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Standard Guide for Framework for a Consensus-based Environmental Decision-making Process[1]

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1. Scope

1.1 This guide presents a framework for a stakeholder-focused Consensus-based Environmental Decision-making (CBED) process, which is a stakeholder-empowered, process to prioritize and select actions to be initiated with the goal of optimizing many types of environmental decisions that may affect a community or communities.

1.2 This guide is intended to describe a highly flexible CBED process, and therefore does not recommend a specific course of action for this activity.

1.3 This guide is intended to assist in implementing a CBED process, which allows assessing the full impact of any project- or issue-related decisions related to human health, ecological, socio-cultural or economic impacts.[2]

1.3.1 States and Tribes applying for CERCLA §128(a) Brownfields grants may find this guide useful when developing and implementing their meaningful public participation and community engagement programs.

1.4 This guide is not intended to replace existing environmental decision-making or public participation processes. It may be used with other processes or standards that address stakeholder involvement in environmental decision-making.

1.5 *Limitations*—This standard does not address the specific methods for generating or evaluating technical data related to assessing a particular environmental issues. The user should seek other sources on methods to gather information for completion of models or other analyses that may be used during a CBED process. This standard may not fully address the rights of owners of real property or the potential impact (positive or negative) on the value of real property of a decision made using this process.

1.6 *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.*

[1] This guide is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action and is the direct responsibility of Subcommittee E50.05 on Environmental Risk Management.

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[2] The CBED process is not meant to replace other processes, such as the U.S. National Environmental Policy Act (NEPA) process. The strength of the CBED process is to empower the stakeholders in an organized fashion to focus on specific issues that tend to result in litigation and long delays and can be readily used in conjunction with NEPA and/or other public participation processes.

2. Referenced Documents

2.1 *ASTM Standards:*[3]

E1739 Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites (Withdrawn 2024)[4]

E1984 Guide for Brownfields Redevelopment (Withdrawn 2012)[4]

E2205 Guide for Risk-Based Corrective Action for Protection of Ecological Resources

E2876 Guide for Integrating Sustainable Objectives into Cleanup

E3356 Guide for Stakeholder Engagement on Environmental Risk Management and Climate

2.2 *Other Documents:*

P/CCRARM (The Presidential/Congressional Commission on Risk Assessment and Risk Management), 1997a, Framework for Environmental Health Risk Management. Final Report. Volume I. [5]

P/CCRARM (The Presidential/Congressional Commission on Risk Assessment and Risk Management), 1997b, Risk Assessment and Risk Management in Regulatory Decision-Making. Volume II.[6]

Quality of Stakeholder-Based Decisions and Understanding Risk[7]

40CFR, Part 1501-1506, The Quality of Stakeholder-Based Decisions: Lessons from the Case Study Record, Resources for the Future[8]

10CFR Part 20, NEPA and Agency Planning; "Standards for Protection Against Radiation," Subpart E, "Radiological Criteria for License Termination.[8]

Section 117(d) of the Marine Mammals Protection Act of 1972 16 U.S.C. 1386, Section 117[9]

U.S. Department of Interior. BLM Collaborative Stakeholder Engagement and Appropriate Dispute Resolution, 2009 (BLM 2009)

US EPA. Better Decisions Through Consultation and Collaboration, September 2015 (EPA 2015)

3. Terminology

3.1 *Definitions:*

3.1.1 *affected ~~stakeholder—~~stakeholder, n—*any individual, group, company, organization, government, tribe or other entity which may be directly affected by or has a stake in the outcome of the specific CBED process.

3.1.2 *community*—a group or groups of individuals who live or work in specific neighborhoods or regions.

3.1.3 *consensus*—a generally accepted agreement among a group of stakeholders.

3.1.4 *consensus-based environmental decision-making (CBED) framework*—a process structure that will facilitate empowering affected stakeholders in developing a CBED process.

3.1.5 *consensus-based environmental decision-making (CBED) process*—a stakeholder-empowered process to assess, prioritize and select actions to initiate with the goal of optimizing environmental decisions with respect to human health, and ecological, socio-cultural, and economic impacts.

3.1.6 *informed consent*—agreement reached by affected stakeholders, which is obtained by a process by which affected stakeholders *(1)* are involved in a participative process that creates common understanding of the issues, concerns and priorities held by all affected stakeholders; *(2)* assess, prioritize and select actions to improve the problem situation; and *(3)* agree to trade-offs to achieve consensus on specific initiatives related to the CBED process.

3.1.7 *interested party*—any individual, group, company, organization or other entity which is not an "affected stakeholder" but which is interested in the outcome of the particular CBED process. Interested parties are not empowered with a decision-making role, and may participate on the Stakeholder Committee only as an observer or to provide information at the discretion of the Stakeholder Committee.

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[3] 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.

[4] The last approved version of this historical standard is referenced on www.astm.org.

[5] Available at http://www.riskworld.com/Nreports/nr7me001.htm.

[6] Available at http://www.riskworld.com/Nreports/nr7me001.htm

[7] Available at: http://www.rff.org/Documents/RFF-DP-00-56.pdf

[8] Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, http://quicksearch.dla.mil.

[9] Available from National Oceanic and Atmospheric Administration (NOAA), 1401 Constitution Ave., NW, Room 5128, Washington, DC 20230, http://www.noaa.gov.

3.1.8 *regulator*—a local, regional, ~~state/provincial~~ state/provincial, Tribal or federal government agency or person employed to administrator and enforce compliance with laws and regulations, which may be either a stakeholder, a decision-maker, or an advisor to the Stakeholder Committee.

3.1.9 *stakeholder committee*—the entity empowered to make decisions within the CBED process which is composed of representative(s) selected from each group of affected stakeholders. ~~Members of the Stakeholder Committee are responsible to act as liaisons with their respective stakeholder groups.~~

3.1.9.1 *Discussion*—

Members of the Stakeholder Committee are responsible to act as liaisons with their respective stakeholder groups.

4. Summary of Guide

4.1 The Consensus-Based Environmental Decision-making Process is a stakeholder-empowered, community-specific process established to assess, prioritize and select actions to initiate with the goal of optimizing environmental decision-making with respect to human health, ecological, socio-cultural, and economic impacts. The Stakeholder Committee may consider issues related to environmental justice, which relates to the fair treatment and meaningful involvement of all people, regardless of race, ethnicity, income, national origin or education level. The CBED process is an iterative process comprised of five main steps: *(1)* affected stakeholder identification and formation of the Stakeholder Committee; (see BLM 2009, EPA 2015, and Section 6.2 of Guide E3356) *(2)* information gathering; *(3)* forecasting; *(4)* establishment of informed consent; and *(5)* implementation and evaluation of initiatives.

4.2 The CBED process facilitates decision-making through negotiations among affected stakeholders with fairly consensual decision rules. An important part of the process is to determine and clearly communicate to all participants the rules to be followed about transparency, the procedures that will be used to reach consensus, and the delineation of the ultimate decision-making ~~authority.~~authority (see EPA 2015 and Section 6.4 of Guide E3356).

4.3 The CBED process allows the impact of any project-related or issue-related decision to be assessed. The process provides all affected stakeholders with scientific and legal analyses and decision criteria that are prepared and interpreted by scientific, technical, and legal experts, as well as relevant qualitative experiential knowledge and values-based decision criteria. The Stakeholder Committee decides the relevance and importance of the criteria to the decision under consideration.

4.4 There is no specific path that has to be followed when initiating and participating in this CBED process. Depending on the needs and priorities of the affected stakeholders and the legal constraints governing specific environmental decisions, different entities may initiate the process, different procedural rules may be adopted, and different analysis tools may be used to address each issue or ~~concern.~~concern (see BLM 2009).

5. Significance and Use

5.1 This standard guide is designed to help the owners and regulators of a specific environmental problem to identify and integrate affected stakeholders and establish a process to identify and work through all the key questions and answers essential to a mutually acceptable decision. This standard guide presents a “framework” that is intended to help ensure that all the CBED process components (that is, human health, ecological condition, socio-cultural values and economic well-being) are considered, but is designed to allow the user to interpret which components of the process are applicable and how these components are defined for the specific environmental problem being addressed. It also provides general guidance to help with selecting approaches and methods for specific analyses of each of the major CBED components (that is, human health, ecological condition, socio-cultural values, and economic well-being). The CBED process can be easily coupled with other relevant standards (for example Guides E1739, E1984, E2205, and E2876) and environmental compliance guidance and requirements, for example, Quality of Stakeholder-Based Decisions and Understanding Risk, 40 CRF 1501, 10 CFR 20, and Marine Mammals Protection Act of 1972.

5.2 The CBED process is appropriate in two contexts: *(1)* when a specific project is proposed; and *(2)* when there are or may be public concerns about specific health, environmental, cultural, social or economic issues. CERCLA § 128(a) grantees will find the CBED process useful for community engagement activities such as the analysis of brownfields cleanup alternatives.

5.3 Involving affected stakeholders actively in the decision-making process reorients that process from one dominated by regulators and owners to one that includes those who live with the consequences of the decision. This not only increases the

successful implementation of decisions, but also can promote greater trust in government, industry and other institutions (See Section 6.9 of Guide E3356~~(P/CCRARM, 1997a).~~, BLM 2009, EPA 2015 and (P/CCRARM, 1997a)).

6. Consensus-based Environmental Decision-making Framework

6.1 *Identification of Affected Stakeholders and Formation of the Stakeholder Committee:*

6.1.1 Stakeholders are at the center of the CBED process, and are involved from the earliest issue identification through the decision-making and decision-evaluation activities. The affected stakeholders contribute to problem definition, question formulation, and decision-making rather than just providing feedback about decisions made by others.

6.1.2 Among the first choices to be made is what level of participation is desired for the particular CBED process; the focus may be on individuals (as in a participatory democracy), on groups (as in a representative democracy), or a combination of the two. Serious, active management of two-way communication is essential and required to identify the appropriate parties early in the process. Adequate time should be allocated to complete this effort before other significant CBED discussions are ~~undertaken.~~undertaken (see Sections 6.5, 6.7, and 6.8 of Guide E3356).

6.1.3 It is necessary to both identify and involve the *affected stakeholders*, vulnerable communities and interested ~~parties.~~ parties (see Fig. X1.1 in Appendix X1 for an example of a Stakeholder Analysis Table). These groups should be invited to select (a) representative(s) to participate on the Stakeholder Committee; the most effective representatives are those selected by the group or organization to be represented. There may be (a) representative(s) of several organizations within each category (for example, there may be two main industries in the area; there may be three government agencies which require representation; etc.). Each member of the Stakeholder Committee is responsible to act as liaison with their respective stakeholder group.

6.1.4 Construction of a "stakeholder map" is one effective technique to guide the stakeholder identification process (for example, Fig. 1). The map for a particular CBED process should be tailored to the specific features of the process. The literature on stakeholder involvement contains many different stakeholder maps, classifications and typologies. The map presented in Fig. 1 is an element of the CBED process that should be tailored to the specific needs of a particular process, which requires broad insights into the local and regional cultures that may be affected by the process. Most importantly, the map should be recognized as a "living" entity, subject to modification as needed throughout the life of the process. Delineations of different spokes of the map are not intended to imply or expect "camps of different opinion," about potential issues related to the process; but rather to guide all participants toward ensuring completeness in representation of stakeholder groups. Refinements to the map should be made as participants identify different relationships or additional individuals or groups.

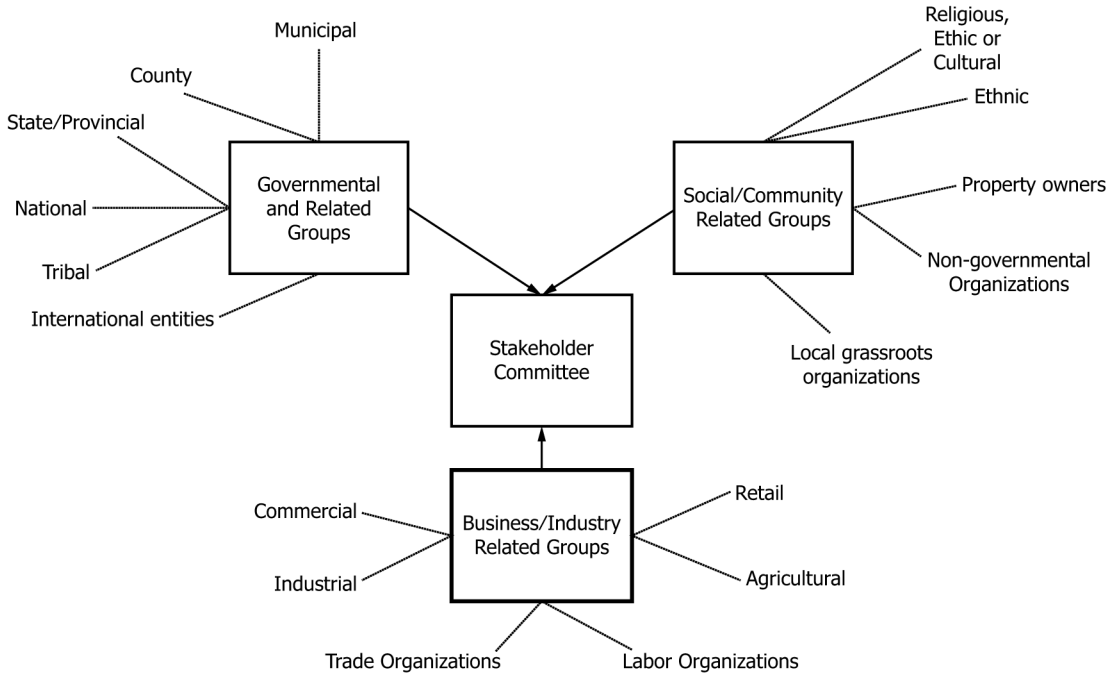

FIG. 1 Example of a Stakeholder Map Intended to Guide Identification and Notification of All Potential Participants in a CBED Process

6.1.5 The Stakeholder Committee should identify a chairperson. The Chairperson should be selected by the entire Stakeholder Committee and be willing to commit the time necessary to fulfill this function. The Chairperson should be perceived as fair and impartial and should have collaborative leadership skills, including facilitating group interactions.

6.1.6 For the Stakeholder Committee to function optimally, it should establish ground rules for its operations and its members. The basic ground rules are honest communication, clear understanding of how consensus will be reached and clear delineation of whom or which agency is the final decision-maker (P/CCRARM, ~~1997b).~~ 1997b; BLM, 2009; EPA 2015, Guide E3356). Ground rules will be needed for: how communications will be dealt with; how information and decisions will be documented; how to deal with a deadlock on an issue; and who will control the data and information generated after the CBED process is ~~completed.~~completed (see Section 6 of Guide E3356) .

6.1.7 Depending on the specific CBED process, the services of a professional facilitator/mediator may be useful. The decision to employ a professional facilitator or mediator may be made at the beginning of the CBED process or during the process.

6.1.8 The CBED process may proceed once the affected stakeholders have been identified and contacted, and the Stakeholder Committee has been formed and includes sufficient representation from each stakeholder group (Fig. 2). The Stakeholder Committee may wish to define clearly the criteria it will use to make the determination to proceed.

6.2 *Information Gathering:*

6.2.1 Once the Stakeholder Committee has been formed, the CBED process continues with the Information Gathering. In this activity, information is gathered on stakeholder issues, perceptions, preferences and constraints. Various tools may be used to gather information, such as meetings, focus groups, newsletter, web sites, etc. (see Section 6 of Guide E3356). Information is compiled on issues relevant to the specific CBED process, possibly including legally required considerations, current health status, environmental issues, social issues, cultural factors, economic status of the region, or other areas, as appropriate. Identification of issues is critical because this information will form the basis of the modeling effort within the Option Generation and Impact Forecasting activity of the framework.

6.2.2 It is important to discover what data presently exist about the local economy, human health, the ecology of the area, and the socio-cultural description of the area. If data do not exist or cannot be found through other sources, then primary data collection might be necessary at this point in the process. If it is determined that data cannot be gathered for a certain area of emphasis, then it might be necessary to reassess the stakeholders' priorities to find another method in which to obtain this information.

6.2.3 The CBED process may proceed once sufficient information has been gathered to allow the Option Generation and Impact Forecasting activity to proceed (Fig. 3). The Stakeholder Committee may wish to define more clearly the criteria it will use to make the determination to proceed.

6.3 *Option Generation and Impact Forecasting:*

6.3.1 The initial information gathered to identify stakeholder priorities and values forms the basis for generating options and forecasting the impacts resulting from different scenarios. During this activity predictive methods and models are developed to describe ranges of possible outcomes. Additional tools such as Spatial Multi-Criteria Decision Analysis (Hanssen 2018)[10] allow the stakeholders to evaluate the impacts of various scenarios. This information is used as criteria to judge various decision options.

6.3.2 The Stakeholder Committee will likely need to hire technical experts to develop and use the specific assessment methods and ~~models.~~ models (see Section 6.5 of Guide E3356). However, it is important to stress that it is the Stakeholder Committee that selects the experts and develops the scope of work. Presentation and interpretation of the resulting technical reports may be done by (a) technical facilitator(s) for the Stakeholder Committee.

6.3.3 Decision and options criteria are then developed by the Stakeholder Committee to allow for an evaluation of the various impacts and identification and evaluation of affected stakeholder priorities about these impacts.

6.3.4 The CBED process may proceed once possible interventions with related outcomes are identified and impacts evaluated (Fig. 4). The Stakeholder Committee may wish to define more clearly the criteria it will use to make a determination to proceed.

[10] Hanssen, Frank, May, Roel, et al., Spatial Multi-Criteria Decision Analysis Tool Suite for Consensus-Based Siting of Renewable Energy Structures. *Journal of Environmental Assessment Policy and Management* Vol. 20, No. 3 (September 2018) 1840003. doi: 10.1142/S1464333218400033

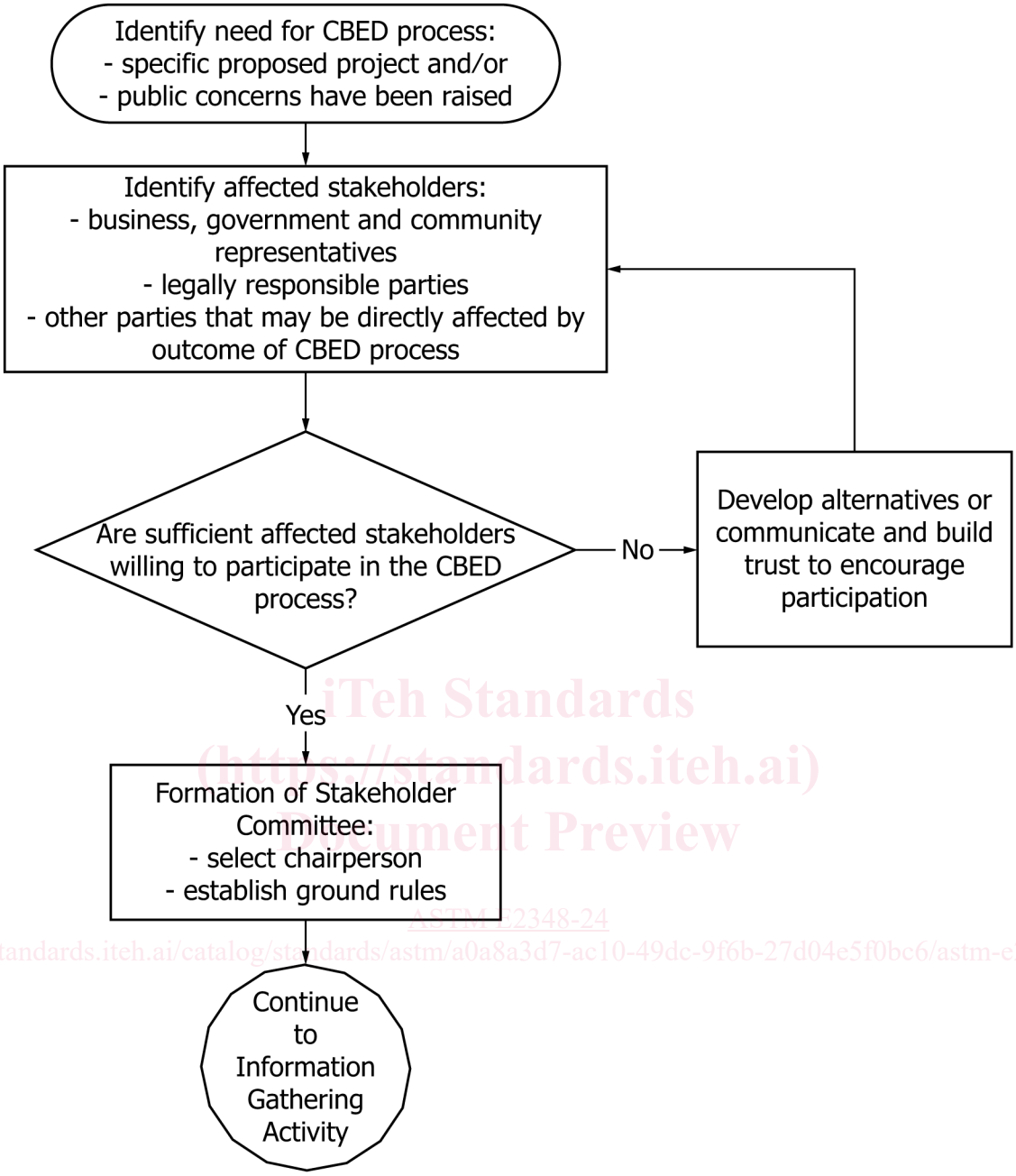

FIG. 2 Stakeholder Committee Formation

6.4 *Obtaining Informed Consent:*

6.4.1 Once the necessary forecasts have been completed, it is time for the Stakeholder Committee to agree on an action or actions for solving or improving the problem situation. Some of the potential outcomes predicted during the Options Generation and Impact Forecasting activities may be mutually exclusive or conflict with other potential outcomes or priorities of other stakeholders. It is necessary to have a shared understanding of the issues and then to develop Informed Consent of the Committee. Because honesty is a ground rule of the Committee, the issues and priorities of all stakeholders should be transparent. Therefore, stakeholders are able to develop solution-selection criteria and agree to trade-offs to achieve consensus; that is, stakeholders should be willing to negotiate and should be flexible (P/CCRARM, 1997b). Decision-assessment tools can be used at this point to prioritize stakeholder decisions and to help analyze the trade-offs that will be made depending on the solution(s) that are chosen. All potential outcomes should be available for ~~consideration.~~consideration (see Section 6.4 of Guide E3356).