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Standard Guide for Environmental Knowledge Management¹

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1. Scope

1.1 This guide describes good commercial and customary practice in documenting environmental risks, project, and program knowledge.

1.2 Considering that management of environmental liabilities can span very long timeframes, users of this guide understand that preserving key findings, decisions, obligations, commitments, and guarantees for coming generations of project teams is essential to efficient management of associated assets and liabilities.

1.3 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- E1527 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process
- E1689 Guide for Developing Conceptual Site Models for Contaminated Sites
- E1990 Guide for Performing Evaluations of Underground Storage Tank Systems for Operational Conformance with

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

40 CFR, Part 280 Regulations

- E2091 Guide for Use of Activity and Use Limitations, Including Institutional and Engineering Controls
 - E2137 Guide for Estimating Monetary Costs and Liabilities for Environmental Matters
 - E2173 Guide for Disclosure of Environmental Liabilities
 - E2681 Guide for Environmental Management of Underground Storage Tank Systems Storing Hazardous Substances or Petroleum
 - E2790 Guide for Identifying and Complying With Continuing Obligations
 - E3123 Guide for Recognition and Derecognition of Environmental Liabilities
- 2.2 U.S. Financial Accounting Standards Board Standards:³
- ASC Topic 410-20 Asset retirement obligations
 - ASC Topic 410-30 Other environmental obligations
 - ASC Topic 450 Contingencies
 - ASC Topic 460 Guarantees
 - ASC Topic 820 Fair value measurement

2.3 U.S. Governmental Accounting Standards Board Standards:⁴

- Statement 6 Accounting and Financial Reporting for Special Assessments
- Statement 49 Pollution remediation obligations
- Statement 72 Fair value measurement and application
- Statement 83 Certain asset retirement obligations

2.4 International Accounting Standards Board Standard: IAS 37 Provisions, contingent liabilities and contingent assets⁵

2.5 Federal Standards:⁶

- 40 CFR 261 Identification and Listing of Hazardous Waste
- 40 CFR 264 Subpart H Financial Requirements
- 40 CFR 265 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- 40 CFR 280 Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)

³ Available from the Financial Accounting Standards Board, www.fasb.org.

⁴ Available from the Governmental Accounting Standards Board, www.gasb.org.

⁵ Available from the International Accounting Standards Board, www.iasplus.com.

⁶ Available from the U.S. Government Publishing Office, www.govinfo.gov.

- 40 CFR Chapter I - ENVIRONMENTAL PROTECTION AGENCY
- SUBCHAPTER C - AIR PROGRAMS (Parts 50 - 99)
- SUBCHAPTER D - WATER PROGRAMS (Parts 100-103 - 149)
- SUBCHAPTER E - PESTICIDE PROGRAMS (Parts 150 - 181-189)
- SUBCHAPTER F - RADIATION PROTECTION PROGRAMS (Parts 190 - 197)
- SUBCHAPTER H - OCEAN DUMPING (Parts 220 - 238)
- SUBCHAPTER I - SOLID WASTES (Parts 239 - 283-299)
- SUBCHAPTER J - SUPERFUND, EMERGENCY PLANNING, AND COMMUNITY RIGHT-TO-KNOW PROGRAMS (Parts 300 - 375-399)
- SUBCHAPTER N - EFFLUENT GUIDELINES AND STANDARDS (Parts 400 - 471)
- SUBCHAPTER O - SEWAGE SLUDGE (Parts 501 - 503)
- SUBCHAPTER R - TOXIC SUBSTANCES CONTROL ACT (Parts 700 - 799)
- SUBCHAPTER U - AIR POLLUTION CONTROLS (Parts 1000-1026 - 1075-1099)
- 42 USC 9601 Definitions
- 42 USC 56901 Summary of Resource Conservation and Recovery Act

3. Terminology

3.1 Definitions:

3.1.1 *activity and use limitations, AULs, n*—legal or physical restrictions or limitations on the use of, or access to, a site or facility to eliminate or minimize potential exposures to chemicals of concern, or prevent activities that could interfere with the effectiveness of a response action, to ensure maintenance of a condition of “acceptable risk” or “no significant risk” to human health and the environment.

3.1.1.1 *Discussion*—These legal or physical restrictions are intended to prevent adverse impacts to individuals or populations, or environmental receptors, that may be exposed to chemicals of concern.

3.1.2 *aerial photographs, n*—photographs taken from an aerial platform with sufficient resolution to allow identification of development and activities of areas encompassing the property.

3.1.2.1 *Discussion*—Aerial photographs are often available from government agencies or private collections unique to a local area.

3.1.3 *asset retirement obligation, ARO, n*—legal or constructive obligations associated with the retirement of a tangible long-lived asset that result from the acquisition, construction, development, or normal operation of a tangible long-lived asset.

3.1.3.1 *Discussion*—Activities include, but are not limited to, demolition, decommissioning, decontamination, reclamation, restoration, and abandonment. Further detail is found in ASC 410-20 and GASB Statement 83.

3.1.4 *claim, n*—demand for payment or performance of services.

3.1.5 *commitment, n*—contracts, which may address or create environmental risks, typically outside of regulatory oversight.

3.1.5.1 *Discussion*—For example, a lease requirement to “return a property to lessor in original condition at lease-end” may create duties beyond those obligations arising from by current environmental regulations. Another example is a cost-sharing agreement for environmental liabilities between a buyer and a seller or between an insurer and their insured.

3.1.6 *component, n*—portion of a liability.

3.1.7 *contingency, n*—existing condition, situation, or set of circumstances involving uncertainty as to possible gain or loss to an entity that will ultimately be resolved when one or more future events occur or fail to occur. (ASC 450-20-20)

3.1.7.1 *Discussion*—Examples include: (1) injury or damage caused by products sold; (2) risk of loss or damage of property by fire, explosion, or other hazards; (3) actual or possible claims and assessments; (4) threat of expropriation of assets; and (5) pending or threatened litigation. (ASC 450-30-05-10)

3.1.8 *constructive obligation, n*—concept that past practice or statement creates a valid expectation on the part of a third party.

3.1.8.1 *Discussion*—An example of this is a company policy to excavate underground storage tanks once removed from service. Also known as promissory estoppel.

3.1.9 *costs and liabilities, n*—economic expenses, accrued liabilities, asset retirement obligations, impairments, and loss contingencies.

3.1.10 *derecognize, v*—remove previously recognized assets or liabilities from the statement of financial position.

3.1.11 *dutyholder, n*—entity responsible for the costs and liabilities.

3.1.12 *environmental liabilities, n*—set of liabilities consisting of five types: asset retirement obligations, environmental obligations, commitments, contingencies, and guarantees.

3.1.12.1 *Discussion*—Outside of a transaction, the ordinary value of these liabilities are their reserves or provisions (consisting of long-term and short-term portions). Within an actual or proposed transaction, environmental liabilities have “fair value measurement” (also “due diligence”) values.

3.1.13 *environmental obligation, n*—in contrast to an asset retirement obligation to remove an asset from service, environmental obligations include “environmental remediation liabilities,” “pollution remediation obligation,” “Superfund cleanup costs,” “spill response costs,” and others (see ASC 410-30 and GASB 49).

3.1.14 *equitable, adj*—type of obligation based on moral or social expectations, which is typically not enforceable; however, it is uncommon for an equitable obligation to lack a concurrent contractual, regulatory, and/or constructive obligation(s).

3.1.15 *fair value, n*—estimate of the price that could be received for an asset or paid to settle a liability in a current orderly transaction between marketplace participants that are unrelated, knowledgeable about factors relevant to the liability

and the transaction, able, and willing to transact in the reference market for the liability.

3.1.15.1 *Discussion*—Sometimes interchangeably called “due diligence values,” “bankruptcy values,” or “liquidation values.” Also, this approach implies a comprehensive and auditable expected value calculation. Further detail is found in FASB ASC Topic 820 and GASB Statement 72.

3.1.16 *guarantee, n*—type of environmental liability defined primarily in ASC Topic 460, the distinct value of a promise to perform or pay, in the event that another party does not.

3.1.16.1 *Discussion*—Under “joint and several liability,” a guarantee typically exists among the PRPs at a Superfund site. The cost of a CERCLA financial assurance instrument, such as a letter of credit or performance bond, is a guarantee above and beyond the cost of the guaranteed work or payment itself.

3.1.17 *land title records, n*—records that affect the title of real estate, which may include, among other things, deeds, mortgages, leases, land contracts, court orders, easements, and AULs within the recording systems or land registration systems created by statute in every state and ordinarily administered in the local jurisdiction (usually the county) in which the property is located.

3.1.17.1 *Discussion*—Such records are publicly accessible, though the process of searching for and finding land title records often requires specialized expertise or knowledge of the local system. Information about the title to the property that is recorded in a U.S. district court or any place other than where land title records are, by law or custom, recorded for the local jurisdiction in which the property is located, are not considered land title records.

3.1.18 *liability, n*—in FASB Concepts Statement No. 6, “probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events,” or alternatively, a portion of an enterprise’s balance sheet containing long-term debt, short-term accounts payable, pensions, and for the purpose of this guide, environmental liabilities.

3.1.18.1 *Discussion*—This includes legal obligations as well as constructive obligations (promissory estoppel) and may also be in the form of commitments, contingencies, or guarantees.

3.1.19 *no further action (NFA) letter or certificate, n*—document issued by a state, local, or regional environmental regulatory agency as part of a remediation program that specifies the conditions under which the regulatory agency will not require additional remedial action by the property owner.

3.1.20 *obligating event, n*—past outcome that confirmed an obligation.

3.1.21 *obligation, n*—legally enforceable duty of several types: (1) contractual, (2) regulatory, (3) constructive (promissory estoppel), or rarely (4) equitable.

3.1.22 *present obligation, n*—existing duty to achieve an outcome; whether enforced or not, conditions already exist for enforcement.

3.1.23 *purchase accounting adjustment, n*—process by which assets and liabilities are adjusted to fair value promptly after an acquisition.

3.1.23.1 *Discussion*—For environmental liabilities, this commonly results in corrections based on significant findings and decisions learned in the twelve months after a transaction is executed.

3.1.24 *recognition, n*—creation of an accrual (and/or footnoting) for an environmental liability.

3.1.24.1 *Discussion*—Also, “booking a liability.”

3.1.25 *recognition benchmark, n*—accounting term from U.S. GAAP noting specific points in the life of an environmental risk or liability, such as a remedial investigation, feasibility study, or remediation, when a revised estimate of the liability is advisable or necessary.

3.1.26 *reserve, n*—less formally, any accrual for environmental liabilities; more precisely, a provision that is matched with sequestered assets to fund future expenditures.

3.1.27 *settlement, n*—extinguishment of environmental liabilities normally through the performance of services or cash payments.

3.1.27.1 *Discussion*—Settlement through bankruptcy or corporate dissolution is uncommon. Settlement (or extinguishment) is the normal condition for derecognition.

3.1.28 *unasserted claims, n*—as stated by FASB in ASC 410-30-25-23, future actions of an entity, when they occur, may create an obligation to perform environmental remediation, however, no obligation exists currently (for example, if the obligation arises only when and if an entity ceases to operate a facility).

3.1.28.1 *Discussion*—Costs related to asset retirement, including costs of future site restoration or closure that are required upon the cessation of operations or sale of facilities, may create a current obligation that would be recognized in accordance with Subtopic 410-20.

3.2 *Acronyms:*

3.2.1 *AICPA, n*—American Institute of Certified Public Accountants

3.2.2 *ARO, n*—Asset retirement obligation

3.2.3 *ASC, n*—Accounting Standards Codification

3.2.4 *CAA, n*—Clean Air Act

3.2.5 *CEMS, n*—Continuous emission monitoring system

3.2.6 *CERCLA, n*—Comprehensive Environmental Response, Compensation and Liability Act of 1980 (as amended, 42 USC Section 9601 et seq.)

3.2.7 *CFR, n*—Code of Federal Regulations

3.2.8 *EHS, n*—Environment, health, and safety

3.2.9 *FASB, n*—Financial Accounting Standards Board

3.2.10 *GAAP, n*—Generally accepted accounting principles

3.2.11 *GASB, n*—Governmental Accounting Standards Board

3.2.12 *GIS, n*—Geographical information system

3.2.13 *GPS, n*—Global positioning system

3.2.14 *HAZWOPER, n*—Hazardous Waste Operations and Emergency Response

3.2.15 *IAS, n*—International Accounting Standard