

ORDER

1050.19A

**ENVIRONMENTAL DUE DILIGENCE AUDITS IN THE
CONDUCT OF FAA REAL PROPERTY TRANSACTIONS**



October 15, 2003

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

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Initiated By: AEE-200

FOREWORD

Consistent with the Federal Aviation Administration's mission to be the national and international leader in aviation environmental issues, while fostering a safe, secure, and efficient aviation system, is the need for an effective process to acquire real property free from environmental liabilities. The Environmental Due Diligence Audit (EDDA) program provides a comprehensive framework for ensuring that the FAA adheres to all applicable environmental regulations and best practices associated with property acquisitions and disposals while maintaining the necessary infrastructure to encourage the development of civil aeronautics and safety of air commerce.

This Order prescribes policy, delegates authority, and assigns responsibility for ensuring agency compliance with the provisions of the EDDA program.

This Order sets forth procedures for the performance, management, and oversight of EDDAs by agency personnel in support of real property transactions. This Order also provides direction on the preparation and review of EDDA reports, including interpretation of results. The policies and procedures set forth herein are intended solely for the guidance of employees and agents of the FAA. They may not be relied upon to create a right or benefit, substantive or procedural, enforceable at law or in equity, by any person.

Each office may supplement this broad coverage with guidelines, instructions, or protocol specific to its needs in a manner that is consistent with this Order.

As EDDA requirements are evolving and dynamic, the EDDA Order cannot remain static. Recognizing that program improvement is a vital element in the program's effectiveness and responsiveness to FAA personnel, users have the opportunity to offer suggestions to update and improve this directive through the use of FAA Form 1320-19, Directives Feedback Information.



Marion C. Blakey
Administrator

TABLE OF CONTENTS

| | |
|--|----|
| CHAPTER 1. GENERAL REQUIREMENTS..... | 1 |
| 1. PURPOSE..... | 1 |
| 2. DISTRIBUTION..... | 1 |
| 3. CANCELLATION..... | 1 |
| 4. EXPLANATION OF CHANGES..... | 1 |
| 5. CLAUSES AND LETTERS..... | 2 |
| 6. AUTHORITY TO ISSUE CHANGES TO THIS ORDER..... | 3 |
| 7. PROFESSIONAL QUALIFICATIONS AND TRAINING..... | 3 |
| 8. DEFINITIONS..... | 4 |
| 9. RESPONSIBILITIES..... | 4 |
| 10. FUNDING..... | 7 |
| 11. EDDA PROCESS..... | 9 |
| 12. POLICY SUMMARY..... | 15 |
| 13 THROUGH 19 RESERVED..... | 16 |
| CHAPTER 2. ENVIRONMENTAL DUE DILIGENCE AUDIT PROCESS..... | 17 |
| 20. BACKGROUND..... | 17 |
| 21. OBJECTIVES AND OVERVIEW..... | 17 |
| 22. SCHEDULE..... | 18 |
| 23. LIABILITY AND RISK MANAGEMENT..... | 18 |
| 24. VARIABILITY IN AN EDDA..... | 19 |
| 25. PHASE I DECISION-MAKING..... | 21 |
| 26. PHASE II DECISION-MAKING..... | 23 |
| 27. PHASE III DECISION-MAKING..... | 24 |
| 28 THROUGH 29 RESERVED..... | 25 |
| CHAPTER 3. PHASE I – SITE ASSESSMENT..... | 26 |
| 30. OVERVIEW..... | 26 |
| 31. PROCESS..... | 26 |
| CHAPTER 4. PHASE II – CONFIRMATION SAMPLING..... | 27 |
| 40. OVERVIEW..... | 27 |
| CHAPTER 5. PHASE III – SITE CHARACTERIZATION..... | 28 |
| 50. OVERVIEW..... | 28 |
| 51. PHASE III – SITE CHARACTERIZATION ACTIVITIES..... | 28 |
| 52. REVIEW AND EVALUATION OF THE PHASE II EDDA..... | 28 |
| 53. DEVELOPMENT AND IMPLEMENTATION OF A FULL CHARACTERIZATION SAP..... | 28 |
| 54. RISK ASSESSMENT AND FUTURE LAND-USE OPTIONS..... | 29 |
| 55. REMEDIAL ALTERNATIVES, EVALUATION AND SELECTION..... | 29 |
| 56. PHASE III REPORT..... | 30 |
| APPENDIX 1 ACRONYM LIST..... | 1 |
| APPENDIX 2 USE OF EDDAs IN SAFETY AND HEALTH PROCESS..... | 1 |
| APPENDIX 3 PHASE I, II, AND III EDDA CONTRACTOR SPECIFICATIONS..... | 2 |

| | | |
|-------------|--|---|
| APPENDIX 4 | DEFINITIONS..... | 1 |
| APPENDIX 5 | REGULATORY OVERVIEW..... | 1 |
| APPENDIX 6 | ENVIRONMENTAL STANDARDS AND RESOURCES..... | 1 |
| APPENDIX 7 | EXAMPLE PHASE I REPORT OUTLINE..... | 2 |
| APPENDIX 8 | EXAMPLE PHASE II REPORT OUTLINE..... | 1 |
| APPENDIX 9 | EXAMPLE PHASE III REPORT OUTLINE..... | 2 |
| APPENDIX 10 | SAMPLE LIST OF REMEDIATION TECHNOLOGIES..... | 7 |

CHAPTER 1. GENERAL REQUIREMENTS

1. PURPOSE

a. This order establishes the Federal Aviation Administration (FAA) policy, procedures and responsibilities and implementation guidelines for performing Environmental Due Diligence Audits (EDDAs) in order to minimize potential environmental liabilities related to real property transactions. A list of acronyms is provided in Appendix 1.

2. DISTRIBUTION

a. This order is distributed to the division level in Washington, DC, with branch level distribution in the Offices of the Chief Counsel, Budget and Airport Planning and Programming; NAS Implementation Program (ANI); NAS Transition and Implementation Service; and to the division level in the regions.

3. CANCELLATION

a. Order 1050.19, Environmental Due Diligence Audits in the Conduct of FAA Real Property Transactions, dated August 22, 1994, is canceled.

4. EXPLANATION OF CHANGES

a. This order revises the August 1994 version of 1050.19. A summary of the substantive changes is provided in the following paragraphs.

(1) Section 11 was added to clarify the EDDA process, and Sections 25 through 27 were added to emphasize the decision-making aspects of the EDDA process.

(2) Section 23 requires conformance with the procedures of the most recent version of ASTM Standard E1527 (Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process) to conduct Phase I EDDAs. For conduct of Phase II EDDAs, conformance with the most recent version of ASTM Standard E1903 (Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process) is required.

(3) Section 7 requires that Technical Reviewers (TR) must have EDDA training and either a relevant degree with a fundamental understanding of EDDAs or practical experience. Site Assessors (SA) must have EDDA training and practical experience.

(4) Sections 11 and 12 provide additional circumstances in which FAA personnel may use the Hazardous Substance Contamination Clause (HSCC) (Section 5, paragraph a) for real estate transactions both on- and off-airport properties in lieu of a Phase I EDDA. However, a Phase I EDDA continues to be preferred for acquisitions of off-airport properties. Use of the HSCC may be permitted after TR, AXX-400, and AXX-50 coordination and approval, and legal sufficiency review by either AGC-600 or AXX-7. Although the HSCC is an option, it does not provide "all appropriate inquiry" required for the CERCLA "Innocent Landowner Defense."

(5) Sections 11 and 12 provide circumstances in which FAA personnel may use the Transaction Screen (ASTM Standard E1528) in lieu of a Phase I EDDA for real property transactions. Examples of

real properties where use of the Transaction Screen may be appropriate include sites where historical usage was non-industrial and asset footprint is of minimal size, including, but not limited to: small technical equipment, MTI Reflectors, ASOS, AWOS, and LLWAS. Use of the Transaction Screen may be permitted after TR, AXX-400, and AXX-50 coordination and approval, and legal sufficiency review by either AGC-600 or AXX-7. Although the Transaction Screen is an option, it may not provide “all appropriate inquiry” required for the CERCLA “Innocent Landowner Defense.”

(6) Section 11 provides circumstances where EDDAs conducted by the FAA as part of a disposal action can be scoped to verify and/or update findings of an EDDA conducted prior to FAA occupancy of the site. Additionally, an exception may be granted from the EDDA requirement with TR, AXX-400, and AXX-50 coordination and approval, and legal sufficiency review by either AGC-600 or AXX-7 for disposal of sites where the FAA activities at the site did not include usage or storage of any hazardous substances and materials or generate hazardous waste. This exception does not include required compliance with GSA requirements or CERFA compliance, which may be necessary prior to the property transaction.

(7) Section 12 specifies that properties where the HSCC, Transaction Screen, EDDAs or Exceptions are approved are still required to comply with 29 CFR Part 1910 (Occupational Safety and Health Standards) and 29 CFR Part 1926 (Safety and Health Regulations for Construction). The project engineers are responsible for taking into consideration health and safety issues raised during and after construction and making appropriate design changes. These design changes may be necessary to reduce the potential for injury or illness. See Appendix 2 for a chart where health and safety issues, particularly the need for Health and Safety Plans (HASP), are related to the EDDA process.

(8) Section 12 provides circumstances where EDDAs conducted by Federal, State, and local agencies may be accepted by the FAA.

(9) Section 12 provides for use of alternate HSCC language with AGC-600 or AXX-7 approval.

5. CLAUSES AND LETTERS

- a. The following clauses and letters are referenced for use in this Order.

(1) HAZARDOUS SUBSTANCE CONTAMINATION CLAUSE – The following liability limitation clause has been developed for use in the acquisition of property (by lease) for the establishment of an airway facility either on- or off-airport. If a sponsor or landowner does not agree to this clause in the lease, a Phase I EDDA would be necessary for any new facility requirements. Applicability of the clause is described further in section 12. For specific details regarding application of this clause, as well as the most current text to be included in the clause, please contact the Real Estate Policy Branch of the Office of Acquisitions (ASU-140) or refer to the FAA Acquisition System Toolset (FAST).

(a) The Government agrees to remediate, at its sole cost, all hazardous substance contamination on the leased premises that is found to have occurred as a direct result of the installation, operation and/or maintenance of the (Specify Type of Facility or equipment). The Lessor agrees to remediate or have remediated, at its sole cost, any and all other hazardous substance contamination found on the leased premises. The Lessor also agrees to save and hold the Government harmless for any and all costs, liabilities and/or claims by third parties that arise out of hazardous contamination found on the leased premises which are not directly attributable to the installation, operation and/or maintenance of the (Specify Type of Facility or equipment).

b. Technical Review Letters: All EDDA reports (Phase I, Phase II and Phase III) and Transaction Screen questionnaires will be reviewed by a designated qualified TR. The TR will review the content and completeness of the EDDA report against the technical requirements of this Order. If the report is determined by the TR to be complete and in accordance with this Order, then the TR will complete a technical conformance statement. A sample technical conformance statement follows: "The EDDA Report for the Property physically located at (_____) has been reviewed according to the requirements of Order 1050.19A. The review is complete and based on my evaluation of the report, this letter is provided to document that the EDDA report meets all of the technical requirements of Order 1050.19A."

c. Memoranda: A memorandum must be included in the real property transaction file for cases where an EDDA is not conducted. The memorandum must explain the rationale for not conducting the EDDA and also indicate that coordination between the TR, AXX-400, AXX-50, and either AGC-600 or AXX-7, did occur and the action was approved by these organizations.

6. AUTHORITY TO ISSUE CHANGES TO THIS ORDER

a. The Administrator reserves the authority to establish or change policy, delegate authority, or assign responsibility as necessary.

b. Changes proposed by an organizational element within FAA must be submitted to the Office Environment and Energy (AEE). The Director of AEE or a designee will evaluate the changes for incorporation.

c. The Director of AEE has the authority to add new chapters or change existing chapters that are proposed by organizational elements of FAA after appropriate coordination with internal stakeholder organizations.

7. PROFESSIONAL QUALIFICATIONS AND TRAINING

a. Each organization covered by the Responsibilities paragraph (9) shall ensure that FAA personnel and managers are adequately trained and qualified to oversee and manage the EDDA process. They shall also ensure that only qualified contractors perform EDDAs (See Appendix 3 – Phase I, II, and III EDDA Contractor Specifications).

b. The FAA TR reviewing Phase I EDDAs shall, at a minimum, meet the following:

(1) Have successfully completed at least 16-hours of environmental due diligence classroom training or an equivalent approved FAA/industry recognized EDDA program and has received on-the-job training from a qualified TR by conducting or reviewing five or more EDDAs; or

(2) Have a degree in a scientific discipline relevant to the EDDA process (e.g., environmental science, geology, chemistry, biology, forestry, engineering); 16-hours of EDDA training as described in (1) above; and, a functional understanding of how an EDDA is researched and compiled.

c. A qualified SA who performs a Phase I EDDA must meet the requirements defined in section 7b(1) and any additional training determined necessary by the Regional Program Manager for Environment and Safety (RPMES) or the TR.

d. All personnel who provide oversight for Phase II and Phase III EDDA investigations shall meet the requirements in 7b(1) above and also shall have completed the Contracting Officer's Technical Representative (COTR) training. Additionally, personnel should have the requisite experience for overseeing these types of investigations.

e. The RPMES is the Region's technical expert on environmental contamination matters and is therefore, a primary technical resource available to the AXX-400's to support the review and approval of EDDA reports and use of alternate due diligence mechanisms (HSCC, Transaction Screen).

f. TRs and SAs should be involved with EDDAs as a fundamental aspect of their positions.

8. DEFINITIONS

a. Definitions have been provided in Appendix 4.

9. RESPONSIBILITIES

a. Compliance with the policies of this Order is the responsibility of the following individuals, offices, services, regions and centers. The following are the non-funding responsibilities for EDDAs. In addition to these, there are funding responsibilities that are identified in paragraph 10 of this Order.

b. **Program Requesting the Transaction (PRT)** is any FAA organization that requests a real property transaction. The PRT shall notify AXX-50 of the need for the FAA to acquire or dispose of real property rights and will coordinate with the Real Estate Contracting Officer (RECO) on which real property rights need to be obtained to meet the FAA mission and which property rights are no longer needed in carrying out the FAA mission. The PRT is responsible for initiating the EDDA process and ensuring that the EDDA is performed in accordance with this Order. The PRT and AXX-400, in consultation with the RPMES, must agree on identified TR(s). The PRT shall provide the EDDA reports to and coordinate with all FAA reviewers.

c. **Logistics Division (AXX-50)** shall ensure that the real property transaction is executed in a timely manner and meets the requirements of the PRT or delegate this function to qualified persons at the local level. Where applicable, Logistics Division shall ensure that contracting for an EDDA is provided in a timely manner and that such contracts are in accordance with applicable statutes, FAA's Acquisition Management System (AMS) contracting regulations and the criteria provided by the PRT. The RECO shall:

- (1) Determine, in consultation with the PRT, the type of property rights that should be obtained.
- (2) Negotiate the HSCC in consultation with the TR.
- (3) Obtain the rights of entry required to perform EDDAs.
- (4) Initiate contract execution for the acquisition of new sites or disposal of real property only after the EDDA process required by this Order has been completed and the appropriate technical review letter provided.
- (5) Retain permanently the original or an approved copy of the EDDA report and its technical review letter with the real estate file.

d. Technical Reviewer (TR) shall determine if and when an EDDA is required in coordination with AXX-400 and AXX-50. The TR also ensures that the contractors hired to conduct an EDDA are qualified, provides the contractors with guidance on FAA requirements for an EDDA, develops and/or approves the scope to be used by the Site Assessor, and coordinates contractor site visits. The TR also ensures that the resulting report meets the technical requirements of this Order.

e. Site Assessor (SA) shall coordinate with the TR to determine the scope of the EDDA, conduct the EDDA, develop recommendations, and provide reports. For cases where the SA is not an FAA employee, the TR will be responsible for ensuring compliance with the Order.

f. Office of Environment & Energy (AEE) shall review overall FAA compliance with the provisions of this Order and provide assistance to offices, services, regions and centers in developing guidelines and procedures for their program areas, interpreting policies established in this Order, and advising responsible officials in FAA concerning changes in environmental liability related to real property transfer practices.

g. Office of the Chief Counsel (AGC) and Regional, Technical Center, and Aeronautical Center Counsel (AXX-7) shall provide legal advice and counsel concerning applicable legal requirements, review proposed changes in the HSCC language, and review EDDA reports and exceptions involving use of the Transaction Screen or HSCC for legal sufficiency.

h. Office of Airport Planning and Programming (APP) shall ensure that the airport grant program includes the conduct of EDDAs by airport sponsors on facilities that will be established under the Airport and Airway Improvement Act by the FAA or that the FAA ultimately will operate. The requirement to conduct EDDAs will not apply where these responsibilities are otherwise specified in the contract provisions between the FAA and the airport authority.

i. Associate Administrator for Research and Acquisitions (ARA) shall include the financial and schedule impacts of this Order on the design and deployment of new systems and shall include it in planning the life cycle requirements of its national programs (e.g., acquisitions and disposals).

j. Integrated Product Teams (IPT) shall include the financial and schedule impact of this Order on the design and deployment of new systems and shall include the requirements of this Order in planning the life cycle requirements of its national programs (e.g., acquisitions and disposals). The IPT shall ensure EDDAs are performed in accordance with the requirements of this order when the IPT acquires and disposes of real property during the deployment of new systems.

k. Office of Acquisitions (ASU) Based on input from the PRT, the Contracting Officer (CO) (ASU-300, AXX-50, AMQ, ACT-50) shall be responsible for developing and incorporating language into contracts for the performance of EDDAs that will ensure that the minimum requirements of this order are met.

l. Real Estate Policy Branch (ASU-140) shall provide policy and guidance to the Real Estate Contracting Officers (RECOs) in the Regions and Centers on how this order affects their operational responsibilities.

m. Air Traffic Services (ATS) shall ensure that all Acquisition Program Baselines (APBs) or comparable budget estimates provide adequate funding for EDDAs.

n. Director of the Airway Facilities Service (AAF-1) shall ensure EDDAs are performed in accordance with this Order when Airways Facilities acquires real property (new sites, as well as purchase of existing leased sites) and when Airways Facilities disposes of real property. AAF shall ensure that all regional AF divisions are provided resources and necessary training to carry out the requirements of this Order. (AF trained personnel may conduct the Phase I EDDA). If a PRT wishes to purchase a new site where the cleanup cost of the environmental contamination is estimated to be between \$1 million to \$20 million, a written memorandum must be provided to AXX-50 stating that they need to purchase the property, why they need that specific property and that they are able and willing to fund the cleanup of the property. AAF-1 approval of the acquisition shall be based on the value of the property to the FAA mission as compared to the cost of the cleanup and whether an acceptable alternative site can be located. AAF-1 is responsible for deciding whether or not to proceed with the purchase and may not delegate this responsibility.

o. Director of the Terminal Business Service (ATB-1) shall ensure EDDAs are performed in accordance with this order when ATB acquires real property (new sites, as well as purchase of existing leased sites) and when ATB disposes of real property.

p. Program Director Resources Management Program (AFZ-1) shall be responsible for development of procedures that will incorporate the requirements of this Order into the transition and implementation of the NAS. The AF Program Manager for Environment and Safety shall provide oversight and guidance to AF RPMESs in all matters of environment and safety that affect the acquisition, management and disposal of real property under AF control. The AF Program Manager shall also assist in development and roll up of regional annual budget requirements for program implementation.

q. Program Director NAS Implementation Program (ANI-1) shall ensure that EDDAs are performed in accordance with this Order for acquisition of real property rights for all airway facilities, equipment and associated property (new sites, as well as purchase of existing leased sites) and the disposal action where airway facilities and equipment are decommissioned or relocated as a result of an ANI action. The ANI Program Director shall include the financial and schedule impact of this Order on the design and implementation of new systems.

r. NAS Implementation Center (IC) Manager (ANI-X00) shall:

- (1) Be responsible for review, approval and signature of all EDDA reports developed by ANI.
- (2) Submit to AXX-400 for approval all EDDA reports, unless AXX-400 has relinquished this approval authority to the IC Manager.
- (3) Implement requirements of this Order for all applicable projects under ANI-X00's direction.
- (4) Ensure funding is requested for ANI EDDAs.
- (5) Ensure training for applicable ANI personnel.
- (6) Coordinate with the Regional AF Division Manager (AXX-400) for ANI projects requiring cleanup.
- (7) Be responsible for the approval of the initiation of ANI Phase II or Phase III EDDA activities.
- (8) In cases when AXX-400 relinquishes the approval authority, be responsible for the approval of completed ANI Phase II or Phase III EDDA reports, where remediation cost is less than \$1 million dollars. Approval shall be based on the value of the property to the FAA mission as compared to the cost of the cleanup and whether an acceptable alternative site can be located.

s. Regional Airway Facilities Divisions (AXX-400) shall:

(1) Be responsible for review, approval and signature of all AAF EDDA reports. AXX-400 may relinquish approval authority to ANI-X00 for ANI projects.

(2) Be responsible for determining applicability of the HSCC or Transaction Screen in coordination with AXX-50 and either AGC-600 or AXX-7. AXX-400 may relinquish this authority to ANI-X00 for ANI projects.

(3) Agree on identified TR(s) in consultation with the PRT and the RPMES

(4) Implement requirements of this Order for all applicable projects under AXX-400's direction.

(5) Ensure funding is requested for AXX-400 EDDAs.

(6) Ensure training for applicable personnel.

(7) Coordinate with the ANI IC manager (ANI-X00) for ANI projects requiring cleanup.

(8) Be responsible for the approval of the initiation of Phase II or Phase III EDDA activities.

(9) Be responsible for the approval of completed Phase II or Phase III EDDA reports, where remediation cost is less than \$1 million dollars. Approval shall be based on the value of the property to the FAA mission as compared to the cost of the cleanup and whether an acceptable alternative site can be located.

t. Office of the Administrator (AOA-1) shall be responsible for the approval of completed Phase III EDDA reports, where remediation cost exceeds \$20 million dollars. Approval shall be based on the value of the property to the FAA mission as compared to the cost of the cleanup and whether an acceptable alternative site can be located.

u. Technical Center Director (ACT-1) and Aeronautical Center Director (AMC-1) shall:

(1) Implement the requirements of this Order when activities under their purview involve request of real property transactions.

(2) Ensure that adequate funding is requested for these activities.

(3) Consult with the Program Managers for Environment and Safety.

(4) As appropriate, sign off stating no additional EDDA phases are required.

(5) Ensure that adequate training is provided for applicable personnel.

(6) Technical Center shall coordinate with ACT-40 and Aeronautical Center shall coordinate with AMP-1 for projects requiring cleanup

(7) Coordinate with AXX-50 (or equivalent) for rights of entry and required logistics.

10. FUNDING

a. All organizations affected by this Order shall immediately begin submission of a fiscal year budget item for the management of all EDDAs. The estimate shall cover yearly costs for the conduct of all EDDAs. It is the responsibility of each Region, the Technical Center, and the Aeronautical Center to submit a yearly budget on the costs associated with these EDDAs. The Office of Environment and Energy Hazardous Materials and Special Projects Staff, AEE-200, can be contacted for assistance in these budget estimates.

b. Assistant Administrator for Financial Services / Chief Financial Officer (CFO) (ABA) shall ensure that adequate funding is requested for the EDDA program in the budget out years. ABA shall

ensure that the program offices consider these requirements in their budget submittals.

c. Office of the Budget (ABU) shall use this Order as the basis for supporting EDDAs to account for additional costs required for environmental issues in the acquisition and disposal of real property. In justifying the budget to Congress, the ABU shall consider these additional costs. ABU shall consult with the Office of Aviation Policy and Plans (APO) for direction on performing cost benefit analyses.

d. Associate Administrator for Research and Acquisitions (ARA) shall include the financial and schedule impact of this Order on the design and deployment of new systems.

e. Associate Administrator for Air Traffic Services (ATS) shall anticipate the impact of this Order on the design and implementation of new systems and shall include in the planning of its national programs the requisite time and funds for the accomplishment of the EDDA and real property acquisition as well as the time and funds for any EDDA necessary for the property disposal as a result of new facility establishments.

f. Director of the Airway Facilities Service (AAF-1) shall ensure that adequate funding is requested for these activities.

g. Integrated Product Teams (IPTs) shall include the financial and schedule impact of this Order on the design and deployment of new systems and shall include it in planning the life cycle requirements of its national programs (e.g., acquisitions and disposals). IPTs shall also ensure that EDDAs are funded for real property that IPT acquires and disposes during the deployment of new systems.

h. Office of Environment & Energy; Environment, Energy and Employee Safety Division (AEE-200) can be contacted for budget estimate assistance.

11. EDDA PROCESS

a. The following paragraphs describe the activities and coordination required to complete the EDDA process with the necessary approvals. The EDDA process can include a Phase I, Phase II and/or Phase III EDDA. The HSCC and the Transaction Screen are other possible options for a property transaction, but they may not provide innocent landowner defense under CERCLA. Figures 1-1 and 1-2 are flow charts representing the Real Property Phase I EDDA Review Process and Additional Investigation Process Chart.

b. The EDDA process shall be initiated by any organization of the FAA with the need for a property transaction. The organization that has the need is defined as the PRT and, as discussed in paragraph 9a, is responsible for ensuring that the EDDA process is funded and performed. Once the property has been selected, the PRT shall notify AXX-50 to begin the transaction process.

c. If the PRT is acquiring property that will be under the responsibility of AF, then the following applies:

(1) Lease Executions: Phase I EDDAs are required for lease executions, unless AXX-50, in consultation with the TR, AXX-400, and either AGC-600 or AXX-7, determines the applicability of either the HSCC or the Transaction Screen for lease executions both on- and off-airport property. The full text of the HSCC is contained in Section 5, paragraph a, of this Order. A Phase I EDDA shall be

required if the Transaction Screen indicates the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

(2) Acquisitions: EDDAs are required for acquisitions, unless AXX-50, in consultation with the TR, AXX-400, and either AGC-600 or AXX-7 determines the applicability of either the HSCC or the EDDA Screen. If neither the HSCC nor Transaction Screen is used for the acquisition, an EDDA **must be** performed prior to completion of the property contract. A Phase I EDDA shall be required if the Transaction Screen indicates the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

(3) A Phase I EDDA is required for property selected for new ATCT construction, unless otherwise waived by AXX-400.

(4) Disposal: Phase I EDDAs are required for disposal transactions. However, an exception from the EDDA process may be granted with TR, AXX-400, AXX-50 approval and liability risk assessment and legal sufficiency review from either AGC-600 or AXX-7 for sites where the FAA's activities at the site **did not** include usage, storage or disposal of any hazardous substances and materials or generate hazardous waste. Applicable GSA requirements and applicable CERFA requirements shall be completed prior to completion of the property transaction.

d. For other lines of business (LOBs), a Phase I EDDA is required for real property transactions unless AXX-50, in consultation with the TR, either AGC-600 or AXX-7, and the LOB's Regional Office, determines the applicability of either the HSCC or the Transaction Screen.

e. The Site Assessor is responsible for determining the scope of the EDDA in coordination with the TR. The Site Assessor exercises professional judgment to determine the scope and documents the professional judgment in the report along with executed Phase I EDDA findings. For cases where a contractor performs the Phase I EDDA, the FAA's TR will be responsible for establishing the SOW and ensuring compliance with the Order.

f. The TR-COTR communicates with the PRT on preliminary findings. Of specific importance is any indication of site contamination or other environmental issues that may impact the operation of a facility. The PRT then has the opportunity to re-direct EDDA investigation (acquisitions) to an alternate location. If the Site Assessor identifies a concern that may lead to a Phase II recommendation, the TR shall coordinate with the PRT to decide whether to discontinue action at this site or to simultaneously conduct the Phase I and Phase II EDDAs. Before Phase II or III investigations are conducted, the PRT or TR shall consult with the RPMES for guidance (e.g., review and comment on the scope of work (SOW)).

g. When the TR determines that the final EDDA report(s) is/are in compliance with this Order, the TR is responsible for forwarding the report to either AGC-600 or AXX-7 for review.

h. The EDDA report is reviewed for liability risk assessment and legal sufficiency by either AGC-600 or AXX-7. Early involvement of either AGC-600 or AXX-7 is recommended to reduce the amount of time spent addressing comments. The TR and legal counsel coordinate on responses to comments.

i. Once either AGC-600 or AXX-7 has signed off on the report, the TR completes the Technical Review Letter and forwards the letter with the EDDA report to AXX-400 for signature and also to ANI-X00 for signature on ANI managed projects.

j. After all signatures have been obtained, the TR forwards the final EDDA report to the PRT.

k. The PRT will keep a copy of the EDDA report and forward the Final EDDA Report to AXX-50 (with original signatures). Copies are also to be forwarded to the Facility Reference Data File (FRDF) and AXX-470.

FIGURE 1-1 Real Property Phase I EDDA Review Process

Corresponding
Text Paragraph

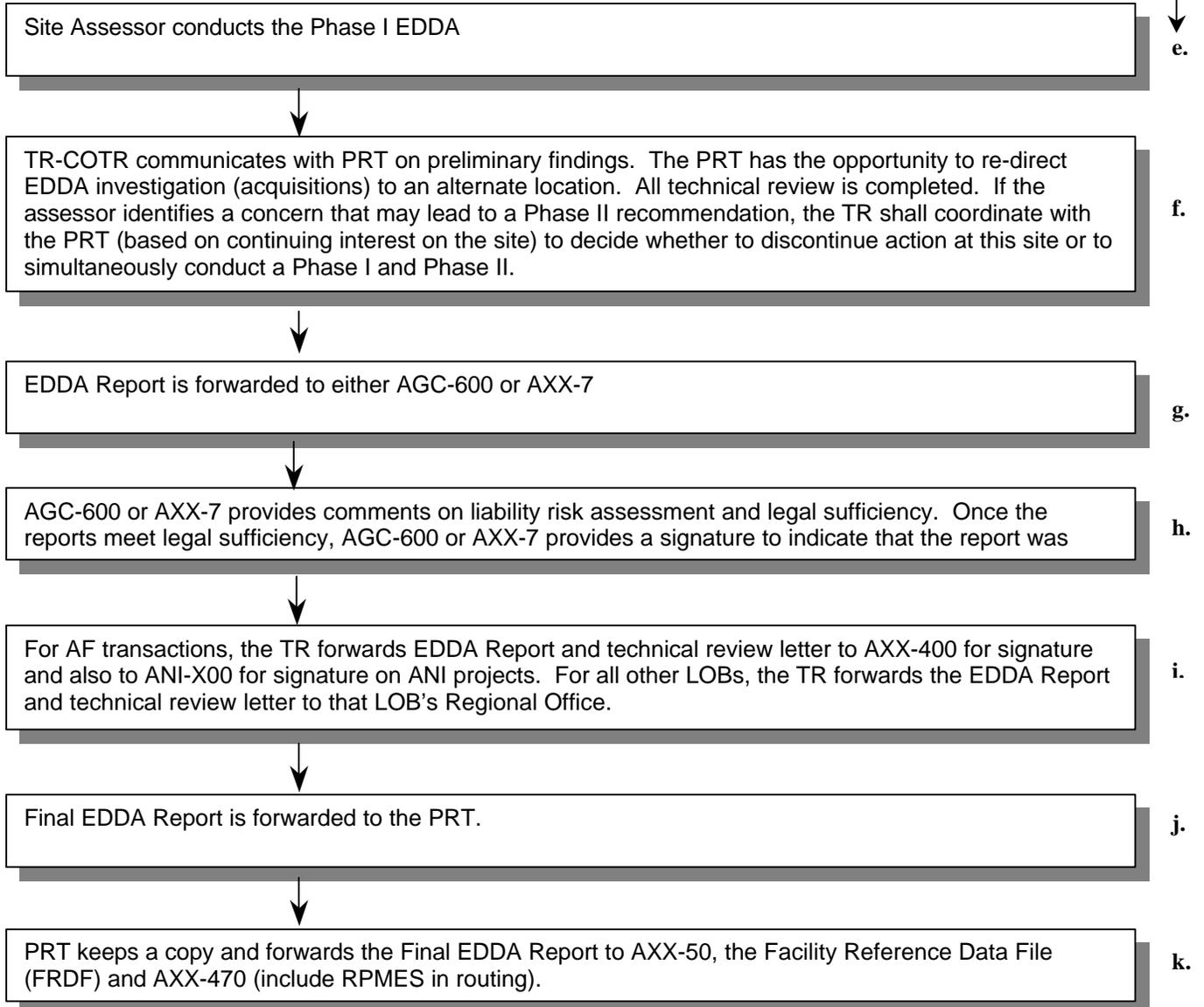
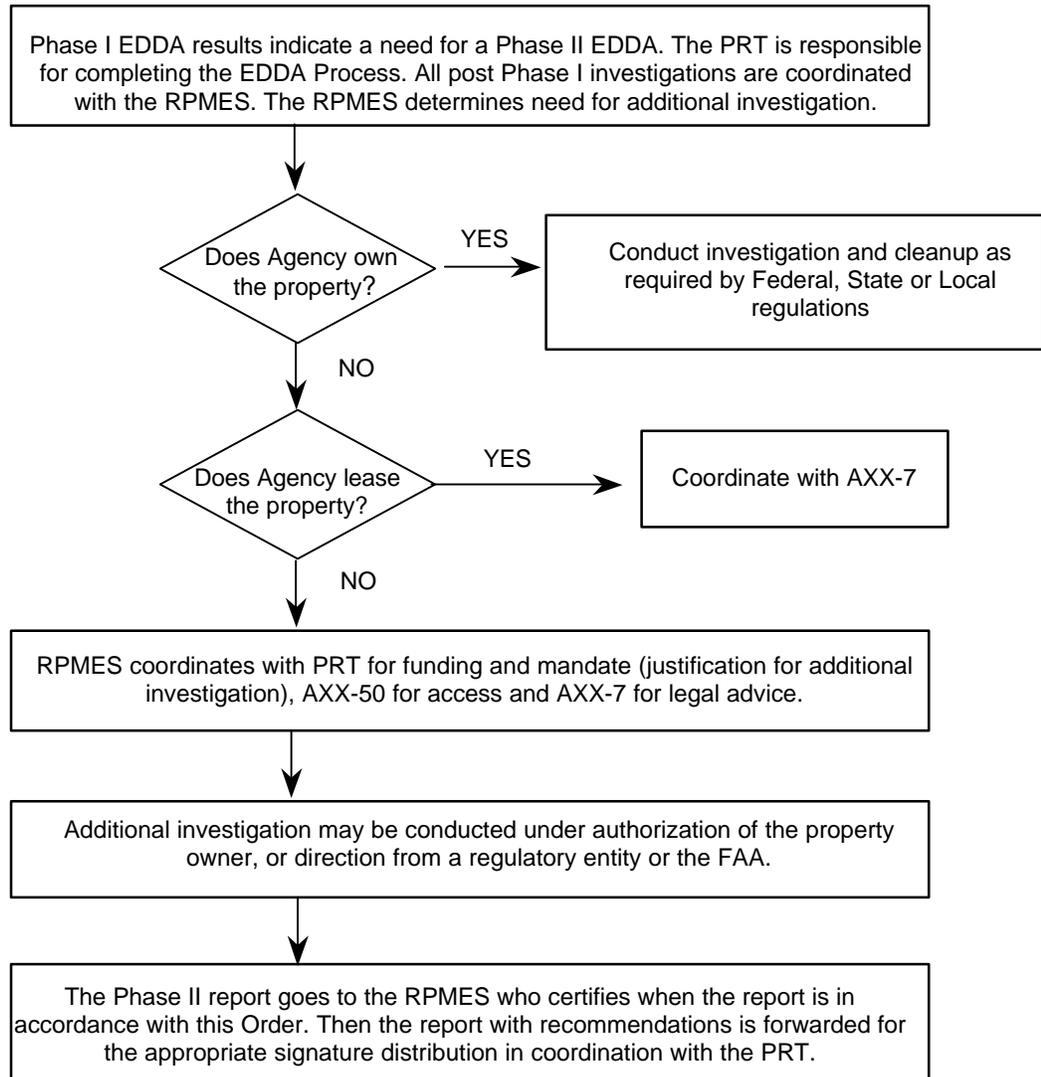


FIGURE 1-2 Additional Investigation Process Chart



12. POLICY SUMMARY

a. Off-Airport Properties: If the transaction is a real property purchase, a Phase I EDDA is required. If the transaction is a lease execution and the landowner refuses to permit the FAA to conduct the Phase I EDDA, then the HSCC (Section 5a) shall be used. Even with an HSCC, the FAA may still pursue some form of environmental due diligence. Additionally, a HASP may also be necessary for FAA design or health and safety purposes (see Appendix 2).

b. On-Airport Properties: The HSCC is preferred in place of a Phase I EDDA for lease acquisition for on-airport properties. Alternate HSCC language is permitted with AGC-600 or AXX-7 approval. If the landowner refuses to accept the HSCC, then a Phase I EDDA will be required. Even with a HSCC, the FAA may still pursue some form of environmental due diligence. Additionally, a HASP may also be necessary for FAA design or health and safety purposes (see Appendix 2).

c. An EDDA is required for all new ATCTs unless otherwise waived by AXX-400.

d. An exception from the EDDA process may be granted for property disposal. The TR, AXX-400, AXX-50, and either AGC-600 or AXX-7, shall approve of this exception. An exception from the EDDA process should only be used for property disposition in which the property did not include activities involving usage or storage of any hazardous substances and materials or generate hazardous waste.

e. A Phase I EDDA is not required for easement or right-of-way access agreements where the FAA is not performing any operations on the property in these agreements. A Phase I EDDA is also not required for the leasing of office space (see Appendix 4 for the definition of office space).

f. EDDA Reports prepared by contract shall be delivered in both hard copy and electronic format. A copy of the EDDA Report must be retained in perpetuity in the Facility Data Reference File.

g. The TR, AXX-400, AXX-50, and either AGC-600 or AXX-7 will determine the applicability of a Transaction Screen (ASTM E1528, latest version) or the HSCC with technical support from the TR and/or AXX-470 for AF transactions. For other LOBs, AXX-50, in consultation with the TR, the LOB's Regional Office, and either AGC-600 or AXX-7, determines the applicability of either the HSCC or the Transaction Screen.

h. Utilization of the Transaction Screen may still result in the performance of a Phase I EDDA if results indicate contamination is suspected at the site.

i. Qualified professionals shall perform Phase I, Phase II and Phase III EDDAs.

j. The PRT is responsible for initiating the EDDA process and ensuring that the EDDA is performed in accordance with this Order.

k. The FAA may accept a Phase I EDDA conducted by other Federal, State and local agencies if they meet the requirements of this Order and has been through the FAA review process. Agencies exclude private entities.

l. The EDDAs, Transactions Screens, Exceptions, or HSCC shall be finalized and approved before the property transaction is executed.

m. If the transaction does not occur within 180 days of the date of the site survey and the date of the records database search (whichever date is earlier), the TR must ensure that the findings of the EDDA are still valid, complete, accurate and in accordance with this Order before the property transaction is executed. If the scope of the project or the environmental conditions in the property have changed substantially, the EDDA must be updated before proceeding.

13 Through 19 RESERVED

CHAPTER 2. ENVIRONMENTAL DUE DILIGENCE AUDIT PROCESS

20. BACKGROUND

a. The focus of the EDDA process is on identifying and documenting risk and associated liabilities from past site and adjacent site uses and potential environmental contamination. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), prior site contamination can result in extremely expensive cleanup. CERCLA is a strict liability statute, which means that responsible parties are liable regardless of fault. It also imposes joint and several liability on potentially responsible parties (PRPs). This means that a current or former owner or operator are PRPs under CERCLA and may be held liable for the entire cost of cleanup unless other PRPs' contributions to the contamination can be identified. A PRP's contribution cost amount may be determined by the following:

- (1) Ability to use the "innocent landowner" defense.
- (2) Type and magnitude of site contamination.
- (3) Number of other PRPs.
- (4) Each PRP's ability to pay for site cleanup.
- (5) Relative contribution to the site contamination.

b. CERCLA Sections 107(b)(3) and 101(35)(A) and (B) contain a defense from liability commonly known as the "Innocent Landowner" defense. The innocent landowner provision states that if a landowner has not contributed to the contamination of a property and has conducted all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practices in an effort to minimize liability, then the landowner is exempt from CERCLA liability. Section 233 of the Small Business Liability Relief and Brownfields Revitalization Act, signed 1/11/02, which amends Section 101(35) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C. Section 9601(35), directed EPA to develop guidance regarding what constitutes all appropriate inquiry for purposes of this defense. EPA has determined that conformance with ASTM Standard E1527-97 or E1527-00 demonstrates all appropriate inquiry (40 CFR Part 312).

c. Additional resources of regulatory information are provided in Appendix 5 – Regulatory Overview and Appendix 6 – Environmental Resources.

21. OBJECTIVES AND OVERVIEW

a. As mentioned in 20a, EDDAs are performed to understand risk and the associated liabilities due to potential environmental contamination. The EDDA report can also aid in property transfer through the GSA. Refer to Appendix 6 - Environmental Resources for the GSA web page address to download the GSA Environmental Guidebook and the GSA General Reference Guide for Real Property Policy for an outline of GSA's requirements. The agency's objectives in executing the EDDA process include:

- (1) Avoiding costly litigation and environmental remediation liability under CERCLA, the Resource Conservation and Recovery Act (RCRA), and other relevant statutes and regulations.

- (2) Establishing a consistent and defensible approach for documenting environmental conditions.
- (3) Using the environmental evaluation as a component of property transaction decision-making and risk management.
- (4) Ensuring that all environmental due diligence requirements are addressed and potential environmental contamination and potential liability is identified.

b. The EDDA process is a systematic procedure to evaluate subject properties for potential environmental contamination and liability. This process is divided into three phases that relate to the varying levels of evaluation. The primary purpose for each phase of the EDDA process is summarized below and is described in greater detail in the subsequent chapters.

(1) Phase I – Site Assessment determines whether environmental contamination is likely to be present on a property. Phase I is comprised of preliminary activities, site visit, records review, regulatory review, geologic and hydrogeologic review, report preparation, and report review. When an agency disposes of a property, a Phase I Site Assessment may also provide information to satisfying the Community Environmental Response Facilitation Act (CERFA) requirements. See Chapter 3 for specific details on Phase I – Site Assessment

(2) Phase II - Confirmation Sampling is necessary when Phase I EDDA indicates likelihood of environmental contamination. During Phase II limited site sampling is used to confirm the presence or absence of suspected contamination identified in Phase I. See Chapter 4 for details on Phase II – Confirmation Sampling

(3) Phase III - Site Characterization is an investigation to quantify and determine the extent of contamination at the site under consideration for transfer. Phase III may include identification of appropriate remedial technology and possibly a feasibility study. It serves as a management tool and helps the agency determine whether the cost of remediation exceeds the benefit of acquiring a given property. See Chapter 5 for details on Phase III – Site Characterization.

22. SCHEDULE

a. The amount of time required to complete the EDDA process (in total) depends on many factors, the most important is the environmental condition of the property. The PRT should build flexibility into the acquisition schedule to accommodate variations inherent to the process.

23. LIABILITY AND RISK MANAGEMENT

a. Identifying potential risk and liability involved in property transactions is the heart of the EDDA process. As discussed previously, risk will vary greatly depending on the type of property transaction and the type of property being transferred. For instance, industrial properties typically have a higher probability for contamination than property previously used solely for office space. The type of risk varies too and can include human health risk as well as the risk of assuming financial liability for cleanup of environmental contamination.

b. Figure 2-1 provides a general risk framework for various transaction and property types. When approaching an EDDA project, it is useful to consider this model and consider the appropriate risk level

when planning the EDDA. Rationale for determining applicability of ASTM E1528 (Transaction Screen) is based on, but not limited to the following considerations:

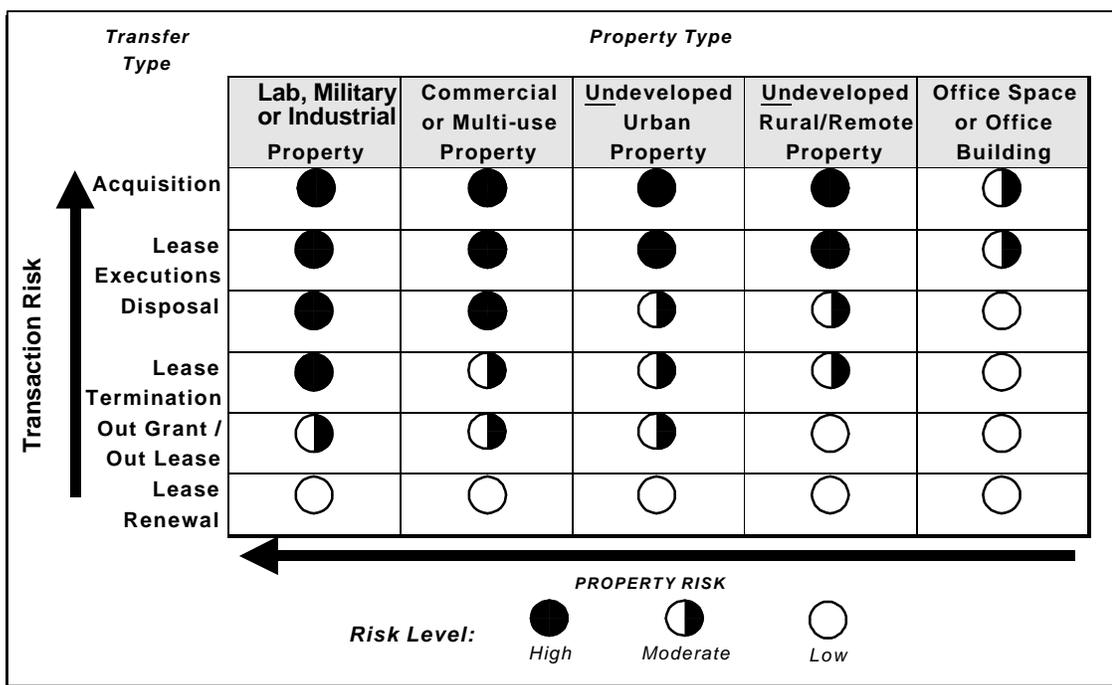
(1) Size of the Area: small – applied to total contiguous area and meant to represent locations which are isolated and do not support FAA activities which would impact the environment.

(2) Extent of Construction: minimal – applied to depth or area of excavation where the larger the excavation or drilled depth, the greater the associated risk and the greater need for a Phase I EDDA.

(3) Site History: known – if the site is believed to be uncontaminated and the condition can be well documented, then a Transaction Screen may be appropriate. However, if either contamination is suspected or the site history is not known, then a Phase I EDDA would be necessary.

c. The FAA requires that Site Assessors follow the guidance of the most recent version of ASTM E1527 for the completion of Phase I EDDAs. For conduct of Phase II EDDAs, conformance with the most recent version of ASTM E1903 is required.

**Figure 2-1
General Risk Framework**



24. VARIABILITY IN AN EDDA

a. The scope for an EDDA varies depending on the type of location being investigated. Recognizing that the risks associated with a property transaction increase as the potential for contamination increases is critical for a Site Assessor or TR since it is their responsibility to determine the scope of the EDDA. The scope of an EDDA depends on a basic understanding of the site and surrounding area to be investigated. Advance knowledge of the type of site (e.g., former industrial land, virgin forest, office space) allows the Site Assessor or TR to make a professional judgment on the amount of scrutiny or effort each aspect of the EDDA receives.

TABLE 2-1
Examples of when to do a Phase I EDDA

| Property Type or FAA Use | Probability of Contamination* | Acquisition (Lease or own) | Disposal (Lease or own) |
|---|---|--|---|
| On-Airport (including Industrial & Office Parks) | High | Investigate all EDDA elements or use the HSCC | Perform Transaction Screen (ASTM E1528, latest version) as appropriate. Otherwise, a Phase I EDDA is required. |
| Off-Airport (Industrial Park / Military Base) | High | Perform a Phase I EDDA on all land purchases. For leases, if the landowner will not allow an EDDA, the FAA may be able to use a HSCC with proper approval and/or perform Transaction Screen (ASTM E1528, latest version) as appropriate. | Investigate all EDDA elements unless an FAA EDDA was performed before occupancy. If one was done previously, the EDDA for disposal can be customized to verify and/or update findings of the original EDDA. |
| Off-Airport (Office Park / Commercial) | Moderate -depends on prior property use | Perform a Phase I EDDA on all land purchases. For leases, if the landowner will not allow an EDDA, the FAA may be able to use a HSCC with proper approval and/or perform Transaction Screen (ASTM E1528, latest version) as appropriate. | Investigate all EDDA elements unless an FAA EDDA was performed before occupancy. If one was done previously, the EDDA for disposal can be customized to verify and/or update findings of the original EDDA. |
| Off-Airport (Residential & Agricultural) | Low to Moderate | Perform a Phase I EDDA on all land purchases. For leases, if the landowner will not allow an EDDA, the FAA may be able to use a HSCC with proper approval and/or perform Transaction Screen (ASTM E1528, latest version) as appropriate. | Investigate all EDDA elements unless an FAA EDDA was performed before occupancy. If one was done previously, the EDDA at disposal can be customized to verify and/or update findings of the original EDDA. |
| Off-Airport (unimproved rural properties) | Low | Perform an EDDA on all land purchases. Perform Transaction Screen (ASTM E1528, latest version) as appropriate for leases. | Investigate all EDDA elements unless an FAA EDDA was performed before occupancy. If one was done previously, the EDDA at disposal can be customized to verify and/or update findings of the original EDDA. |
| <p>*Under certain acquisitions and lease executions, it may be permissible to conduct a Transaction Screen per ASTM E1528 (latest version), after appropriate coordination and approval from the TR, AXX-400, program office, and either AGC-600 or AXX-7 (e.g., small technical equipment, MTI Reflectors, ASOS, AWOS, LLWAS, etc.)</p> | | | |

25. PHASE I DECISION-MAKING

a. Use of the Phase I Report. Following approval and acceptance of the Phase I report by the TR, the report is forwarded to the decision-maker. This individual or group of individuals evaluates the findings, conclusions, and recommendations contained in the report and decide how to proceed with a proposed property transfer. The following charts present the decision making process for acquisition and lease executions (Figure 2-2) and disposal and lease terminations (Figure 2-3).

Figure 2-2 –Acquisition and Lease Execution Actions Following Phase I Report

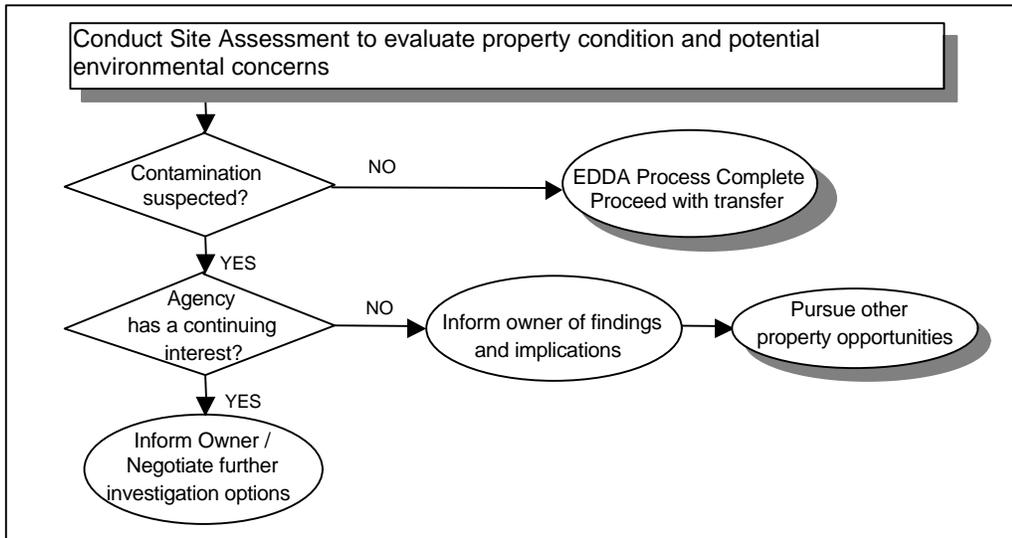
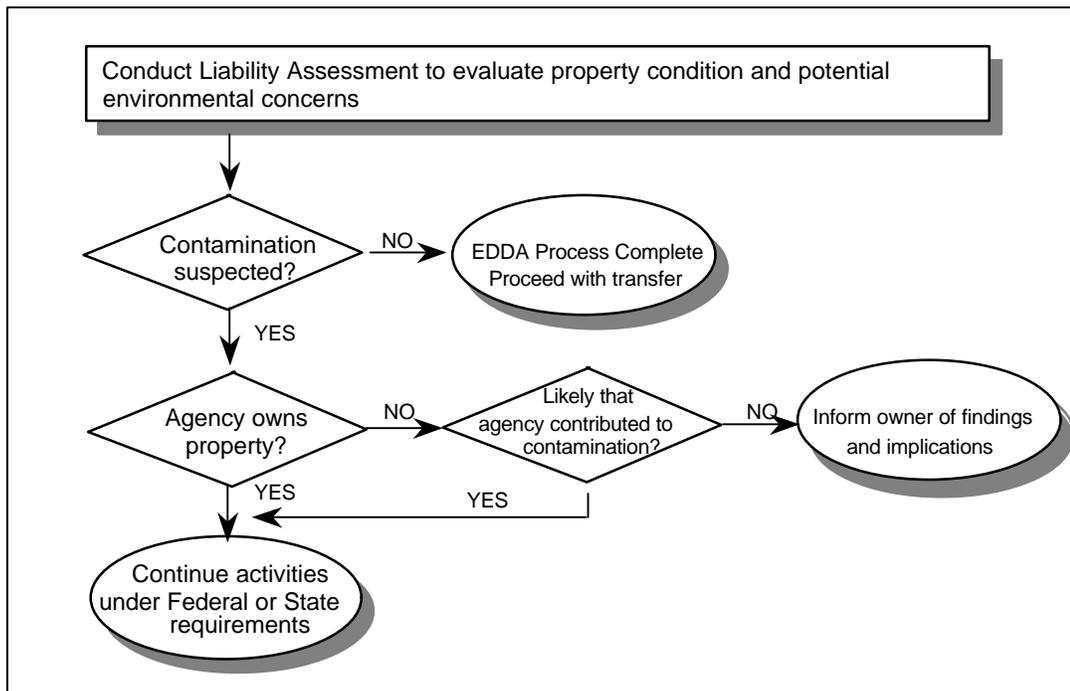


Figure 2-3 –Disposal and Lease Termination Actions Following Phase I Report



b. For all transactions, if the Phase I report findings *do not* indicate the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that suggest an existing/past/threat of release into structures, ground, groundwater, or surface water, then the EDDA process is complete, environmental due diligence has been met, and results contribute to satisfying property disposal obligations under CERCLA §120(h)(4).

(1) Acquisition. If the agency is considering property acquisition or lease and the findings of Phase I EDDA indicate the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property, then decision-makers must weigh their options. The decision-maker evaluates other property options against the importance or strategic value of the subject property (see Figure 2-2). Provided that the agency has continuing interest in the property, a Phase II EDDA must be conducted to determine whether or not contamination is present.

(2) Disposal. If the property transaction is a disposal or lease termination and the findings *do not* indicate the presence or likely presence of any hazardous substances or petroleum products, the EDDA process is complete. However, there may be additional investigative requirements to be fulfilled for GSA requirements or CERFA compliance prior to the property transaction. CERFA requires full disclosure of all known hazardous substance activity, requires the identification of uncontaminated parcels, and specifies covenants to be provided in most deeds for disposal of Federal real property. If the property transaction is a disposal or lease termination and the findings indicate suspected contamination or liability, additional investigation and potential remediation must be continued under CERCLA, RCRA, state or local requirements to determine if FAA contributed to the contamination (see Figure 2-3).

c. The results of the Phase I EDDA may indicate that additional investigation may be required. The following are selected examples of situations requiring a Phase II EDDA.

(1) Phase Two ground water and soil assessments are required when:

- a. Hazardous materials are used, stored, or treated on-site, in such a manner that they may have impacted soil or ground water.
- b. Hazardous materials were ever used on an adjacent property.
- c. The site or adjacent properties have a history of contamination and indications of a release or suspected release are evident (e.g., stressed vegetation, employee interviews).
- d. Vegetation is stressed or stained.
- e. Underground tanks are in place or have been removed without a document of a “clean close,” issued by the local environmental authorities. However, Phase Two testing shall not be necessary if the owner/operator can certify by tank integrity/leak detection documentation that the tanks are not leaking.
- f. Evidence of leaking or excessive spillage is present close to the aboveground tanks.
- g. On-site retention ponds are present.
- h. Pesticides were managed or stored on-site in an inappropriate manner, or when unregistered pesticides are observed onsite.
- i. PCB equipment is used onsite or on adjacent property and a leak has occurred, or is suspected (e.g., due to staining around the equipment).

(2) Phase Two indoor air sampling is required when:

- a. Hazardous materials have been used onsite and a release has occurred or is suspected of occurring. This information can be obtained from the visual inspection, on-site records search, or

employee interviews.

(3) Phase Two radon testing is required when:

- a. Records and/or tests indicate a level of radon at the property exceeding 4 picocuries per liter (4 pCi/L) or other, more restrictive State levels.
- b. Radon mitigation activities are taking place at nearby facilities.

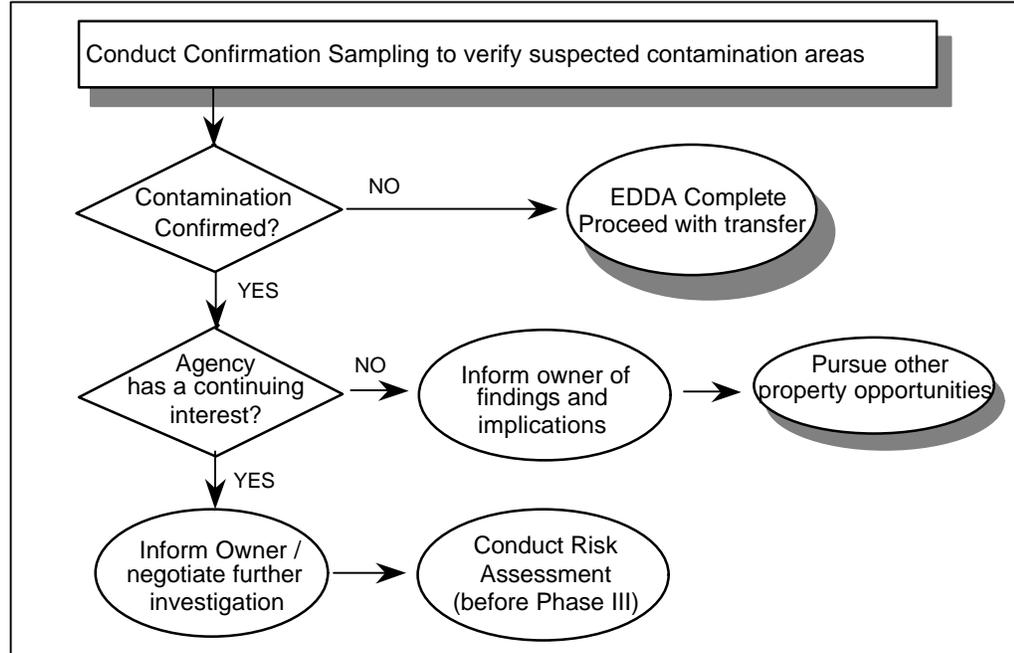
(4) Phase II underground tank testing is required when underground tanks exist at the site.

However, Phase II testing shall not be necessary if the owner/operator can certify by tank integrity/leak detection documentation that the tanks are not leaking.

(5) If the property is being sold or otherwise transferred by the FAA, it shall be determined whether the property falls within the requirements of 40 CFR Part 373. The notice required for storage of one year or more is applicable only at sites where 1,000 kg have been stored, unless the CERCLA reportable quantity (RQ) is greater than 1,000 kg. In that case, notification is not required until the quantity stored exceeds the RQ. The notice required for known releases of hazardous substances applies only when the released quantity exceeds the CERCLA RQ.

26. PHASE II DECISION-MAKING

a. Use of the Phase II Report. The Phase II report summarizes and expands on the Phase I investigation and includes the analytical results from sampling. There are two significant outcomes of the Phase II: contamination is not confirmed, or contamination is confirmed. If contamination is not confirmed during a Phase II EDDA, the property transaction can proceed without adding undue risk for environmental liability. However, if the presence of contamination is confirmed, decision-makers must determine whether the importance of the site still outweighs potential liability accompanying acquisition of property rights. A risk assessment should be conducted since it is crucial for informed decision making to understand the potential impacts to facility operation both from an occupational safety and health perspective as well as from an environmental perspective. At this point, the agency may choose to negotiate with the owner to address the contamination (owner financially responsible), or to further assess the extent of the property's contamination with a Phase III EDDA. See Figure 2-4 for the typical decision process for acquisition and lease execution actions.

Figure 2-4 – Phase II Decision Process for Acquisition and Lease Execution Actions

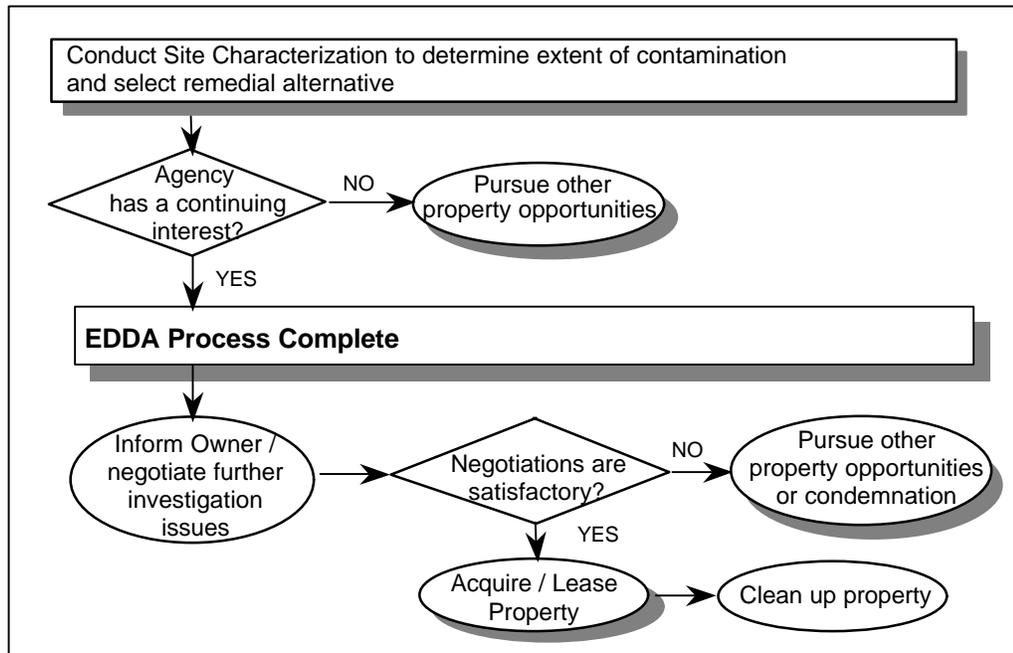
b. Need for Phase III EDDA. If the sampling and analysis activities performed during the Phase II EDDA reveal the presence of hazardous waste contamination above allowable limits, and an alternative property could not be identified for acquisition, then a Phase III EDDA will be necessary.

27. PHASE III DECISION-MAKING

a. Use of the Phase III Report. The Phase III expands on the findings of the Phase II with additional analytical data. The additional data allows estimation of the costs associated with remedial activities. Quantified costs will allow the agency to make a decision on the transaction by weighing the estimated liability costs against the value of the property. The agency could decide to accept these costs and use the obtained information to negotiate a lower purchase price for the property. Risk assessment is another important component of the Phase III report. The risk assessment should specifically evaluate the risks present at the site relative to implementation of FAA's mission.

b. If the findings of the Phase III EDDA appear significantly adverse, then other acquisition or lease opportunities may become more appealing. Figure 24 presents the decision process for acquisition and lease execution actions during Phase III EDDA.

Figure 2-5 – Phase III Decision Process for Acquisition and Lease Execution Actions



28 Through 29 RESERVED

CHAPTER 3. PHASE I – SITE ASSESSMENT

30. OVERVIEW

a. This chapter briefly describes the Phase I EDDA objectives and process. The purpose of a Phase I EDDA is to determine whether environmental contamination is likely to be present on a property. When an agency disposes of a property, the Phase I EDDA may also provide information for satisfying CERFA requirements. All information included in the completed Phase I is gleaned from existing documents or inferred from observations and interviews made during a site visit. Phase I does not include sampling. The environmental issues of concern are addressed through several elements that make a Phase I. These elements are:

- (1)Interviews;
- (2)Site Reconnaissance;
- (3)Records Review (regulatory search, available on-site documents, geologic and hydrogeologic resources); and
- (4)Report.

31. PROCESS

a. The ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-00 or latest version) is required as a basis for all Phase I EDDAs. Conformance with ASTM E1527 provides “all appropriate inquiry” based on EPA guidance developed pursuant to the Small Business Liability Relief and Brownfields Revitalization Act, signed 1/11/02, which amends the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

A sample table of contents for a Phase I EDDA has been included as Appendix 7.

CHAPTER 4. PHASE II – CONFIRMATION SAMPLING

40. OVERVIEW

a. For conduct of Phase II EDDAs, conformance with the most recent version of ASTM E1903 (Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process) is required.

b. ASTM E1903 provides a framework for employing good commercial and customary practices in conducting a Phase II Environmental Site Assessment (ESA) of a parcel of property with respect to the potential presence of a range of contaminants that are within the scope of CERCLA as well as petroleum products.

c. The Phase II EDDA includes further investigation of possible contamination discovered during the Phase I EDDA, and will include on-site environmental testing and laboratory analysis. The Phase II investigation may require extensive sampling and may be conducted in several stages to obtain the required information more effectively. Types of Phase II sampling include:

(1) Soil sampling determines if a release has had an impact on site soil by assessing the most likely sources of contamination.

(2) Ground water sampling determines if a release has had an impact on site ground water. It often takes place after, or in conjunction with, soil testing, although it is not necessary to take ground water samples at each location from which a soil sample is taken.

(3) Indoor air quality testing determines whether any naturally occurring contaminants (such as bacteria) or other contaminants used in the operations in the building (such as chemicals) will harm the health of occupants of the building.

(4) Drums and waste materials testing determines whether drums or other waste materials found or abandoned onsite have posed a threat to ground water or soil; it is often performed in conjunction with soil and ground water testing.

(5) Asbestos testing determines whether buildings contain asbestos containing materials (ACM). All asbestos sampling inspections must be conducted by an Asbestos Hazard Emergency Response Act (AHERA)- accredited asbestos inspector, and work plans must contain a health and safety plan.

(6) Underground tank testing determines whether a tank (and associated piping) has leaked, or is likely to leak, based on the age of the tank, tank construction materials, containment used, any other methods of protection (i.e., cathodic), and leak detection methods.

A sample table of contents for a Phase I EDDA has been included as Appendix 7.

CHAPTER 5. PHASE III – SITE CHARACTERIZATION

50. OVERVIEW

a. The Phase III EDDA provides information to agency decision-makers regarding the extent and magnitude of contamination liability. This phase is initiated when a subject property is of continuing interest to the agency, and the Phase II sampling results confirmed contamination is at concentration levels equal to or above regulatory limits or risk levels.

b. Site contamination is fully characterized and cleanup alternatives are developed during the Phase III EDDA. This is the final step in the EDDA process; thus, any subsequent remediation activities strictly follow Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or other statutory and regulatory processes.

51. PHASE III – SITE CHARACTERIZATION ACTIVITIES

a. The Phase III EDDA builds on previously generated information to develop a comprehensive assessment of all site contamination areas. Phase III activities include the following. Discussion of each of these activities is provided in subsequent paragraphs.

- (1) Review and evaluation of the Phase II report.
- (2) Development and implementation of a Sampling and Analysis Plan (SAP) to fully characterize contamination at the site.
- (3) Assessment of risk and future land-use options.
- (4) Evaluation and selection of remedial alternatives.
- (5) Development of the Phase III report.

b. Phase III – Site Characterization activities must be conducted by independent contractors experienced in site characterization and remediation. The selection of Phase III contractors is based on the contractors' qualifications, experience, and ability to conform to the contractor procurement specifications.

52. REVIEW AND EVALUATION OF THE PHASE II EDDA

a. Phase II EDDA report information provides the necessary background and building blocks for designing, planning, and performing Phase III – Site Characterization activities. It is important for the agency technical reviewers and the Phase III contractors to review and evaluate the contents of the Phase II Confirmation Sampling report.

53. DEVELOPMENT AND IMPLEMENTATION OF A FULL CHARACTERIZATION SAP

a. The Phase III full characterization SAP is similar to the SAP process described for Phase II. The major difference is that the objective in Phase III is to determine the extent and severity of the contamination, and to provide technical basis for establishing a site cleanup strategy. Due to the expanded objective, the scope and number of samples collected will likely increase during this phase of the EDDA process, and result in higher costs. Additionally, the Phase III SAP typically calls for higher

resolution sampling and analytic procedures to evaluate performance limits of potential cleanup technologies.

b. Extreme care and professional judgment must be exercised to ensure that excessive sampling is not performed and unnecessary costs are not incurred. As in Phase II, the QAPP elements in the SAP need to be implemented in proportion to the project. Contractor-developed SAPs are submitted to the agency for review and approval by the FAA's TR. Once approved, the contractor initiates site activities, and samples are collected and sent to a laboratory for analysis. The analytical results from the sampling are used to determine the nature and extent of site contamination, and to assess risk posed to human health and the environment.

54. RISK ASSESSMENT AND FUTURE LAND-USE OPTIONS

a. The analytical results collected during the Phase III – Site Characterization are used to assess the potential risk to human and ecological receptors. These data, in turn, can be used to develop appropriate risk-based cleanup levels in the absence of specific media criteria. Acceptable risk levels are typically in the 10^{-4} to 10^{-6} (one-in-10,000 to one-in-a-million) range for potentially impacted populations. Each of the following must be evaluated to determine the overall risk posed to human and ecological receptors:

- (1) Source characterization – Identifies the contaminants of concern and their rates of release.
- (2) Exposure assessment – Identifies the potentially exposed populations, pathways of exposure, and the extent of exposure.
- (3) Dose-response evaluation – Assesses the type of effects that could occur and the magnitude of the effects.
- (4) Risk characterization – Determines the amount of exposure involved, its associated risks, and the relative significance of the risk.

b. Depending on the types of contaminants involved and the information available, risk assessments can be qualitative or quantitative. Although quantitative risk assessments are performed normally, qualitative risk assessments may be required if (1) regulators consider it appropriate, (2) cost and timeliness are an issue, (3) toxicity data on chemicals are not available, or (4) some other phenomena are not quantifiable. When conducting qualitative risk assessments, risk-management decisions must be based on prudence and best professional judgment.

c. Future land use options are also considered when determining risk. There are four commonly recognized future land use options: industrial-commercial, agricultural, recreational, and residential. When considering the impacts of future land use on the overall risk of the property, the industrial-commercial option is usually the least and the residential option is the most conservative. Future land use options must be evaluated in conjunction with risk to determine the appropriate level of risk reduction and cost effectiveness during the cleanup process.

55. REMEDIAL ALTERNATIVES, EVALUATION AND SELECTION

a. Remedial alternatives are screened against evaluation criteria to reduce the number available for selection and implementation. Refer to Appendix 10 for a sample listing of remedial technologies. Only the remedial alternatives most representative of the evaluation criteria should be considered. In general, the evaluation criteria consists of the following:

- (1) Overall protection of human health and the environment.
- (2) Compliance with applicable or relevant and appropriate requirements (ARARs).
- (3) Long-term effectiveness and permanence.
- (4) Reduction of toxicity, mobility, or volume through treatment.
- (5) Short-term effectiveness.
- (6) Ability to implement.
- (7) Cost.
- (8) State acceptance.
- (9) Community acceptance.

b. Developing and assessing a (simple to complex) range of technically appropriate alternatives is important in order to evaluate feasibility relative to FAA's mission. The short-list of remedial alternatives may include the following:

- (1) No action (i.e., natural attenuation).
- (2) Institutional controls (such as deed restrictions or perpetual federal ownership).
- (3) Technological solutions (involving remedial, demolition, or decontamination activities).
- (4) Or some combination of the above.

56. PHASE III REPORT

a. The Phase III report documents all pertinent site information in one place for agency decision-makers, including: the nature and extent of contamination, activities performed, risk assessment results, cleanup goals, remedial alternatives, and recommendations. Specifically, the Phase III Site Characterization report should be a comprehensive statement delineating:

- (1) Prior site activities.
- (2) Efforts leading up to site characterization.
- (3) Sampling rationale and activities.
- (4) Final sampling results, clearly displayed with a complete vertical and horizontal distribution of site contaminants and concentrations.
- (5) A comparison of these results to site ARARs, background levels, or risk-based action levels.
- (6) Appropriate cleanup goals.
- (7) Results from the analysis of applicable cleanup alternatives.
- (8) Recommended alternatives and their rationale, technical implementation issues, and costs.

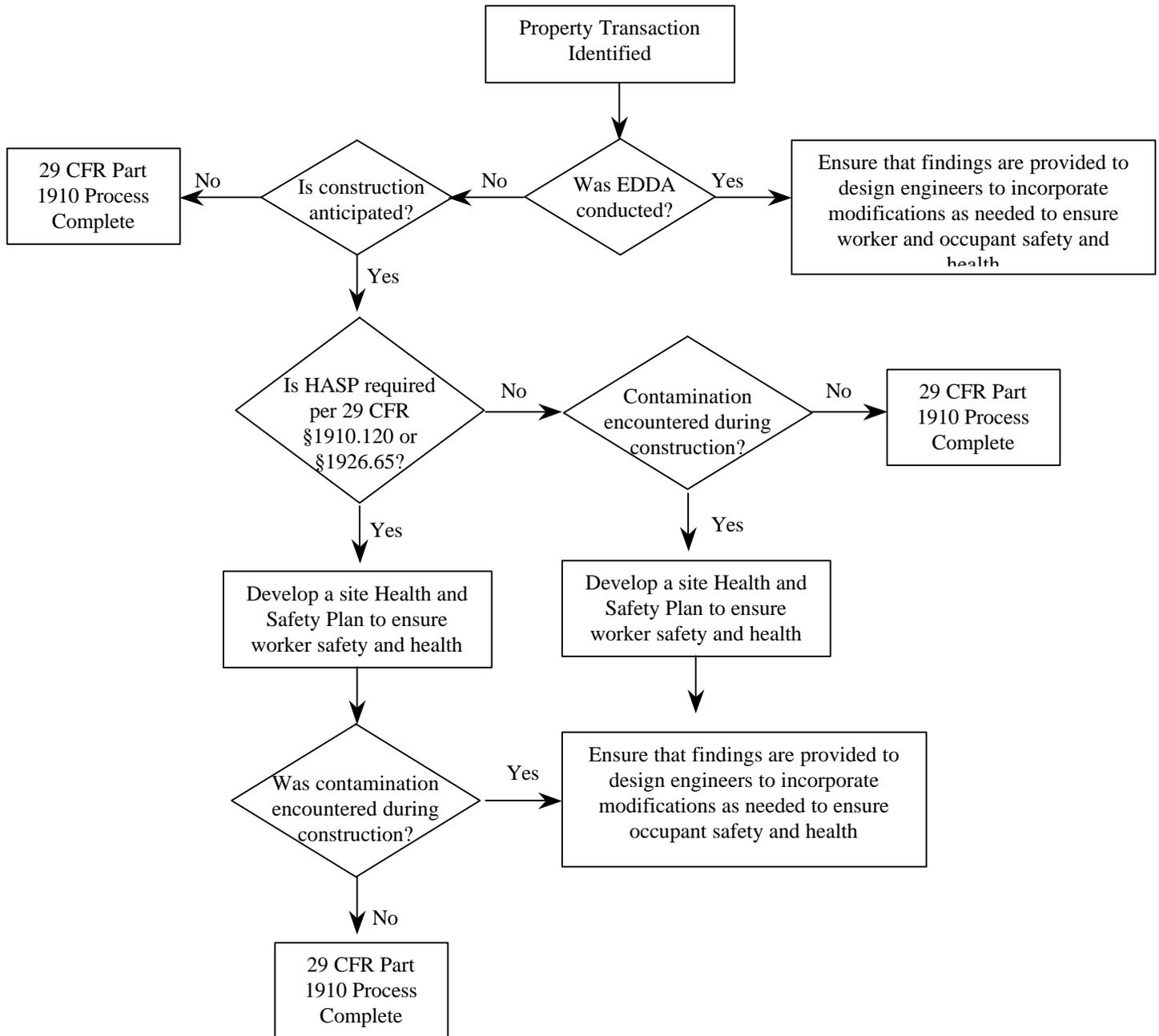
b. The Phase III report will constitute the guideline and technical basis for any further, possibly costly, remediation activity planned at the site. As such, it must be closely reviewed and understood by agency technical staff and decision-makers. Refer to Appendix 9 for a suggested outline of the Phase III report.

APPENDIX 1. ACRONYM LIST

| | |
|---------|---|
| AEE | Office of Environment and Energy |
| AF | Airway Facilities |
| AMS | Acquisition Management System |
| ANI | NAS Implementation Program |
| APB | Acquisition Program Baseline |
| ARAR | Applicable or Relevant and Appropriate Requirement |
| ASTM | American Society for Testing and Materials |
| ATCT | Air Traffic Control Tower |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CERFA | Community Emergency Response Facilitation Act |
| CO | Contracting Officer |
| COTR | Contracting Officer's Technical Representative |
| EDDA | Environmental Due Diligence Audit |
| EPA | Environmental Protection Agency |
| FAA | Federal Aviation Administration |
| FAST | FAA Acquisition System Toolset |
| FRDF | Facility Reference Data File |
| FSP | Field Sampling Plan |
| HASP | Health And Safety Plan |
| HSCC | Hazardous Substance Contamination Clause |
| IPT | Integrated Product Team |
| LOB | Line of Business |
| OSHA | Occupational Safety and Health Administration |
| PE | Professional Engineer |
| PG / PH | Professional Geologist / Professional Hydrologist |
| PRP | Potentially Responsible Party |
| PRT | Program Requesting Transaction |
| QAPP | Quality Assurance Project Plan |
| QA/QC | Quality Assurance / Quality Control |
| RCRA | Resource Conservation and Recovery Act |
| RECO | Real Estate Contracting Officer |

| | |
|-------|---|
| RPMES | Regional Program Manager for Environment and Safety |
| SA | Site Assessor |
| SAP | Sampling and Analysis Plan |
| SOW | Scope of Work |
| TR | Technical Reviewer |

APPENDIX 2. USE OF EDDAs IN SAFETY AND HEALTH PROCESS



APPENDIX 3. PHASE I, II, AND III EDDA CONTRACTOR SPECIFICATIONS

PHASE I EDDA CONTRACTOR PROCUREMENT REQUIREMENTS

This section contains the minimum specifications that must be met by any contractor selected to perform Phase I EDDAs for Agency property transfers or closures.

a. General. When selecting a contractor to assist the Agency in performing Phase I EDDAs consider the following general practices:

- (1) Include an explicit scope of work as part of the request for proposals (RFP) and contract
- (2) Conduct interviews with the contractors who meet the standard RFP criteria (including the specific individuals who will be doing the work)
- (3) Review standard work product as part of the proposal process
- (4) Thoroughly verify all professional references.

b. Criteria. Use the following specific criteria to evaluate potential Phase I contractors.

(1) Firm Experience.

- i. Years: Three (total firm experience, all activities). Two years of experience conducting Phase I site assessments.
- ii. Subject Matter Expertise: Environmental and Geological Services or Environmental science and engineering, including the following disciplines: geology, asbestos management, hazardous materials management, and hydrogeology. Regulatory expertise is also required.
- iii. Capability to perform Phase II. Requires disciplines such as toxicology, industrial hygiene, chemistry/risk assessment, and three years experience in conducting Phase II site assessments.

(2) Project Manager Experience.

- i. Years: Five
- ii. Subject Matter Expertise: Environmental Sciences
- iii. Degree: MS or Ph.D.
- iv. Phase I Experience: Two years of experience within the last five years.

(3) Team Member Experience.

- i. Years: Three
- ii. Subject Matter Expertise: Environmental Sciences
- iii. Degree: MS or BS
- iv. Professional Affiliations: Professional Engineer, Geologist Registration, or CIH preferred
- v. Phase I Experience: Two years of experience within the last three years.

- (4) Indemnification and Insurance.** The contractor must:
- i. Be willing to indemnify the Agency for the result of its professional and other negligence
 - ii. Possess a minimum limitation of liability to \$1 million
 - iii. Carry limits of errors and omissions insurance of at least \$1 million
 - iv. Carry limits of general liability insurance of at least \$1 million
 - v. Carry workers compensation insurance
 - vi. Provide certificates of insurance (evidencing coverage) for each of the coverages.
- (5) Report Quality.**
- i. Report experience should show a similar approach to conducting Phase I as outlined in Agency's guidelines for transferring real property and complying with the Community Environmental Response Facilitation Act (CERFA).
 - ii. Reports should be readable and comprehensible by the layperson.
 - iii. Reports should explain all conclusions and explain the relevancy and implication of findings to the Agency. Regulatory and some legal issues also should be explained.
- (6) Size of the Firm.** The contractor must have adequate staff in place to conduct Phase I. It is anticipated that each Phase I will require up to 2 junior staff and 1 senior/project management staff during the course of Phase I.
- (7) Locations.** The contractor must be easily accessible to the Agency group reviewing the Phase I work assignment.
- (8) Information Protection.** The contractor must have a program in place for ensuring the confidentiality of information provided by the government. Elements shall include specific standards for labeling information as proprietary and policies for protection of the information, including disciplinary procedures for employees found infringing upon the policy. The contract between the Agency and the contractor must provide that the contractor shall not disclose information obtained from the Agency or related to its relationship with the Agency to third parties without the express consent of the Agency.
- (9) Cost.** Cost shall be reasonable and within the prevailing rates charged by similarly situated contractors.

c. Evaluation and Balancing. The following factors shall be considered:

- (1) Primary Criteria.**
- i. Firm and individual consultant experience (i.e., education, work)
 - ii. Insurance and indemnification
 - iii. Report quality
 - iv. Knowledge of FAA facilities and equipment
- (2) Secondary Criteria.**
- i. Location
 - ii. Size

- iii. Confidentiality and document retention programs

(3) Additional Criteria to be Considered.

- i. Use of Subcontractors
- ii. Formal quality control programs
- iii. Cost

PHASE II AND III EDDA CONTRACTOR PROCUREMENT SPECIFICATIONS

The following specifies qualifications for a Phase II EDDA contractor.

a. General.

Phase II EDDAs are considerably site-specific. Therefore, it is impracticable to prepare specific, minimum contractor specifications for the conduct of these activities. However, like the procurement approach for Phase I EDDAs, when selecting a contractor to assist the Agency in performing Phase II EDDAs, the Agency shall consider the following general requirements:

- An explicit scope of work shall be included as part of the request for proposals (RFP) and contract.
- Interviews shall be conducted with the contractors who meet the standard RFP criteria (including the specific individuals who will be doing the work).
- A recent work product on a related activity shall be reviewed as part of the proposal process.
- All professional references shall be thoroughly verified.

b. Criteria.

As stated above, the site-specific nature of the Phase II EDDA precludes the issuance of detailed procurement specifications. The following general criteria shall be used when evaluating the potential Phase II EDDA contractors.

(1) Firm Experience.

- i. Years: 10 (total, all activities); five years of experience in conducting Phase II EDDAs or related activities.
- ii. Subject Matter Expertise: Environmental science and engineering including, but not limited to, the following disciplines: hazardous site remediation, toxicology, risk assessment, chemistry, geology, hydrogeology, asbestos, hazardous materials management, and industrial hygiene. Regulatory expertise also shall be required.

(2) Project Manager Experience.

- i. Years (10)
- ii. Subject Matter Expertise: Environmental Sciences
- iii. Degree: M.S. or Ph.D.
- iv. Professional Affiliations: Professional Engineer's or Geologist's Registration
- v. Phase II Experience: two years of experience within the last three years.

(3) Team Member Experience.

- i. Years: Three
- ii. Subject Matter Expertise: Environmental Sciences

- iii. Degree: MS or BS
- iv. Professional Affiliations: Professional Engineer, Geologist Registration, or CIH preferred
- v. Phase II Experience: Two years of experience within the last three years.

(4) Indemnification, Insurance and Bonding. Insurance and bonding are highly dependent upon the nature and scope of the work to be performed. It is therefore not practical to provide specific levels of coverage. Generally, the contractor shall:

- Be willing to indemnify the Agency for the results of its professional and other negligence
- Possess adequate bonding, including bid bonding, performance bonding, and payment bonding
- Carry limits of errors and omissions insurance
- Carry limits of general liability insurance
- Carry workers compensation insurance
- Provide certificates of insurance (evidencing coverage) for each of the coverages.

(4) Report Quality.

- i. Report experience should show a similar approach to conducting Phase II EDDAs as outlined in the Agency EDDA Guidelines.
- ii. Reports should be readable and comprehensible by the layperson.
- iii. Reports should explain all conclusions and explain the relevancy and implication of findings to the Agency. Regulatory and some legal issues also should be explained.

(5) Size of the Firm. The contractor shall have demonstrated capabilities to adequately staff and conduct two Phase II EDDAs concurrently for the Agency.

(6) Client Experience. The contractor shall have some experience in working with Federal agencies, although it does not need to be 100 percent of their experience.

(7) Location. While the primary contractor shall be easily accessible to the Agency Headquarters, to minimize costs, the contractor shall also have staff readily accessible to the areas likely to be the location of Phase II activities.

(8) Information Protection. The contractor shall have in place a program for ensuring the confidentiality of information provided by the Government. Elements shall include specific standards for labeling information as proprietary and policies for protection of the information, including disciplinary procedures for employees found infringing upon the policy. The contract between the Agency and the contractor must provide that the contractor shall not disclose information obtained from the Agency or related to its relationship with the Agency to third parties without the express consent of the Agency.

(9) Cost. Cost shall be reasonable and within the prevailing rates charged by similarly situated contractors.

c. Evaluation and Balancing.

The following factors shall be considered:

(1) Primary Criteria.

- i. Firm and individual consultant experience (years)
- ii. Firm and individual consultant expertise (education, work experience)
- iii. Insurance and indemnification
- iv. Report quality
- v. Use and quality of subcontractors

(2) Secondary Criteria.

- i. Location
- ii. Size
- iii. Confidentiality and document retention programs.

(3) Additional Criteria to be Considered.

- i. Formal quality control programs
- ii. Cost

APPENDIX 4. DEFINITIONS

1. **Aboveground Storage Tank (AST):** All tanks not classified as underground storage tanks, or tanks and associated piping that are more than 90 percent, by volume, aboveground.
2. **Acquisition:** The act of becoming the owner or holder of an interest in certain real property.
3. **Applicable or Relevant and Appropriate Requirements (ARARs):** ARARs are defined as follows:
 - (1) **Applicable Requirements:** Those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a Comprehensive Environmental Response Compensation and Liability Act (CERCLA) site.
 - (2) **Relevant and Appropriate Requirements:** Those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site.
4. **Cleanup:** Actions taken to deal with a release or threat of release of a hazardous substance that could affect humans and/or the environment. The term 'cleanup' is sometimes used interchangeably with the term's remedial action, removal action, response action, or corrective action.
5. **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended:** Imposes on property owners and operators strict, joint and several liability for environmental damage, and provides a limited defense for innocent landowners. The Act also provides EPA with funding and enforcement authority for responding to hazardous substance spills, for cleaning up high-risk, and non-federal hazardous waste sites in the United States.
6. **Comprehensive Environmental Response, Compensation, and Liability Information System, (CERCLIS):** EPA's database and management system that inventories and tracks releases addressed or needing to be addressed by the Superfund program.
7. **Community Environmental Response Facilitation Act (CERFA):** Congress amended CERCLA § 120(h) under the Community Environmental Response Facilitation Act (Public Law 102-426) to expedite the sale of federal land that is determined to be uncontaminated (42 U.S.C. §9620(h)). The amendment is referred to as CERFA and is intended to identify federal land and properties offering the greatest opportunity for reuse and redevelopment, expedite necessary remedial and corrective actions, and make the property available for sale. Under §120(h) of CERCLA, whenever the U.S. government enters into a contract to sell or transfer federal property, a notice must be placed in the contract for sale reporting any hazardous substance that has been stored for a year or more, known to be released, or was disposed of on the property. A similar notice must be placed in the deed, as well as a covenant that all necessary remedial action has been taken by the time of the transfer and ensure the continued liability of the federal government when appropriate.

8. **Decommissioning:** process of removing a facility from operation. It may include decontaminating, entombing, dismantling, or converting to another use.
9. **Disposal:**
 - *Of Wastes*—Final placement or destruction of toxic, radioactive, or other wastes; surplus or banned pesticides or other chemicals; polluted soils; and drums containing hazardous materials from removal actions or accidental releases. Disposal may be accomplished through use of approved secure landfills, surface impoundment, land farming, deep-well injection, ocean dumping, or incineration as permitted by law.
 - *of Personal Property*—The act of discarding or relinquishing responsibility and control over excess or surplus property in accordance with appropriate Government regulations through transfer, donation, sale, abandonment or destruction. (Note: generators of hazardous waste can be held liable for improper disposal.)
 - *of Real Property*—The transfer of ownership and/or other real property rights to another party or parties.
10. **Emergency Planning and Community Right-to-Know Act (EPCRA):** Title III of the Superfund Amendments and Reauthorization Act (SARA), which calls for facilities to report toxic releases and to submit information to state and local communities to develop chemical emergency plans (42 U.S.C. §§11001-11950). The regulations govern planning and notification, emergency notification and community right-to-know.
11. **Environmental Audit:** An independent assessment of the status of a party's compliance with applicable environmental requirements or of a party's environmental compliance policies, practices, and controls.
12. **Facility:** As defined by Section 101(9) of CERCLA, a facility means any building, structure, installation, equipment, pipe or pipeline, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise located. It does not include any consumer product in consumer use or any vessel (42USC§9601(9)).
13. **Feasibility Study (FS):** In a CERCLA remedial process, the FS is the analysis of the practicability of a proposal; e.g., a description and analysis of potential cleanup alternatives for a site such as one on the National Priorities List. The feasibility study usually recommends selection of a cost-effective alternative. It usually starts as soon as the remedial investigation is underway; together, they are commonly referred to as the “RI/FS” (See also Remedial Investigation).
14. **Federal Property Management Regulations (FPMR):** The Government regulations (41 CFR Part 101) that govern and guide federal agencies relative to management and control of property when GSA authorities are being used.
15. **Field Sampling Plan (FSP):** A plan that defines in detail the sampling and data gathering activities to be used at a site (See also Sampling and Analysis Plan.).
16. **Friable Asbestos:** Any material containing more than one-percent asbestos, and that can be crumbled or reduced to powder by hand pressure. (May include previously non-friable material, which becomes

broken or damaged by mechanical force.) Friable asbestos releases fibers into the environment that may cause health problems.

17. **Ground Water:** The supply of fresh water found beneath the earth's surface, usually in aquifers, which supply wells and springs. Because ground water is a major source of drinking water, there is growing concern over contamination from leaching agricultural or industrial pollutants or leaking underground storage tanks.
18. **Hazard Evaluation:** A component of risk evaluation that involves gathering and evaluating data on the types of health injuries or diseases that may be produced by a chemical and on the conditions of exposure under which such health effects are produced.
19. **Hazardous Material:** Any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce (49 CFR Part 172, Table 172.101). This includes hazardous substances and hazardous wastes.
20. **Hazard Ranking System (HRS):** The principal screening tool used by EPA to evaluate risks to public health and the environment associated with abandoned or uncontrolled hazardous waste sites. The HRS calculates a score based on the potential of hazardous substances spreading from the site through the air, surface water, or ground water, and on other factors such as density and proximity of human population.
21. **Hazardous Substance:**
 - Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive.
 - Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment
22. **Hazardous Waste:** A waste that possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists. Hazardous Wastes can pose a substantial or potential hazard to human health or the environment when improperly managed.
23. **Health and Safety Plan (HASP):** A site plan that describes the physical and chemical hazards at a site and the measures that will be taken to ensure health and safety of site workers.
24. **Holding Agency:** The executive agency, which has accountability for the property involved.
25. **Innocent Landowner Defense:** In CERCLA, the third-party defense, often called the “innocent landowner” provision, provides a narrow exemption from liability associated with ownership of the land by claiming the landowner made a good faith effort to discover any contamination prior to acquisition. The elements of the defense are found in CERCLA 101(35) and 107(b)(3) (42 U.S.C. §9601(35) and §9607(b)(3)).
26. **Joint and Several Liability:** A legal concept, under CERCLA, that relates to the liability of more than one potentially responsible party for Superfund site cleanup and related costs. For a site that became contaminated over the years, all current and previous owners, operators, or users could be considered potentially liable for the entire cost of cleaning up the site.

27. **Lead (Pb):** A heavy metal that is hazardous to health if inhaled or ingested. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations
28. **Lease Termination:** To end the action of renting real property from another party.
29. **Liability:** The state of being obligated according to law. Environmental liability refers to the state of being obligated to address through positive actions environmental factors or issues. This may include requirements to fund site remediation or compliance with environmental regulations.
30. **National Pollutant Discharge Elimination System (NPDES):** A provision of the Clean Water Act (CWA) which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.
31. **National Priorities List (NPL):** EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year.
32. **National Response Center:** The federal operations center that receives notifications of all releases of oil and hazardous substances into the environment; open 24 hours a day, is operated by the U.S. Coast Guard, which evaluates all reports and notifies the appropriate agency.
33. **Office Space:** Space that provides an environment suitable for an office operation. There are two categories of office space: primary office space and support space. Primary office space is the personnel-occupied area in which an activity's normal operation functions are performed. Support space includes space for mission needs other than housing personnel, such as reception areas, meeting areas, library and reference areas. FAA office space includes primary and support spaces where the sole purpose is to conduct FAA management and administrative functions (e.g., offices including Headquarters, Regional, ADO, and SMO spaces).
34. **Outgrant / Outlease:** transactions where the FAA has real property rights over a piece of property and passes certain of those rights on to another party.
35. **Personal Property:** Any property that does not fit into the definition of real property; movable objects not permanently affixed to and part of real estate.
36. **Pollutant:** Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.
37. **Potentially Responsible Party (PRP):** Any individual or company—including owners, operators, transporters or generators—potentially responsible for, or contributing to a spill or other contamination. Whenever possible, through administrative and legal actions, EPA requires PRPs to clean up hazardous sites they have contaminated.
38. **Preliminary Assessment (PA):** The process of collecting, reviewing and reporting available information about a known or suspected hazardous waste site or release, in accordance with CERCLA (42 U.S.C. § 9620).

39. **Property Transfer:** An act of two or more parties, or the law, by which the title or an interest, benefit, or right to property is conveyed from one person/entity to another. This includes sale, lease, eminent domain, disposal and foreclosure.
40. **Quality Assurance Project Plan:** A plan that identifies the quality assurance/quality control procedures used in field sample collection and analysis to ensure the accuracy and precision of sample results (see also Sampling and Analysis Plan).
41. **Real Property:** Any interest in land under the control of Federal Agencies, together with permanently attached buildings, improvements, structures, and fixtures located thereon (including prefabricated movable structures, such as equipment shelters). Excepted are minerals in lands and crops.
42. **Remedial Action (RA):** The actual construction or implementation phase of a Superfund (CERCLA) site cleanup that follows remedial design.
43. **Remedial Investigation (RI):** An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund (CERCLA) site; establish site cleanup criteria; identify preliminary alternatives for remedial action; and support technical and cost analyses of alternatives. The remedial investigation is usually done with the feasibility study. Together they are usually referred to as the “RI/FS” (see also Feasibility Study).
44. **Remediation:** Actions taken to remove or contain a toxic or hazardous substance release. Activities may include isolating, enclosing, encapsulating, treating or removing site contamination.
45. **Reportable Quantity (RQ):** Quantity of a hazardous substance that triggers reporting under CERCLA. If a substance exceeds its RQ, the release must be reported to the National Response Center, the State Emergency Response Commission (SERC), and community emergency coordinators for areas likely to be affected.
46. **Resource Conservation and Recovery Act (RCRA):** The federal regulation that provides “cradle-to-grave” control of hazardous waste by imposing management requirements on generators and transporters of hazardous wastes and upon owners and operators of treatment, storage, and disposal facilities.
47. **Risk Assessment:** Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants. (See also Risk)
48. **Risk:** A measure of the probability that damage to life, health, property, and/or the environment will occur as a result of a given hazard.
49. **Sampling and Analysis Plan (SAP):** A plan consisting of a quality assurance project plan and a field sampling plan developed during the scoping of a project to guide in sampling. The plan documents the comprehensive field and analytical activities and objectives for conducting the site confirmation sampling.
50. **Site Assessor (SA):** A qualified FAA employee or a contractor who coordinates with the TR to determine the scope of the EDDA, conducts the EDDA, develops recommendations and provides reports.

51. **Site Inspection (SI):** The collection of information from a Superfund (CERCLA) site to determine the extent and severity of hazards posed by the site. It follows and is more extensive than a preliminary assessment (PA). The purpose is to gather information necessary to score the site, using the Hazard Ranking System, and to determine if it presents an immediate threat requiring prompt removal.
52. **Stakeholder:** Any organization, governmental entity, or individual that has an interest (or stake) in or who may be affected by a given approach or issue (such as environmental regulation, pollution prevention, energy conservation, etc.).
53. **Superfund:** The program operated under the legislative authority of CERCLA and SARA that provides for liability, compensation, cleanup and emergency response for hazardous substances released into the environment, and the cleanup of hazardous waste disposal sites.
54. **Toxic Chemical:** Any chemical listed in EPA rules as “Toxic Chemicals Subject to Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.”
55. **Toxic Substance Control Act (TSCA):** The federal regulation that gives EPA the authority to require testing of chemical substances, both new and old, entering the environment and to regulate them where necessary. The Act provides specific requirements for the use and disposal of Polychlorinated biphenyl (PCB) and asbestos.
56. **Underground Storage Tank (UST):** A tank and associated piping that are 10 percent or more below the surface of the ground, and which are used for the storage of a regulated substance (e.g., gasoline, petroleum products, chemicals or waste oil). EPA excludes: tanks used for heating purposes, septic tanks, surface impoundment, and stormwater or wastewater collection systems from the federal UST regulation. State regulations, however, vary and may mandate some or all of the tanks excluded by the EPA.
57. **Wastewater:** The spent or used water from a home, community, farms, or industry that contains dissolved or suspended matter.
58. **Water Pollution:** The presence in water of enough harmful or objectionable material to damage the water’s quality.
59. **Water Quality Standards:** State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.

APPENDIX 5. REGULATORY OVERVIEW

1. CERCLA Requirements Applicable to the Purchase or Lease of Property By the FAA

a. The United States Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980 to provide funding and enforcement authority for cleaning up the thousands of hazardous waste sites created in the United States in the past and for responding to hazardous substance spills. In 1986, Congress enacted significant revisions to CERCLA through the Superfund Amendments and Reauthorization Act (SARA).

b. CERCLA, as amended by SARA, authorizes the United States Environmental Protection Agency (EPA) to draw upon two basic types of funding resources: (1) the Superfund – the Federal trust fund; and (2) Responsible Parties. As stated in 120(b), CERCLA defines a "responsible party" as any present or past owner or operator at the site. As such, an individual or organization that leases property and acts as an operator also may be held jointly and severally liability under CERCLA and be required to contribute to any or all of the site investigation and cleanup.

c. In an attempt to address the issue to individuals or groups who acquire property without prior knowledge of contamination, Congress incorporated what is known as the "innocent landowner defense" into CERCLA (Sections 107(b)(3), 101(35)(A) and (B)). The innocent landowner provision states that if a landowner has not contributed to the contamination of a property and has conducted all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practices in an effort to minimize liability, then the landowner is exempt from CERCLA liability.

d. Section 233 of the Small Business Liability Relief and Brownfields Revitalization Act, signed 1/11/02, which amended CERCLA 101(35)(A) and (B), required EPA to develop guidance as to what constitutes all appropriate inquiry for purpose of the "innocent landowner defense." In the Federal Register from May 9, 2003 (68 FR 24890), EPA stated that environmental due diligence audits (EDDAs) conducted in accordance with ASTM Standards E1527-97 and E1527-00 will constitute all appropriate inquiry.

2. CERCLA Requirements Applicable to the Sale or Lease of Property From the FAA.

a. CERCLA contains specific requirements applicable to the transfer of real property by Federal agencies. Section 120(h) of CERCLA imposes certain notice and covenant requirements on the sale, by Federal agencies, of property where a hazardous substance has been stored, released, or disposed.

b. In response to CERCLA Section 120(h), EPA promulgated regulations for the reporting of hazardous substance activity when selling Federal real property (40 CFR Part 373). The Federal Real Property Transfer Regulation requires any department, agency, or instrumentality of the United States that wishes to transfer real property owned by the United States, where hazardous substances were stored for 1 year or more and known to have been released, or disposed of, to include in the contract, notice of the type and quantity of hazardous substance and notice of the time when storage, release, or disposal took place. This is contingent upon the extent that such information is available from a complete search of the agency files.

c. The Federal Real Property Transfer Regulation does not address leases or easements, as these types of contracts involve a complicated area of real property law and may be affected by specific deed or lease terms and by State common law.

d. Although the scope of the Federal Real Property Transfer Act does not include leases or easements, organizations that operated at a site that did not own the property may still be liable under CERCLA Section 107(a).

e. The Community Environmental Response Facilitation Act (CERFA) (PL-102-426) requires the Federal Government, before termination of Federal activities on any real property owned by the Government, to identify real property where no hazardous substance was stored, released, or disposed of. The Act requires the deed of sale or transfer to stipulate that the Federal Government will conduct any remediation necessary.

3. Individual State Requirements

a. A number of States impose environmental requirements on the seller of real property where a hazardous substance has been managed or released. The requirements established by these States roughly fall into four general categories:

- (1) Actual cleanup of hazardous substances prior to sale.
- (2) Notice to the purchaser prior to sale.
- (3) Registration/approval by State or local agency.
- (4) Hazardous waste management facility notice in deed.

b. Because the State laws pertaining to property transfer are still evolving, it will be necessary to contact State agencies routinely to identify changes in their requirements.

APPENDIX 6. ENVIRONMENTAL STANDARDS AND RESOURCES

- www.gsa.gov Office of Real Property Policy - General Reference Guide to Real Property Policy
Environmental Services and Products - Environmental Products and Services Guide
GSA Environmental Guidebook
- www.epa.gov Directory of Regional Offices
CFTF Guide on Evaluating Environmental Liability for Property Transfers
Potential Insurance Products for Brownfields Cleanup and Redevelopment
- www.epa.gov/oeca/idea IDEA Database - historical profile of inspections, enforcement actions, penalties assessed, toxic chemicals released, and emergency hazardous spills for any EPA regulated facility
- www.usgs.gov Maps, aerial photographs, geologic and hydrogeologic data
- www.astm.org ASTM standards (1527, 1528 and 1903)
- www.aee.faa.gov/aee-200 Office of Environment and Energy

APPENDIX 7. EXAMPLE PHASE I REPORT OUTLINE

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| <p>E.S. Summary</p> <p>1.0 Introduction</p> <p>2.0 Site Location and Description</p> <p>3.0 Site Ownership and Use</p> <p>3.1 Site Ownership</p> <p>3.2 Site Use - Historical</p> <p>3.3 Site Use - Current</p> <p>4.0 Records Review</p> <p>4.1 Federal Records</p> <p>4.2 State Records</p> <p>4.3 Local Records</p> <p>5.0 Site Inspection</p> <p>5.1 Site Buildings</p> <p>5.2 Site Grounds</p> <p>5.3 Underground Storage Tanks</p> <p>5.4 Aboveground Storage Tanks</p> <p>5.5 Transformers</p> <p>5.6 Asbestos</p> <p>5.7 Indoor Air</p> <p>5.8 Radioactive Materials</p> <p>5.9 Motor Pools, Shops and Laboratories Operations, Analyses and Experiments</p> <p>5.10 Other Information</p> <p>5.11 Facility Records</p> <p>6.0 Adjacent and Neighboring Properties</p> <p>7.0 Hazardous Materials and Waste Management</p> <p>7.1 Hazardous Waste Generation, Storage and Disposal Practices</p> <p>7.2 Hazardous and Regulated Materials Management</p> <p>7.3 Nonhazardous Waste Management</p> | <p>8.0 Sensitive Environmental Areas</p> <p>8.1 Wetlands</p> <p>8.2 Historic Value</p> <p>8.3 Recreational Land Use</p> <p>8.4 Future Use and Zoning</p> <p>9.0 Supplemental Information and Previous Studies</p> <p>10.0 Conclusions and Recommendations</p> <p>11.0 Signatures of Environmental Professionals</p> <p>12.0 Qualifications of Environmental Professionals Participating in Phase 1 Site Assessment.</p> <p>APPENDICES</p> <ul style="list-style-type: none">• Site Location Map• Site Plan• Site Photographs• Site Ownership Records• Federal, State, Local, and EPA Facility Records• Aerial Photographs• List of Chemicals Used and In Use at the Facility• Material Safety Data Sheets• Groundwater Monitoring Results• Previous Site Work Repairs |
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* Report outline will vary according to site conditions.

APPENDIX 8. EXAMPLE PHASE II REPORT OUTLINE

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| <p>1.0 Introduction</p> <ul style="list-style-type: none"> 1.1 Summary of Known Information Findings of Phase I Assessment 1.2 Scope of Investigation <p>2.0 Site Map/Building Plans</p> <p>3.0 Likely Sources of Contamination</p> <ul style="list-style-type: none"> 3.1 Likely Sources of Contamination 3.2 Location of Likely Sources 3.3 Approximate Date/Type/Quantity of Release <p>4.0 Soil Sampling and Analysis</p> <ul style="list-style-type: none"> 4.1 Sampling Overview <ul style="list-style-type: none"> 4.1.1 Types of Samples 4.1.2 Location of Samples 4.1.3 Sampling Objective and Justification 4.2 Sampling Methods <ul style="list-style-type: none"> 4.2.1 Sampling Methods and Procedures 4.2.2 Boring Logs 4.2.3 Field Screening Data 4.3 Analytical Methods <ul style="list-style-type: none"> 4.3.1 Analytical Parameters Including EPA Method Number and Detection Limit 4.3.2 Maps and Diagrams Showing the Extent of Contamination 4.4 Results <ul style="list-style-type: none"> 4.4.1 Data Presentation Including Tables 4.4.2 Notation of Results Above Applicable Standards 4.4.3 Maps and Diagrams Showing the Extent of Contamination | <p>5.0 Ground Water Sampling and Analysis</p> <ul style="list-style-type: none"> 5.1 Sampling (QA/QC) Overview <ul style="list-style-type: none"> 5.1.1 Number of Wells 5.1.2 Surveyed Well Location 5.1.3 Well Placement 5.1.4 Well Depth and Screened Interval 5.1.5 Well System Justification 5.2 Sampling Methods <ul style="list-style-type: none"> 5.2.1 Well Drilling Methods <ul style="list-style-type: none"> a. Screening Data in Cuttings/Soil Samples b. Drilling Logs c. Well Construction Descriptions and Diagrams d. Well Development Methods e. Well Stabilization Period 5.2.2 Sampling Methods and Procedures <ul style="list-style-type: none"> a. Sampling Rationale b. Field Testing Results c. Sampling Frequency 5.3 Analytical Methods <ul style="list-style-type: none"> 5.3.1 Analytical Parameters Including EPA Method Number and Detection Limit 5.3.2 Name and Certification of Laboratory 5.4 Results <ul style="list-style-type: none"> 5.4.1 Data Presentation Including Tables 5.4.2 Notation of Results Above Applicable Standards 5.4.3 Maps and Diagrams Showing the Potentiometric Surface and Extent of Contamination <p>6.0 Conclusions and Recommendations</p> <p>APPENDICES</p> |
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* Report outline will vary according to site conditions.

APPENDIX 9. EXAMPLE PHASE III REPORT OUTLINE

1.0 Introduction

- 1.1 Summary of Findings from Phase I and II Investigations
- 1.2 Scope of Phase III

2.0 Site Maps/Building Plans

3.0 Sources of Contamination

- 3.1 Description of Contaminant Sources
- 3.2 Locations of Contaminant Sources
- 3.3 Approximate Date/Type/Quantity of Release

4.0 Sampling and Analysis Results

- 4.1 Soil Sampling
 - 4.1.1 Sample Types
 - 4.1.1.1 Procedures for Each Type
 - 4.1.1.2 Boring Logs
 - 4.1.1.3 Physical and Chemical Field Screening Data Quality Objectives
 - 4.1.1.4 Field Analytical Procedures
 - 4.1.1.5 Field Deviations from Sampling and Analysis Plan
 - 4.1.2 Sample Locations
 - 4.1.2.1 Objectives and Sampling Rationale
 - 4.1.2.2 Distribution and Density
 - 4.1.2.3 Deviations from Sampling and Analysis Plan
 - 4.1.3 Laboratory Analysis
 - 4.1.3.1 Laboratory Analysis Data Quality Objectives
 - 4.1.3.2 Analytical Parameters (include EPA Method Number and Detection Limit)
 - 4.1.3.3 Quality Assurance Sample Analysis Results
 - 4.1.4 Sampling and Analysis Results
 - 4.1.4.1 Data Presentation including Tables
 - 4.1.4.2 Discussion of Results
 - 4.1.4.3 Maps, cross-sections, and other diagrams depicting extent of contamination
- 4.2 Groundwater Sampling
 - 4.2.1 Sample Types
 - 4.2.1.1 Procedures for Each Type

- 4.2.1.2 Physical and Chemical Field Screening Data Quality Objectives
- 4.2.1.3 Field Analytical Procedures
- 4.2.1.4 Deviations from Sampling and Analysis Plan
- 4.2.2 Sample Locations
 - 4.2.2.1 Objectives and Well Placement Rationale
 - 4.2.2.2 Surveyed Well Locations, Depths, and Screened Intervals
 - 4.2.2.3 Sampling Depths
 - 4.2.2.4 Field Deviations from Sampling and Analysis Plan
- 4.2.3 Laboratory Analysis
 - 4.2.3.1 Laboratory Analysis Data Quality Objectives
 - 4.2.3.2 Analytical Parameters (include EPA Method Number and Detection Limit)
 - 4.2.3.3 Quality Assurance Sample Analysis Results
- 4.2.4 Sampling and Analysis Results
 - 4.2.4.1 Data Presentation including Tables
 - 4.2.4.2 Discussion of Results
 - 4.2.4.3 Maps, cross-sections, and other diagrams depicting extent of contamination
- 4.3 Surface Water/Sediment Sampling
 - 4.3.1 Sample Types
 - 4.3.1.1 Procedures for Each
 - 4.3.1.2 Physical and Chemical Field Screening Data Quality Objectives
 - 4.3.1.3 Field Analytical Procedures
 - 4.3.1.4 Deviations from Sampling and Analysis Plan
 - 4.3.2 Sample Locations
 - 4.3.2.1 Objectives and Rationale
 - 4.3.2.2 Sediment Sampling Depths
 - 4.3.2.3 Field Deviations from Sampling and Analysis Plan
 - 4.3.3 Laboratory Analysis
 - 4.3.3.1 Laboratory Analysis Data Quality Objectives

- 4.3.3.2 Analytical Parameters (include EPA Method Number and Detection Limit)
- 4.3.3.3 Quality Assurance Sample Analysis Results
- 4.3.4 Sampling and Analysis Results
 - 4.3.4.1 Data Presentation including Tables
 - 4.3.4.2 Discussion of Results
 - 4.3.4.3 Maps and Other Appropriate Diagrams Depicting Contaminant Distribution
- 4.4 Building HVAC Systems Sampling
 - 4.4.1 Sample Types
 - 4.4.1.1 Procedures for Each
 - 4.4.1.2 Physical and Chemical Field Screening Data Quality Objectives
 - 4.4.1.3 Field Analytical Procedures
 - 4.4.1.4 Deviations from Sampling and Analysis Plan
 - 4.4.2 Sample Locations
 - 4.4.2.1 Objectives and Rationale
 - 4.4.2.2 Duct Work Sampling Intervals
 - 4.4.2.3 Duct Outlet Sampling Throughput Volumes
 - 4.4.2.4 Field Deviations from Sampling and Analysis Plan
 - 4.4.3 Laboratory Analysis
 - 4.4.3.1 Laboratory Analysis Data Quality Objectives
 - 4.4.3.2 Analytical Parameters (include EPA Method Number and Detection Limit)
 - 4.4.3.3 Quality Assurance Sample Analysis Results
 - 4.4.4 Sampling and Analysis Results
 - 4.4.4.1 Data Presentation including Tables
 - 4.4.4.2 Discussion of Results
 - 4.4.4.3 Schematic Diagrams Depicting Contaminant Distribution
- 4.5 Building Surfaces Sampling
 - 4.5.1 Sample Types
 - 4.5.1.1 Procedures for Each Type
 - 4.5.1.2 Physical and Chemical Field Screening Data Quality Objectives
 - 4.5.1.3 Field Analytical Procedures
 - 4.5.1.4 Deviations from Sampling and Analysis Plan
 - 4.5.2 Sample Locations
 - 4.5.2.1 Objectives and Rationale
 - 4.5.2.2 Pipe Insulation Sampling Intervals
 - 4.5.2.3 Ambient Air Sampling Throughput Volumes
 - 4.5.2.4 Field Deviations from Sampling and Analysis Plan
 - 4.5.3 Laboratory Analysis
 - 4.5.3.1 Laboratory Analysis Data Quality Objectives
 - 4.5.3.2 Analytical Parameters (include EPA Method Number and Detection Limit)
 - 4.5.3.3 Quality Assurance Sample Analysis Results
 - 4.5.4 Sampling and Analysis Results
 - 4.5.4.1 Data Presentation including Tables
 - 4.5.4.2 Discussion of Results
 - 4.5.4.3 Schematic Diagrams Depicting Contaminant Distribution
- 4.6 Summary of Findings
- 5.0 Risk and Future Land-Use Options**
 - 5.1 Risk Assessment
 - 5.1.1 Qualitative Risk Assessment
 - 5.1.1.1 Rationale for Performing Qualitative Risk Assessment
 - 5.1.1.2 Discussion of Contaminants of Concern and Pathways Considered
 - 5.1.1.3 Results of Qualitative Risk Assessment
 - 5.1.2 Quantitative Risk Assessment
 - 5.1.2.1 Rationale for Performing Quantitative Risk Assessment
 - 5.1.2.2 Assessment of Carcinogens
 - 5.1.2.3 Assessment of Noncarcinogens
 - 5.1.2.4 Results of Quantitative Risk Assessment
 - 5.1.3 Assessment on Overall Risk of the Property
 - 5.2 Future Land-Use Options
 - 5.2.1 Discussion on Future Land-Use Options

- 5.2.2 Rationale for Selection of Future Land-Use Option
- 5.2.3 Relationship Between Future Land-Use and Overall Risk at the Property

- 6.1.4 Detailed Discussion of Selected Alternatives
- 6.1.5 Implementation Plan and Schedule for Selected Alternatives
- 6.1.6 Statutory Determination for Selected Alternatives

6.0 Final Technology or Alternative

- 6.1 Final Technology or Alternative Selection
 - 6.1.1 Description of Screening Process
 - 6.1.2 Description of Technologies or Alternatives Under Consideration
 - 6.1.3 Comparative Analysis of Technologies or Alternatives
 - 6.1.3.1 Overall Protectiveness of Human Health and the Environment
 - 6.1.3.2 Compliance With ARARs
 - 6.1.3.3 Long-Term Effectiveness
 - 6.1.3.4 Reduction of Toxicity, Mobility, or Volume Through Treatment
 - 6.1.3.5 Short-Term Effectiveness
 - 6.1.3.6 Implementability
 - 6.1.3.7 Cost
 - 6.1.3.8 State Acceptance
 - 6.1.3.9 Community Acceptance

7.0 Conclusions and Recommendations

- 7.1 Conclusions
 - 7.1.1 Summary of Site Characterization
 - 7.1.2 Discussion on Success in Meeting Remediation Goals and Objectives
- 7.2 Recommendations
 - 7.2.1 Discussion on follow-up Actions

APPENDICES (as needed)

- Site location and topography
- Sampling locations and designation (excepts from FSP)
- Site safety and health plan
- Field and boring logs
- QA/QC program and documentation (e.g. chain of custody and laboratory QA/QC program)
- Laboratory analytical results
- Mapping of contamination plumes and zones
- Remedial alternative technical/cost specification

*** Report outline will vary according to site conditions.**

APPENDIX 10. SAMPLE LIST OF REMEDIATION TECHNOLOGIES

| TECHNOLOGY | DESCRIPTION |
|--------------------------------|--|
| Asbestos Encapsulation/Removal | Encapsulation is the immobilization of asbestos fibers to ensure that particles cannot become friable. Traditional abatement can also include complete removal of asbestos fibers, which can be an extremely expensive procedure. |
| Incineration/Thermal Treatment | Heat is used to concentrate or alter the concentration of soil contaminants. The technology is effective in treating organic wastes; however, it is expensive. |
| Capping/Slurry Wall | Wastes are isolated to prevent migration. This remedial solution is not recommended because it simply contains wastes and does not eliminate significant hazards. |
| Excavation/Off-Site Disposal | Material is transported off-site for disposal at an approved facility. Limited landfill capacity and RCRA Land Disposal Restrictions have made this option increasingly expensive. |
| Bioremediation | Microorganisms are used to consume and render the waste less hazardous. The process is limited by several factors, including salinity of soils, presence of metals, use of designer microorganisms, and toxicity of contaminant substrates. This technology tends to be among the least expensive ones and is gaining public acceptance. |
| Soil Vapor Extraction | Air is drawn through wells drilled around the treated area and assists in removing volatile chemicals. Soil vapor extraction is inexpensive to install and effective for volatile chemicals only. |
| Soil Washing | A washing solution is applied to an excavated area of contaminated soil, which removes persistent wastes. The cleaned soil is then returned to the excavation site. This process is effective in treating most contamination, but is expensive and time-consuming for small quantities. |
| Groundwater Pump and Treat | Wells are installed around the site of contamination and water is pumped to retrieve contaminants. This technology tends to be expensive and require many years to effectively remove site contamination. |