, or concession of any legal, regulatory, financial, accounting, environmental, scientific or engineering position, projection or conclusion. Estimating future costs associated with the cleanup of environmental damage is fraught with uncertainty. The uncertainty may be high early in the cleanup process, but should decrease as site conditions are better understood. As such, the cleanup cost estimates presented at this time may not accurately reflect the actual cost required to achieve total cleanup. Moreover, the information on this form is strictly confidential and is protected by all applicable privileges.

Note: Worksheet tab 1 alone will be sufficient to document a site's cleanup cost estimate if the site does not consist of multiple sub-areas (e.g., operable units or other) or include several response action alternatives. If the site consists of multiple sub-areas with different response actions activities, a cost estimate will be developed for each sub-area. Tabs 2 and 3 can be used to document different sub-areas. The total cost estimate will combine the cost estimates of the sub-areas (tabs 1, 2, and 3). Additional tabs can be added for additional sub-areas as needed.

Additionally, cost estimates can be developed for several response alternatives if the preferred alternative has not been determined and the estimator cannot assume the alternative that will be preferred. The individual sub-area sheets (tabs 1, 2, and 3) can be used to document individual response alternatives.

1. **Date** _____
2. **Current FY Quarter** _____
3. **Site Name** _____
4. **Sub-area or Alternative Name (if applicable)** _____
5. **Location/Site** _____
6. **a. Estimator's Name** _____
   **b. Estimator's Position** _____
   **c. Estimator's Signature** _____
7. **a. Reviewer's/Approver's Name** _____
   **b. Reviewer's/Approver's Position** _____
   **c. Reviewer's/Approver's Signature** _____
8. **Site/Sub-area Type**

| ***Select Applicable*** | |
|---|---|
| **Abandoned Mine/Mineral Processing Mill** | ☐ |
| **Abandoned Oil and Gas Well(s)** | ☐ |
| **Active Mine/Mineral Processing Mill** | ☐ |
| **Active Oil and Gas Well(s)** | ☐ |
| **Acquired Federal Facility** | ☐ |
| **Acquired Private Property** | ☐ |
| **Agricultural Facility** | ☐ |
| **Illegal Dumping of Hazardous Substances** | ☐ |
| **Inactive Firing Range** | ☐ |

| | |
|---|---|
| **Other Industrial Facility** | |
| **Landfill/Dump** | |
| **Leaking Above Ground Storage Tank(s)** | |
| **Leaking Underground Storage Tank(s)** | |

***Select Affected Media***

| | |
|---|---|
| **Air** | |
| **Soil** | |
| **Sediment** | |
| **Groundwater** | |
| **Surface Water** | |

**9. Potential Primary Contaminants of Concern (select up to 4 contaminants) (pull down)**

| | |
|---|---|
| a. | |
| b. | |
| c. | |
| d. | |

**10. State the problem (text format)**

**11. What stage in the response action process is currently in progress? (check appropriate stage)**

| | | |
|---|---|---|
| a. | Due diligence complete. Site/Sub-area identified as an EDL, but no other activity. | |
| b. | Studies/investigations (specify, e.g., PA, RI, FS, CMS, etc.) | |
| c. | Remedial / Removal Action or equivalent (includes design and construction) | |
| d. | O&M (applicable after remedy has achieved response action goals and determined operational and functional, or 1 year after construction [whichever is earlier] except for water treatment alternatives) | |
| e. | LTM (long-term monitoring) | |

Note: Under CERCLA, groundwater and surface water treatment actions to restore water quality to a protected level is considered part of the remedial action for the 1st 10 years of operation, and O&M for any additional years.

**12. Last response action document approved by EPA, State, or Other** _____

**13. Is the total cleanup cost estimable at this time? (check appropriate)** Yes ☐ No ☐

**14. If response to 13 is yes, go to 18. If no, proceed to 15.**

**15. Is any portion of the total cleanup cost (interim response activities) estimable at this time?**

Yes ☐
No ☐

**16. If response to 15 is yes, go to 18 then 21. If no, proceed to 17.**

**17. Provide the basis for no portion of the cleanup cost estimable at this time.**

**18. Select the Cost Estimating Method Used**

**IGCE** ☐
**Contractor Estimate** ☐
**RACER or Other Cost Model** ☐
**Professional Judgment / Based on Comparable Site Costs** ☐
**Other (specify below)** ☐

**19. Total Cleanup Cost Estimate: Specify the response alternative used for the basis of the total cleanup cost and complete the cost estimate buildup below.**

**Total Cleanup Cost Estimate Buildup**

| | Work Element | Estimated Cost - Single Amount or Low End if Range ($) | Estimated Cost - High End if Range ($) | | Bureau's Cost - Low End ($) (calculated) | Bureau's Cost - High End ($) (calculated) |
|---|---|---|---|---|---|---|
| a | Total Studies | | | | $0 | $0 |
| b | | | | | $0 | $0 |
| c | | | | | $0 | $0 |
| d | Remedial Action | | | | $0 | $0 |
| e | | | | | $0 | $0 |
| f | | | | | $0 | $0 |
| g | | | | | $0 | $0 |

(Add additional work elements as necessary)

**Total Site / Sub-area Cleanup Cost Estimate** $0 $0

**20. Total Cleanup Cost Estimate Buildup Assumptions by Work Element**

| | Work Element | Assumptions |
|---|---|---|
| a | | |
| b | | |
| c | | |
| d | | |
| e | | |
| f | | |
| g | | |

(Add additional work elements as necessary or separate work sheets)

**21. Interim Response Action Cost Estimate Buildup (use only if Total Cleanup Cost Not Estimable)**

| Cost To Study | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Work Element | Estimated Cost - Single Amount or Low End if Range ($) | Estimated Cost - High End if Range ($) | | Bureau's Cost - Low End ($) (calculated) | | Bureau's Cost - High End ($) (calculated) |
| a | | | | | $0 | | $0 |
| b | | | | | $0 | | $0 |
| c | | | | | $0 | | $0 |
| d | | | | | $0 | | $0 |
| e | | | | | $0 | | $0 |
| f | | | | | $0 | | $0 |
| g | | | | | $0 | | $0 |
| **Cost to Study Estimate** | | | | | $0 | | $0 |

(Add additional work elements as necessary)

**22. Cost to Study Estimate Buildup Assumptions by Work Element**

| | Work Element | Assumptions |
|---|---|---|
| a | | |
| b | | |
| c | | |
| d | | |
| e | | |
| f | | |
| g | | |

(Add additional work elements as necessary or separate work sheet)

**23. Interim Response Action Cost Estimate Buildup (use only if Total Cleanup Cost not Estimable)**

| Cost To Monitor | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Work Element** | **Estimated Cost - Single Amount or Low End if Range ($)** | **Estimated Cost - High End if Range ($)** | | **Bureau's Cost - Low End ($) (calculated)** | | **Bureau's Cost - High End ($) (calculated)** |
| **a** | | | | | $0 | | $0 |
| **b** | | | | | $0 | | $0 |
| **c** | | | | | $0 | | $0 |
| **d** | | | | | $0 | | $0 |
| **e** | | | | | $0 | | $0 |
| **f** | | | | | $0 | | $0 |
| **g** | | | | | $0 | | $0 |

(Add additional work elements as necessary)

| **Cost to Monitor Estimate** | $0 | $0 |
|---|---|---|

**24. Cost to Monitor Estimate Buildup Assumptions by Work Element**

| | **Work Element** | **Assumptions** |
|---|---|---|
| **a** | | |
| **b** | | |
| **c** | | |
| **d** | | |
| **e** | | |
| **f** | | |
| **g** | | |

(Add additional work elements as necessary or separate work sheet)

**25. Interim Response Action Cost Estimate Buildup (use only if Total Cleanup Cost not Estimable)**

| Other Interim Action Cost | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Work Element** | **Estimated Cost - Single Amount or Low End if Range ($)** | **Estimated Cost - High End if Range ($)** | | **Bureau's Cost - Low End ($) (calculated)** | | **Bureau's Cost - High End ($) (calculated)** |
| **a** | | | | | $0 | | $0 |
| **b** | | | | | $0 | | $0 |
| **c** | | | | | $0 | | $0 |
| **d** | | | | | $0 | | $0 |
| **e** | | | | | $0 | | $0 |
| **f** | | | | | $0 | | $0 |
| **g** | | | | | $0 | | $0 |

(Add additional work elements as necessary)

**Other Cost Estimate** $0 $0

**26. Other Interim Action Cost Estimate Buildup Assumptions by Work Element**

| | **Work Element** | **Assumptions** |
|---|---|---|
| **a.** | | |
| **b.** | | |
| **c.** | | |
| **d.** | | |
| **e.** | | |
| **f.** | | |
| **g.** | | |

(Add additional work elements as necessary or separate work sheet)

**Cost Estimate Documentation Complete**

**Combined Sub-areas Cleanup or Interim Response Action Cost Estimates**

| | | |
|---|---|---|
| **Current FY Quarter** | 0 | 0 |
| **Site Name** | 0 | 0 |

| Total Cleanup Cost Estimate | | | | | |
|---|---|---|---|---|---|
| **No.** | **Sub-area or Alternative Name** | | **Total Cleanup Cost Estimate** | | |
| | | | **Bureau's Cost - Single Amount or Low End if Range ($) (calculated)** | | **Bureau's Cost - High End if Range ($) (calculated)** |
| **1.** | 0 | | $0 | | $0 |
| **2.** | 0 | | $0 | | $0 |
| **3.** | 0 | | $0 | | $0 |
| | **Total Cleanup Cost Estimate** | | $0 | | $0 |

**Interim Response Action Cost Estimates**

| Cost To Study Estimate | | | | | |
|---|---|---|---|---|---|
| **No.** | **Sub-area Name** | | **Cost To Study Estimate** | | |
| | | | **Bureau's Cost - Single Amount or Low End if Range ($) (calculated)** | | **Bureau's Cost - High End if Range ($) (calculated)** |
| **1.** | 0 | | $0 | | $0 |
| **2.** | 0 | | $0 | | $0 |
| **3.** | 0 | | $0 | | $0 |
| | **Cost To Study Estimate** | | $0 | | $0 |

| Cost To Monitor Estimate | | | | | |
|---|---|---|---|---|---|
| **No.** | **Sub-area Name** | | **Cost To Monitor Estimate** | | |
| | | | **Bureau's Cost - Single Amount or Low End if Range ($) (calculated)** | | **Bureau's Cost - High End if Range ($) (calculated)** |
| **1.** | 0 | | $0 | | $0 |
| **2.** | 0 | | $0 | | $0 |
| **3.** | 0 | | $0 | | $0 |
| | **Cost To Monitor Estimate** | | $0 | | $0 |

| GOther Interim Action Cost Estimate | | | | | |
|---|---|---|---|---|---|
| **No.** | **Sub-area Name** | | | | |
| | | | **Bureau's Cost - Single Amount or Low End if Range ($) (calculated)** | | **Bureau's Cost - High End if Range ($) (calculated)** |
| **1.** | 0 | | $0 | | $0 |
| **2.** | 0 | | $0 | | $0 |
| **3.** | 0 | | $0 | | $0 |
| | **Other Interim Action Cost Estimate** | | $0 | | $0 |

| Site Cleanup Cost Estimate | | | |
|---|---|---|---|
| | **Bureau's Cost - Single Amount or Low End if Range ($) (calculated)** | | **Bureau's Cost - High End if Range ($) (calculated)** |
| | $0 | | $0 |

**Work Elements**

| | Total Studies Work Plan |
|---|---|
| Preliminary Assessment = | PA |
| Site Inspection = | SI |
| Preliminary Assessment / Site Inspection = | PA/SI |
| Potentially Responsible Party Activities= | PRP Activities |
| Remedial Investigation = | RI |
| Feasibility Study = | FS |
| Remedial Investigation/Feasibility Study = | RI/FS |
| RCRA Facility Investigation = | RFI |
| Corrective Measures Study = | CMS |
| | Decision Document |
| Engineering Evaluation/Cost Analysis= | EE/CA |
| Total Remedial Action | |
| Total Removal Action | |
| Total Corrective Action | |
| Remedial Action | |
| Removal Action | |
| Corrective Action | |
| Planning/Design | |
| Construction | |
| 1st 10 yrs GW or SW monitoring | |
| O&M | |
| Total Monitoring | |
| Develop Plan | |
| Installing GW Wells | |
| Installing Piezometers | |
| Installing Other Monitoring Devices | |
| Sampling & Reporting | |

**Contaminants of Concern**

**Anions (general)**
Cyanide
Fluoride

**Polychlorinated Dibenzo-Dioxins/Furans (general)**
TCDD (2,3,7,8-Tetrachlorodibenzo-p-dioxin)
PeCDD (1,2,3,7,8-Pentachlorodibenzo-p-dioxin)
HxCDD (1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin)

HxCDD (1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin)
HxCDD (1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin)
HpCDD (1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin)
OCDD (1,2,3,4,6,7,8,9-Octochlorodibenzo-p-dioxin)
TCDF (2,3,7,8-Tetrachlorodibenzofuran)
PeCDF (1,2,3,7,8-Pentachlorodibenzofuran)
PeCDF (2,3,4,7,8-Pentachlorodibenzofuran)
HxCDF (1,2,3,6,7,8-Hexachlorodibenzofuran)
HxCDF (1,2,3,7,8,9-Hexachlorodibenzofuran)
HxCDF (1,2,3,4,7,8-Hexachlorodibenzofuran)
HxCDF (2,3,4,6,7,8-Hexachlorodibenzofuran)
HpCDF (1,2,3,4,6,7,8-Heptachlorodibenzofuran)
HpCDF (1,2,3,4,7,8,9-Heptachlorodibenzofuran)
OCDF (1,2,3,4,6,7,8,9-Octochlorodibenzofuran)

**Explosives (general)**
1,3,5-TNB (1,3,5-Trinitrobenzene)
1,3-DNB (1,3-Dinitrobenzene)
2,4,6-TNT (2,4,6-Trinitrotoluene)
HMX (Octahydro-1,2,5,7-tetranitro-1,3,5,7-tetrazocine)
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)
Tetryl (Methyl-2,4,6-trinitrophenylnitramine)
Nitrobenzene
4-Amino-2,6-dinitrotoluene
2-Amino-4,6-dinitrotoluene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

**Metals (general)**
Aluminum
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Lithium

Magnesium
Manganese
Mercury
Molybdenum
Nickel
Potassium
Selenium
Silver
Sodium
Strontium
Thallium
Vanadium
Zinc

**Miscellaneous**
Ammonia
Ethanol
Formaldehyde
Isopropanol
Total Dissolved Solids
Total Organic Carbon
Total Suspended Solids
pH

**Polynuclear Aromatic Hydrocarbons (PAHs) (general)**
Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Fluorene
Indeno(1,2,3-c,d)pyrene
Naphthalene
Phenanthrene
Pyrene

**Polychlorinated Biphenyls (PCBs) (general)**
Arochlor 1016
Arochlor 1221

Arochlor 1232
Arochlor 1242
Arochlor 1248
Arochlor 1254
Arochlor 1260

**Pesticides (general)**
4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
alpha-BHC (alpha-HCH)
beta-BHC (beta-HCH)
Chlordane
delta-BHC
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Endrin ketone
gamma-BHC (Lindane)
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene

**Semivolatile Organic Compounds (SVOCs) (general)**
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1-Methylnaphthalene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol

2-Nitroaniline
2-Nitrophenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromophenylphenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenylphenyl ether
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
Acenaphthene
Acenaphthylene
Aniline
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Benzoic acid
Benzyl alcohol
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl)ether
bis(2-Ethylhexyl)phthalate
Butylbenzylphthalate
Carbazole
Chrysene
Di-n-butylphthalate
Di-n-octylphthalate
Dibenzo(a,h)anthracene
Dibenzofuran
Diethylphthalate
Dimethylphthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Phenanthrene
Indeno(1,2,3-c,d)pyrene
Isophorone
N-Nitroso-di-n-propylamine

N-Nitrosodimethylamine
N-Nitrosodiphenylamine
Naphthalene
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
Pyridine

**Total Petroleum Hydrocarbons (TPH) (general)**
Total Extractable Petroleum Hydrocarbon
Total Volatile Petroleum Hydrocarbon
Oil and Grease

**Volatile Organic Compounds (VOCs) (general)**
1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,1-Dichloropropene
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethene, total
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,4-Dichlorobenzene
2,2-Dichloropropane
2-Butanone
2-Chloroethylvinyl ether
2-Chlorotoluene
2-Hexanone
2-Pentanone
4-Chlorotoluene
4-Methyl-2-pentanone
Acetone
Benzene

Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Dibromomethane
Dichlorodifluoromethane
Ethylbenzene
Isopropylbenzene
m-Xylene
Methyl -t-butyl ether
Methylene chloride
n-Butylbenzene
n-Propylbenzene
o-Xylene
p-Xylene
p-Isopropyltoluene
sec-Butylbenzene
Styrene
tert-Butylbenzene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Trichlorofluoromethane
Vinyl acetate
Vinyl chloride
Xylene (total)

**Organophosphorus Herbicides / Pesticides (general)**
Trichlorofon
Famphur
Fenthion
Parathion
Coumaphos

Dimethoate
Dichlorvos
Dioxathion
Azinphos-methyl
Dichlorofenthion
Fensulfothion
Malathion
Fenitrothion
Dicrotophos
Thionazin (aka Zinophos)
Phosphamidon
Methyl parathion
Phorate
Disulfoton
Ronnel
Trichloronate
Diazinon
Chlorfenviphos
Ethion
Chlorothion
Hexamethylphosphoramide
Phosmet
Carbophenothion
Fonofos
Tetrachlorvinphos (aka Stirophos)
EPN
Chlorpyrifos
Aspon
Sulfotepp
Chlorpyrifos-methyl
Monocrotophos
Crotoxyphos
Phosdrin (aka Mevinphos)
Demeton
ENT 27318 (aka Ethoprop)

**Chlorinated Herbicides (general)**
Dinoseb
"2,4-Dichlorophenoxyacetic acid
(2,4-D)"
Silvex (2,4,5-TP)
"Trichlorophenoxyacetic acid
(2,4,5-T)"

**Solvent Extractable Nonvolatile Compounds**
Strychnine

**Radionuclides (general)**
Gross alpha
Gross beta
Gamma radiation
Tritium
Strontium-90
Radium-226/228
Uranium

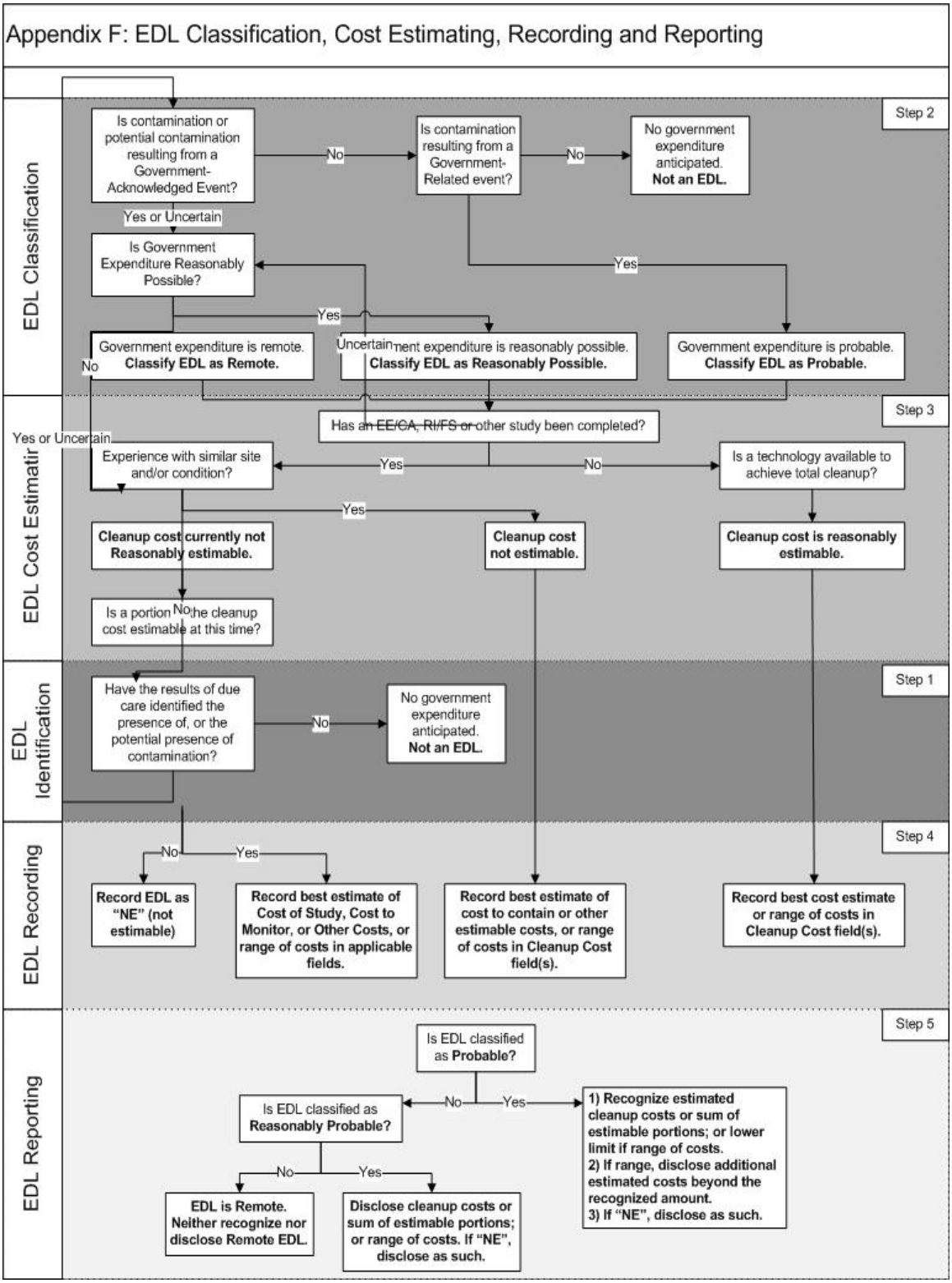
## *Appendix E EDL Ranking Tool*

**Department of the Interior Ranking Tool for Environmental and Disposal Liabilities**

This ranking tool can be used by Bureaus that do not have a ranking process in place or can be modified to meet bureau specific requirements with the Department's approval. This ranking tool pertains to sites that are already identified as an EDL. Sites that are Locations of Concern (LOC) are not to be included. Based on the total score that each site receives, the sites will then be ranked Priority 1, 2, or 3. Sites falling within the 61-100 range are Priority 1. Sites that fall within the 21-60 range are Priority 2. Sites that fall within the 0-20 range are Priority 3.

| No. | Ranking Criteria | Yes/No | Score |
|---|---|---|---|
| 1. | Is the site within ¼ mile of residences or a school; or is the site heavily visited by visitors? (10) | Select ▼ | 0 |
| 2. | Does the contaminate pose a significant threat to a surface water body or direct access a groundwater aquifer used for drinking water? (10) | Select ▼ | 0 |
| 3. | Is the site threatened by a contaminate known to be a carcinogenic or toxic substance? (15) | Select ▼ | 0 |
| 4. | Is there evidence or reason to believe that contamination is migrating or may migrate off bureau-controlled land? (10) | Select ▼ | 0 |
| 5. | Can the contamination be cleaned up in a single field effort? (8) | Select ▼ | 0 |
| 6. | Is the site on EPA's National Priorities list? (10) | Select ▼ | 0 |
| 7. | Is the site on the Federal Agency Hazardous Waste Compliance Docket (Federal Docket)? (6) | Select ▼ | 0 |
| 8. | Is the cleanup of the site a State priority? (6) | Select ▼ | 0 |
| 9. | Is the cleanup of the site a bureau priority? (5) | Select ▼ | 0 |
| 10. | Are interagency agreements, settlement agreements, or other legally-binding documents; a court decision; or administrative order for cleanup actions on bureau-controlled land in place? (15) | Select ▼ | 0 |
| 11. | Is cleanup (including study) actively underway? (5) | Select ▼ | 0 |
| | | **Score** | **0** |

## *Appendix F EDL Flowchart*



***Appendix G Acronyms/Abbreviations***

**AMSCM** – Abandoned Mines Site Cleanup Module

**CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act

**CHF** – Central Hazmat Fund

**CMS** – Corrective Measures Study

**EDL** – Environmental Disposal Liabilities Database

**EE/CA** – Engineering Evaluation/Cost Analysis

**FRTR** –Federal Remediation Technologies Roundtable

**GAAP** – Generally Accepted Accounting Principles

**HCAS** – Historical Cost Analysis System

**IGCE** – Independent Government Cost Estimate

**LL** – Lower Limit

**LOC** – Location of Concern

**NOC** – National Operations Center

**NPDES** – National Pollutant Discharge Elimination System

**OEPC** – Office of Environmental Policy and Compliance

**O&M** – Operation and Maintenance

**OMB** – Office of Management and Budget

**P** – Probable

**PFM** – Office of Financial Management

**PRIS** – Protection and Response Information System

**PRP** – Potentially Responsible Party

**R** − Remote

**RACER** – Remedial Action Cost Engineering and Requirements

**RCRA** – Resource Conservation and Recovery Act

**RI/FS** – Remedial Investigation/Feasibility Study

**ROD** – Record of Decision

**RP** − Reasonably Possible

**UTM** – Universal Transverse Mercator

**UL** – Upper Limit