# Using Stakeholder Processes in Environmental Decisionmaking

## An Evaluation of Lessons Learned, Key Issues, and Future Challenges

*Prepared By*

**Terry F. Yosie**
**Ruder Finn Washington**

*&*

**Timothy D. Herbst**
**ICF Incorporated**

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## I. Executive Summary

Stakeholder involvement in environmental decisionmaking by government and industry is inevitable and will continue to expand. This study examines the major reasons for the increased use of stakeholder processes, identifies some key issues and challenges associated with managing them, and analyzes factors shaping their future use.

The study's results are based upon an extensive literature review, an examination of twenty-nine stakeholder case studies, and in-depth interviews with thirty-seven of the nation's leading experts and participants (representing government, industry, environmental groups, and other perspectives) in environmental stakeholder processes. Key observations and findings include:

- **The increased use of stakeholder processes over the past decade represents a societal interest in more interactive forms of decisionmaking. Rather than a transitory phenomenon, this development reflects a culmination of a series of environmental, political, societal, and technological developments that have begun to yield significant changes in the methods of making environmental decisions.**

Forces driving the evolution of environmental stakeholder processes include: a lack of public confidence and trust in the environmental decisionmaking of many government agencies and corporations; the increasing transparency of institutions whose decisions affect environmental quality; greater societal expectations for improved environmental quality; the enhanced ability of citizens to participate in stakeholder processes; the growing diffusion of information technology and an associated decentralization of decisionmaking in large institutions; and policy commitments made by government agencies and industries to expand stakeholder participation in their decisionmaking processes.

- **Environmental stakeholder processes are frequently not well managed because a number of convenors, facilitators, and participants are not aware of, or have not made effective use of, knowledge and practices developed over time.**

Environmental stakeholder processes are not new, but they represent an evolution from previous methods of soliciting public input. They are frequently managed in an ad hoc manner, thus failing to capture and apply historical insights and transfer best practices. The difference between success and failure in many stakeholder processes is often unclear. The inability to effectively use existing knowledge and identify best practices has generated unrealistic expectations about what environmental stakeholder processes can achieve and has resulted in an ineffective use of resources, including stakeholders' time.

- **There is a significant need to achieve a better match between the choice of a stakeholder process and the problem it is attempting to solve.**

Participants in stakeholder processes have a variety of problem solving options, each of which has strengths and limitations. A process designed primarily to share information, for example, is not well suited for resolving legislative issues and debates. Greater evaluation is needed to determine the suitability of individual process options (e.g., advisory committees, alternative dispute resolution, consensus-based decisionmaking, regulatory negotiation) for specific environmental problems.

- **There are no specific agreed upon definitions of a stakeholder. The identification of stakeholders is influenced by such factors as the issues under consideration, the methods used to evaluate whose views need to be solicited, and the skill at which individual stakeholders or their organizations articulate their interests.**

Both individuals interviewed for the study as well as existing literature distinguished among various categories of stakeholders. These included people who are: 1) directly affected by a decision to take action on an issue or project; 2) interested in a project or activity, want to become involved in the process, and seek an opportunity to provide input; 3) more generally interested in the process and may seek information; and 4) affected by the outcome of a decision but are unaware of or do not participate in stakeholder processes.

In addition, various kinds of stakeholder processes exist ranging from those in which stakeholders participate directly in making and implementing decisions to deliberations organized to obtain data, perspectives, or values on selected topics.

- **The decision whether to utilize a stakeholder process should be guided by an evaluation of key issues.**

These issues include: 1) assessing the attitude of convenor organizations (to measure their willingness to listen to stakeholders' views in a decisionmaking process); 2) evaluating potential alternatives to a stakeholder process; 3) determining whether the decision has already been made; 4) identifying potential stakeholders for the specific issue under review; 5) clarifying the roles and capabilities of scientist and other stakeholders; 6) selecting the kind of stakeholder process that should be used; 7) agreeing upon ground rules for the process; 8) establishing goals; 9) choosing the types of issues and decisions that stakeholders will address; 10) using evaluative criteria to better assess the value and progress of discussions and decisions at various stages of the process; 11) assessing the availability of resources to support the stakeholder process; 12) determining whether a process hammer exists or should be established; and 13) providing for transparency and communication to ensure ongoing access to information and accountability of the parties to each other.

Addressing each of these issues creates an important set of management tools during various stages of stakeholder deliberations.

- **Stakeholder processes challenge the ability of the scientific community to effectively participate in a growing number of environmental decisions. New approaches to delivering and communicating scientific information are needed to better inform stakeholder deliberations.**

At present, science-based and stakeholder-based decisionmaking frequently represent competing approaches to resolving environmental issues. Many environmental debates represent conflicts over competing social values as well as disagreements over scientific and economic data. Stakeholders are frequently perceived by decisionmakers as more legitimate and representative interpreters of societal values than scientists. In addition, most debates in stakeholder-based decisionmaking surround the quality of the process rather than the quality of the scientific analysis.

Scientists' traditional methods of providing input to environmental decisionmaking (e.g., use of peer review processes, reliance on published studies) often do not match the needs of stakeholder processes. While such methods are appropriate for peer-to-peer exchanges within the scientific community and technically trained managers, they do not facilitate direct interactions with stakeholders or provide information in a form most useful to stakeholder deliberations. As a result, many stakeholder processes do not obtain sufficient knowledge and insight from scientists and, consequently, are less informed.

- **While increasingly participating in stakeholder processes, environmental and business groups have growing concerns about their use.**

Both environmental and business organizations are major stakeholders and have more opportunities to communicate their goals and perspectives. However, the increased use of stakeholder-based decisionmaking challenges both environmental and business organizations to devise new strategies of participation and expand or reallocate resources. In addition, they face capacity limits in the number of people they can send to effectively represent their organizations in stakeholder processes. Many environmentalists are concerned about government agencies using these processes to avoid making difficult and politically contentious decisions. Many business groups view government's increased use of these deliberations, coupled with expanded use of the Internet, as a retreat from more scientifically rigorous risk-based decisionmaking.

- **The future use of stakeholder processes will be significantly influenced by the ability to successfully manage five major challenges.**

On the basis of interviews conducted for the study, assessment of case studies, and the literature review, these challenges include:

**Challenge 1: Achieving quality management of stakeholder processes.** The application of improved quality management procedures should lead to a commitment to: use best practices; improve facilitator training, professional, and ethical standards; enhance the capacity and infrastructure for managing stakeholder projects; and better leverage knowledge and management tools across the public and private sectors and non-government organizations.

**Challenge 2: Measuring stakeholder processes and results.** Greater use should be made of planning indicators and metrics to measure goals, process milestones, results, and costs. Such steps can improve the efficiency of stakeholder processes and contribute to obtaining more tangible benefits and outcomes.

**Challenge 3: Engaging the scientific community in stakeholder processes.** Most stakeholder-based processes generally make ineffective use of existing scientific knowledge although there is no inherent reason why the two processes cannot be mutually supportive. By more systematically involving scientists in stakeholder processes, and ensuring that the scientist-stakeholder relationship is iterative and interactive, the value of science to stakeholder-based decisionmaking can be realized with no sacrifice of scientific quality and credibility.

**Challenge 4: Integrating stakeholder deliberations with existing decisionmaking processes.** At present, stakeholder processes frequently exist in parallel to traditional environmental decisionmaking. More transparent and explicit ground rules and boundaries need to be established to better manage the issues and relationships between stakeholder processes and traditional decisionmaking. In addition, it is important to more explicitly define the role and authority of stakeholders to resolve issues traditionally decided by government.

**Challenge 5: Determining whether stakeholder processes yield improved decisions.** There is much anecdotal information to support both sides of the argument over whether stakeholder processes generate improved environmental decisions. A well designed and managed process can lead to decisions that encompass a broader range of perspectives and options that are more likely to be implemented. However, many stakeholder deliberations fall short of being well designed and managed. As a result, stakeholder-based environmental decisionmaking has generated a mixed record of success and remains a work in progress.

In summary, the influence of factors that expand the use of environmental stakeholder processes outweigh those that may limit or constrain their future use. Stakeholder-based decisionmaking represents an increasingly established and important set of processes for managing environmental issues.

The specific methods for directing stakeholder processes, however, are subject to considerable future change as experience among convenors, facilitators, and participants continues to build and as technology and the capacity, infrastructure, and resources to support such processes evolve over time. In deciding whether to convene a stakeholder process to address a specific environmental issue, it is especially important to match the specific process to the characteristics of the problem under review. Like traditional command and control regulation, pollution prevention, or other decisionmaking techniques, the use of stakeholder processes represents a means to improve environmental quality—a means whose expectations and opportunities must be carefully weighed along with its complexities and limitations.

## II. Introduction

### A. Forces Driving Stakeholder Processes

The reasons for the expanded use of stakeholder processes stem from a variety of environmental, political, societal and technological changes. Such factors, presented in Figure 1, include:

**FIGURE 1: FORCES DRIVING STAKEHOLDER PROCESSES**

- Lack of public confidence and trust
- Increasing transparency
- Greater societal expectations for environmental quality
- Limitations of traditional regulation
- Expanded interest in participation
- Growing diffusion of information
- Policy commitments

- A lack of public confidence and trust in the environmental decisions of major institutions, including many corporations and government agencies. Such mistrust is registered in public opinion polls and the contentiousness of a number of environmental debates. Among many Americans, this decline mirrors a broader mistrust of established institutions.
- The increasing transparency of institutions whose decisions affect environmental quality. Such transparency results from greater reporting requirements on environmental performance, changing information technology, the influence of non-governmental organizations, and voluntary release of environmental information.
- Greater societal expectations for improved environmental quality. Such expectations are increasingly manifest in opinion surveys, political campaigns, in the marketplace, and as a factor shaping corporate reputation.
- Limitations of traditional regulatory decisionmaking, using formal notice and comment procedures, in considering the perspectives and values of various stakeholders.
- Expanded concerns, interests, and capabilities of many individuals and groups to participate in environmental decisionmaking. These include voluntary activities like curbside recycling or neighborhood and local improvement

campaigns, the burgeoning "right-to-know" movement, and the interest demonstrated by major foundations to provide financial support to foster the organization and expression of stakeholder interests.

- The growing diffusion of information and, ultimately, authority from large, centralized institutions to more streamlined and focused decisionmaking processes. Such "subsidiarity" and "empowerment" is reflected in the decisions to restructure many of America's largest corporations as well as ongoing efforts to reinvent governmental decisionmaking at the national level. One by-product of these changes is the increased solicitation of employee, customer, and other stakeholder input as a means to validate organizational decisions.
- Policy commitments made by selected government agencies and corporations to expand stakeholder participation in their decisionmaking processes. These actions, influenced in part by recommendations from non-governmental organizations (including environmental groups and industry), range from the use of community advisory panels to stakeholder-based regulatory reform and reinvention initiatives, and collaborative government-industry-stakeholder partnerships.

Together, these factors reflect many of the aspirations, complexities, and contradictions that characterize institutional behavior on environmental and many other public policy issues. They also represent a search for redefined boundary zones and balances between public and private institutions; centralized and decentralized decisionmaking, efficiency, and equity; and the individual and the community.[1]

While institutions seek to adapt and meet the challenges of stakeholders' growing participation, new proposals continue to advocate significant expansion of their involvement. In a 1996 report on *The Alternative Path*, The Aspen Institute recommended the increased use of stakeholder processes because they "are an important supplement to representative government and to the proper exercise of legal and regulatory authorities."[2] That same year the National Research Council's report on *Understanding Risk* argued the necessity for connecting scientific evaluation to a broader process of deliberation with interested parties because, in part, "wisdom is not limited to scientific specialists and public officials and that participation by diverse groups and individuals will provide essential information and insights about a risk situation."[3]

In 1997, the Presidential/Congressional Commission on Risk Assessment and Risk Management recommended that stakeholder engagement be a central element of a framework for managing environmental health risks. It further advocated that a risk assessment become a more participative effort involving not only scientists but

[1] Jerome Delli Priscoli, "Twelve Challenges for Public Participation Practice," *Interact* (Fall 1995), p. 78.
[2] The Aspen Institute, *The Alternative Path: A Cleaner, Cheaper Way to Protect and Enhance the Environment* (1996), p. 19.
[3] National Research Council, *Understanding Risk: Informing Decisions in a Democratic Society* (Washington: National Academy Press, 1996), p. 23.

also including "subjective, cultural and comparative dimensions" reflecting stakeholder perceptions and interests.[4] In January 1998, the report of the Enterprise for the Environment initiative, a process involving approximately eighty stakeholders that recommended changes to the nation's environmental protection system, noted that "a fundamental premise…is that the constructive change we seek can only be achieved through collaboration, in which all interests can be heard."[5] These and other reports have stimulated members of Congress, such as Senator Joseph Lieberman (D-Connecticut) to consider legislative proposals for mandating some form of stakeholder process for facility permitting and other decisions.

### B. Need for Evaluation of the Growth of Environmental Stakeholder Processes

The increased interest in and utilization of stakeholder processes in recent years create an opportunity and a need to examine the record of their past use, their role in environmental decisionmaking, the results they have achieved, and their future evolution and use. Given the time and other resources increasingly devoted to supporting stakeholder participation, a focus on the management of such processes has become an issue of growing importance for both convenors and participants.

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In addition, a growing number of stakeholders and observers have concluded that a sufficient body of case study evidence and other experience now exist to facilitate the evaluation of such issues as lessons learned from stakeholder processes, the development of principles and best practices for managing stakeholder projects, and achieving a better understanding of environmental issues where stakeholder processes do and do not add value to environmental decisionmaking.

Stakeholder participation represents only one of a complex array of factors involved in making and implementing environmental choices. The relationship of stakeholder processes to these factors is also a timely topic for review. In particular, the role of stakeholders within the context of the traditional risk assessment-risk management decision framework and their relationship to the scientific community as sources of information and legitimizers of policy choices requires greater clarity.

[4] The Presidential/Congressional Commission on Risk Assessment and Risk Management, *Framework for Environmental Health Risk Management* (Final Report, Volume 1, 1997), p. 25.
[5] Final Report of the Enterprise for the Environment, *The Environmental Protection System in Transition: Toward a More Desirable Future* (January 1998), p. vii.

### C. Key Issues Addressed in the Report

An evaluation of stakeholder-based environmental decisionmaking can address dozens of important issues. This report focuses on a cluster of seven major questions, presented in Figure 2.

They include:

- What are the key issues that must be successfully managed in a stakeholder process?
- Can stakeholder-based decision processes be managed according to a common system of principles and practices or are they tailored to the individual issues and interests of a particular process? If they are amenable to more systematic management, what are the key elements of such a system?
- What are the principal challenges to stakeholder processes, and how can these challenges be addressed?
- What is the role(s) of scientists in stakeholder-based decisionmaking?
- What comparisons exist between government and private sector experiences with environmental stakeholder processes?
- Do stakeholder processes produce improved environmental decisions?
- How will stakeholder processes evolve in the future?

**FIGURE 2: KEY ISSUES OF REPORT**

- Key issues to manage
- System vs. ad hoc approach
- Principal challenges to stakeholder processes
- Role of scientists
- Public and private sector experiences
- Efficacy of decisions made by stakeholder processes
- Future of stakeholder processes

These issues were selected for two reasons: 1) Individual stakeholders and literature references cited them as increasingly important considerations for evaluation; and 2) The authors' personal participation in and experience with stakeholder processes over the past twenty years led to a belief that they represented significant issues that require greater attention.

Each of these questions has stimulated interest in more specific issues that will be addressed in the body of the report.

### D. Report Methodology

The research methodology consisted of a literature review, evaluation of twenty-nine stakeholder-based case studies, and interviews with thirty-seven individuals with extensive experience in stakeholder processes who were facilitators or represented government, industry, or environmental groups.

Much of the literature on stakeholder-based decisionmaking exists at four levels: 1) general, more philosophical discussion of the importance of public involvement in decisionmaking; 2) case studies or reports issued from individual stakeholder projects; 3) how-to or source manuals that offer detailed information on how to design and manage stakeholder processes; and 4) a selected number of articles or reports that evaluate the results of stakeholder activities and offer suggestions for their improvement.

Individuals participating in the interviews were selected because of their ability to integrate their experience with the analysis and evaluation of stakeholder processes. Appendix 1 identifies the persons who participated in the study. Appendix 2 presents the list of questions that guided the interview process, and Appendix 3 ranks these responses to selected issues.

The literature review and the interviews were further shaped by the following methodological choices:

- Both public and private sector experiences with stakeholder processes would be evaluated. This facilitated a comparison of stakeholder process similarities and differences across major institutions and the transfer of information and best practices.
- The majority of interviewees would be located outside of Washington, D.C. This created an opportunity to learn more about many of the innovative and dynamic case histories and practices at the regional, state, and local levels.
- The term "stakeholder," while of recent vintage, is often used interchangeably with other phrases or processes. Thus, the research process also investigated literature on alternative dispute resolution, policy dialogue, public involvement and/or public participation, and risk communication.
- Case studies provide a very useful technique for examining the operation of specific stakeholder processes. Of the twenty-nine separate stakeholder processes examined, the authors prepared an evaluation of five (see Appendices 4 and 5, respectively).

The five case studies include: BASF's public release of worst-case scenario information at its Freeport, Texas, plant prior to a regulatory compliance deadline for submittal of risk management plans; BP America's use of stakeholder forums as a planning tool to manage its corporate health, safety and environmental performance and reputation; Columbus, Ohio's, Priorities '95 initiative, a comparative risk assessment project; the Health Effects Institute's convening of stakeholders to examine its scientific assessment of the health effects of the gasoline oxygenate MTBE; and Intel Corporation's use of a stakeholder process as part of its EPA Project XL facility submission in Chandler, Arizona.

Who is the audience for this report? Potentially, the readership includes the general public or any individual who has participated or is interested in a stakeholder process. More specifically, the report is directed at those organizations in

government, industry, and the environmental community whose executives and staffs have participated in, convened, or may convene a stakeholder process and are seeking information or perspectives to evaluate how others have planned and managed such processes in the past. As stakeholder participation continues to grow in the future, it is increasingly important to foster cross-institutional learning and adaptation.

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## III. Lessons From the Past

Five observations emerged from the research and analysis of data obtained from the literature review, case studies and interviews. While not conclusions, per se, these "lessons from the past" established a platform for addressing how previous experiences have shaped the present day management and future challenges to stakeholder processes. These lessons, also presented in Figure 3, include:

**FIGURE 3: LESSONS FROM THE PAST**

- Environmental stakeholder processes are not new
- Stakeholder processes are often poorly managed
- Difference between success and failure is unclear
- "Social peer review" and "scientific peer review" operate on differing tracks
- Expectations are often unrealistic

**1. Environmental stakeholder processes are not new, but they represent an evolution from previous methods of soliciting public input.** Stakeholder processes have various origins, emerging from several distinct practice areas. These include:

- The concept of "maximum feasible participation" that was embedded in the 1960's anti-poverty programs. The objective of this effort was to enhance the participation of lower income groups in the War on Poverty through neighborhood and community-based organizing. Federal funding was provided through community boards to organize campaigns and improve education, housing, and welfare.[6]
- The evolution of the shareholder concept in the private sector. A shareholder is an individual or organization that holds a financial interest in a company and that periodically can vote on issues that management presents or that can be submitted to a vote through a resolution process. During the early 1970's, companies such as Cummins Engine used the term stakeholder to communicate that they recognized a responsibility to others beyond their direct shareholders. Initially, key stakeholders included customers, creditors, and the community. Over time, the concept has broadened to include employees, governmental agencies, environmental groups, the media, and others.[7]
- The growth of environmental dispute resolution in the 1970's and 1980's. This form of stakeholder participation itself derived from such practices as settling lawsuits through negotiation rather than by trial, resolving labor-management disputes and community conflicts through mediation, and using public involvement in city planning. Such practices were eventually adapted to a series of environmentally related topics, including land use; natural resources management; the use of public lands, water resources, and energy; air quality; and toxins. While frequently ad hoc in application, environmental dispute resolution became officially recognized in various statutes for managing hazardous waste siting and coastal zone management disputes.[8]
- Expanded requirements for public participation in governmental decisionmaking processes. Originating from the Federalist period of American history, public participation grew through the extension of the right to vote to non-property holders, women, and minorities. More recently, it has been associated with "good government" reforms as enacted in such statutes as the Administrative Procedures Act (which required notice and comment opportunities for proposed rulemakings) and the Federal Advisory Committee Act (mandating balanced and diverse points of view on committees advising federal agencies). Public participation was further extended through the addition of citizen suit provisions to environmental legislation such as the Clean Air Act and Clean Water Act in the 1970's and has continued to expand more recently through the right-to-know movement and voluntary actions taken by government and industry to solicit public input.[9]

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[6] Peter Marris and Martin Rein, *Dilemmas of Social Reform: Poverty and Community Action in the United States* (Chicago: Aldine Publishing Company, 1973).
[7] Interview with Charles W. Powers, November 24, 1997.
[8] Gail Bingham, *Resolving Environmental Disputes: A Decade of Experience* (Washington: The Conservation Foundation, 1986), pp. xvii-xix, 13.
[9] National Research Council, *Understanding Risk*, p. 23, Appendix B: Common Approaches to Deliberation and Public Participation.

**2. Stakeholder processes are frequently managed in an ad hoc manner, thus failing to capture historical insights and transfer best practices.** The splintered origins of stakeholder processes have created cross-disciplinary and cross-problem obstacles that inhibit the use of acquired knowledge. Because stakeholder processes are so problem- or location-specific, they often are conducted in an ad hoc manner. In addition, as government and industry convenors have expanded the demand for stakeholder input, a growing number of people with responsibility for overseeing or facilitating such processes have insufficient professional training or knowledge of the evolution of the field or of the substantive issues under discussion.

Several consequences result from these developments, including:

- Stakeholder processes are often poorly managed. While this development can be partially attributed to the difficulties inherent in resolving certain environmental problems, it is also associated with the lack of understanding of what type of process design achieves best results for certain types of problems.
- Some mistakes and inefficiencies persist until people discover the existence of analogous situations they can learn from. In addition, stakeholder management techniques that had been discarded in previous decades as ineffective continue to resurface.
- Many facilitators and participants in stakeholder processes continue to confuse whether they are a means to decisionmaking or an end. This lack of clarity contributes to the prolonged nature of some processes as well as confusion over the key elements of a problem that can be solved through a stakeholder process.

Some professional facilitators and convening organizations have initiated efforts to summarize a variety of lessons learned and best practices from stakeholder processes, such as alternative dispute resolution, comparative risk assessment and public participation. These represent a useful addition to the literature and address an important need to transfer practitioner experiences and methods.[10]

**3. The difference between success and failure in a stakeholder process is often unclear.** Members of the National Commission on Superfund achieved agreement on a broad number of issues which they hoped would provide input and momentum to legislative changes to the statute. However, the changes resulting from the election of a more conservative 104th Congress removed the political support from many of their recommendations. In the current Congressional session, some Republican moderates considering legislative changes to Superfund are re-examining previous Commission proposals. Was the National Commission on

[10] Bingham, pp. 94-120; James L. Creighton, "Trends in the Field of Public Participation in the United States," *Interact* (Fall 1995), pp. 9-10; Joanne Dea and Sue Thomas, *Building a Foundation for Change: Opportunities and Challenges in State Comparative Risk Projects* (Green Mountain Institute for Environmental Democracy: April 1997); and Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects: Principles and Best Practices* (January 1997).

Superfund a success or a failure? What is success or failure in a stakeholder process?[11]

In 1991, representatives of the petroleum industry, federal and state regulatory agencies, environmental groups, auto manufacturers, and producers of oxygenated fuel components (e.g., ethanol, methanol) achieved a written agreement on the requirements for reformulated gasoline as required by the 1990 Clean Air Act Amendments. Shortly thereafter, ethanol producers successfully lobbied the Congress to modify the regulatory negotiation agreement to obtain terms more favorable to their specific product. In view of this Congressional action, did the results obtained from the stakeholder process represent a success or a failure?[12]

In 1992, a thirty-five-member regulatory negotiation committee, consisting of representatives from the paint and coating industry, the EPA, end users, environmental organizations, labor, state agencies, and a facilitation contractor retained by the EPA, began negotiations to develop uniform national guidelines to control volatile organic compound (VOC) emissions from architectural and industrial maintenance (AIM) paints and coatings. After two years of negotiations the committee failed to reach a consensus, and negotiations were terminated. The perceived inequities of a strict uniform VOC standard, questions of performance standards, and scientific uncertainty prevented a consensus agreement. The EPA, in the absence of an agreement but armed with two years of knowledge as a result of the negotiations, is currently developing VOC restrictions that incorporate many of the options discussed during the negotiations. Even though the formal stakeholder process did not succeed, it yielded useful information to support subsequent EPA decisionmaking.[13]

These and other examples illustrate a central difficulty in managing contemporary stakeholder processes—the need for a more predictable and tangible definition of their outcomes. This need will become increasingly important in the future as convenors and stakeholders seek to achieve their objectives and balance their resources and other constraints against alternative processes. In addition, as stakeholders gain increased information and experience in working with each other—through direct, face-to-face interactions between companies and environmental groups, for example—they too, are seeking more direct and concrete results from their discussions.

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[11] *Final Consensus Report of the National Commission on Superfund* (The Keystone Center and The Environmental Law Center of Vermont Law School, March 1994).

[12] "Agreement Reached on Clean Vehicles Fuels" (EPA Press Release, August 16, 1991); Environmental Protection Agency, Clean Fuels Advisory Committee Outline of Supplemental Proposed Rules and Guidance for Reformulated Gasoline, Antidumping and Oxygenated Gasoline (August 16, 1991); and Ellen Siegler, "Regulatory Negotiations and Other Rulemaking Processes: Strengths and Weaknesses from an Industry Viewpoint." *Duke Law Journal*. Vol. 46 (1997), pp. 1429-43.

[13] Timothy Herbst, "The Paint Industry and a National VOC Standard: When Agreement is Not Profitable," *Corporate Environmental Strategy* (Spring 1995), p. 45; interview with Robert Nelson, National Paint and Coating Association, November 1997.

**4. Stakeholders provide a "social peer review" function similar to "scientific peer review," but these represent different types of processes.** In environmental policymaking scientific peer review is designed to assess the quality and relevance of technical information to assist policymakers' choices among an array of options. Peer review is the responsibility of qualified scientists whose professional standards are applied in judging the suitability of the information under review. The use of peer reviewed science adds to the credibility of the information being applied in policymaking and contributes to the legitimacy of the overall decision process.

Stakeholder processes represent a parallel form of social peer review that enables interested parties to contribute information and review policy options under development to address an identified environmental concern. By employing a stakeholder process, the convenor hopes to obtain societal acceptance and legitimacy for the decisions rendered. However, unlike scientific peer review, the management of many stakeholder processes does not currently adhere to a set of recognized professional standards, and the process of engaging stakeholders is subject to considerable variability across issues.

The differences in the management of these two types of peer review have led to missed opportunities or conflicts in applying scientific information in stakeholder processes, or to unrealistic expectations about how the two processes relate to each other. An example of the former resulted from the unclear scientific guidance provided to EPA's Administrator by the Clean Air Scientific Advisory Committee in its review of the scientific basis of the National Ambient Air Quality Standard for Particulate Matter in 1996. The Committee report failed to differentiate between its scientific and policy judgments. In addition, there was an absence of a well developed and transparent scientific rationale for the advice provided on the policy options reviewed. Both factors contributed to the confusion and controversy surrounding the revision of the health-based standards.[14]

The CASAC example illustrates the difficulties that many scientists encounter when communicating their more specialized methods and knowledge to policymakers and stakeholders. It also helps define the challenge before the scientific community in contributing information to stakeholder processes.

**5. Expectations for what stakeholder processes can achieve need to be more specifically defined.** Over the past fifteen years, expectations about the utility of risk-based decisionmaking have grown. During this time, great advances have occurred in applying risk assessment to a large number of environmental problems. In addition, risk assessment techniques became utilized by all levels of government and industry.

[14] Letter from Dr. George T. Wolff to Carol M. Browner, "Closure by the Clean Air Scientific Advisory Committee on the Staff Paper for Particulate Matter," June 13, 1986.

Over time, however, as the complexity of environmental decisionmaking increased and as the demands of non-scientist stakeholders to influence policymaking became more prominent, conflicts between risk-based and other models of policymaking have emerged. This has stimulated a very useful debate over the uses and limitations of risk assessment and its integration with stakeholder processes.[15]

A similar assessment is needed to better define the appropriate role and expectations for stakeholder-based decisionmaking. This is necessary because the continuing growth of such processes is frequently accompanied by a failure to develop specific goals and realistic process milestones and outcomes. In addition, the intensity of stakeholder processes (including commitments of time, energy, and money) and their often uncertain results has led to a "burnout" phenomenon among many participants.

## IV. Matching Stakeholder Processes to Problems

Why do organizations believe they need a stakeholder process to address a particular environmental problem? What kinds of stakeholder processes are best suited for resolving specific kinds of environmental problems? What factors influence the choice of stakeholder process utilized? These questions are not asked with sufficient frequency and rigor before many organizations commit to establishing a stakeholder process. One leading analyst of stakeholder processes, for example, has noted that convenors of state comparative risk projects "regret that they may have put too little effort into public involvement and more regret that they have not thought out goals and plans for public involvement before jumping into the process."[16]

The history of environmental decisionmaking over the past decade contains numerous examples where the stakeholder process employed was ill matched to the problem under review. The most recent example of this dilemma was the process employed by the Enterprise for the Environment (E4E) initiative, a multi-sponsor, multi-stakeholder endeavor whose final report recommended improvements to the current regulatory system of the United States. Lasting approximately two years, E4E experienced a number of challenges that illustrated the need to more carefully match the type of stakeholder process chosen to the environmental problem under consideration.[17]

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[15] The Presidential/Congressional Commission on Risk Assessment and Risk Management, *Framework for Environmental Health Risk Management*; National Research Council, *Risk Assessment in the Federal Government: Managing the Process (Washington, National Academy Press, 1983*); and Ibid., *Science and Judgment in Risk Assessment*, 1994.

[16] Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects*, p. 4.

[17] The authors were consultants to the Enterprise for the Environment initiative and prepared a study entitled *The Journey Towards Corporate Environmental Excellence: Transferring Business Methods to Environmental Management*, January 1998.

The E4E confronted at least four major process management issues. These persisted, in varying degree, throughout the length of the process. The issues included:

- Differing expectations on the problem needing to be solved. Some of the sponsoring organizations, and many corporate stakeholders, initially supported the need to recommend statutory changes to existing environmental laws. Clinton Administration representatives and environmental groups strongly opposed this objective and were able to prevail after a protracted debate.
- Unclear criteria for participation. Many facilitators of stakeholder processes have commented that the size of stakeholder groups should be related to the purpose of the process. Relatively large groups, for example, function well for an information gathering and dissemination process. However, to achieve agreement on legislative or regulatory options, the size and complexity of large groups can compete with such desirable attributes as process focus and efficiency. E4E eventually grew to more than eighty participants of varying stature, experience and insight, over forty of whom constituted the steering committee. The expanding number of participants, the lack of clarity over who they represented, and the variable authority of their viewpoints introduced added complexity and cost in managing the process. In theory, everyone who wanted to participate could do so. In practice, because of time and other resource limits, this proved a less practicable alternative in preparing recommendations and a final report.
- Contrasting viewpoints over process management. Differences emerged over whether project leaders should adopt a more personal "shuttle diplomacy" style to reach agreement among the various stakeholders or whether a more management-oriented approach focused on process milestones and results should be followed. Both sets of views persisted throughout the process and never were fully resolved.
- Differing conceptions of interests and values. The issue of changing the nation's environmental laws represented a non-negotiable issue for the environmental groups participating in E4E that was not fully appreciated by many business participants for an extended period. Similarly, environmentalists were less sympathetic to support the business goal for an "efficient" regulatory system in its own right. Both issues were connected to a deeper set of bedrock values for environmental and industrial stakeholders. Debates over what issues were non-negotiable values compared with negotiable interests were not resolved at the beginning and persisted throughout the E4E process.

When E4E issued its final report in January 1998, it recommended a series of largely administrative and managerial changes to the U.S. regulatory system that, in part, echoed the views of other bodies in recent years.[18] The content of the final report differed considerably from the expectations that existed at the beginning of the process. Stakeholders' commitment to implementing the E4E recommendations

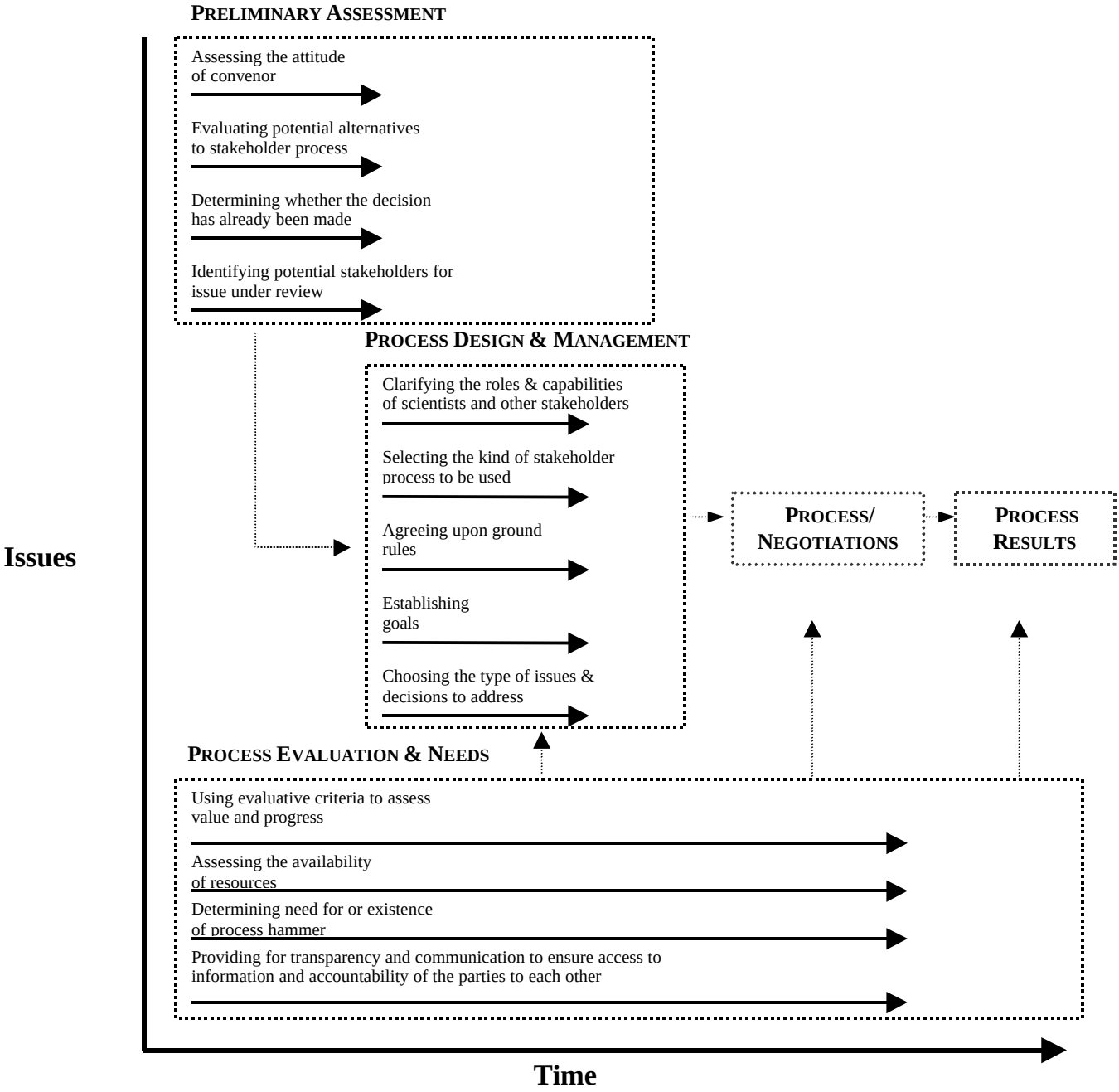
[18] Final Report of the Enterprise for the Environment, *The Environmental Protection System in Transition*.

through Congressional action and regulatory changes diminished considerably over the length of the project.

## V. Key Issues in Managing Stakeholder Processes

The E4E experience, and those of a number of other stakeholder processes in recent years, have yielded a number of insights for matching the design and management of stakeholder processes to the problems they are attempting to solve. This report attempts to capture some of these insights by identifying a series of issues, presented in Figure 4, that convenors and stakeholders should explicitly ask and answer before proceeding in their deliberations.

**FIGURE 4: KEY ISSUES IN MANAGING STAKEHOLDER PROCESSES**



Once a decision has been made to gauge the feasibility of a stakeholder process in environmental decisionmaking, there are a number of issues that can help measure the likelihood of success. Gail Bingham, in her 1986 study, identified a number of factors to consider before and during the implementation of a stakeholder process.[19] More recent literature and interviews with key participants in environmental stakeholder processes have provided additional information. Together, consideration of these issues provides a barometer to measure whether a basis exists (including sufficient trust among the parties) or can be created to generate a successful outcome.

The key issues include:

**1. Assessing the Attitude of Convenor Organizations**

The attitude in which managers approach a stakeholder process is fundamentally important to whether it succeeds. Creighton has defined at least two conditions for success related to this issue. First is "a willingness to include the public in the decisions of greatest interest to the public." Second, there must be "a management commitment to consensus-seeking public participation." In other words, Creighton's conditions force managers to determine if they are prepared to allow some degree of stakeholder influence in their decisionmaking. If these conditions are not met, the chances for a successful outcome are significantly diminished.[20]

**2. Evaluating Potential Alternatives to a Stakeholder Process**

Bingham, Susskind, and others include the parties' willingness or incentive to negotiate as a precondition for the likelihood of success. According to Susskind and Cruikshank, "Solutions are better—and will be accepted—only if all stakeholding parties are confident they will get more from a negotiated agreement than they would from a unilateral action, or from conventional means."[21] In other words, if stakeholders believe they have a chance at a better outcome using the courts or the regulatory process, stakeholder processes are unlikely to generate a successful outcome.[22] Excessive cost can also play a factor in making a stakeholder process unacceptable.

Interview respondents noted a number of disincentives to participate in stakeholder processes, including the tremendous amount of time needed for negotiations, excessive polarization among interests, the likelihood that an agreement will not be implementable, and the possibility that negotiations may slow decisionmaking. Finally, "stakeholder

[19] Bingham, p. xxii.
[20] Pacific Northwest Laboratory (in collaboration with Creighton and Creighton, Inc.), *Public Participation for Managers: A Briefing for Senior Managers for the U.S. Department of Energy Environmental Restoration and Waste Management Program*, p. 18 (undated).
[21] Lawrence Susskind and Jeffrey Cruikshank, *Breaking the Impasse* (New York: Basic Books, 1987), p. 81. The literature identifies this as a stakeholder's "best alternative to a negotiated agreement" (BATNA). This suggests that stakeholders must also know or be made aware of their BATNA to avoid adversely impacting the process at a later date.
[22] Bingham, p. 130.

burnout" must be considered. Altogether, a thorough assessment can determine if various parties have a chance at a better outcome with or without a stakeholder process.[23]

### 3. Determining Whether the Decision Has Already Been Made

Stakeholders asked to contribute their knowledge and perspectives on environmental issues generally assume that a decision has not already been made. Convenors that establish a stakeholder process to generate some form of external validation for decisions they have internally resolved risk a serious erosion of their credibility and their ability to implement the decision. "Don't say you'll involve people more than you really intend to be the case," noted Dr. Baruch Fischhoff in a remark typical of many others expressed on this issue. Dr. Carol Henry, when asked about the kinds of issues not suitable for stakeholder processes, remarked that, "If decisionmaking has already occurred and won't be reversed, don't use stakeholders to validate decisions already made."[24]

### 4. Identifying Potential Stakeholders for the Specific Issue Under Review

Managers should systematically identify the relevant stakeholders. Whatever kind of process is chosen, it is critical to define who is a stakeholder. While the term is widely used in environmental decisionmaking, there is no consistently utilized definition.

Even while the universe of potential stakeholders on some issues is practically limitless, from a practical standpoint everybody cannot always have a seat at the table.

**"The challenge is to balance the need to consider all stakeholder viewpoints with the practical considerations of convening a group of individuals who have a role in making or directly influencing decisions."**

Stakeholders represent diverse groups, and not all of them will be engaged in a particular project or activity. Some may purposefully reject participation. In addition, much of the literature and many experienced practitioners have observed that the size of a stakeholder group should be related to its purpose. The challenge, then, is to balance the need to consider all stakeholder viewpoints with the practical considerations of convening a group of individuals who have a role in making or directly influencing decisions.[25]

One approach to reconciling the widespread need for participation with the practical characteristics of decisionmaking lies in the categorization of direct and indirect stakeholders and what a number of respondents have labeled as "tiering" stakeholder involvement. "Some stakeholders have a seat at the table and are decisionmakers – others should have input into the process," noted one individual interviewed for this study.

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[23] Creighton, p. 15.

[24] Interviews with Baruch Fischhoff, November 19, 1997, and Carol Henry, November 20, 1997.

[25] U.S. Department of Energy, Office of Environmental Restoration, Customer Focus Analytical Team, *Assessing Best Practices in Public Participation and Outreach* (July 1995), p. 9*; The World Bank Participation Sourcebook* (Washington: The World Bank, 1996), pp. 13, 126; Pacific Northwest Laboratory, *Public Participation for Managers*, p. 7; and Susskind and Cruikshank, pp. 204-213.

Interview respondents defined "stakeholder" in three categories. These included: 1) those who want to be involved in the process; 2) affected parties; and 3) anyone with an interest in the project or activity.[26] One respondent claimed that stakeholder was a term used primarily by Washington "inside-the-beltway" policy officials and analysts. Others recognize the value of a more inclusive definition. The World Bank, for example, defines stakeholders as those who are "directly" or "indirectly" affected by a process or activity and who "could affect the outcome of a proposed Bank intervention or [are] affected by it."[27] The Bank's indirect stakeholders include non-governmental organizations, governments, and shareholders. Other indirect audiences that are often not considered are internal audiences, such as employees.[28]

EPA, in its Project XL Stakeholder Principles, concluded that, "the most valuable stakeholders to us are the people most directly impacted by the XL project." But the Principles went on to note that "inclusivity and accessibility are key features of a good stakeholder process" and "anybody that wants to learn about and provide input ... should be able to." This same notion is reiterated in Project XL draft stakeholder guidelines. Here, stakeholders are grouped into three categories: direct, indirect, and the general public. In other words, a committed but limited group of stakeholders may have shared decisionmaking authority, while an alternate group of stakeholders receives an opportunity for input. The greater the stakeholder interest in a project or activity, or the greater the potential impact of that project or activity on the stakeholders, the more involvement they should have.[29]

Identifying potential stakeholders is challenging and can require considerable resources. Some issues may not evoke sufficient public interest or concern to merit a stakeholder process, while others may stimulate a latent public reaction (e.g., after a release of a hazardous chemical in the community). Many stakeholders are not able to effectively participate in deliberations on issues that affect them. This is especially true of people with lower incomes or poor English speaking skills because their communications networks can differ from those traditionally used in stakeholder processes. For example, Spanish-speaking residents in south Texas often receive information through their church network, a communication avenue typically not used in a stakeholder process.

The implications of the various definitions of stakeholders are significant because they shape the attitude in which a convening organization perceives, approaches, and designs the process. Environmental impacts cannot always be confined within traditional boundaries and often have consequences that are not immediately apparent. Solutions to these issues often require multiple jurisdictions and resources. If stakeholders are narrowly defined as those individuals or parties who want to be involved or who have an

[26] Responses were relatively evenly divided among the three categories. Respondents also were split when rating "the most effective role for a citizen in a stakeholder process." Approximately one-half believed that citizens should "choose policy options."
[27] *The World Bank Participation Sourcebook*, pp. 6, 13, 126.
[28] Richard Roberts and Nancy Marshall, "'Overload' in Public Involvement," *Interact* (Fall 1995), p. 59.
[29] "Guidelines for Stakeholder Involvement," EPA Project XL Web site, November 27, 1996.

interest, then the process potentially excludes parties who may be outside of traditional boundaries or who are not currently aware of the activity. Similarly, including only affected interests could exclude those that could conversely impact or affect the project. One respondent cautioned that "you may get only 10 people to show up for a townhall meeting but, if there is a crisis, thousands may show up." From a management perspective, a more comprehensive stakeholder definition helps to address the realities of public participation in environmental decisionmaking by incorporating those audiences that, if excluded for any reason, could later influence the outcome of a project or decision.

Identifying stakeholders and their concerns helps to ensure that interests are not overlooked. For example, at its Chandler, Arizona facility, Intel Corporation conducted extensive stakeholder identification and assessment activities, including extensive interviews with people and obtaining a demographic profile of the community. But identifying stakeholders is a nascent practice, and methods vary considerably. Instead, a number of procedures have been suggested, including observation, interviews, information dissemination, and historical analysis of traditional stakeholders and issues of concern.

In Fernald, Ohio, an independent convenor selected fourteen citizens, representing various interests and perspectives, to the Fernald Citizens Task Force (FCTF). This group was charged with making specific recommendations about the siting of the low-level hazardous waste facility. At the same time, the FCTF attempted to validate its decisionmaking by soliciting and obtaining community input.[30]

Different methods for identifying stakeholders are applicable to different circumstances. The World Bank, for example, poses a list of questions to the "voiceless" representatives of those who may be affected, and those who may mobilize in opposition to Bank decisions.[31] The United States Department of Energy (DOE) recommends the creation of a community profile to "identify components of the public that are likely to be involved."[32] For example, in Fernald, Ohio, DOE conducted a comprehensive community assessment by conducting more than 350 interviews to evaluate community concerns, needs, and interests as part of its effort to site a low-level hazardous waste storage facility. The survey also was used as a benchmark to evaluate ongoing communication and message effectiveness.

A more inclusive definition of stakeholders does not mean the process will be conducted without recognition of practical constraints. Instead, it encourages a planning approach that facilitates identification, prioritization, and the involvement of direct and indirect stakeholders in the decisionmaking process, and better defines stakeholder roles and

[30] Jennifer J. Duffield and Stephen P. Depoe, "Lessons From Fernald: Reversing NIMBYism Through Democratic Decision-Making," *Risk Policy Report* (February 21, 1997), p. 32.
[31] The World Bank Participation Sourcebook, p. 127. See also the discussion of methods to identify stakeholders in Environmental Protection Agency, Regulatory Reinvention (XL) Pilot Projects, "Further Identification of Stakeholders," *Federal Register* Vol. 62 (April 23, 1997), pp. 19878-19879.
[32] U.S. Department of Energy, *Public Participation Guidance for Environmental Restoration and Waste Management* (March 1993), pp. 10-11.

responsibilities in the deliberations. It also ensures that all interests are considered, thereby reducing the chance of disgruntled stakeholders who could later negatively impact a decision.

*Priorities '95*, a community-based comparative risk assessment effort in Columbus, Ohio, represented an application of the inclusive definition. Early in the process, participation was opened up to all interested parties and more than 200 volunteers participated in some part of the process. In the end, the steering committee reached unanimous agreement both in its risk rankings and strategic recommendations. (See Appendix 5 for a case study of the Columbus experience.)

**5. Clarifying the Roles and Capabilities of Scientists and Other Stakeholders**

Stakeholders have varying roles and capabilities in a decisionmaking process. Citizens bring to the table different interests, expertise, concerns, and values. Government officials contribute necessary policy authority and perspectives from various professions and institutions. According to the World Bank, "Experts of all types—engineers, social scientists, economists, sector specialists, institutional specialists, and more—need to contribute what they know."[33]

Those interviewed in the study were asked to evaluate the role of citizens, government officials, and scientists in environmental stakeholder processes. In general, they viewed citizens (defined as individuals whose input is not designed to represent the view of a specific party or institution with a stake in the proceedings) as providing necessary input on values, recommending general or specific policy options and providing social and political risk information. Respondents did not see citizens having a large role or capability in providing science-based risk information. Government officials' primary role was seen as recommending and choosing policy options. And scientists were viewed as providers of technical information, but many also strongly believed that scientists should not have a role in choosing policy options or offering input on values. (See Appendix 3 for a fuller presentation of interview results.) Before choosing a specific stakeholder process the needs and capabilities of each major stakeholder group should be assessed and clarified. For example, options for involving scientists—as individual experts or through formation of a technical committee advising other stakeholders—should be considered when the questions under review include scientific issues.

**6. Selecting the Kind of Stakeholder Process That Should Be Used**

There are at least three kinds of stakeholder processes: 1) decisional (e.g., stakeholders directly participate in making final choices and subsequently help implement them); 2) consultative (e.g., stakeholders are asked to comment or provide input on policy choices that others will decide); and 3) informational (e.g., stakeholders are requested to provide data, general perspectives, or specific input on an issue or problem). Deciding on any of these options brings a host of additional

[33] *The World Bank Participation Sourcebook*, p. 141.

issues—such as choosing the specific type of process (e.g., negotiated rulemaking, alternative dispute resolution, town hall meetings), whether to use a facilitator, selecting ground rules to guide the deliberations, and gaining access to information—that are well described in the literature.[34]

### 7. Agreeing Upon Ground Rules for the Process

Many of those interviewed identified the establishment of ground rules as one of the most important tools that can be used in a stakeholder decisionmaking process. In their view, the overall benefit of such rules is to increase the probability of a successful outcome by setting goals and expectations early in the process and periodically revisiting them. Important ground rules to consider include the following (some of which will be discussed in further detail below):

- Define the purpose and goals of the process, including a vision of success.
- Establish participatory roles (e.g., shared decisionmaking or advisory)
- Agree upon codes of conduct for participants and communication inside and outside of the stakeholder process
- Define participant accountability
- Create milestones or timelines
- Have a clear understanding of how agreement will be achieved (e.g., define consensus)
- Ensure transparency of deliberations and decisions
- Secure support for adequate funding, information, and other resources
- Periodically revisit stakeholder identification, categorization, and representation

There are a number of basic ground rules for stakeholder participation, but it's also important to remember that the participants and issues in each process should be considered as distinctive in their own right. Who creates the ground rules for the particular decisionmaking process? In many situations, the rules of operation have been defined by sponsoring entities and not by the stakeholders. Many respondents in this study and others argued that, consistent with the principles of participatory decisionmaking, stakeholders should have a role in defining the ground rules of the process.

**"Stakeholders should have a role in defining the ground rules of the process."**

The Aspen Institute has concluded that each stakeholder process "is governed by a set of operating rules developed and agreed upon by the participants."[35] This principle has been

[34] The Aspen Institute, *The Alternative Path*, p. 20; Creighton, p. 11; and Daniel J. Fiorino, "Citizen Participation and Environmental Risk: A Survey of Institutional Mechanisms," *Science, Technology & Human Values* Vol. 15 (Spring 1990), pp. 236-237.
[35] The Aspen Institute, *The Alternative Path*, p. 21.

applied in real-world situations. For example, the National Environmental Justice Advisory Council (NEJAC) established a stakeholder committee to create recommendations for methods by which EPA can institutionalize public participation in its environmental programs. NEJAC recommended that defining ground rules was a major priority.[36] In Columbus, Ohio, the Mayor and the city government charged stakeholders with risk identification and prioritization and gave them total freedom to establish their own process, which resulted in a successful outcome.[37]

Both interview respondents and literature sources cite early involvement of stakeholders in decisionmaking as an element that will increase the chance of success. Stakeholder processes are most likely to succeed when the project sponsors are open to "significant changes" and stakeholder input.[38] "When all stakeholders collaborate in designing their collective future, it increases the chances of former differences being resolved and a new consensus emerging around issues everyone can agree on," according to the World Bank.[39] Conversely, projects that are presented to stakeholder groups without their previous participation are largely perceived as traditional "decide, announce, and defend" tactics that have generated a great deal of opposition. In addition, early involvement has other benefits, including added time to study issues and develop the process, enhanced credibility of the decisionmaking process, early identification of issues of concern, and the generation of solution options.

### 8. Establishing Goals

Goals are critical in any management process. Several types of goals exist for many stakeholder processes. These include programmatic or outcome goals (e.g., improving transportation control plans, the use of comparative risk assessment as a priority setting mechanism, or solving a community or facility problem).

Many interview respondents identified specific outcomes or agreements as the goal of the process in which they participated or studied. For example, Columbus, Ohio's, Priorities '95 effort focused on creating a community-based strategic plan to address environmental risks. The process had two distinct phases. Phase One (Risk Assessment) included identifying, selecting, researching, and ranking environmental risks in order of severity. Phase Two (Risk Management) identified strategies to reduce the negative impacts from each of the ranked risks or issues.[40] At Intel's Chandler facility, the stated goal of the Project XL negotiations was to obtain a final agreement that would lead to expanded production flexibility in exchange for increased accountability.[41]

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[36] National Environmental Justice Advisory Council (NEJAC), The Model Plan for Public Participation (no date), http://199.223.29/ProjectXL/xl_home.nsf/all/NEJAC.html.
[37] Interview with Gregory Lushutka, December 18, 1997.
[38] National Research Council, *Improving Risk Communication* (Washington: National Academy Press, 1989), p. 154.
[39] *The World Bank Participation Sourcebook*, p. 135.
[40] Priorities '95 Steering Committee, "Final Report and Strategic Recommendations" (December 1995), pp. iv, viii.
[41] Interview with Jim Larson, December 8, 1998.

Stakeholder decisionmaking and public participation have a number of equally important process goals. These goals include the sharing of information, identification of issues and concerns, creation of new alternatives, and the empowerment of participants over decisions that affect their lives. In addition, most interview respondents identified certain goals that should be established early in the process, including enhanced trust and credibility, relationship building, agreeing on the design of a stakeholder process, procedures for information gathering, and others.[42]

The importance of both process and outcome goals was reinforced when respondents were asked to define success or failure. While about one-half identified specific decisions or outcomes as a goal, many more only noted process-oriented attributes. Success to these respondents was the sharing of information, relationship building, enhanced trust, and other benefits that resulted from the stakeholder process. Failure meant the lack of these attributes. Success or failure, then, is perceived by many as independent of a specific outcome or product. The various definitions for success or failure only reinforce the need for participants to define and agree upon the goals of a process.

In addition, collaborative goals (e.g., building relationships and alliances, partnerships devoted to brownfield restoration) can play an important role in stakeholder processes.

For some stakeholder processes all of these goals may be appropriate; for others, more selective goals need to be developed. Stakeholders and process managers should clarify the exact nature of their goals as early as possible in their deliberations. This not only provides focus to subsequent discussions but also, as the majority of people interviewed for this study observed, goals adopted early in the process generally remain stable throughout the length of the process, and help to improve the accountability of stakeholders to each other.[43]

### 9. Choosing the Types of Issues and Decisions That Stakeholders Will Address

In general, there are four categories of decisions that can involve stakeholders. These include: 1) rights-based decisions (e.g., legal and civil rights); 2) values-based decisions (e.g., the debate over abortion, school choice); 3) interest-based decisions (e.g., land use issues, economic development); and 4) power-based decisions (e.g., voting, declarations of war). While stakeholder processes can potentially be used for each of these categories, they typically apply to resolving conflicts over interests where there are frequently more opportunities to negotiate and obtain agreement on mutually satisfactory outcomes. The distinctions among rights, values, interests, and power relationships are important—people are generally more willing to negotiate their interests rather than their values.[44]

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[42] Priscoli, p. 80; U.S. Department of Energy, *Public Participation Desk Reference: Policy, Guidance and Headquarters' Implementation Plan* (May 1, 1995), p. 1.
[43] Dea and Thomas, p. 2.
[44] Interview with Gail Bingham, January 13, 1998.

Stakeholder processes vary in the kinds of issues and decisions that will be addressed. For example, public hearings provide a structured mechanism to present information and solicit comments with little or no accountability on the part of the entity conducting the hearing on how the information will be used. In contrast, a citizen review panel can allow the public to participate in actual decisionmaking. As stakeholders' participation and decisionmaking authority increase so, too, does the complexity of the process, the number of options to resolve, the risk of unpredictable decisions, and the potential benefits.[45]

Among the thirty-seven interview respondents, there were several closely connected viewpoints on the issues appropriate for stakeholder consideration. About one-third of the respondents concluded that decisionmaking authority was the optimal role for stakeholders (although a few admitted that this situation is atypical). One respondent noted that "there is no distinction between stakeholders and decisionmakers when the process works properly." On the other hand, more than half of the respondents claimed that the relative degree of stakeholder involvement depends on the situation. "Sometimes we need advice. Other times we need a citizen driven blueprint or implementation plan," noted one individual. This interpretation is consistent with other recent stakeholder guidance from The Aspen Institute. Many of these same respondents offered a tiering mechanism that defined various levels of involvement. That is, different stakeholders have varying degrees of influence. Only a few respondents mentioned that stakeholders should be advisors.

Determining the relative involvement of stakeholders early in the process will serve two purposes. First, it will force the sponsoring entity to define clear goals for the process and evaluate the role of stakeholders' decisionmaking authority. Stakeholder processes are considered less useful in situations where an institution has already made a decision and is looking for validation. In this case, decisionmaking influence would be minimal, thus challenging the spirit of public participation "core values," which state that the "public's contribution will influence the decision." Without a clear understanding of how a stakeholder process can interact with or influence decisionmaking, one should question the value of such a process. Second, assessing the stakeholders' role will help them define expectations on the nature of their involvement and may create an incentive for active participation.[46]

### 10. Using Evaluative Criteria to Measure the Value and Progress of Discussions and Decisions at Various Stages of the Process

Although stakeholder processes are growing in popularity and use, the value and cost of many of these processes are unclear. To determine the value and cost, both the interviews and literature review examined the need for evaluative criteria. Such criteria

[45] Fiorino, p. 230; *The World Bank Participation Sourcebook*, p. 168.
[46] Lewis Michaelson, "Core Values for the Practice of Public Participation," *Interact* (Spring 1996), p. 79; Marion Cox and Audrey Armour, "Integrating Public Input into Environmental Decisions: How Far Have We Come?" Ibid., (Fall 1996), p. 47.

also have a number of benefits, including benchmarking the approach and progress of key issues noted above, keeping the process on track, understanding the public's perception of the process and its outcomes, informing needed adjustments, and evaluating the overall results. The process of using evaluative criteria on a more regular basis has generated a body of information through which to improve the management of stakeholder processes as a whole.[47]

**"Although stakeholder processes are growing in popularity and use, the value and cost of many of these processes are unclear."**

A number of specific evaluative criteria have been used or suggested. DOE, for example, identified process criteria such as "range of public participation opportunities" and the "incorporation of public concerns and input into a decisionmaking process." Outcome criteria include "resolution of conflict" and the ability of the outcome to "fulfill legal and regulatory requirements." DOE also requires its public participation plans to be evaluated using specific criteria including the clarity of goals, process, planning, coordination with other related projects and programs, and identification of stakeholders.[48]

Others also have categorized evaluative mechanisms in this manner. Lach and Hixson, for example, identified "prototype" process, outcome and direct/indirect cost indicators Process indicators include accessibility to the decisionmaking process, diversity of views represented, opportunities to participate, and integration of concerns and information exchange. Outcome indicators include project efficiency, cost avoidance, decision/project acceptability, mutual learning, and mutual respect.[49]

Additional tools to evaluate the process and outcomes include establishing milestones to assess progress, conducting surveys of direct and indirect participants, and communicating the results of the evaluation.

Many of those interviewed for this study noted the need for both process and outcome evaluative measures, but there appeared to be little consensus as to the nature or weighting of the measures. They observed that process measures helped participants "digest one bit at a time" and enabled the observation of progress. On the other hand, another respondent mentioned that the only thing that matters is the way the results of the process were used. As an indicator of the lack of consistent measures, a number of respondents were split between the application of formal or informal measures.

According to many of the individuals interviewed in the study, it is important to keep the number of indicators relatively small in number. A fuller discussion of these issues is presented in Section VII.

[47] Susan Carpenter, "The Blurring of Roles Between Public Participation and Conflict Resolution Practitioners," *Interact* (Fall 1995), p. 44.
[48] U.S. Department of Energy, *Public Participation Desk Reference*, Appendix E, p. E-3.
[49] Denise Lach and Peter Hixson, "Developing Indicators to Measure Values and Costs of Public Involvement Activities," *Interact* (Spring 1996), p. 55.

## 11. Assessing the Availability of Resources to Support the Stakeholder Process

Operating a stakeholder process can be an expensive, time-consuming activity involving many different kinds of resource needs. One of the nation's leading supporters of stakeholder processes at the state level has cautioned interested parties to "expect that two-way, beneficial communication with the public will take longer and cost more than expected. Plan realistically for the resources needed to get the job done well."[50]

A failure to fully anticipate resource needs has halted some stakeholder processes. In addition, stakeholders participate with very different resource needs. Some individuals, representing large national governmental agencies or companies, are able to gain easier access to information and staff than many state or local organizations or citizens. Their needs can range from grant support to organize and manage meetings, to technical support to improve understanding of the issues among all participants, or financial assistance for travel, computer, or child care services.

The increased use of stakeholder processes has elevated the importance of integrating budgetary, time, information, and other resource issues into the planning process. The inability to resolve resource issues at the very beginning constitutes a sufficiently important reason to: 1) reconsider the viability of a stakeholder process for the issue under review; or 2) re-evaluate the type of stakeholder process to be utilized and its resource requirements.

## 12. Determining Whether a Process Hammer Exists or Should Be Established

A process hammer is a factor that can halt the process or externally impose a decision, thereby encouraging stakeholders to reach consensus. Such hammers include statutory or court-imposed deadlines that can transfer the issue away from stakeholders if they fail to achieve agreement within a specified time period. The existence of higher level decision bodies that can substitute for the stakeholder process is another form of hammer. The Michigan Environmental Review Board, established in the 1970's, was charged with the responsibility to review "significant" state actions relating to ecologically sensitive areas, major project funding by the state, and major environmental controversies. The Board's role was to serve as an environmental science court, reach settlements on these issues, and try to avoid litigation. MERB members knew that, in the event of their inability to reach a decision, the governor would step in and make the decision for them—an event the governor would perceive as a failure by the Board. According to its former chairman, MERB succeeded approximately 80% of the time.[51]

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[50] Letter from Debora Martin, Director, Regional and State Planning Division, Office of Policy, Planning and Evaluation, Environmental Protection Agency, in Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects*; and interview with Paul Deisler, November 14, 1997.
[51] Interview with William Cooper, November 11, 1997; Bingham, p. 107.

An impending decision by a government agency, corporation, or multi-lateral organization constitutes another form of stakeholder process hammer, although if the time frame is too short a stakeholder process may not be advisable. Finally, stakeholders can adopt a hammer at the outset of the process by setting deadlines for achieving progress, establishing a sunset timeline, or committing to binding arbitration. Both the majority of study interviewees and frequent literature citations testify to the utility of some form of process hammer, although it alone provides no guarantee that an agreement will be reached.

**13. Providing for Transparency and Communication to Ensure Ongoing Access to Information and Accountability of the Parties to Each Other**

Information and communication are necessary tools and drivers in stakeholder decisionmaking that present managers with both opportunities and challenges. Providing information is critical during the assessment process for identifying stakeholders and community issues, as well as during negotiations to inform the public and ensure accountability and credibility of the process. EPA's Project XL Stakeholder Principles state that "information about projects should be disseminated widely in a transparent, continuous and accessible manner." The World Bank has concluded that sponsoring organizations have an obligation to "ensure that stakeholders are provided with adequate and relevant information" and that the information is "provided in a meaningful" and "readily understood" manner. And interviewees also identified "adequate information and resources" as a principal condition for success.[52]

Sustained communication is critical to the credibility of the process, while the lack of information impedes participation and reduces the likelihood of a successful outcome. One of The Aspen Institute's principles states that "each stakeholder process is illuminated by full transparency of information and full transparency of process to ensure openness and accountability of all participants."[53] The EPA also sees transparency as a "safety net" and a critical component in its Project XL process.[54] For example, transparency played an important role in securing the Intel Chandler facility's Project XL agreement. Intel used the Internet to keep indirect stakeholders appraised of the negotiations and is currently using Internet technology to disclose detailed environmental performance data each quarter. Other forms of transparency in stakeholder processes include disclosure of biases, interests, and policy objectives.

Access and availability of information has other benefits. Regular communication, for example, helps bolster accountability among participants during the process by ensuring that they are accurately representing the interests they claim to represent. It also is a necessary component in the involvement of indirect stakeholders in a decisionmaking process. Finally, it is a critical component when dealing with risk-based policymaking. Juanillo and Scherer, for example, have concluded that, "Entrusting policy to panels of

[52] EPA's Project XL "Stakeholder Principles;" *The World Bank Participation Sourcebook*, p. 174.
[53] The Aspen Institute, *The Alternative Path*, p. 21.
[54] U. S. Environmental Protection Agency, "Guidelines for Stakeholder Involvement," Project XL Web site, November 27, 1996. http://199.223.29.233/xl_home/Stakeholder_Involvement.html, p. 1.

experts working behind closed doors has been proven a failure, both because the resulting policy may ignore important social considerations and because it may prove impossible to implement in the face of grassroots resistance." Two-way risk communication, by contrast, "presumes a free flow of information among stakeholders about the problems, policies, evidence, and potential solutions."[55]

Expanding information and communication may stimulate more stakeholder-based decisionmaking. Increasingly, environmental performance data, as well as environmental, health, safety and risk information are becoming readily available,

**"Entrusting policy to panels of experts working behind closed doors has been proven a failure, both because the resulting policy may ignore important social considerations and because it may prove impossible to implement in the face of grassroots resistance."**

***Napoleon Juanillo and Clifford Scherer***

thereby empowering the public's ability to influence environmental performance and policy. For example, EPA and other organizations have made available corporate environmental performance data such as SARA Title III information. Right-to-know organizations have announced their intention to load on the Internet risk management planning (RMP) data submitted by more than 64,000 facilities after the compliance deadline in June 1999. EPA's stated objective is to share this type of information to allow industry, government, and the community to work together to reduce chemical hazards and their risk to the public and the environment.[56]

## VI. Comparison of Public and Private Sector Experiences With Environmental Stakeholder Processes

Government agencies and private companies have very different motivations and needs for utilizing stakeholder processes. These reflect differences in both their histories and cultures as well as their institutional missions. Agencies seek stakeholder input chiefly as a means of obtaining information and, ultimately, legitimizing and obtaining public acquiescence or support for their decisions. Businesses utilize stakeholder processes to support facility operations, protect their societal license to operate and to grow, and enhance their reputation. Historically, these distinctive motivations have led both institutions to choose differing techniques for obtaining stakeholder input. Agencies have traditionally utilized formal hearings, meetings, and workshops as major elements of their public participation programs. In contrast, private industry has tended to utilize processes such as site tours or community advisory panels that focus on specific issues or locales. However, both government and industry are presently engaged in much experimentation to develop stakeholder processes best suited to achieving their respective goals.

[55] Napoleon K. Juanillo, Jr. and Clifford W. Scherer, "Attaining a State of Informed Judgments: Toward a Dialectical Discourse on Risk," *Communication Yearbook* (Vol. 18), pp. 286, 293.

[56] U.S. Environmental Protection Agency, Chemical Emergency Preparedness and Prevention Office, *Risk Management Program: RMP* Submit™, RMP* Info™ Factsheet," United States Environmental Protection Agency, Office of Solid Waste and Emergency Response* (January 1998), p. 1.

The specific pathways through which government and industry adopted stakeholder processes also differ. Government agency practices were directly shaped by our political culture, which has emphasized greater citizen access and participation, sunshine provisions to increase decisionmaking transparency, and the influence of interest groups seeking to achieve their agendas. In contrast, the private sector experience during the past generation has been dominated by the influence of shareholders, who remain the most influential stakeholder group. The relative impact upon corporate governance of shareholders compared with other stakeholders (e.g., customers, employees, communities) is currently the subject of an intensive debate.[57]

Both government agencies and corporations have undergone significant organizational changes during the past decade, although the industry experience is the more significant and tumultuous. Corporations have substantially restructured and downsized, eliminated layers of managers and other employees, and increasingly focused on core businesses where they can achieve higher rates of return on invested capital. One indicator of these vast changes is that one-third of the Fortune 500 companies listed in 1970 had—through acquisitions, mergers, or bankruptcy—disappeared by 1983. The average life expectancy of a contemporary multinational company is only forty to fifty years. One by-product of these developments is that corporations are managed in a more short-term, ad hoc, and flexible manner than previously.[58]

There are a growing number of private sector stakeholder experiences to evaluate. Appendix 5 presents two case studies—BASF and BP America—that assess the use of stakeholder processes for achieving important business goals at the local and corporate levels, respectively.

One of the most noted examples of a company stakeholder initiative involves the Dow Chemical Company. In 1991, Dow established the Corporate Environmental Advisory Council consisting of highly influential and visible environmental leaders in the United States and abroad. An unpublished 1994 evaluation of the Council—based upon interviews with Dow officials, Council members and public information sources—yields some insight on how this company designed a stakeholder process to inform both its environmental and business decisionmaking. The Council's role at that time included the following tasks:

- Providing an opportunity for senior management to interact with credible, intelligent, well-positioned environmental opinion leaders on issues of increasing importance—such as the endocrine disruption debate—to Dow's business interests.

[57] Tony Jackson, "Trying to Serve Two Masters," *Financial Times*, December 22, 1997, p.8.
[58] Arie de Geus, *The Living Company* (Boston: Harvard Business School Press, 1997), p. 1; Robert H. Waterman, Jr., *Adhocracy* (New York: W.W. Norton & Company, 1990).

- Enabling senior Dow executives to obtain a heads-up on emerging health, safety and environmental issues from individuals who were likely to play an important role in shaping the public debate on such issues.
- Obtaining an independent view to examine specific business planning assumptions relating to product development and use.
- Providing an additional tool for Dow's corporate environmental staff to persuade increasingly decentralized business units to take environmental issues seriously and integrate them within their business plans.
- Creating a voice for longer-term business planning.
- Utilizing stakeholder input as a potential source of competitive advantage as environmental issues increasingly influence business costs and marketing opportunities.
- Supplementing other methods that Dow uses—such as community advisory panels—to obtain stakeholder input.
- Achieving a public relations success story for the company and enhancing its corporate environmental reputation.

No other major American company has followed Dow in establishing such a formal and extensive stakeholder process at the corporate level. There have been major changes in Dow's senior management in recent years; according to Dow officials, however, the Council remains an active and important source of input to senior Dow executives on environmental and business issues.[59]

A growing number of private companies and governmental agencies are systematizing their stakeholder processes through adoption of formal policies and guidelines. In October 1997, for example, Vulcan Chemicals adopted a statement on "How To Know When To Start A Community Involvement Group" to guide company stakeholder planning activities. This is presented in Figure 5.[60] In May 1995, the DOE published an Environmental Management Public Participation Policy that defined specific goals, plans, and implementation guidance for engaging stakeholders. In subsequent years, it has followed through with more specific analytical studies and evaluations, including scorecards that compare DOE's performance with that of other governmental and industrial sectors, in their management of stakeholder processes.[61]

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[59] Terry F. Yosie, Assessment of Dow's Corporate Environmental Advisory Council (unpublished manuscript, 1994); interview with Dennis Heydenak, Dow Chemical Company, December 15, 1997.

[60] See also Nevin Cohen, Caron Chess, Frances Lynn, and George Busenberg, *Fostering Environmental Progress: A Case Study of Vulcan Chemical's Community Involvement Group* (Center for Environmental Communication, Rutgers University, August 1995)

[61] U.S. Department of Energy, Memorandum from Leo P. Duffy, Assistant Secretary for Environmental Restoration and Waste Management, "Public Participation Policy for Environmental Restoration and Waste Management," March 1993; Ibid., Office of Environmental Restoration, Customer Focus Analytical Team, p. 16.

**FIGURE 5: VULCAN CHEMICALS COMMUNITY INVOLVEMENT GROUP: HOW TO KNOW WHEN TO START A COMMUNITY INVOLVEMENT GROUP**

- There must be sufficient time to address the issues of concern. It takes time for issues to evolve and even more time to resolve issues by consensus.
- The subject of the dialogue must be issues of an appropriate scale — issues about which it is possible to do something. It is hard to get involvement on issues that people do not see as urgently impacting their lives. Some emotional involvement is needed from one side or the other, or both. On the other hand, the issue cannot be so acute that people cannot talk about it civilly. Nor can it be so large that it is impossible to address with this kind of process, e.g., Bosnia.
- The process must be structured to make an impact, not just to educate. Thus consensus, not voting, should be the decisionmaking process. An outside facilitator should be used, someone "above the froth and the flame."
- The right mix of people must be involved and empowered to have influence. Participants' power derives from having the ability to make things move ahead or stop them from doing so. Decisionmakers must be a part of the process or willing to be influenced by the group's recommendations so the recommendations are not wasted.
- The group needs those with institutional memory about the issues as well as those new to them. The initial makeup of the group is critical because it impacts future membership.
- The group should be small enough to allow everyone to engage in dialogue, approximately 8-12 people if decisions are to be made.
- The group must meet often enough to build relationships and let issues evolve, approximately 6-12 times a year.

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Stakeholder activities are also increasingly collaborative. Following the Exxon Valdez oil spill in 1989, citizen advisory councils were established in Alaska, California, and Maine to provide stakeholder input on environmental issues related to the marine oil trade. These included review and evaluation of oil tanker navigation and escort procedures, deployment of new tug escort vessels, use of weather reporting equipment, and establishment of a training symposium. Such councils have typically involved industry, government officials, and citizens who engage in joint fact finding and collaborative analysis and use dispute resolution techniques when council recommendations conflict with the views of important stakeholder groups.[62]

Industry and governmental organizations increasingly possess a growing number of common interests in managing stakeholder processes. Each seeks to improve its credibility with the public on environmental issues, and engaging stakeholders is a leading method to achieve this objective. In addition, there is an increased

**"Industry and governmental organizations increasingly possess a growing number of common interests in managing stakeholder processes."**

[62] George Busenberg, *Citizen Advisory Councils and Environmental Management in the Marine Oil Trade*, Technical Report Based on Doctoral Dissertation, Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, 1997.

willingness among various institutions to learn from each other. Federal regulatory agencies, whose primary stakeholder experience has involved formal rulemaking activities, policy dialogues, and voluntary programs at the national level, benefit from learning more about private industry's management of stakeholder processes at the local level. Similarly, companies face the challenge of adopting more strategic, corporate level mechanisms to engage stakeholders, and a better understanding of lessons learned by national and state environmental agencies can provide valuable information for corporate planning. Finally, government and industry have separately expanded their participation with environmental groups and other non-governmental organizations on a variety of issues. These developments create opportunities for pursuing more collaborative fact finding, common problem solving, and more streamlined and cost-effective management of stakeholder processes.

## VII. Challenges to Stakeholder Processes

The use of stakeholder processes is an accepted part of environmental decisionmaking and is here to stay. Like any element of decisionmaking, however, it will change over time. The future evolution of stakeholder processes will be shaped, in part, by how convenors and stakeholders respond to a number of current challenges. This section of the report examines five issues, presented in Figure 6, that will influence the future management and direction of environmental stakeholder processes.

**FIGURE 6: CHALLENGES TO ENVIRONMENTAL STAKEHOLDER PROCESSES**

Challenge 1: Encouraging Quality Management of Stakeholder Processes
Challenge 2: Measuring Stakeholder Processes and Results
Challenge 3: Engaging the Scientific Community in Stakeholder Processes
Challenge 4: Integrating Stakeholder Deliberations into Existing Decisionmaking Processes
Challenge 5: Determining Whether Stakeholder Processes Yield Improved Environmental Decisions

### Challenge 1: Encouraging Quality Management of Stakeholder Processes

Increased use of stakeholder processes is part of a broader trend of organizational realignment. Examples of this trend in recent years have included private company efforts to re-engineer their business processes and get closer to their customers, and government agencies' "reinvention" of their ability to improve performance. One leading consultant sees organizational realignment "as the internal side of the coin, with public participation as the external side of the same coin. In almost every case, these new management approaches stressed the participation of the affected parties."[63]

[63] Creighton, p.15.

While individual stakeholder projects are significantly influenced by the characteristics and dynamics of the issues and participants involved, greater attention to improved management processes can also enhance the prospects of success. Virtually anyone with extensive participation in stakeholder issues (as a convenor, facilitator, or participant) has experienced highly variable results. Better understanding of at least three factors can help reduce such variability. These factors include:

**Commitment to defining and using best practices.** Many individuals and organizations continuously engaged in stakeholder processes are expressing a growing need to identify, summarize, and transfer good management practices. This development reflects a need to achieve better results from stakeholder decisionmaking through improved management of the process.

**"While individual stakeholder projects are significantly influenced by the characteristics and dynamics of the issues and participants involved, greater attention to improved management processes can also enhance the prospects of success."**

One increasingly used technique to define best practices is benchmarking. A leading management consultant has described benchmarking as a "management tool used to identify the leaders in a particular field and emulate their practices in a reasoned transfer. At the heart of benchmarking is the objective to improve an organization's processes and performance." Another technique that originated in the private sector and has found adherents in government is the concept of 360° feedback. Such feedback solicits responses from peers, participants, and observers to a set of questions that measure the extent to which they believe the stakeholder process is achieving the desired outcomes, thus providing a 360° view of their perceptions.[64]

Benchmarking, 360° feedback, and other methods that explore best practices are in the initial stages of becoming institutionalized methods for stakeholder process management. Examples include the following:

- The DOE's Office of Environmental Restoration conducted benchmarking studies of peer organizations as a basis for its Customer Focus Analytical Team to identify best practices for environmental restoration stakeholder activities. Benchmarked institutions and programs included: EPA's Superfund program, the Bonneville Power Administration, the U.S. Geological Survey, a local county recycling program, and five private sector firms.[65]
- The EPA's Regional and State Planning Division funded a study by the Western Center for Environmental Decision-Making to assess principles and best

[64] Ron Ashkenas, et al., *The Boundaryless Organization* (San Francisco: Jossey-Bass Publishers, 1995), pp. 89-90; U.S. Department of Energy, Office of Environmental Restoration, Customer Focus Analytical Team, Appendix 1, "Customer Focus Analytical Team 360° Team Effectiveness Assessment."
[65] Ibid., pp. 9-16.

practices involved in the management of state comparative risk projects. The study evaluated ten state projects and presented a number of best practice areas.[66]

- The World Bank has identified a variety of "practice pointers" as a means to expand poor nations' capabilities to participate in the Bank's stakeholder processes. In addition, it has documented over a dozen case studies to aid in the exchange of participatory planning and decisionmaking techniques.[67]

These and other initiatives identify a variety of best practice areas, including: methods for identifying stakeholders; training community relations staff; ensuring honest and accurate information; resource planning and allocation; obtaining management commitment and support; understanding the decisions to be made; comprehending the public's desired outcomes; outreach techniques; and the use of interactive media (e.g., television, Web sites).[68]

In addition, some professional societies have placed the issue of best practices high on their agendas. In 1997, for example, the Society of Professionals in Dispute Resolution organized a two-day conference on "Practices: The Good, the Bad, the Beautiful" that summarized a series of issues pertaining to best practice utilization for a variety of stakeholder processes and situations.[69]

**Training, enhanced professionalism, and ethical standards.** The growing utilization of stakeholder processes has drawn a growing number of individuals and firms into the field. While many of these newer entrants are well qualified, a number possess neither sufficient knowledge of stakeholder process management nor substantive understanding of the issues. In addition, there is a growing need to ensure that activities labeled as stakeholder processes do, in fact, live up to the expectations and standards of experienced practitioners in the field. Also, stakeholder process managers are sometimes directed by their clients to engage in practices that present ethical and practical problems. These include unrepresentative selection of stakeholders, excluding certain questions from the dialogue, and writing reports that favor the position advocated by the client.[70]

These challenges have long been recognized by some professionals. The International Association of Public Participation Professionals and its journal *Interact* have conducted an extensive debate on these issues. In 1986, the Society of Professionals in Dispute Resolution adopted "Ethical Standards of Professional

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[66] Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects*, pp. 1-49.
[67] *The World Bank Participation Sourcebook*, pp. 121-143.
[68] Ibid., Appendix A; U.S. Department of Energy, Office of Environmental Restoration, Customer Focus Analytical Team, pp. 9-16.
[69] Society of Professionals in Dispute Resolution (SPIDR*), Practices: The Good, the Bad, the Beautiful*," Environmental and Public Policy Sector Third Annual Mid-Year Conference, Shoreline School District Conference Center, Seattle, Washington, April 10-11, 1997; SPIDR has also published *Best Practices for Government Agencies: Guidelines for Using Collaborative Agreement-Seeking Processes* (January 1997).
[70] Michaelson, p. 77.

Responsibility," and over a number of years has organized conferences and other forms of training and credentialing for the various sectors that its members serve. RESOLVE, Inc., a non-profit dispute resolution organization, has established a compendium of "Qualifications, Responsibilities, and Competencies for Program Staff" and other training programs used in hiring and evaluating staff.[71]

Both the literature on stakeholder practices and interviews with facilitators give cause for concern over the professional qualifications and skill levels of many individuals who manage stakeholder processes. Unlike the legal and medical professions, for example, no formal accreditation is required before entering into the field of stakeholder processes. At a time when expectations for results from stakeholder processes have increased, the need to improve training, professional practices, and ethical standards is important to retaining the confidence of specific stakeholders and the general public.

**Capacity and infrastructure.** The growing demand for any good or service creates a capacity and infrastructure challenge to ensure its continued supply. The extension of risk-based decisionmaking from the national government to state and local sectors throughout the 1980's and 1990's, for example, created a need for more trained practitioners to implement this method of decisionmaking. More recent experience with ongoing state comparative risk projects has also identified capacity and infrastructure issues in such areas as information distribution, leveraging volunteer networks, and institutional development. An EPA commissioned study of such projects pointed out the need to "concentrate on building capacity for more public participation and understanding over time in other projects and even in other sectors of governance."[72]

Capacity and infrastructure issues are especially significant in developing nations. Critical needs include: improving administrative capabilities; upgrading technical skills; developing leadership and financial management capabilities; and disseminating information. Stakeholder management techniques that work in developed nations to solve environmental problems may prove less applicable in other nations. In these settings, building on traditional community and cultural assets, such as existing community organizations and women's groups, becomes especially important as pathways to success in stakeholder decisionmaking.[73] In addition, the use of stakeholder processes in some developing nations raises broader questions regarding political freedom, human rights, and fair labor practices.

As the use of stakeholder processes continues to evolve, convenor organizations in government and industry, as well as professional organizations, will need to consider

[71] See also the SPIDR Web site for other supporting information on this topic and issues of the journal *Interact*, a publication of the International Association of Public Participation Practitioners.
[72] Testimony of Dr. Thomas A. Burke, Johns Hopkins University, before the Committee on Science, U.S. House of Representatives, February 3, 1995; Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects*, p. 47.
[73] *The World Bank Participation Sourcebook*, pp. 152-155.

more innovative approaches for extending capacity and linking it to improved training and professional practices.

## Challenge 2: Measuring Stakeholder Processes and Results

The expanded use of stakeholder-based environmental decisionmaking had led to a growing stakeholder burnout. This phenomenon has resulted from the large amount of time, energy, and other resources invested in deliberations over an extended period. The fact that a number of the same people are continuously involved in specific stakeholder dialogues has added to the sense of weariness (a fact that should stimulate a greater search for new participants from lesser involved groups). In addition, if the heightened expectations for what stakeholder processes can achieve do not ultimately yield practical results, burnout may evolve into backlash against the continued use of some stakeholder processes. Thus, there is a great need to focus on developing measures that help such processes stay on track and deliver more tangible results.

In the interviews conducted for this study and in the literature reviewed, there are at least two kinds of results from stakeholder processes. Improved understanding of other stakeholders' viewpoints and interests, greater access to information, and the building of working relationships and trust (that sometimes continue on past a particular set of deliberations) represent one kind of output. Another stems from the ability to reach an agreement for solving a specific problem. To a large degree, the former result serves as an "enabler" that facilitates attainment of more tangible outcomes for the latter. Both results are valuable, but as experience, working relationships, and expectations with stakeholder processes grow, the need to demonstrate tangible and specific results within reasonable time frames and budgets increases in importance.

The literature search and interviews also probed whether specific metrics and criteria could be used to manage stakeholder processes. Responses ranged from the highly general (e.g., it depends on the specific process and issue) to the prescriptive (e.g., using a predetermined checklist or set of ground rules irrespective of the specific issues under review). Where possible, the majority of the interviewees believed it was desirable to use such metrics and criteria as a means to keep the process moving, but flexibility should be maintained. One individual summarized this quest for balance by saying that, "You will never successfully involve the full range of stakeholders with too much formality. There is intolerance with formal metrics that stems from people being overburdened with issues and a reluctance to give too much time."[74]

**"A central challenge in managing stakeholder processes is to balance participation with focus."**

A central challenge in managing stakeholder processes is to balance participation with focus. Achieving this equilibrium can be aided by integrating process, outcome, and cost indicators and developing a selected

[74] Interview with Charles W. Powers, November 24, 1997.

number of metrics for each indicator to maintain forward progress and a focus on the ultimate goal(s).

Process indicators are those key factors that add value (e.g., information, trust) to the decisionmaking process. Outcome indicators represent specific, measurable results from stakeholder discussions. And cost indicators measure the direct and indirect costs of managing the process. Figure 7, based upon work published by Denise Lach and Peter Hixson, presents example indicators and metrics.[75]

**FIGURE 7: SAMPLE PROCESS, OUTCOME, AND COST INDICATORS FOR MANAGING STAKEHOLDER PROCESSES**

| **Process Indicators** | **Potential Metrics** |
|---|---|
| Accessibility to decisionmaking process | Early involvement of stakeholders |
| | Number of options identified |
| | Stakeholder discussion of options |
| Diversity of views represented | Number/types of participants |
| | Continuous participation |
| Opportunities for participation | Comments, length and frequency |
| | Decisionmakers present at Meetings |
| Information exchange | Availability/clarity of materials |
| | Agreement on what the data mean |
| Identification of concerns | Key issues identified and discussed |
| | Issues/goals agreed on and prioritized |
| | Relationship among data, options, and goals understood |
| **Outcome Indicators** | **Potential Metrics** |
| Project/decision acceptability | Potential for litigation |
| | Implementation of decisions |
| | Ratio of negative to positive stakeholder comments |
| Project efficiency | Percentage of decisions approved |
| | Percentage of deadlines met |
| Cost avoidance | Ratio of actual to anticipated costs |
| | Actual vs. anticipated process time |
| Mutual learning and respect | Willingness to work together in the future |
| | Improved agency/stakeholder relationships |
| | Willingness to compromise and engage in problem solving |
| **Cost Indicators** | **Potential Metrics** |
| Direct costs | Time required for staff and stakeholder participation |
| | Materials/travel costs |
| Indirect costs | Opportunities lost to participate in other public activities |

Specific process indicators and metrics can vary across stakeholder projects, and they will not work effectively if applied rigidly or without the consent of the participants. They also cannot substitute for the need to conduct substantive discussions of the issues under review. Viewed in this context, however, they can aid both process managers and stakeholders to better understand the status of their deliberations, their progress achieved against stated goals, and the level of effort they are investing at various stages of the process. Indicators thus provide a means to assist stakeholder-based decisionmaking to achieve tangible and cost-effective results.

[75] Lach and Hixson, pp. 56-62.

## Challenge 3: Engaging the Scientific Community in Stakeholder Processes

Over several decades, the scientific community and its supporters have succeeded in expanding the role for scientists and peer review in environmental decisionmaking. Their influence can be measured by statutory changes, policy and procedural modifications adopted by regulatory agencies, expanded use of scientific advisory committees, and numerous instances where scientific information influenced the outcome of policy decisions. Over time, a number of scientists have become increasingly sophisticated about the regulatory process and in matching their expertise and communication of scientific information to the needs of that process.

A principal factor motivating governnmental agencies to solicit scientists' views stemmed from the latter's role as a partial legitimizer of the decisionmaking process. As environmental policies became more contentious throughout the 1970's and 1980's, agencies' interests converged with those of a scientific community seeking expanded access and influence over environmental policy choices. Positive scientific reviews of risk assessments and criteria documents used as the basis for environmental decisions were interpreted by many policymakers as tantamount to a "scientific seal of approval" that provided political cover for controversial decisions.

Overlapping these developments over the past decade has been the growth of stakeholder-based decisionmaking. To some degree, environmental policy has always been shaped by stakeholder input as expressed through the notice and comment process or advocacy by interest groups. What has changed in the intervening years has been the increased ability of grass roots organizations to participate in national policy debates (including the scientific phases of those debates), the expanded capabilities of state and local environmental agencies to shape policy options, and the greater transparency of the decisionmaking process that has enabled stakeholders to gain more rapid and complete access to information. These and other factors have enabled stakeholder groups to transmit their perspectives to policymakers earlier and more effectively and have strengthened their emergence as another principal legitimizer of national environmental policy decisions.

At present, science-based and stakeholder-based processes represent competing approaches for influencing policymakers' choices. This is true for several reasons. While risk-based decision processes provide considerable insight on defining society's high-, medium - and low-risk environmental problems, they have been less successful in persuading Congress, the public, and other stakeholders to re-align budgets, programs, and statutes to reflect the understanding provided by science. Second, many environmental debates represent conflicts over competing societal values, and stakeholders are perceived as more legitimate and representative

**"Many environmental debates represent conflicts over competing societal values, and stakeholders are perceived as more legitimate and representative interpreters of societal values than scientists."**

interpreters of societal values than scientists. Third, governmental agencies have increasingly broadened the suite of policy tools beyond risk-based decisionmaking. For example, the use of emissions trading and other market-based approaches to achieve sulfur dioxide reductions, or the creation of voluntary pollution prevention programs, are less dependent upon the use of risk-related information. Finally, most stakeholders are not technically trained, and they and scientists do not currently have a good understanding of each other's needs in environmental decisionmaking.

There is no inherent reason why science-based and stakeholder-based decision processes are not compatible. In addition, science is a necessary component of many environmental stakeholder processes. "Public attitudes can change public policies," noted a recent stakeholder report to EPA, "but they cannot change the laws of nature, e.g., the chemistry of ozone depletion, the physics of air pollution, or the neurotoxicity of lead." Scientists can add important information and enhance the credibility of environmental decisions when their perspectives are incorporated. Scientists are, in fact, an important set of stakeholders, and they possess special knowledge and skills that contribute a valuable resource for a stakeholder process.[76]

**"There is no inherent reason why science-based and stakeholder-based decision processes are not compatible."**

When participating in traditional regulatory or stakeholder processes, it is important for scientists to acknowledge when their viewpoints originate from the use of professional methods and practices compared with expressions of opinion that emanate from their role as citizens and stakeholders.

What are the roles of scientists and stakeholders in environmental decisionmaking? How can they more effectively integrate their respective roles? The existing literature and interviews for this study provide the basis for the following observations:

**Roles for scientists and other stakeholders.** Most of the interviewed stakeholders believe scientists are best equipped to "distinguish fact from opinion," "provide science-based information," "make data more accessible," and "define the limits of science and knowledge." In short, non-technical stakeholders desire scientists' participation in order to enhance their own deliberations by delivering and translating scientific information in a form useful to them. "Scientists provide the facts and other stakeholders provide the values for the facts," summarized one interview participant.[77]

Stakeholders believe they have a broader role in environmental decisionmaking. They see themselves as "providing a balanced perspective of what is important to the community," as well as "negotiating a policy action, a demonstration project, and

[76] Western Center for Environmental Decision-Making, *Public Involvement in Comparative Risk Projects*, p. 6.
[77] Interview with Jim Larson, Intel Corporation, December 8, 1997.

implementing a recommendation." Many stakeholders believe they should not only help recommend options to policymakers but also directly participate in choosing and implementing such options.

**Options for ensuring scientists' participation in stakeholder processes.** While a number of prominent stakeholder initiatives—Project XL, the Enterprise for the Environment—are noteworthy for the absence of scientists' participation, other projects have succeeded in designing the process to include scientific information and perspectives. Examples of the latter include Columbus, Ohio's, Priorities '95 project (see Appendix 5), remediation of Fernald, Ohio's, low-level hazardous waste site, and comparative risk projects for the City of Houston and the State of Texas. Not all stakeholder processes address technical issues but, for those that do, the following approaches have helped to integrate scientific issues with stakeholder deliberations:

- Establish a forum or structure connected to the stakeholder process for scientists to review technical information. Participants in the Columbus, Ohio, project created a Technical Advisory Committee to institutionalize their scientific capacity. Other processes have relied upon fact finding groups, local universities, or hired technical consultants to assess and impart scientific information. Supreme Court Justice Stephen Breyer has recommended the establishment of expert panels to assist the judicial branch to better understand complex technical issues involved in legal reviews. Whatever the mechanism employed, these and other stakeholders have recognized the need and value for maintaining a placeholder for science during their deliberations.
- Ensure that the scientist-stakeholder relationship is interactive and iterative. Many scientists are unfamiliar with stakeholder processes, being more generally accustomed to imparting scientific knowledge to their peers or to science-literate policy officials. Similarly, most stakeholders are not scientifically trained and are not knowledgeable about technical methods or data. An interactive and iterative process is more likely to promote common understanding and enhance the prospect that stakeholder deliberations will be more scientifically informed.
- Address both "micro and macro rationality." Juanillo and Scherer have observed that for lay persons, risk is viewed in terms of how it will affect people at a personal level. Scientists, economists, and policy-makers, in contrast, more frequently evaluate the possibility of a risk occurrence by how it may affect society as a whole, or impact important groups within society. Through such reasoning, it may be rational for an individual or a group of families in a neighborhood or community to oppose the siting of a facility near their homes, but it is irrational for society not to be able to build such facilities. Having scientists and stakeholders jointly consider micro and macro rationality can improve the comprehensiveness of decisionmaking and enable scientists to become more engaged in a broader array of stakeholder deliberations.[78]

[78] Juanillo and Scherer, p. 296.

**The value of scientists' participation in stakeholder deliberations.**

Most of the debates over stakeholder-based decisionmaking surround the quality of the process rather than the quality of the analysis of scientific data. This is because information alone does not motivate people to take action. The key challenge for proponents of greater scientific rigor in stakeholder deliberations lies in demonstrating the value of better scientific analysis for the process. At least three arguments support the need for improved analysis and greater participation by scientists. They include the following:

- There is a high cost from not involving scientists in stakeholder deliberations. "If decisions are less scientific," notes Dr. Bernard D. Goldstein of Rutgers University, "the science will come back to bite you later on." Evidence of this problem is amply demonstrated in the continuing misalignment between the nation's high-priority environmental risks and budget allocations directed at much lower risks.[79]
- Scientists retain a higher level of societal credibility than many government agencies or individual stakeholders. Decisionmaking processes conducted in the absence of scientists' participation run a greater risk of being less sustainable over time because of misidentifying the problem or developing technically flawed solutions.
- Facts ultimately matter. There is often a lag time between scientists calling attention to an environmental issue and stakeholders' willingness to accept the need for action. Initial reports of the depletion of the stratospheric ozone layer in the early 1970's were not systematically acted upon until the late 1980's. For decades, experts have called attention to the problem of non-point source water pollution, while most policymakers and stakeholders have focused primarily on industrial and municipal point sources. Only recently has a broader consensus emerged to respond to this aspect of water quality and with it the need to obtain a more definitive scientific understanding of the issues involved.

In summary, neither science nor other stakeholder perspectives alone constitute an adequate basis for environmental decisionmaking. "It is not that society wants to jettison professional and technical expertise and enter a new age of irrationalism," Jerome Priscoli has written. "Far from it—we need the expertise. But a new relationship among experts and those whom they serve must be established to liberate this expertise."[80]

**"A new relationship among experts and those whom they serve must be established to liberate this expertise."**
***Jerome Priscoli***

[79] Interview with Dr. Bernard D. Goldstein, December 12, 1997; U.S. Environmental Protection Agency, Science Advisory Board, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (September 1990).
[80] Priscoli, p. 84.

## Challenge 4: Integrating Stakeholder Deliberations into Existing Decisionmaking Processes

Traditional methods of public participation follow several well-established practices. They identify when public participation is needed or required, distribute information on the issues for which public input is sought, establish a formal notice and comment period, and create a record or docket that houses the public comments received and the agency's responses to them. According to one analysis, "after 20-30 years of practice, public involvement processes still are not well integrated with decision processes. The two processes tend, more often than not, to run on parallel tracks, with little meaningful intersection beyond the minimum necessary to meet legal and administrative requirements."[81]

The integration of stakeholder inputs raises several challenges for environmental decisionmaking. These challenges include: 1) How will stakeholder comments be addressed in developing environmental policies? 2) What impacts will stakeholder-based decisionmaking have upon institutional relationships and the distribution of authority and power among various levels of government? And 3) How will such processes affect decisionmaking by non-governmental organizations such as environmental groups and industry?

Government agencies, private companies, and the broader stakeholder community have only begun to address these issues, but their experience to date yields some examples of how these institutions are beginning to adapt their decisionmaking processes.

**Incorporating stakeholder interests and perspectives into environmental policymaking.** Because many stakeholder processes currently reside outside of traditional decisionmaking practices used by government agencies and corporations, they must decide how to incorporate stakeholder views into such outcomes as rulemakings, clean-up decisions, environmental management practices or other outputs. A growing number of agencies and companies are recognizing the need for such integration and are beginning to adjust their decisionmaking procedures. The degree of such adjustment is preliminary and subject to future change. The following examples reflect the range of efforts currently in progress:

- In its ongoing efforts to address the highly sensitive issue of timber management, Weyerhaeuser Company has established a program of town hall meetings in selected communities where it maintains forestry assets. The purpose of the meetings is to obtain information and perspectives from local citizens; identify their concerns; explain the company's goals, activities, and practices; and, in general, improve the company's societal license to operate. Such consultations provide input into an internal auditing process that measures the alignment of company practices with its stated values.[82]

[81] Cox and Armour, pp. 35, 41.
[82] Interview with Gary Risner, Weyerhaeuser Company, August 4, 1997.

- The Customer Focus Analytical Team within DOE's Office of Environmental Restoration oversees at least a dozen stakeholder participation and information programs involving more than 145 separate activities at 24 waste sites around the nation. A 360° feedback process, using 13 different rating characteristics, is utilized to assist the team to evaluate the effectiveness of these efforts. Team members, field offices, and stakeholders are included in the review process. Key performance metrics include "problem solving/expertise," "consensus decisionmaking," and "process assessment." These and other metrics assist team members in comparing the effectiveness of stakeholder programs, including their impact on decisionmaking.[83]
- EPA's Project XL has published guidelines that emphasize the importance of stakeholder views in the Agency's decision whether or not to approve a proposed project. The guidelines state that EPA will not approve a project in a case where "direct participant" stakeholders—those who work intensively with sponsors to build a project from the beginning—have vetoed project plans. In instances where stakeholders' role is consultative and not decisional, EPA "will give significant weight to the views of these direct participants in determining whether the project has broad community support."[84]

Such activities represent an attempt to move away from a dichotomy of stakeholder/no stakeholder participation. While not independent of traditional decisionmaking processes, neither are they fully integrated with it. At present, they are experiments in defining the boundaries and ground rules for linking stakeholder input to traditional processes.

**Impacts of stakeholder processes upon institutional relationships.** Any activity that alters the composition and role of decisionmakers, and those who influence them, also changes the distribution of authority and power. The belief that stakeholder-based environmental decisionmaking is a vehicle for increasing access to information and equalizing political power is a principal factor motivating the use of such processes by interested parties. This is especially true of individuals or groups that have not traditionally participated in environmental decisionmaking—such as many communities, minority groups, and other grass roots organizations—as well as those who have been involved but seek expanded authority and influence such as state and local environmental agencies.

Over time, government agencies and companies have begun to alter their policies, programs, and procedures for environmental decisionmaking to reflect the growing demand for stakeholder input. For example, EPA and the Environmental Commission of the States, an organization consisting of state environmental officials, reached tentative agreement in October 1997 on the terms for implementing regulatory reinvention projects. The agreement reflects the growing influence of state governments in such areas as making efficiency a stand-alone goal for

[83] U.S. Department of Energy, Office of Environmental Restoration, *Customer Focus Analytical Team*, p. 5, Appendix 1.
[84] *Federal Register*, April 23, 1997, pp. 19877, 19880.

environmental innovation; establishing greater environmental flexibility to achieve environmental goals; encouraging greater experimentation by using policy approaches that differ from command and control regulation; and promoting alternative ways of achieving regulatory requirements. While many of the implementation details remain unresolved, the agreement represents an example of how one influential group can leverage stakeholder processes to its political advantage.[85]

The Health Effects Institute (HEI), a non-profit organization that sponsors environmental research on the health effects of emissions from vehicles and fuels, has begun to integrate stakeholder perspectives with its scientific peer review process. In 1995, HEI assessed the health effects of MTBE, an oxygenate added to motor gasoline to reduce carbon monoxide and other toxic air releases while preserving vehicle performance. In the process of reviewing the scientific information for MTBE, HEI also convened a workshop that included state health authorities, federal agencies, citizens, environmental groups, and private industry. Workshop participants were asked to review and comment on the scientific assessment that evaluated exposure and health effects information for MTBE prior to HEI's submission of its final report to the EPA and the public. (See Appendix 5 for a case study evaluation of the HEI's MTBE review.)[86]

**Stakeholder processes and decisionmaking by industry and non-governmental organizations.** Ironically, both industry and environmental groups confront the need to re-adapt their role in environmental decisionmaking because of stakeholder processes, even though they are prominent stakeholders in their own right. Both groups have invested enormous resources to develop the information, skills, and relationships needed to realize their objectives in the traditional regulatory process that centered on national policy issues. As other stakeholder groups enter the decisionmaking process, and as policymaking begins to devolve toward state and local authorities, both business and environmental groups face the challenge of learning new methods and devising different strategies of participation, and expanding or redeploying their resources.

**"Both industry and environmental groups confront the need to re-adapt their role in environmental decisionmaking because of stakeholder processes, even though they are prominent stakeholders in their own right."**

This transition is reflected in decisions made by Intel Corporation as it sought EPA approval under Project XL for its Chandler, Arizona, manufacturing facility. Recognizing the importance of obtaining stakeholder input in the XL process, Intel

[85] ECOS/USEPA Regulatory Reinvention Agreement, *State Environmental Monitor*, October 6, 1997, pp. 6-12.

[86] Letter from Margo T. Oge, Director, Office of Mobile Sources, U.S. Environmental Protection Agency, to Daniel S. Greenbaum, President, Health Effects Institute, March 28, 1995; letter from Daniel S. Greenbaum to MTBE Workshop Participants, July 3, 1995.

established a facility Community Advisory Panel that included a representative of the Native American community, a community activist, the city planning director, an environmental consultant who also served as director of the Arizona Public Health Association, and a school board member also affiliated with the Chamber of Commerce. An important factor enabling Intel to obtain community support for its XL project was its commitment to publicly and continuously report the facility's environmental, health, and safety performance on its Web site. Local stakeholder support became especially important when national environmental groups raised concerns about Intel's project with EPA. In weighing the information, the Agency was reassured by the direct participation of local stakeholders and ultimately approved Intel's XL submission. Appendix 5 presents a case study on Intel's innovative use of local stakeholder processes.

National environmental groups, which have traditionally wielded great influence on national policy issues, confront the need to re-assess their advocacy and resource allocation strategies as stakeholder processes continue to proliferate. While continuing to support public participation in regulatory decisionmaking, they have expressed various concerns about the use of stakeholder-based decisionmaking. These include:

- Because stakeholders provide input on so many issues affecting a decision, there is a potential for democracy to displace science, thereby reducing the factual basis of environmental decisions. Stakeholder processes need to more clearly differentiate among scientific information, professional judgments, and interest-based compromises.
- There are capacity limits to the number of people who can effectively participate in stakeholder-based decisionmaking. Neither citizens nor environmental groups can effectively participate in the growing number of stakeholder processes, thus placing them in a disadvantageous position relative to other groups with a financial stake in the outcome of a decision. Because of resource limits, they may not be able to participate in the regulatory process until a much later stage, such as a public hearing. At that time, agencies are much less flexible, and external influence can be more difficult to achieve.
- Government agencies are increasingly using stakeholder processes to avoid having to make difficult, politically contentious decisions. Instead, they are relying upon stakeholder negotiations to provide political cover on issues where they already have the authority and responsibility to act.
- Place-based stakeholder processes favor industrial interests because companies have disproportionate resources, skills, and influence in local areas.
- Many stakeholder processes—focusing on natural resource issues, for example—redistribute power and disenfranchise environmental groups whose constituency is largely urban.

For some environmental groups, stakeholder-based decisionmaking thus relaxes governmental accountability and weakens their own influence in policymaking. They caution that it is not a "panacea."[87]

**Challenge 5: Determining Whether Stakeholder Processes Yield Improved Environmental Decisions**

All persons interviewed in this study believe that stakeholder processes hold great potential for improving environmental decisionmaking. An improved decision, to some degree, is a subjective judgment. For some, it represents a decision that is accepted by stakeholders and subsequently implemented. For others, a better outcome results in a reinvented role for government and more flexibility for industry to achieve environmental goals.

Those asserting that improved environmental decisions occur through the use of stakeholder processes offer the following reasons for their views:

- Participants must confront the reality of differing viewpoints rather than perceiving opponents through a stereotyped perspective.
- Stakeholder processes introduce a greater variety of information and dimensions of a problem than traditional regulatory processes.
- The interaction among different stakeholders often generates more creative solutions to problems than would have occurred in the absence of such a process.
- Trust increases over time.
- The process encourages voluntary actions.
- Relationships are built that can last beyond a particular decisionmaking process and yield beneficial results in addressing other issues.
- Participation in stakeholder-based decisionmaking improves industry's transparency and accountability.

Many of these factors, proponents observed, do not generate improved environmental performance per se but, rather, represent a means to this end.

An equally large number of interviewees concluded that the results of stakeholder processes were inconclusive or dependent upon the particular process or issue under consideration. Responses supporting this viewpoint included:

- Stakeholder processes do not necessarily produce better technical decisions.
- Some stakeholder-based decisions, such as those that utilize more contentious public hearings or town meetings, can diminish trust levels.

[87] Comments of Dr. Terry F. Young, Senior Consulting Scientist, Environmental Defense Fund, in "Experts Optimistic About Stakeholder Processes, Despite Issues," *Risk Policy Report*, February 20, 1998, pp. 34-35; Michael McCloskey, "The Limits of Collaboration," *Harper's Magazine* (November 1996), pp. 34-36; and Roberts and Marshall, pp. 55-56.

- There are mixed results on whether stakeholder processes actually reduce policy conflicts.
- Many stakeholder processes are so contextual and variable, and data are so limited, that general answers are not yet available on whether they yield improved environmental decisions.
- In some instances, the accountability of government agencies is reduced by stakeholder processes because of their desire to avoid making difficult and controversial decisions.

On balance, the interviewed experts would agree with one of their peers who observed that, "A well designed and managed process can lead to a better outcome—better integrated and implementable decisions. But, it must be well designed and managed." However, there remain a number of factors that make the outcomes of stakeholder processes less predictable. According to Kate Kramer, "If the right people are involved, if decisionmakers listen and incorporate the input, and if the process is well structured, then the decision will be better, more equitable and durable…[But] it is unclear how long the trust will last or if it applied to institutional credibility as a whole."[88]

In summary, there is much anecdotal information that supports both sides of the argument over whether stakeholder processes yield better environmental decisions. This development testifies to the need for more work to evaluate stakeholder processes and to develop more rigorous planning and management practices so that such processes are tailored to the problems they are intended to resolve. At the present time, observes Tom Burke, "stakeholder-based environmental decisionmaking is a work in progress."[89]

**"Stakeholder based environmental decisionmaking is a work in progress."**
***Tom Burke***

## VIII. The Future of Stakeholder Processes

A number of factors will shape the future use of environmental stakeholder processes. These include: 1) core factors that define the baseline from which the evolution of stakeholder processes will occur; 2) expansive factors that will encourage greater utilization of such processes; and 3) limiting factors that will restrain the use of stakeholder-based decisionmaking in the future.

These core, expansive, and limiting factors, presented in Figure 8, provide the basis for some final observations.

**Core factors.** Certain factors, already present in stakeholder processes and traditional regulatory decisionmaking, will continue into the future. These include:

[88] Interview with Kate Kramer, December 18, 1997.
[89] Interview with Thomas A. Burke, January 7, 1998.

- **The preference for interactive decisionmaking.** The tremendous growth of voluntary actions, grass roots activities, and the evolution of newer institutional methods for expressing popular viewpoints on environmental issues testify to society's growing preference that decisionmaking be conducted through more direct channels of participation and communication. This contrasts with the decline of traditional mechanisms for obtaining public input such as voting and the increasingly marginal value of formal notice and comment processes. Central to the momentum and effective functioning of interactive processes are the personal relationships that are forged around common interests and that frequently carry over to new issues.

- **The growing complexity of environmental decisionmaking.** Managing such complexity has become an increasingly difficult challenge given the growing amount of scientific information, legal and institutional factors, and political and values issues that must be reconciled. When well designed and managed, stakeholder processes are better equipped to simultaneously address and integrate these factors. Experience to date with traditional command and control regulation, however, demonstrates that it has often managed complexity ineffectively, in part because of the segmented and sequential nature of its process, its roots in a legal culture that presumes that decisionmaking proceeds through the use of an adversarial process, and its structural difficulty in representing the diverse viewpoints and values among affected parties.

**FIGURE 8: FACTORS SHAPING THE FUTURE OF STAKEHOLDER PROCESSES**

**Core Factors**
- The preference for interactive decisionmaking.
- The growing complexity of environmental decisionmaking.
- The growing disclosure of environmental information.
- The use of stakeholder processes to increase the transparency of government and industry decisionmaking.

**Expansive Factors**
- Increased and more creative uses of information technology.
- Emergence of new types of environmental problems.
- Participation of a broader array of institutions in stakeholder processes.

**Limiting Factors**
- More targeted selection of processes and issues.
- Funding and capacity limits.
- Recognition that some issues are less appropriate for stakeholder processes.

- **The growing disclosure of environmental information.** Over the past decade, large amounts of information regarding national environmental quality as well as specific data on individual communities and facilities has become widely and instantaneously available to the public. EPA, many environmental and right-to-

know organizations, and a growing number of individual companies have developed programs and plans to further expand such information.

> **"The growing availability of environmental information… will intensify the demand for more rapid decisionmaking. And it will encourage industry and its stakeholders to engage in more direct discussions to address specific environmental problems in ways that may reduce the role of federal agencies in selected decisions."**

Information management in this setting has at least two potentially significant implications. First, it will intensify the demand for more rapid decisionmaking. And it will encourage industry and its stakeholders to engage in more direct discussions to address specific environmental problems in ways that may reduce the role of federal agencies in selected decisions such as site-specific environmental management.

- **The use of stakeholder processes to increase the transparency of government and industry decisionmaking.** By forging personal working relationships, supplementing information provided through compliance reporting, and providing stakeholders with an opportunity to directly advance their agendas and negotiate their interests, such processes have emerged as an institutional innovation to measure the environmental performance and behavior of government and industry at various levels.

**Expansive factors.** These factors, building upon existing trends, will lead to greater use of stakeholder processes in the future. They include:

- **Increased and more creative uses of information technology.** Greater availability of environmental information is one application of information technology as is the use of electronic communication to submit public comments to regulatory agencies or to improve the efficiency through which stakeholder deliberations occur. Other uses of information technology will include: the preparation of environmental performance report cards on individual industrial sectors or facilities by government agencies and right-to-know organizations; the reshaping of environmental advocacy strategies to reach targeted audiences; changing decisionmaking processes with government, industry and non-governmental organizations; and the use of information technology to manage relationships and alliances among organizations on issues of common interest. The relatively low cost of exchanging environmental information also is a major factor leading to its expanded use by stakeholder organizations, thus enabling them to participate more directly and rapidly in environmental decisionmaking.
- **Emergence of new types of environmental problems.** Environmental problems largely associated with point source pollution are more readily managed through a traditional regulatory process that focuses on developing and enforcing risk-based or technology-based controls upon those sources. For issues such as endocrine disruption or greenhouse gas releases, however, a different

strategy is needed. Such a strategy should recognize that: 1) significant scientific uncertainties exist (far greater than those associated with traditional air and water quality issues, for example) and are unlikely to be resolved for a number of years; 2) developing negotiated goals and best professional judgment and management practices that integrate a range of societal interests and concerns can represent a more practical and viable interim approach for ensuring continued environmental progress; and 3) stakeholder processes, if well designed and managed, represent a better alternative for collecting information, identifying options, and negotiating reasonable outcomes than traditional decisionmaking processes.

- **Participation of a broader array of institutions in stakeholder processes.** Not only have government agencies and private companies expanded their solicitation of stakeholder input, but multi-lateral institutions also have initiated or participated in a growing number of alternative decision processes. Over the past several years, the World Bank has, for example, engaged the participation of stakeholders to resolve issues associated with resource development and dam construction. In selected instances, diplomatic initiatives have incorporated environmental stakeholders in attempts to resolve such issues as water rights disputes in the Middle East or conflicts over salmon fishing between Canada and the United States in the Pacific Northwest. Pressure also is growing to build stakeholder input mechanisms into multi-lateral bodies charged with resolving international trade and investment disputes.

**Limiting factors.** These refer to issues that constrain or better limit the use of stakeholder processes. They include:

- **More targeted selection of processes and issues.** As greater experience accrues with stakeholder processes and as guidelines and best management practices are further developed and applied, convenors, facilitators, and participants in stakeholder-based decisionmaking will seek ways to manage them more efficiently and be more selective in matching specific processes to problems. In addition, greater differentiation may emerge among the issues and processes that address primarily local problems compared with those of a national character.
- **Funding and capacity limits.** Unless significant new funding is provided by government, industry, or foundations, certain capacity issues (e.g., number of trained facilitators, financial support to enable stakeholder participation) can limit the future growth of stakeholder processes. In addition, the repeated involvement of some stakeholder groups has led to selective "burnout" that discourages or limits their ongoing participation. The burnout phenomenon also constitutes a challenge for convenor organizations to further broaden and diversify the range of stakeholders they seek to engage.
- **Recognition that some issues are less appropriate for stakeholder processes.** As demonstrated by the Enterprise for the Environment experience, sometimes stakeholder processes are less suitable for designing legislative solutions, especially when discussions involve the negotiation of values as well as interests. In addition, the characteristics of other sets of issues may make them less suitable

for resolution by stakeholders. These include environmental enforcement investigations and issues related to the use of confidential information.

On balance, the influence of factors that expand the use of environmental stakeholder processes outweigh those that may limit or restrain their future application. However, those individual stakeholder processes that have not yielded sufficient results or have been overly resource intensive can fall into disuse. EPA utilized regulatory negotiation, for example, for a number of environmental policy issues in the 1980's and early 1990's. Since the mid-1990's, however, there has been a significant reduction in the use of this stakeholder mechanism. In addition, the automotive and petroleum refining sectors discontinued their participation in EPA's Common Sense Initiative because of concerns over the design and effectiveness of the process. Like economic enterprises, specific stakeholder processes may be subject to market type forces that influence the demand for their supply.

**"Those individual stakeholder processes that have not yielded sufficient results or have been overly resource intensive can fall into disuse."**

**Unresolved issues.** There currently are a number of unresolved issues concerning the future use of environmental stakeholder processes. While some anecdotal information exists, it is insufficient to assess how these issues will ultimately be answered. These issues include:

- Will stakeholder processes become integrated with traditional environmental decisionmaking or will they continue to exist in parallel to command and control regulation?
- Will legislative bodies mandate the use of stakeholder processes for a variety of environmental decisions by government and industry? Could such a mandate recognize the large number of judgments that must be made to ensure that specific stakeholder processes are effectively designed for specific problems?
- Do stakeholder processes actually expand the public's participation in environmental decisionmaking, or are they so resource intensive that they displace other activities that solicit public input? Do such processes under-represent the broader interests of society because of an overly narrow definition of stakeholders and the disproportionate ability of organized and influential stakeholder groups to express their interests?
- Will society's future use of information technology promote societal agreement on environmental and other issues or will it create "information suburbs" that further segment and balkanize interests and values? How will an equitable access to information technology be ensured?
- What is the future role of government if stakeholder processes become a more influential forum for resolving environmental conflicts? As differing stakeholder groups develop more interactive and productive relationships, will government agencies be as engaged and as important in solving environmental problems?

The importance of addressing these questions reflects the continuing salience of environmental issues in American and, increasingly, global society. They also represent the ongoing experiment with expanding public participation that is so characteristic of the American political system. And, following several decades of highly contentious environmental debates among government, industry, environmental groups and others, the expanded use of stakeholder processes represents a search to revitalize the nation's environmental institutions and decisionmaking processes. A key to such revitalization lies in the ability to move beyond symbolic debates over right and wrong toward more accessible and practical solutions that improve environmental quality by integrating the best information currently available with society's interests and values.

**"The expanded use of stakeholder processes represents a search to revitalize the nation's environmental institutions and decisionmaking processes."**

## IX. Appendices

### APPENDIX 1: LIST OF PERSONS INTERVIEWED

| Interviewee | Date of Interview |
|---|---|
| Gary Risner, Weyerhaeuser Corporation | August 4, 1997 |
| Paul Templet, Louisiana State University | November 10, 1997 |
| Stan Meiberg, EPA Region IV, Atlanta | November 10, 1997 |
| William Cooper, Michigan State University | November 11, 1997 |
| Tim Brown, Clean Sites, Inc. | November 14, 1997 |
| Paul Deisler, Consultant, Austin, Texas | November 14, 1997 |
| Diane Sheridan, Consultant, Taylor Lake Village, Texas | November 14, 1997 |
| Jerry Tinianow, Sierra Club (Ohio) | November 14, 1997 |
| David Clarke, Risk Policy Report | November 17, 1997 |
| Jennifer Hamilton, University of Cincinnati | November 18, 1997 |
| Baruch Fischhoff, Carnegie Mellon University | November 19, 1997 |
| Daniel Greenbaum, Health Effects Institute | November 20, 1997 |
| Carol Henry, American Petroleum Institute | November 20, 1997 |
| Charles W. Powers, Consortium for Risk Evaluation With Stakeholder Participation | November 24, 1997 |
| Terry Davies, Resources for the Future | November 25, 1997 |
| Andrew McElwaine, Heinz Endowment | December 2, 1997 |
| Ken Jones, Green Mountain Institute for Environmental Democracy | December 5, 1997 |
| Terry F. Young, Environmental Defense Fund | December 5, 1997 |
| James Larson, Intel Corporation | December 8, 1997 |
| Robert Kuehn, Tulane Law School | December 11, 1997 |
| Rob Turner, National Center for Environmental Decision-Making | December 11, 1997 |
| Natalie Walker, Earthjustice Legal Defense Fund | December 11, 1997 |
| Bernard Goldstein, Rutgers University | December 12, 1997 |
| Fred Hansen, Environmental Protection Agency | December 12, 1997 |
| Sue Biggum, WMX Corporation | December 15, 1997 |
| Dennis Heydenak, Dow Chemical Company | December 15, 1997 |
| Kate Kramer, Western Center for Environmental Decision-Making | December 18, 1997 |
| Merle Lefkoff, Consultant, Santa Fe, N.M. | December 18, 1997 |
| Gregory Lushutka, Mayor, Columbus, Ohio | December 18, 1997 |
| Richard Hicks, Columbus Public Health Department | December 23, 1997 |
| Tom Burke, Johns Hopkins University | January 7, 1998 |
| Gail Bingham, RESOLVE Inc. | January 13, 1998 |
| Joseph Schilling, International City/County Management Association | February 10, 1998 |
| Johanna Hunter, EPA Region I, Boston | February 26, 1998 |
| Karl Hausker, Center for Strategic and International Studies | March 6, 1998 |
| John Ehrmann, Meridian Associates | March 24, 1998 |
| Norman Robbins, Case Western Reserve | March 26, 1998 |

## APPENDIX 2: INTERVIEW QUESTIONS

Personal Experience

**Definitions and Criteria**

1. How do you define the term "stakeholder?"
2. Within a particular environmental decisionmaking process, are there any limits that need to be placed on who is a stakeholder, or is everybody a stakeholder?
3. As a stakeholder, what constituency or interest did you believe you represented? How do you define "participation?"
4. Are stakeholder processes being frequently used? If not, why not?
   To the extent they are used, why do you believe this has occurred? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
   a. expanded societal interest in transparency of decisionmaking processes
   b. means to enhance trust in traditional environmental institutions (public and private) and avoid litigation
   c. greater impact of environmental decisions upon personal interests and lifestyles
   d. changes in the U.S. political process
   e. increased access to information and deeper public awareness of environmental issues
   f. effort to gain access to decisionmaking by individuals or groups that
   g. have traditionally not participated
   h. other

   What was the principal goal(s) of the stakeholder process(es) that you participated in? Did you achieve the goal(s)? Did the goal(s) change during the course of the stakeholder process? What defines success in the stakeholder process(es) you were involved in? What defines failure? Please provide examples of success or failure.
5. Did you establish key measures or criteria to evaluate success or failure? If yes, what were they?

**Process Design and Management**

6. Name three or four of the most important tools or rules that need to be used in a stakeholder-based decisionmaking process. What new tools or rules need to be developed to improve stakeholder processes?
7. How can stakeholders' own accountability be ensured? How can a stakeholder process reach closure even when noteworthy disagreement remains?
8. What do you believe are the principal obstacles in environmental stakeholder processes? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
   a. information and resource limitations
   b. design and management of the stakeholder process

c. conflicting goals and values
d. credibility and trust problems among the participants
e. lack of societal acceptance of the outcome of the stakeholder process
f. other

9. What do you believe are the principal reasons for success in environmental stakeholder decisionmaking processes? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
    a. adequate information and resources
    b. design and management of the stakeholder process
    c. relative agreement on goals and values
    d. deadlines or adverse consequences if the process didn't succeed
    e. credibility and trust among participants
    f. societal acceptance of the outcome of the stakeholder process
    g. other
10. How did you choose the particular stakeholder process you followed? What were its principal characteristics? What alternatives were considered and not used?
11. Under what circumstances does a stakeholder provide input to a decision compared with a stakeholder(s) being involved in actually making a decision? Is there an optimal role for a stakeholder(s)?
12. What is the most effective role for scientists in a stakeholder process? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
    a. explore and recommend policy options to stakeholders
    b. provide social and political risk information
    c. provide science-based risk information
    d. choose policy options
    e. elicit and validate values
    f. other
13. What is the most effective role for citizens in a stakeholder process? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
    a. recommend policy options to stakeholders
    b. provide social and political risk information
    c. provide science-based risk information
    d. choose policy options
    e. elicit and validate values
    f. other
14. What is the most effective role for government policymakers in a stakeholder process? Please rank the following factors from 1 to 5, with 1 representing the lowest ranked factor and 5 the highest.
    a. recommend policy options to stakeholders
    b. provide social and political risk information
    c. provide science-based risk information

d. choose policy options
e. elicit and validate values
f. other

15. Are there specific environmental issues or problems for which stakeholder processes are generally not desirable or effective?

**Outcomes, Lessons Learned, and Future Issues**

16. Do you believe that the stakeholder process produced substantively better or worse decisions than would have otherwise occurred? Please explain.
17. Did the stakeholder process increase your trust in the organization ultimately responsible for carrying out the decisions made? In particular, do you believe the process was legitimate and the responsible organization had the competence to implement the decisions? Did the process increase cooperation or reduce conflict among the stakeholders? If cooperation and trust were fostered, will this last?
18. What major lessons have been learned as a result of experimenting with and using stakeholder processes during the past decade? If starting all over again what would you do differently?
19. Are there certain kinds of issues where stakeholder processes are most useful? Less useful?
20. How are stakeholder processes likely to change in the future? What are some emerging issues?
21. Are there specific case studies or other documents you could make available for this study?

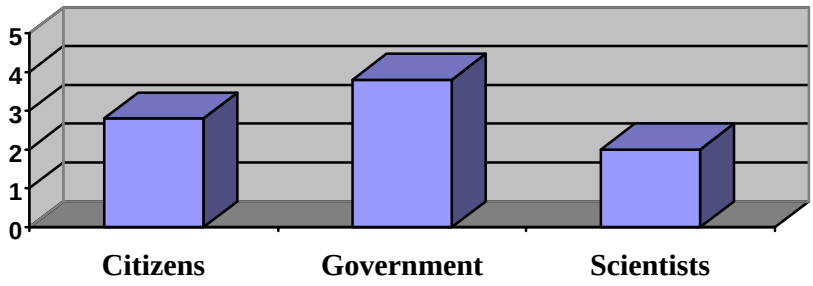
## APPENDIX 3: INTERVIEW RESPONDENTS' RANKINGS OF SELECTED KEY ISSUES

### Roles of Participants in a Stakeholder Process

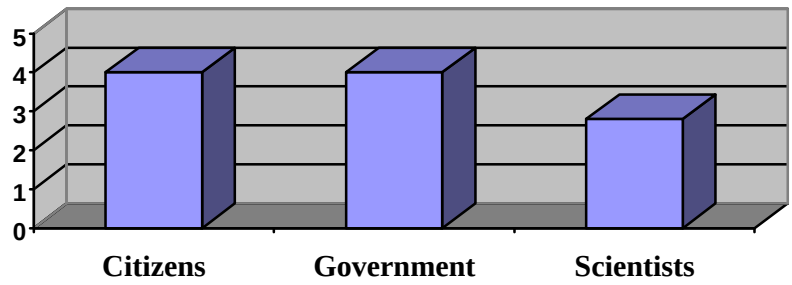
Respondents were asked to rate the most effective role for citizens, government officials, and scientists for the following factors (on a scale of 1 to 5, with one representing the lowest and five representing the highest.)

In general, citizens are seen as providing input on values, recommending policy options, and providing social and political risk information. Respondents did not see citizens having a role in providing science-based risk information. Government officials' primary role is seen as recommending and choosing policy options. Predictably, the role of the scientist is to provide technical information, but respondents also felt strongly that scientists should not have a role in choosing policy options or offering input on values. This model was practiced in Columbus, Ohio's, Priorities '95 stakeholder process. In this case, a technical committee was established to deal with technical evaluation and to inform the larger stakeholder committee on technical and scientific issues. (See Appendix 5)

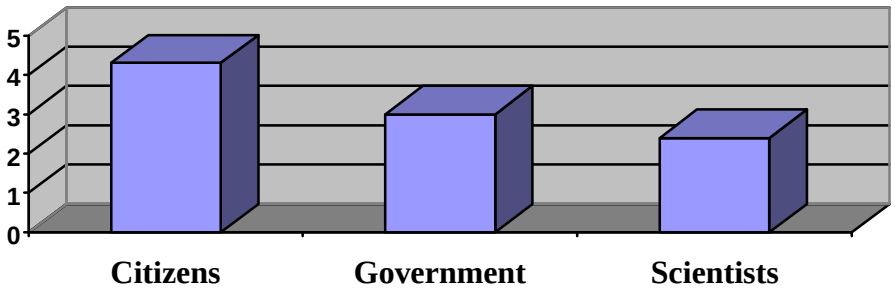
**Choose Policy Options**




**Recommend Policy Options**



## Elicit and Validate Values



## APPENDIX 4: STAKEHOLDER PROCESSES REVIEWED IN PREPARING THIS REPORT

1. The Aspen Institute's The Alternative Path project
2. BASF Freeport, Texas, facility stakeholder process for implementation of Risk Management Planning regulatory requirements
3. BP America's Stakeholder Forum
4. Chemical Manufacturers Association Community Advisory Panel program
5. Citizen Advisory Councils and Environmental Management in the Marine Oil Trade
6. Comparative Risk Projects conducted by city and state governments (California, Cleveland and Northern Ohio, Columbus Priorities '95 Project, Hawaii, Houston Environmental Foresight, Louisiana, Michigan, Ohio, Seattle, Texas, Utah, and Washington)
7. Department of Energy Environmental Restoration and Waste Management stakeholder program
8. Dow Chemical Company's Corporate Environmental Advisory Council
9. Enterprise for the Environment
10. EPA Clean Air Scientific Advisory Committee Review of the Staff Paper for Particulate Matter
11. EPA Common Sense Initiative
12. EPA/Environmental Commission of the States Regulatory Reinvention Agreement
13. EPA National Environmental Justice Advisory Council
14. EPA Project XL
15. EPA Regulatory Negotiation for the Paint Industry and the National VOC Standard
16. EPA Regulatory Negotiation for Reformulated Gasoline
17. Fernald (Ohio) Citizens Task Force
18. Health Effects Institute MTBE Review
19. Intel Corporation's Chandler, Arizona, Project XL Stakeholder Process
20. Michigan Environmental Review Board
21. National Commission on Superfund
22. President's Council on Sustainable Development
23. Resolve, Inc. stakeholder management processes
24. Risk Management Planning implementation process
25. Society of Professionals in Dispute Resolution activities
26. Superfund Community Relations Program
27. Vulcan Chemicals' Community Involvement Group
28. World Bank
29. Weyerhaeuser Corporation's town hall meetings

## APPENDIX 5: CASE STUDIES

### Case Study: Release of RMP Information, BASF, Freeport, TX

In August of 1997, BASF Corporation's Freeport chemical facility began a stakeholder outreach program to evaluate the community's reaction to the dissemination of its Risk Management Plans (RMPs), including worst- and alternate-case scenarios. The preparation of RMPs is intended to provide the public with additional information on the potential for release of acutely hazardous compounds. Final submission of the RMPs to EPA is required by June 20, 1999, under Clean Air Act regulations issued by the Agency.

The goals of the stakeholder process were to inform the public of the RMP information as well as to present the commitments to environmental, health, and safety by the Brazoria County Petrochemical Council (BCPC), a group of sixteen chemical companies in the area. Through such efforts, BASF and peer companies hoped to build public understanding and trust on its RMP and other issues related to environmental and social responsibility.

#### Process Design and Management

To gauge initial stakeholder response to BASF Freeport's worst and alternate-case scenarios and to identify potential community concerns, BASF organized focus groups with three sets of stakeholders, including BASF employees, community advisory panel (CAP) members, and community leadership organizations. Copies of the draft RMPs were submitted, and these stakeholders provided their critiques of the documents.

In addition, BASF participated in a town hall meeting in November 1997 at a local high school to explain and help visualize the worst-case scenarios and other RMP data. Presentations also were given by neighboring chemical facilities. Stakeholders participated in the meeting, which included one-on-one discussions with individual company officials, poster stations explaining the potential risks associated with chemical plant operations, and a presentation of measures to prevent such risks from occurring.

#### Unique Aspects of the Project

Although many industrial facilities across America will be required to prepare RMPs for public release, most have not yet begun to integrate the community and other stakeholders into their planning process. BASF Freeport determined the community's sentiment regarding their worst-case scenario information, and identified areas for improvement regarding safety and the environment.

Instead of solely concentrating on the technical issues of RMP preparation, BASF Freeport identified the necessity of community interaction on the issue, and sought stakeholder input in the release of its information.

**Outcome of the Stakeholder Process**

The BASF Freeport RMP stakeholder communication effort was a success. The absence of a major controversy in the community, as well as the successful town hall meeting, testified to the effectiveness of BASF's RMP stakeholder planning.

The planning process, which included focus groups, media briefings, and a town hall meeting, established a dialogue with the community. Although the public was concerned about the potential dangers outlined in the RMP, they were reassured by BASF Freeport's previous environmental, health, and safety performance, which was included in the materials distributed by BASF.

**Lessons Learned**

Lessons learned from this process include the following:

*Early stakeholder participation is instrumental to success.* Early involvement is needed to create a dialogue with community stakeholders and to clarify information regarding worst- and alternate-case scenarios and to relay the industry's commitment to safety and the environment.

*The presentation of clear and thorough RMP information can facilitate a common understanding of complex environmental issues throughout the community.* The reception of mixed messages may cause the community to question the accuracy of the presented information. To ensure the dissemination of accurate information, it was important for BASF to provide stakeholders with fact sheets on its worst- and alternate-case scenarios and commitments to safety and the community.

*Disclosure of information to the public is critical to building community trust.* With the presentation of BASF Freeport's RMP information, many local residents noted that they trusted the company because they felt that they were kept informed of happenings at the facility. This trust helped to dispel many of the fears that might have otherwise accompanied the presentation of the facility's RMP information.

*Public understanding of the context of worst-case scenarios is necessary to diffuse potential confusion or panic.* Although the community may receive accurate information of the facility's worst- and alternate-case scenarios, it is important to inform the community of the likelihood of each scenario.

## Case Study: BP America's Stakeholder Forum

Like other major corporations, BP America's health, safety, and environmental (HSE) performance is under constant scrutiny by many different kinds of stakeholders. To improve its HSE performance and reputation at the local level, the company established community advisory panels as part of its commitment to the Responsible Care® program many years ago. Over the past several years, it has sought to integrate stakeholder participation in its HSE and business planning at the regional and corporate levels through a mechanism known as the Stakeholder Forum.

### Process Design and Management

The objective of BP America's Stakeholder Forums is to learn of new ways to address HSE challenges and to communicate the company's performance in these areas. At the national level, the forum consists of an annual two-day meeting between senior BP executives and leading stakeholders. The latter have typically represented government agencies (e.g., Environmental Protection Agency, Department of Interior), the legislative branch, environmental groups, and non-profit energy and resource management organizations, including the Environmental Defense Fund, Natural Resources Defense Council, and The Nature Conservancy. The meeting format includes general discussion sessions as well as break-out groups focused on specific issues. Stakeholder input has been solicited on business planning assumptions, public policy issues, factors that shape corporate reputation, and an evaluation of HSE performance. BP executives also use the forum as a means to communicate HSE and business commitments, respond to stakeholder inquiries, and report on recommendations received at previous forum sessions.

BP also organizes regional stakeholder forums centered around two of its principal asset locations—Alaska (site of its principal crude oil exploration and production activities) and Ohio (the center of its downstream refining and marketing businesses in the United States). A process similar to that employed for the national forum is utilized with state and local stakeholders (e.g., government agencies, environmental groups, civic and community organizations) who solicit and provide input on important HSE, business, public policy, and reputation issues.

### Unique Aspects of the Project

For BP, the stakeholder forum has proven to be a flexible, yet durable, tool for conducting an ongoing dialogue with stakeholders. By designing a process that is tailored to BP's business culture, the forum is increasingly able to provide senior management and stakeholders with early notification of upcoming issues and developments, build relationships that have led to partnerships on specific issues, and highlight broader reputation issues to executives. Over time, the forum has evolved as a strategic management tool that provides BP with an improved understanding of the environmental, social, and political issues that have an impact on business planning.

**Outcome of the Stakeholder Process**

The principal success of BP's stakeholder forum process stems from its role as a catalyst in helping to shape the company's positions on a range of important issues. These include: global climate change, sustainable development, cleaner fuels, and HSE issues related to exploration and development. In addition, relationships enhanced through the stakeholder forum have, on occasion, evolved into more formal programs as, for example, through the BP-Environmental Defense Fund partnership on emissions trading for greenhouse gases. The forum process also has promoted a greater sense of mutual accountability on HSE and business issues between BP and its principal stakeholders. Stakeholders are now asked to grade BP's HSE performance. Knowing that they will face each other across the table in the future has helped to promote a greater focus on practical issues where progress can be achieved.

**Lessons Learned**

At least three lessons have emerged from the BP Stakeholder Forum process. These include:

*The forum provides a valuable means for senior management to improve their awareness of HSE/business issues of concern to external organizations.* This occurs through the ongoing interaction of management with stakeholders over time as well as resulting from the broader agendas that have evolved over time.

*BP has utilized the results from previous forums as an input to differentiate its HSE and business strategy from peer organizations.* By seeking stakeholder input on issues related to future business planning, BP has acquired improved information on how to apply HSE issues to support its strategy of business differentiation as well as a better understanding of its reputation and performance relative to its industry peers.

*Both BP and stakeholder organizations have an improved understanding of issues that can and cannot lead to agreements.* The forum process has enabled both BP and its major stakeholders to become more accountable to each other through a process leading to areas where HSE progress can be achieved.

## Case Study: Columbus, Ohio, Priorities '95 Project

City officials in Columbus, Ohio, created Priorities '95 to develop an environmental management plan for the community. A two-year comparative risk effort, Priorities '95 sought to identify and rank environmental risks in the community and to improve environmental decisionmaking. Additional goals were to build trust between the government and the public, build non-traditional environmental partnerships, and educate citizens on local environmental risks.

### Process Design and Management

The study was divided into two distinct phases. Phase one included an assessment of the community's environmental risks, while the second phase included risk management options and the drafting of recommendations.

In designing the stakeholder process, more than 200 community volunteers were subdivided into committees and assigned specific roles, deadlines, and objectives. The committees worked on a consensus basis, and dissenting opinions were noted. The city government played a purely administrative and supportive role in the study. The following is a list of the committees and their responsibilities.

Steering Committee
- Developed mission statement and project philosophy
- Established project scope and parameters
- Made all major policy decisions
- Used input from other committees, selected issues to be studied
- Ranked environmental issues in terms of severity

Technical Advisory Committee (TAC)
- Responsible for scientific data collection and analysis
- Reported findings to the Steering Committee
- Evaluated risks associated with each issue considered

Public Advisory Committee (PAC)
- Orchestrated all public outreach concerning the assessment
- Raised community awareness of the project by promotion of the study
- Requested community feedback and input

Strategic Planning Team
- Developed strategies to reduce negative impacts from environmental issues
- Included some members from state/local environmental agencies

### Unique Aspects of the Project

Priorities '95 was unique in its approach to environmental decisionmaking in several areas. It was the first effort of its kind in Ohio to study a variety of environmental issues

within one community, rather than the effects of one risk at a time. Two-way communication was established between the participants in the study and the community at large to identify issues and raise awareness. And although the study was government-funded, the government itself played a modest role in the process.

**Outcome of the Stakeholder Process**

The overall success of this project occurred on two levels—process and outcome. The study process included evaluating the severity of various environmental risks as well as trust building within the community. Some interim deadlines were missed, but the final report was presented on schedule.

The committee system worked well, with each committee member representing an individual viewpoint rather than that of an affiliated group or organization. The committees were clear on their assigned mission and tasks.

The final report included 260 recommendations on environmental risk management in the Columbus community. Implementation of these recommendations was neither a goal of the study nor a guarantee by the local government.

**Lessons Learned**

Lessons learned from the study include the following:

*Accountability is difficult in a volunteer project.* With more than 200 volunteers participating in the study, it was difficult to reach deadlines for various projects. Volunteers did not feel accountable to achieve every deadline, or to attend each meeting.

*Two-way communication is an important tool to build community trust, awareness, and interest.* Vehicles of two-way communication, such as community forums and surveys, helped the community to better understand the importance of Priorities ’95.

*The use of committees is an effective way to organize the management of such a study.* By assigning specific roles to committees, goals were met efficiently, without confusion about tasks.

*Scientists can perform an important role in environmental stakeholder processes.* In this stakeholder process, which involved the health of the community, scientists provided the stakeholders the necessary information with which to make educated and informed decisions about the severity of risks involved with each identified environmental hazard.

## Case Study: Health Effects Institute Review of MTBE and Other Oxygenates

The Health Effects Institute (HEI) is a non-profit organization funded principally by the Environmental Protection Agency and U.S. automobile manufacturers to fund health research on automotive-related pollutants. In 1995, HEI was requested by the EPA and the Centers for Disease Control and Prevention to conduct an independent review of scientific information on the health effects of Methyl-Tertiary Butyl Ether (MTBE) and other oxygenated substances added to motor gasoline. The 1990 Clean Air Act Amendments required the refining industry to introduce oxygenated fuels to reduce ambient levels of carbon monoxide in 1992 and mandated the use of reformulated gasoline (which also contains oxygenates) to begin in 1995 for ozone control in selected metropolitan areas.

This widespread use of motor gasoline with oxygenates was followed by an increase in the number of complaints of health effects in the general population in various regions of the United States, including Alaska, New Jersey, North Carolina, and Wisconsin. The most frequently reported symptoms included burning of the nose and throat, dizziness, eye irritation, and headache. Government agencies and private industry responded to these concerns by initiating scientific studies to better understand the health effects associated with exposure to MTBE-containing fuel, the most frequently used oxygenate.

In sponsoring scientific research, HEI has maintained a rigorous peer review process to select investigators to conduct health-related research and to review the quality of their methods and results. However, given the intense public interest and concern related to health issues and oxygenates, HEI supplemented its peer review process with a specially convened set of stakeholders to better integrate scientific and stakeholder issues.

### Process Design and Management

To meet the EPA/CDC request to review health risks associated with the use of oxygenated fuels, HEI organized an Oxygenates Evaluation Committee. The Committee consisted of some of the nation's leading experts in such fields as biochemistry, toxicology, neurobehavior, pathology, epidemiology, exposure assessment, statistics, and carcinogenesis.

The Committee was tasked with the responsibility to evaluate three interrelated issues. These included:

- What are the likely health effects of the use of oxygenates in gasoline?
- How does the use of oxygenates in gasoline affect the health risk from exposure to other evaporative and exhaust emissions from motor vehicles?
- What additional research is needed to determine the potential health effects of oxygenates currently being used or those that may be used in the future?

The Committee held several meetings to review the existing literature on oxygenates and to plan and draft its report.

Complementing the operations of the Oxygenates Evaluation Committee was the establishment of a stakeholder Advisory Committee for the HEI's Oxygenates Evaluation Project. Stakeholders included state public health and regulatory authorities, federal agency representatives, environmental and industry groups, unions, and other representatives of the scientific community.

Stakeholders were requested to work with the Oxygenates Evaluation Committee in reviewing the scope of HEI's review, identifying appropriate scientific information and the health significance of such information, and providing an ongoing review of the quality and relevance of the HEI Committee's report as its work progressed.

**Unique Aspects of the Project**

Various environmental stakeholder processes have invited the participation of scientists or created a mechanism to provide technical input into stakeholder deliberations. It is relatively rare, however, for scientific organizations to integrate stakeholder perspectives into their planning, data gathering, and report preparation. HEI's review of the health effects of MTBE and other oxygenates maintained the technical standards of the scientific community, while incorporating the issues and values of concern to stakeholders.

**Outcome of the Stakeholder Process**

HEI issued a final report evaluating exposure and health effects of oxygenates early in 1996. The report concluded that adding oxygenates to motor gasoline can reduce emissions of carbon monoxide and benzene and thus lower certain risks to the public. However, releases of certain other compounds, such as aldehydes (which are carcinogenic in laboratory animals), are increased through the use of oxygenates.

Stakeholders participating in the HEI process emerged with an improved understanding of the health issues associated with the use of oxygenates in motor gasoline. Because HEI's review responded to a one-time request from EPA/CDC, there has been no continuing stakeholder participation with HEI on this issue. Concerns of various stakeholders (including public health and industry groups) persist over the continued use of MTBE.

**Lessons Learned**

Two lessons emerged from the incorporation of a stakeholder process during HEI's review of health issues associated with the use of MTBE and other oxygenates. They include:

*Scientific organizations can integrate stakeholder perspectives into their own operations with no loss in scientific quality.* Scientific and other stakeholder perspectives can be integrated so that the value added by each can be incorporated into reports made available to policymakers and the public.

*There are benefits to stakeholders from obtaining an improved, easy-to-access, scientific understanding of important public policy issues.* Scientific information will continue to play an important role in environmental decisionmaking, and better informed stakeholders will, over time, increase the probability that decisions will be made that are more consistent with scientific understanding.

## Case Study: Intel Corporation's Project XL Agreement

Intel Corporation, a semi-conductor manufacturer, was one of the first corporations in the country to apply for participation in EPA's Project XL—an effort to consolidate and simplify environmental permit procedures to facilitate the development of "environmentally superior" manufacturing processes and procedures. In November 1995, Intel's Ocotillo Campus, located in Chandler, Arizona, applied for the project, which was estimated to be conducted over six months.

Requirements of Intel's participation in Project XL included adhering to all current air quality standards, the inclusion of a stakeholder process to establish environmental goals and requirements, and quarterly reporting on the environmental outcomes of the program.

Intel's objectives through participation in Project XL were to increase production flexibility and accountability, improve environmental performance, and to involve stakeholders on key issues.

### Process Design and Management

The first stage in the process, which lasted approximately eleven months, included the formation of a fifteen-member stakeholder team. One facilitator, with no vested interest in the project, was also a member of the team. The team's goal was to create Intel's final environmental agreement before its release to the community for review. The stakeholder team was a decisionmaking body, not solely a sounding board, and great effort was invested in selecting appropriate members. Agreements were made on a consensus basis.

The stakeholder team broke into smaller committees to review sections of Intel's plan, and attended seminars conducted by government scientists to learn about current air quality standards. The division of the environmental process into smaller issue segments ensured that the team would not be overwhelmed with scientific information.

Local and national stakeholders were given the opportunity to have input into the process on many occasions. During the drafting of the agreement, eight highly publicized public meetings and more than 100 meetings of the stakeholder team were held to review Intel's agreement and solicit the community's input. Drafts of the agreement also were posted on the Internet to ensure widespread distribution. The EPA also reviewed drafts and materials provided by the team.

### Unique Aspects of the Project

In addition to posting drafts of the report on the Internet, Intel used advertisements to encourage public participation and input in the Project XL process. Unlike a traditional community advisory panel (CAP), Intel's stakeholder team was a decisionmaking body and had input in the project's planning process.

**Outcome of the Stakeholder Process**

A final agreement was produced by Intel and its stakeholder team, incorporating the community's interests. The agreement should help the Ocotillo facility to improve its environmental performance and enhance public understanding.

Intel's environmental reporting was consolidated, and quarterly stakeholder meetings are held prior to the posting of quarterly reports. The reports mostly consists of easy-to-understand charts and graphs, as requested by the community.

Trust and accountability were increased, and the project is often used as a case study by other companies.

**Lessons Learned**

*Information technology is a valuable asset in managing stakeholder processes.* Intel's use of the Internet proved to be a highly effective way of engaging local as well as national stakeholders in the XL process for its facility. Continuous reporting on the plant's environmental performance posted on Intel's Web site also creates a valuable mechanism to improve its reputation with stakeholders by increasing transparency.

*Stakeholder processes of this magnitude are time consuming.* Although the stakeholder team met more than 100 times, most meetings lasted in excess of three hours. The goal was to involve as many stakeholders as possible, but members conceded that it was time consuming to become technically conversant on various air quality control issues.

*There is difficulty with defining the goal of "superior environmental performance."* Although the process was successful in obtaining a signed EPA agreement for Intel, certain national environmental groups, such as the Natural Resources Defense Council (NRDC) and The Campaign for Responsible Technology, objected because of their concern that results would not achieve "superior environmental performance."

## X. Author Profiles

**Dr. Terry F. Yosie**, Executive Vice President of Ruder Finn Washington, has two decades of professional experience at senior levels of the U.S. government, private industry, and management consulting. From 1981-1988, he served as Director of EPA's Science Advisory Board, instituting policies and programs to improve the use of science in regulatory decisionmaking and providing advice to the EPA Administrator and Congressional committees. Under his leadership, the SAB became one of the federal government's ten largest advisory bodies. From 1988-1992, Dr. Yosie was Vice President for Health and Environment at the American Petroleum Institute, one of the nation's largest trade associations. In this capacity he managed the industry's health and environmental research programs, conducted legislative and regulatory analyses, and provided leadership on environmental management and policy issues. He also served as API's principal strategist and spokesperson on public health and environmental issues.

Since 1992, Dr. Yosie has served as Executive Vice President of Ruder Finn Washington and leads the firm's environmental practice. He has worked for a number of major corporations and other non-profit organizations on environmental management and strategic planning issues in a non-lobbying capacity.

Dr. Yosie is the author of approximately forty publications, including assessments of the endocrine disruption scientific and policy debate, regulatory reform, risk assessment, and an evaluation of corporate environmental management systems in the United States and developing nations. He is a frequent commentator to the national media on environmental issues and has spoken before many national and international groups. He is currently a member of the National Academy of Sciences Board on Environmental Studies and Toxicology, Greenwire's Board of Analysts, the Advisory Board to the Department of Civil Engineering at Carnegie Mellon University, and serves as a consultant to the EPA Science Advisory Board. Dr. Yosie received his doctorate from the College of Humanities and Social Sciences at Carnegie Mellon University in 1981.

**Timothy D. Herbst**, Project Manager, ICF Incorporated. From 1995 through August 1998, Mr. Herbst was Environmental Counselor at Ruder Finn Washington. Mr. Herbst specializes in strategic communications counseling and environmental management to a diverse client base representing a wide variety of industry sectors and educational and non-profit institutions. In addition to his environmentally related responsibilities, Mr. Herbst was Director of Strategic Research at Ruder Finn's Washington Office.

Mr. Herbst has been involved in a number of innovative projects including: benchmarking corporate reputation, management performance, and communications practices; conducting primary research, such as focus groups and personal interviews; developing communications and marketing strategies; strategically leveraging the World Wide Web and interactive media to achieve clients' business and institutional goals; helping clients understand complex environmental issues as well as government, stakeholder, and customer expectations; and developing strategies for companies to more

effectively manage stakeholder relationships and integrate their perspectives into business planning.

Mr. Herbst has published articles and reports on environmental management issues as well as case studies on regulatory negotiation and emissions trading. He possesses practical business experience, having founded a successful contracting business in San Diego, California, and Albany, New York, where he served as a manager/owner for eleven years.

He completed multi-disciplinary training to earn a Master's of Science in Environmental Management and Policy at Rensselaer Polytechnic Institute and holds a B.A. degree from San Diego State University.