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Stakeholder Participation in U.S. Department of Energy Environmental Cleanup Decisions*

by

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ABSTRACT

The U.S. Department of Energy (DOE) program to clean up the legacy of the Cold War involves more than 350 projects at 53 sites. DOE's plans are to clean up 90% of these projects by 2006. To accomplish this goal, an aggressive investment in technology development and deployment has been pursued. In 1992, the DOE established the Technology Connection (TechCon) program to encourage the use of emerging and commercially available technologies.

Obstacles to the use of technologies are significant. Community and regulatory stakeholders must actively participate in the evaluation and selection of technology alternatives. All parties must understand the final selection of alternatives. Early stakeholder involvement is made difficult because of the complex nature of projects. Limited access to expertise and important documentation further complicate opportunities for involvement. The approach to decision making can involve a wide range of topics and expertise, and the schedule is frequently long. Moreover, the remote locations of DOE sites can further complicate stakeholder participation.

This paper explores recent experiences involving TechCon technical assistance and describes the role of stakeholders in providing important input and feedback on technology alternatives. Face-to-face interactions with stakeholders, essential for effective communication, are made difficult because of extended schedules, remote locations, and diverse resources. Use of the Internet over the past two years has enhanced the opportunities for stakeholder involvement. Timely feedback and broader participation have improved the quality of decisions and increased stakeholder acceptance of the cleanup program.

INTRODUCTION

This paper addresses stakeholder involvement in cleanup projects at U.S. Department of Energy (DOE) sites during 1998 and 1999. Stakeholder experiences were associated with projects that received technical assistance through DOE's Technology Connection (TechCon) Program. TechCon was established in 1992 to seek commercially available technology-based alternatives to DOE baseline cleanup approaches and to facilitate interaction of DOE project teams with relevant commercial vendors. This process is now generally referred to as part of a broadly based effort called technical assistance. It has become evident to DOE project teams that regulatory and community stakeholders play an important role in the identification and final selection of the remedial approach for cleanup projects. As a result of stakeholder involvement success, efforts to include stakeholders as important project participants are being expanded. While there was a significant level of support in DOE for technologies that could be used to enhance performance

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over that achieved by traditional baseline approaches, there were also obstacles that prevented their use. Stakeholder involvement has been recognized as an important strategy for achieving technological change.

THE DOE CHALLENGE

DOE's program to clean up the legacy of the Cold War involves more than 350 projects at 53 sites. The total life cycle of this program was projected to cost $147 billion in 1998 and is currently expected to last until 2070. DOE has a goal to complete cleanup at 90% of these projects by 2006. The Department has invested billions of dollars in technology development and demonstration with the expectation that corresponding reductions in cleanup cost, schedule, and risk and increases in the levels of success will be achieved. Some sites will be cleaned to a point where unrestricted use will be possible in the future. Other sites that have deep soil and groundwater contamination remaining, or that have waste entombed on site, will require future stewardship responsibility beyond the 2070 target.

Many stakeholders are interested in the decisions made regarding final disposition of these sites and are concerned about the potential future risks that are not currently foreseen. The DOE cleanup sites are located in a variety of settings with climate conditions that range from desert to high rainfall. Locations sited next to major rivers or over important groundwater supplies increase the potential for migration of contaminants. Many of the DOE sites are large and very complex in nature, presenting unique cleanup challenges. Stakeholders can include local, remote, and special communities such as Native American groups that are potentially vulnerable to exposure. Regulatory stakeholders typically include both state and federal agencies and often include local municipalities.

DOE currently employs major management and infrastructure (M&I) contractors to undertake cleanup programs. These contractors may, in turn, use a variety of subcontractors to accomplish various cleanup tasks within the local site cleanup mission. Because of the nature of work assigned, significant site and contaminant characterization is needed to define the cleanup needs and goals to be accomplished. Consequently, a significant portion of the needed experience and expertise can fall outside local contractor capabilities. The broad array of players involved and uncertainty over the best approach to cleanup have generated stakeholder concerns. Schedule delays and cleanup problems can add strain to DOE, contractor, and stakeholder relationships.

Selecting a cleanup approach generally begins with baseline assumptions. These assumptions are then studied to identify potential alternatives and select the best one available. This process typically provides limited opportunities for information exchange and interaction among DOE project teams and stakeholders. Experiences gained through TechCon technical assistance efforts indicate that it is difficult to change opinions and perceptions without some level of interaction.

TECHCON LESSONS LEARNED

The goals of individual stakeholders are different from those of the DOE project teams. The project teams are generally most concerned with getting the job done as quickly as possible while meeting environmental regulatory requirements. Community stakeholders provide written

comments on documents submitted in conjunction with regulatory compliance and participate in any public meetings that may be held. Vendors may also have an interest in providing input on cleanup approaches based on their experience on similar projects, but they rarely have adequate access to offer their perspective.

Successful stakeholder relationships result from the willingness of DOE sites to allow the stakeholders to participate in the evaluation and decision making process. This participation is accomplished by allowing stakeholders to regularly attend meetings early in the project development stage, while the project team is characterizing and understanding the problem, identifying alternatives, and selecting one or a combination of approaches. Such participation traditionally required face-to-face meetings; however, new communication tools, including the Internet, provide expanded opportunities and flexibility for project team participants to exchange information. These communication tools are discussed later. The increased level of stakeholder participation during the evaluation phase of a project has made it incumbent upon the project team to clearly define the roles of all participating stakeholders. In particular, the responsibilities associated with each stakeholder's contribution to the decision matrix of a project must be established early in the process. Information has to be treated as incomplete parts that will create a broader picture of potential alternatives rather than as documentation for a final decision. A frequent mistake is to restrict stakeholder input until a decision has been made. This results in a lack or decreased number of alternatives and feelings of mistrust, with stakeholders believing that decisions have been forced upon them. A stakeholder relationship must be based on the value of the input that the stakeholder can provide and that input can result in a modification of a decision.

STAKEHOLDER INVOLVEMENT STRATEGY

Because of the remoteness of most stakeholders (in both distance and in scheduling), the stakeholder involvement strategy associated with TechCon technical assistance combines direct interactions and broad use of the Internet to achieve effective interactions. This approach enables stakeholders to use the Internet to obtain information about the project in question, examine alternatives being considered, and thereby provide feedback in the form of written comments and questions. The stakeholder is treated as an important part of an expanded team involved in addressing alternatives for solving a problem. A TechCon project leader also is a member of the DOE project team and can act as facilitator for project meetings. The facilitator can also expand stakeholder and project team interactions by using Internet tools such as discussion lists. Discussion lists consist of a switching center where e-mail messages from participants can be routed to all interested parties and messages can be archived in a central location accessible via the Internet. This interaction tool is used to alert participants about new information on web sites, new documents, and new meeting schedules. It also captures comments of a diverse group on topics of interest, and enables new issues to be placed on the table for possible consideration.

Opportunities for interaction between stakeholders and the project team must be predicated on an awareness of the benefits desired by the participants. These benefits to the DOE project team can be ideas for new or different viable alternatives. The team might also be interested in new insights or existing approaches. The major benefits to stakeholders are access to participate in the process, provide feedback on their positions, and gain insight on the impact of alternatives being considered. While vendors are not frequently considered stakeholders, they can also be helpful in

identifying alternatives. An interim step is recommended to separate those vendors with relevant experience from those without the necessary experience.

The outcome of stakeholder involvement and interactions should include a conscientious effort to document existing alternatives and opportunities. One potential outcome is the identification of alternatives and insights that could be the basis for change. Therefore, an important overall strategy is to establish change as a possible outcome and to define existing boundaries that could preempt such change.

NEW COMMUNICATION TOOLS PROVIDE ACCESS

With the availability of new tools in the Internet, communication strategies are shifting from an exchange of information to interactions based on responses to information received or sent. The TechCon web site at http://web.ead.anl.gov/techcon is organized under project-specific home pages. The project home pages are then broken down into sections that describe the needs or problems being worked on. The intent is to enable the visitor to obtain a reasonably accurate picture of the situation being considered. The information can cover the technical resources available and one or more of the approaches being considered. Current status information updates participants on current activities, new or changed documents that have become available, and announcements of future meetings and milestones. The site can also provide information on the range of participants involved and a mechanism for new visitors to provide input. Some stakeholders want to have significant visibility, while others prefer to maintain a lower profile.

A project web site containing the components described above can be easily accessed by anyone having a telephone line and computer with a modem. This type of approach enables a stakeholder to gain access and provide input. Several techniques are used in conjunction with this type of web site. An e-mail-based discussion list, such as discussed earlier, provides time- independent access to a broad range of potential stakeholders. Real-time interactions can be achieved by smaller groups of stakeholders who combine conference calls with use of the Internet. They use them to review new information and respond quickly to data and documents requiring time-critical decision-making.

New communication tools are emerging every day. Video conferencing tools and on-line data management software have dramatically expanded opportunities for information exchange. As sophistication increases, the complexity and cost of such tools also increases, thus often making them unavailable for the typical stakeholder.

Although the tools may be new, the end point of communications remains the same. Direct interactions are still the principal mechanism for effective decision making. The e-mail and Internet-based tools continue to require face-to-face contact as the logical end points. The most effective interactions are enhanced by the improved preparation and understanding that comes as a result of using the tools. The following project provides further insight on effective stakeholder participation.

DIFFERENT PROJECTS REQUIRE DIFFERENT APPROACHES

A major DOE site had an area in which significant volumes of radioactive and hazardous materials had been buried in pits and trenches. Environmental assessments of these areas indicated that cleanup would have to be conducted. Perceptions of the nature of the problem by DOE, site contractors, and federal and state regulators indicated that traditional approaches to cleanup could not be applied and that new technology would have to be developed. A large-scale expensive technology development effort resulted in little practical cleanup progress and criticism from regulatory and community stakeholders, including Congressional representatives.

A TechCon technical assistance effort was initiated as a result of stakeholder pressure to access expertise from outside the system to provide new insight on proper approaches. The objective was to bring experts from around the world together in a face-to-face meeting that examined current strategies, described similar projects, and provided feedback and recommendations. A project web site was used to build a picture of the problem and provide access to a broad variety of potential stakeholders. Input was sought from both domestic and international sources, based on the expectation that prior experience in solving similar problems was a prerequisite for participation. From data generated by vendor participation in the project web site, the DOE site project team, enhanced by feedback from regulatory and community stakeholders, selected the best demonstrated experience available. A three-day meeting produced significant recommendations for moving to a revised approach and resulted in a major modification to the project cleanup effort. The meeting was effective because stakeholders had access to information that helped them prepare for the technical discussions and make informed decisions. Everyone's confidence had significantly increased because all stakeholders had access to a wide range of relevant experiences and they could quickly obtain important information needed as a prerequisite to providing input to a final decision.

CONCLUSIONS

Community and regulatory stakeholders have provided valuable input to help make important decisions about the cleanup approaches used for large, complex projects at DOE facilities. The goals and perspectives of stakeholders usually vary significantly from those of the project team and can conflict with each other. Effective communications requires that all participants have access to information and a commitment to interactions that seek consensus among the participants. The outcome of a successful communication process is frequently changes to approaches that were originally developed without the benefit of stakeholder input.

Effective communication does not have to be difficult, despite the diverse opinions and remote locations of stakeholders and their increased sensitivity to risks of failure. The use of technical assistance approaches such as those used by TechCon since 1992 to facilitate interactions among project teams and diverse stakeholders has to begin with an unbiased approach that gives equal consideration to a variety of alternatives. It is enhanced by new tools built around the Internet that enable better communications and understanding of alternatives. It is completed by focusing on a decision-making process that converts a range of viable alternatives into cleanup approaches accepted by all stakeholders.

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