

**MANUAL FOR
PUBLIC AND STAKEHOLDER
PARTICIPATION**

BETTY R. LOVE, SORIN R. STRAJA, AND A. ALAN MOGHISSI

**INSTITUTE FOR REGULATORY SCIENCE
ALEXANDRIA, VA**

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EXECUTIVE SUMMARY

Virtually all government agencies at the federal, state, and local levels and many private organizations realize the benefit of engaging the public in general, and Astakeholders@ in particular, in their decision-making processes. The development of this manual resulted from the need to involve stakeholders in certain technical activitiesCnotably peer reviews. An attempt to find a clear definition of stakeholders, how they are to be engaged, and numerous other related issues resulted in the recognition of the existence of confusion on most issues related to stakeholder participation. These efforts led to the development of categorization of stakeholders in several groups, each requiring specific treatment as follows:

Group 1 - Personally Impacted Stakeholders: This group consists of those whose lives are likely to be impacted by the proposed action. This group includes: 1) those whose health may be impacted by the proposed action; 2) those whose jobs would be impacted by the proposed action; 3) individuals whose property within an appropriate distance from the proposed action may be impacted; and 4) individuals who are personally impacted by various actions resulting in exposure to noise, foul smells, and other activities that cause discomfort or inconvenience.

Experience shows that members of this group of stakeholders are reluctant to participate in the decision process as they are unwilling to devote time to study a subject or participate in a stakeholder meeting unless they perceive a significant impact on their daily lives. Consequently, an *affirmative outreach* approach is necessary to ensure their participation.

Group 2 - Administratively Impacted Stakeholders: This group consists of those who are elected representatives of Group I, or who must write or implement permits or other legally-binding agreements. This group includes: 1) an elected official whose constituents consist entirely of personally impacted stakeholders; 2) an elected official whose constituency consists of a mix of personally impacted stakeholders and other members of the public; 3) members of regulatory agencies at the local, state, and federal levels who are responsible for regulations, permits, licenses, and enforcement of the proposed action; and 4) individuals responsible for preparation and implementation of permits and licenses.

The identification and notification of this group of stakeholders is not difficult as they are normally associated with a known institution. Elected officials spend a significant effort to become known within their constituency and thus are readily identifiable. Regulatory agencies can also be readily contacted to identify the relevant stakeholders. Once identified, these stakeholders are notified by phone or in writing.

Group 3 - Generally Concerned Stakeholders: This group includes individuals who, by virtue of their personal philosophies, beliefs, or ideologies, are interested in or concerned about the action under consideration. For obvious reasons, members of personally and administratively impacted stakeholders groups are also concerned about the action under consideration. However, the generally concerned stakeholders group is specifically excluded from those two groups. Thus, this group is neither personally nor administratively impacted and yet is concerned over an action. In contrast to the personally impacted and administratively impacted individuals, this group is largely represented by organizations.

Group 4 - Process Concerned Stakeholders: There is a small fraction of the public that is concerned over the process that is used to manage a proposed action. This group includes three subgroups: 1) those who believe that the participation of stakeholders in the decision process is crucial for the acceptance of the final decision; 2) those who want to ensure that the best available science is used

in technical aspects of the decision; and 3) those who want to ensure that the influence of stakeholders is commensurate with their stake in the outcome of the decision process.

Group 5 - Remainder of the Public: This group constitutes individuals or organizations that are not included in Groups 1- 4. The only course of action for notification of this group is through the public media and the Internet.

Stakeholder Participation Management

The categorization of stakeholders in various groups; the process for reaching them; and their participation in the decision process implies that an action is predictable. Activities that are either unpredictable or their impact is so large—such as prevention and mitigation of terrorist actions; large-scale natural disasters; and acts of war—would require a significant modification of the process.

One of the most important issues of concern to the stakeholders is the timing of their involvement. Many stakeholders complain that decisions are made and the stakeholder participation is merely a window dressing in order to justify the decision. Many stakeholders have a deep-seated mistrust of agencies responsible for public and stakeholder participation. Similarly, there are those who believe that as long as stakeholders are given the opportunity to vent their anger, it is not necessary to consider their concerns when making decisions. The rules responding to these concerns areas follows:

- 1. Those responsible for management of stakeholder participation must be entirely independent of those who have a stake in the outcome of the action under consideration.*
- 2. The decision makers must conclusively demonstrate that they have considered concerns expressed by the stakeholders.*

Benefits of Stakeholder Participation

A large number of issues of concern to stakeholders includes scientific and engineering components. In many cases the concerns of stakeholders—particularly personally impacted stakeholders—are expressed in fear mainly because they have insufficient technical competency to appreciate the intricacies of the issues that impact them. However, these fears can be substantially reduced or eliminated if the information provided to stakeholders addresses the issues of their concern in a manner that is clear, concise, and easy to understand. Examples of activities that would benefit from stakeholder participation are: 1) various stages of development of Environmental Impact Statements; 2) peer review of technical aspects of various projects; and 3) technical advice to those communities that face an issue of concern, such as contaminated soil or groundwater.

This manual provides the details of the categorization of stakeholders; their identification and notification; guides for sponsoring organizations and stakeholders; and other relevant information.

INTRODUCTION

Virtually all government agencies at the federal, state, and local levels and many private organizations realize the benefit of engaging the public in general, and stakeholders in particular, in their decision-

making processes. Public participation including stakeholder participation is particularly desirable in areas where concerns are not only economic but also emotional such as environmental issues. However, there continues to be significant confusion in virtually every aspect of this important process.

The most important decisions requiring stakeholder participation involve activities dealing with hazardous materials. These activities include siting of radioactive, hazardous, and municipal waste disposal facilities; restoration of contaminated sites; decisions related to groundwater contamination; and numerous other activities that the public perceives to impact both human and ecological health. For example, residents of areas near facilities used by the U.S. Department of Energy and its predecessor agencies for weapons production are rightfully concerned over plans to restore them. Similar problems are encountered by U.S. Departments of Defense, Agriculture, and Interior; state agencies; and many municipalities particularly those that manage municipal solid waste disposal facilities. Other examples include siting of nuclear power-plants, refineries, and chemical processing plants; decommissioning of nuclear power plants; and restoration of contaminated sites.

Public participation is a legally-mandated process and often requires a public hearing where every entity individual or corporate can participate. For example, the Administrative Procedures Act requires public comments and often public participation during the promulgation of virtually every regulation. In public hearings, members of the public can express their views; air their grievances; and talk about any subject they desire. In contrast to public participation, stakeholder participation, if properly managed, is significantly more structured. In a meeting where stakeholders are invited to participate, adequate consideration must be given to the impact of the proposed action on individual stakeholders. More importantly, a properly-managed stakeholder meeting must follow a process that: 1) identifies concerns that stakeholders have about the issue at hand; and 2) ensures that comments clearly address concerns related to the issue at hand.

During the development of this manual, a concerted effort was made to find in the literature a precise definition of stakeholder. This effort included not only a conventional literature search but also an extensive search on the Internet. In addition, numerous attempts were made to discuss the subject with those who are involved in public and stakeholder participation. These efforts provided the following results:

1. Stakeholders are a distinct group within the public.
2. A stakeholder is Awhoever wants to be@.

These definitions appear to make no distinction between the public at large and those who are clearly and unambiguously impacted by a decision. More importantly, these definitions make it virtually impossible to reach those stakeholders who are of primary concern because the only fair way to reach them would be to make an active effort to inform every resident of the U.S. of the action under consideration. Such an effort is unrealistic.

Recognizing the confusion on the definition and the role of stakeholders in the societal decision process, a number of studies avoid the term Astakeholder@ altogether. Instead, they use the terms Ainterested@ and Aaffected parties@. Although these terms avoid a potential contention, they do not address the real problem. There is no question that there are those who have a stake in the outcome of a decision and consequently, should be heard.

Clearly there is a need for information on the details of stakeholder participation. In the past there has been no agreement on the definition of stakeholder; what participation implies; at what point in the decision process stakeholders should be called upon; how the information exchange with stakeholders is to be accomplished; and many other aspects of this important issue. Decision makers are not the only groups who are often confused over the issues described above. Groups that are truly impacted by a decision and by any definition would qualify as stakeholders and are often uncertain about their roles, and the impact of their participation on the final decisions of an issue. On more than one occasion, arguments have been heard by stakeholders who consider their participation as a window dressing. Conversely, many decision makers are often concerned by some stakeholders who believe that their recommendations *must* be adopted by the decision makers.

Stakeholder participation is particularly important in issues involving scientific decisions. Most stakeholders are highly critical of organizations responsible for making scientific decisions, particularly U.S. agencies and industry. Conversely, all agencies including those at the federal, state, and local level as well as private industry have difficulty addressing stakeholder issues. The need for a more systematic assessment of stakeholder participation became apparent during several peer reviews performed jointly by the American Society of Mechanical Engineers (ASME) and the Institute for Regulatory Science (RSI) that included the participation of stakeholders. A study was initiated to respond to that need which began with a review of the existing information. This review identified a number of uncertainties and shortcomings, and ultimately resulted in a new definition and categorization of stakeholders. It also resulted in a new process for identification of issues of concern and management of stakeholder meetings. This categorization along with a number of relevant topics was included in a questionnaire that was provided to stakeholders for completion in several peer review meetings. An evaluation of the stakeholder responses is in progress, and the results will be presented in due time at www.nars.org.

This manual was prepared in response to the urgent need of various individuals and organizations for a written document to engage stakeholders. Its focus is on activities that deal with technical issues particularly those dealing with environmental and related topics associated with a particular site. However, most if not all principles described in this manual will also be applicable to other topics that would benefit from public and stakeholder participation. It is intended as a guide for: 1) agencies that wish to encourage public and stakeholder participation; 2) stakeholders who should be included in the process; and 3) others who on a day-to-day basis must face the problem of how to manage the stakeholder participation process.

CATEGORIZATION OF THE PUBLIC AT LARGE AND STAKEHOLDERS

An orderly management of public and stakeholder participation must be based on a reasonably clear identification of stakeholders and how they can be reached. In particular, it is imperative: 1) to reach those whose lives are impacted by a proposed action; and 2) to ensure that their voices are heard. Consequently, a reasonably precise definition and categorization are necessary.

During the course of several peer reviews of highly-contested subjects, it became necessary to engage stakeholders. Subsequent to an intensive literature and Internet search, an approach was developed and used. The experience gained during these efforts led to a modification of the approach as described in this manual. This approach divides the public at large into four groups as shown in Fig 1.

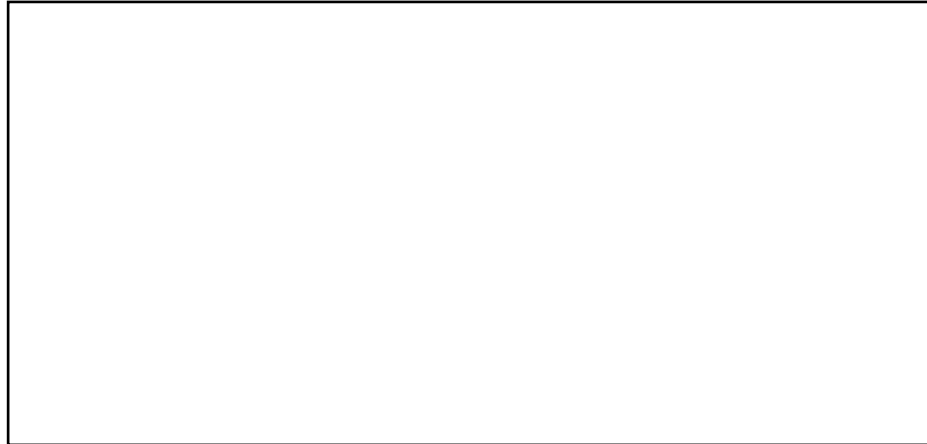


Fig. 1. Categorization of the Public at Large and Stakeholders. Note that the size of each group is not necessarily representative of its size in the Public at Large.

Group 1 - Personally Impacted Stakeholders: This group consists of those whose lives are likely to be impacted by the proposed action. In most cases, the number of individuals included in this group is likely to be relatively small. Clearly, a significant effort is necessary to identify members of this group and provide an opportunity for them to participate.

Group 2 - Administratively Impacted Stakeholders: This group consists of those who are elected representatives of the first group, or who must write or implement permits or other legally-binding agreements. The likely number of individuals included in this group is smaller than personally impacted stakeholders. This group is readily identifiable and is normally engaged in the process.

Group 3 - Generally Concerned Stakeholders: This group consists of those who, by virtue of their personal philosophies, beliefs, or ideologies, are interested in the proposed action. In many cases, the number of individuals included in this group is several times larger than personally impacted stakeholders. Often this group is also engaged in the process.

Group 4 - Process Concerned Stakeholders: Members of this group are concerned over the appropriate role of the other three groups of stakeholders in the decision process. The likely number of individuals included in this group is larger than the third group.

Group 5 - Remainder of the Public: This group constitutes individuals or organizations that are not included in Groups 1-4. Members of the remainder of the public seldom if ever participate in the decision

process.

DETAILS OF THE CATEGORIZATION PROCESS

The categorization of stakeholders described in this manual does not imply that an individual falls solely into one category. For example, a personally impacted stakeholder may also be an administratively impacted and generally concerned stakeholder. Furthermore, an individual who may be a generally concerned stakeholder in one decision may be a personally impacted stakeholder in another decision. This categorization is intended to identify those who may fall into a specific class for the purpose of notification and reaching them.

Personally Impacted Stakeholders

This group consists of individuals whose lives are directly impacted by the action under consideration. These impacts may include one's health, income, property value, or any other aspect of life. However, due to the nature of this group, the impact must be both scientifically and practically well-defined. This group includes the following subgroups:

Subgroup I: This subgroup consists of those whose health may be impacted by the proposed action. The U.S. Environmental Protection Agency has traditionally considered a lifetime risk of 10^{-6} to 10^{-4} to be acceptable. Therefore, those who are likely to receive a risk in excess of these values would be personally impacted. In practice, the exact risk has not been computed nor does the public have the ability to compute such a risk. Therefore, a reasonable alternative must be provided to this group of stakeholders. Following the approach of the U.S. Nuclear Regulatory Commission, those within a 50-mile (80-km) radius of the site where an action is being proposed may be considered as personally impacted.

Subgroup II: An individual whose job would be impacted by the proposed action is also considered a personally impacted stakeholder: 1) if the job gain or loss is at the facility that is being considered, or 2) the proposed action would impact a job loss or gain within the 50-mile radius of the proposed action. However, normally an individual would not be a personally impacted stakeholder if the proposed action would impact the price of a stock; or impact jobs outside the 50-mile radius.

Subgroup III: If the value of an individual's property within a 50-mile radius of the proposed action is impacted, that individual would be personally impacted. Similarly, an individual whose business would be impacted by the proposed action would be in this group provided the business is located within a 50-mile radius of the proposed action.

Subgroup IV: There are individuals who are personally impacted by numerous other actions. These include being exposed to noise, foul smells, and other activities that cause discomfort or inconvenience.

Who Represents Personally Impacted Stakeholders? An important characteristic of the personally impacted group is that its members seldom can be represented by an organization or another individual, except for certain administratively impacted stakeholders. An organization that includes individuals outside the area impacted by the proposed action must—and often does—consider the interests of the totality of its membership and thus cannot adequately represent the interests of personally impacted stakeholders. The only organization that can legitimately represent this group is one whose membership consists exclusively of individuals who are personally impacted. Similarly, a personally impacted

individual may represent another individual impacted by the same proposed action, provided that individual is clearly authorized to do so.

Administratively Impacted Stakeholders

This group consists of elected, appointed, or employed individuals who must ensure that the action under consideration is prepared, reviewed, approved, or implemented in accordance with applicable laws, regulations, permits, licenses, or agreements. The participation of these stakeholders is also important. However, planning for their participation is somewhat less complicated than personally impacted stakeholders. This group includes the following subgroups:

Subgroup I: If a major portion of the constituency of an elected official constitutes personally impacted stakeholders, this individual falls into this subgroup. This individual is likely to speak on behalf of personally impacted stakeholders and thus the participation of Subgroup I is highly desirable.

Subgroup II: An elected official whose constituency includes personally impacted stakeholders, but not to the level of Subgroup I, falls into this subgroup. The overwhelming majority of relevant elected officials (mayors; relevant state representatives and senators; and relevant members of the House and Senate) are included in this subgroup. Again, this subgroup is readily identifiable.

Subgroup III: This subgroup consists of members of regulatory agencies at the local, state, and federal levels who are responsible for regulations, permits, licenses, and enforcement of the proposed action. This subgroup is expected to use the best available scientific information (independently peer-reviewed) in enforcing the law.

Subgroup IV: This subgroup is the counterpart to subgroup III, as it is responsible for preparation and implementation of permits and licenses issued by subgroup III. Materials prepared by this subgroup are also expected to be based on best available science.

Generally Concerned Stakeholders

This group includes individuals who, by virtue of their personal philosophies, beliefs, or ideologies, are interested in or concerned about the action under consideration. For obvious reasons, members of personally and administratively impacted stakeholders groups are also concerned about the action under consideration. However, the generally concerned stakeholders group is specifically excluded from those two groups. Thus, the intention of defining this group is to identify a group that is neither personally nor administratively impacted and yet is concerned over an action. In contrast to the personally impacted and administratively impacted individuals, this group is largely represented by organizations.

Process Concerned Stakeholders

There is a small fraction of the public that is concerned over the process that is used to manage a proposed action. There is sufficient evidence indicating that certain decision makers avoid to engage stakeholders in the decision process. Similarly, there is a perception within much of the stakeholder community that decision makers often engage stakeholders after the decision has been made. Conversely, there is a perception within certain segments of the society that a small number of stakeholders exert an undue influence on the decision. There are three distinct subgroups within this group of stakeholders:

Subgroup I: This subgroup believes that the participation of stakeholders in the decision process is crucial for the acceptance of the final decision. Similarly, this subgroup believes that participation inherently improves the quality of the decision.

Subgroup II: This subgroup is concerned over the scientific foundation of the decision. In particular, this group wants to ensure that decisions are based on best available science.

Subgroup III: This subgroup is concerned over the undue influence that stakeholders may exert during the decision process. In particular, this subgroup wants to ensure that the influence of stakeholders is commensurate with their stake in the outcome of the decision.

IDENTIFICATION AND NOTIFICATION OF STAKEHOLDERS

Virtually every organization involved in contentious decisions claims the desire to involve the public at large. As indicated above, it is impractical for an organization to reach a nation of several hundred million people who may or may not be concerned about a topic of limited national interest. Consequently, the strategy for identification and notification of the public at large must consider the respective roles of various stakeholders in the process. Each group must be identified and notified consistent with how each is impacted by a proposed activity as follows:

Personally Impacted Stakeholders

By far the most difficult problem in stakeholder participation process is an appropriate identification of this group of stakeholders. Each situation requires a clear process that is perceived by the stakeholders to be fair. In the nuclear industry, individuals living within 50 miles (80 km) of a nuclear reactor are considered to be potentially impacted. This distance is based on the potential atmospheric emissions of a nuclear power reactor as a consequence of an accident. However, this distance would not apply to a facility where soil is contaminated and the suspension of contaminated soil is of concern. Thus, personally impacted stakeholders are individuals who live around an existing or proposed facility. Consequently, they may be identified by virtue of their resident address. In addition, local organizations representing this group may also be used to identify them. For example, in a farming area, the local farming organization may be contacted to identify individuals within this group of stakeholders. The agency or organization seeking the participation of stakeholders should attempt to develop similar or other appropriate approaches to identify this important group of stakeholders.

Experience shows that individuals within this group of stakeholders are reluctant to participate in the decision process. In most cases, these are individuals who are busy and are unwilling to devote time to study a subject or participate in a stakeholder meeting unless they perceive a significant impact on their daily lives. Precisely because of the potential impact of a proposed action in the life of this group of stakeholders, an *affirmative outreach* approach is necessary to ensure their participation. By far the most difficult task is to entice personally impacted stakeholders to participate in the process once individual members of this group are identified. Each locality has its own peculiarities and must be handled accordingly. However, there are approaches that are often common to all areas. For example, organizations representing the local residents can be the primary focus not only for identification but more importantly, for notification of stakeholders. Whatever the approach, it should include mailing invitations; personal contacts via phone; and other *affirmative outreach* approaches that provide this group of stakeholders sufficient incentive to participate.

Administratively Impacted Stakeholders

The identification and notification of this group of stakeholders is easier than the previous group as administratively impacted stakeholders are normally associated with a known institution. Elected officials spend a significant effort to become known within their constituency and thus are readily identifiable. Regulatory agencies can also be readily contacted to identify the relevant stakeholders. Once identified, these stakeholders are notified by phone or in writing.

Generally Concerned and Process Concerned Stakeholders

The definition of generally concerned stakeholders implies an interest in the outcome of an impending decision. In contrast, the definition of process concerned stakeholders implies an interest in the process rather than in the outcome of an impending action. However, there are those who may be interested in both or more in one than the other. Therefore, the distinction between these two groups is intended to describe the logic rather than to be sharp. In effect, the old and often used definition that *Whoever wants to be@* applies to both groups. Because the treatment of these two groups is identical, an individual or an organization is self-identified without a consequence in the ensuing treatment.

These groups normally consist of members of citizen, advocacy, and other organizations. Since these two groups are never truly identifiable, members of these two groups are responsible to identify themselves to the system. Because of the need for fairness and the requirement not to exclude any potential member of these two groups, the only reasonable method for reaching them is via electronic and print media. As a general rule, these organizations have access to the information distributed through the public media. The emergence of the Internet has provided a unique and valuable resource to inform these groups. Although there are unaffiliated individuals in these two groups, in most cases they also have access to the information system available to organizations.

The Remainder of the Public

Identifying and reaching the remainder of the public is even more difficult than that described for generally concerned and process concerned stakeholders. Consequently, the only course of action is notification through the public media and the Internet.

STAKEHOLDER PARTICIPATION FOR LARGE IMPACT ACTIONS

The categorization of stakeholders into various groups; the process for reaching them; and their participation in the decision process implies that an action is predictable. Examples of these activities include construction of a factory; restoration of a contaminated site; or decommissioning of a plant. There are, however, activities that are either unpredictable or their impact is so large that a major segment of the population or virtually the entire nation is personally impacted. Examples of these activities include prevention and mitigation of terrorist actions; large-scale natural disasters; and acts of war. In these cases, a significant modification of the process is necessary.

REQUIREMENTS FOR CREDIBLE PUBLIC PARTICIPATION

There appears to be skepticism within the public in general and various groups of stakeholders in particular on the entire public and stakeholder participation process. Personally impacted stakeholders often complain that their desires are overshadowed by organizations and individuals who constitute generally concerned stakeholders. Conversely, the generally concerned stakeholders often complain that the decision process does not take their concerns into consideration. Finally, process concerned stakeholders want to ensure that certain administratively impacted stakeholders (regulators) are not overly influenced by generally concerned stakeholders and pay insufficient attention to the best available scientific information. The loud and louder demand for independent peer review is founded on the skepticism of this segment of the public. Thus, there are several requirements for an appropriate public and stakeholder participation process as discussed below.

Reaching Stakeholders

The categorization of stakeholders simplifies the approach to reach members of each group. Therefore, an appropriate approach would be as follows:

1. Attempt an *affirmative outreach* to identify and reach personally impacted stakeholders
2. Contact relevant Subgroups I and II of administratively impacted stakeholders
3. Contact and reach an agreement with leaders of Subgroups III and IV of personally impacted stakeholders to appoint a representative
4. Announce in appropriate media, including the Internet, the impending proposed action, and ask generally concerned stakeholders and process-concerned stakeholders for their input

Stakeholder Participation Management

Many stakeholders have a deep-seated mistrust of agencies responsible for public and stakeholder participation. The rule governing the management of stakeholder participation is as follows:

Those responsible for management of stakeholder participation must be entirely independent of those who have a stake in the outcome of the action under consideration.

The violation of this rule is largely responsible for the mistrust of the stakeholders in the process. Consequently, an organization with no conflict of interest should be asked to manage the stakeholder process. This organization is henceforth referred to as Stakeholder Management Organization. This organization should not be involved in any activity with a real or perceived conflict of interest.

Treatment and Documentation of Stakeholders= Concerns

There is widespread concern among members of various groups of stakeholders that the current approach to stakeholder participation is flawed. There are those who believe that as long as stakeholders are given the opportunity to **Avent their anger@**, it is not necessary to consider their concerns when making decisions. Consequently, approaches must be developed to ensure that stakeholder concerns are seriously considered by the decision makers. The rule governing this consideration is as follows:

The decision makers must conclusively demonstrate that they have considered concerns expressed by the stakeholders.

The effect of this rule is as follows:

1. The concerns of stakeholders must be openly and clearly communicated to the public. Consequently, there must be a documentation of the expressed concerns. If there is a meeting where stakeholders participate, the proceedings of that meeting must be recorded and appropriately managed. For example, if a statement by a stakeholder includes a specific concern, any editing of that expression must be approved by that stakeholder. Conversely, many stakeholders lack technical competency to express their concerns in a technically acceptable manner. In these cases the Stakeholder Management Organization should ensure that these stakeholders are provided appropriate technical support.
2. Regardless of the group of stakeholders, their concerns must be addressed in a manner that an unbiased group of individuals can verify. Ideally, the decision makers should provide written responses to specific concerns expressed by the stakeholders.

BENEFITS OF STAKEHOLDER PARTICIPATION

A large number of issues of concern to stakeholders includes scientific and engineering components. In many cases the concerns of stakeholders—particularly personally impacted stakeholders—are expressed in fear mainly because they have insufficient technical competency to appreciate the intricacies of the issues that impact them. However, these fears can be substantially reduced or eliminated if the information provided to stakeholders addresses the issues of their concern in a manner that is clear, concise, and easy to understand. Similarly, there is ample evidence indicating that many contested issues are resolved once decision makers demonstrate that they have truly considered the concerns of stakeholders. The subject is broad and its discussion is beyond the scope of this manual. Instead, the following examples are used to demonstrate the point.

Environmental Impact Statements

Any federal action with a significant environmental impact requires the preparation of an Environmental Impact Statement (EIS). Briefly, the law requires the preparation of a draft EIS for public comment. The availability of the draft EIS is announced in the *Federal Register* which is the official publication of the U.S. government. In most cases, hearings are held at the site of the impending action. Despite the large sums of funds expended, there is a common perception that the current process is less than fully effective. Therefore, the stakeholder process used in this manual would require the following process:

1. The stakeholder participation part of the process must be managed by an independent Stakeholder Management Organization.
2. The intention to prepare a draft EIS is announced in the *Federal Register*, as is currently the practice, and on the Internet, as is currently sometimes the case.
3. A stakeholder meeting is organized where the agency describes its ideas to the stakeholders and seeks their input.
4. The resulting information is summarized and subjected to an independent peer review. Alternatively, the peer review can take place in conjunction with item no. 3.
5. A draft EIS is prepared by the agency, as is currently practiced, based on the outcome of item no. 4.
6. The availability of the draft EIS is announced in the *Federal Register* and on the Internet.
7. A stakeholders meeting is organized where the agency describes salient features of the draft EIS to the stakeholders and seeks their input.
8. The draft EIS is subjected to an independent peer review. Alternatively, the peer review can take place

in conjunction with item no. 7.
9. The (final) EIS is prepared.

Peer Review

The peer review requires the critical assessment of a specific project by a Review Panel consisting of individuals whose qualifications for the specific review have been approved by an independent committee. All presentations, statements, and discussions are intended to benefit the Review Panel in its deliberations, which result in the *Report of the Review Panel*. There is ample evidence suggesting that participation of stakeholders enhances the appreciation of the decision process. In particular, the participation of stakeholders in peer review meetings increases the probability of their acceptance of solutions resulting from the peer review.

Technical Advice

Often a community is faced with an issue of concern, such as contaminated soil or groundwater. In this case, citizens of the community and others are rightfully concerned and would like to be informed on potential risks associated with the contamination of soil or groundwater. A properly-managed stakeholder process provides stakeholders with information on the true risk, and is expressed by those with sufficient independency and credibility in a language that can be understood by a nontechnical individual.

Topical Workshops

A workshop for the purpose of discussing a specific topic is one of the most useful approaches for stakeholder participation. Topical workshops are extensively used in the scientific community and their structure is well established. A major component of a topical workshop is the establishment of a Technical Program Committee to oversee the technical program. The meeting follows the well-known process used by professional societies.

TIMING OF STAKEHOLDER INVOLVEMENT

One of the most important issues of concern to the stakeholders is the timing of their involvement. The comments on the questionnaires completed by the stakeholders in several peer review meetings indicate that all groups of stakeholders complain that they were brought into the decision process too late. A frequent comment by the stakeholders was that decisions had already been made and the stakeholder participation was merely a window dressing in order to justify the decision. Clearly, all groups of stakeholders want to be involved during the initial formulation of the decision process.

REQUIRED INFORMATION FOR STAKEHOLDERS PARTICIPATING IN MEETINGS

All stakeholders must be provided a minimum of relevant information. The necessary information for all groups of stakeholders is as follows:

1. A summary of the subject under consideration
2. A list of technical issues (questions, lines of inquiry, specific technical topics, or review criteria) that are being considered
3. A description of rules governing stakeholder participation

4. The address of a web site, if such a site is intended for providing information or receiving comments
5. Other information that aids stakeholder participation

Those stakeholders that are either invited to present their case in an EIS meeting, peer review, or technical advisory meeting should be provided detailed information similar or identical to that which is provided to major participants such as Review Panels or Technical Advisory Panels. In addition, occasionally, certain stakeholders need technical assistance. This assistance should be provided preferably by an organization other than the sponsoring entity.

GUIDELINES FOR PUBLIC AND STAKEHOLDER PARTICIPATION

One of the greatest mistakes made by most managers of public and stakeholder participation and other decision makers is the lack of appreciation for a well-managed stakeholder participation process. The process must consist of the following requirements:

1. The availability of clear and unambiguous technical issues (questions, lines of inquiry, specific technical topics, or review criteria) for consideration by the stakeholders
2. Specific criteria for the selection of these technical issues and how they are to be used by the stakeholders
3. Ensuring that these technical issues are germane to the proposed action
4. Identification of the roles of stakeholders in the decision process
5. Management of the stakeholder participation by an uninvolved organization

Environmental Impact Statements

The law mandating the preparation of an EIS provides specific requirements of questions to be answered in the EIS. Consequently, during the steps identified above, specific issues are identified for stakeholders= comments. A well-managed stakeholder process would require the following actions:

1. There must be information available to the stakeholders in a language that is understandable to an educated non-specialist.
2. This information must be provided to the stakeholders in a timely manner.
3. Ideally, during the stakeholder meeting the proponents of an action should verbally provide a description of various segments of the document.
4. During the meeting, each stakeholder must identify the group to which the stakeholder belongs.
5. A stakeholder must indicate which one of the previously-identified topics that the stakeholder wishes to address.

Peer Review Meetings

In a peer review meeting, the review criteria are the technical issues of concern to the stakeholders. These criteria are prepared in advance with the objective that they are addressed by the Review Panel. In effect, the stakeholders attempt to provide their assessment of the project under review by commenting on specific review criteria. Experience shows that comments by the stakeholders are taken seriously by the Review Panels and thus provide a powerful incentive for stakeholder participation. The impact of comments by the stakeholders is the major reason for their acceptance of the results of peer review.

Technical Advisory Panel Meetings

The situation is somewhat more complicated in a meeting where the stakeholders receive technical advice. In this case, not only do stakeholders expect answers to specific questions, but they occasionally expect to be provided specific information. In addition, in most cases, stakeholders would like to be able to pose questions to the Technical Advisory Panel. Much like peer review, a well-managed technical advisory panel meeting must ensure that relevant technical issues to be addressed by the Technical Advisory Panel are prepared in advance. Experience shows that the technical competency of most stakeholders is insufficient to ask appropriate questions. Consequently, a two-step process may be necessary to identify technical issues to be addressed by the Technical Advisory Panel. In the first step, stakeholders are asked to identify questions or topics of their concern. These are subsequently provided to an independent organization with technical competency and are converted into coherent technical issues.

Topical Workshops

Much like technical advisory panel meetings, the questions to be addressed in a topical workshop must be identified in advance. A possible approach for identification of questions consists of reliance upon the Technical Program Committee. In this case, the Technical Program Committee must include at least three qualified individuals who are independent of the proponents of the action under consideration. An independent and technically competent individual would develop technical issues from documents prepared by the proponents of the action. These technical issues would subsequently be provided to interested parties including stakeholders for review and comments. The final technical issues would be approved by the Technical Program Committee.

PARTICIPATION OF STAKEHOLDERS IN THE DECISION PROCESS

There are numerous issues that must be addressed by decision makers if they decide to include stakeholders in the decision process. Major areas of concern are as follows:

Continuous Interaction with Stakeholders

A successful stakeholder participation program must ensure continuous interaction between the decision makers and the stakeholders. Increasingly, the Internet provides a mechanism to ensure such an interaction. The application of the Internet in stakeholder participation requires an active and sincere effort to perform the following tasks:

1. The web site must be updated at a frequency which is commensurate with the duration of the decision process. For projects requiring several years to be completed, a quarterly update would be reasonable.
2. The technical issues (questions, lines of inquiry, technical topics, review criteria) that are of concern to the stakeholders must be identified in advance. The system must be capable of revising the technical issues as the project progresses.
3. The stakeholders who want their voices to be heard must indicate which one of the technical issues they are addressing. In the overwhelming majority of cases, general comments are of little or no value to the process. For example, in peer review meetings, general statements that are not related to the review

criteria are not considered by the Review Panel and thus, cannot be permitted.

4. The decision makers must provide responses to the stakeholder concerns.

Reconciliation of Competing and Contradictory Stakeholder Interests

A properly-managed stakeholder participation program attempts to include relevant segments of each group of stakeholders. In every group of stakeholders, there are competing and often contradictory interests. For example, those whose jobs are at stake normally take a different position than those who advocate elimination of the activity where the first group is employed. Therefore, the decision maker must be able to provide an opportunity for input from a diverse group of stakeholders, and ensure that the decision considers their diverse views.

Inclusion of Stakeholders in the Final Decision

Stakeholders are often frustrated because they perceive that their participation had no impact on the final decision. Consequently, the decision maker must ensure that the final decision is communicated to the stakeholders early enough with a description of the final decision to include the following:

1. How the final decision was made
2. Those elements that were based on the desires of stakeholders
3. Those elements that were not based on the desires of stakeholders, including an explanation why the desires of stakeholders were not accepted
4. A general description of how the decision process progressed as a consequence of stakeholder participation

CONCLUSIONS

The process described in this manual has proven to be useful in several peer review meetings jointly organized by ASME and RSI. The key results of these experiences are as follows:

1. In the overwhelming majority of cases, stakeholders had no problem identifying themselves in the appropriate group.
2. Many stakeholders need assistance in identifying the correct technical issue that they would like to address. However, when the moderator of the meeting assisted them, the problem was nearly always resolved.
3. The Agripe session@ common to public hearings was essentially absent.
4. The overwhelming majority of participants considered the process to be fair.

APPENDIX

1. Guidance for Organizations Requesting Stakeholder Participation
2. Guidance for Stakeholders
3. Questionnaire for Stakeholders

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GUIDANCE FOR ORGANIZATIONS REQUESTING STAKEHOLDER PARTICIPATION

Many federal and state agencies, as well as private industries, desire to include the views of stakeholders in their decision process. This guide specifically applies to stakeholder participation in various activities and is provided to assist government agencies and private industry in identifying stakeholders and classifying them in accordance with their respective roles.

There are four groups of stakeholders as follows:

Personally Impacted Stakeholders: This group consists of individuals whose lives are directly impacted by the action under consideration.

Administratively Impacted Stakeholders: This group consists of elected, appointed, or employed individuals who must ensure that the action under consideration is prepared, reviewed, approved, or implemented in accordance with applicable laws, regulations, permits, licenses, or agreements.

Generally Concerned Stakeholders: This group includes individuals who, by virtue of their personal philosophies, beliefs, or ideologies, are interested in or concerned about the action under consideration.

Process Concerned Stakeholders: Members of this group are concerned over the appropriate role of the other three groups of stakeholders in the decision process.

The participation of stakeholders should be based on the priority placed by the sponsoring organization on the significance of the impact of the decisions to be made on each group of stakeholders. As a general rule, an *affirmative outreach* is necessary to ensure the participation of personally impacted stakeholders. Experience shows that these stakeholders are reluctant to participate in technical meetings unless they perceive a significant impact on their daily lives. Accordingly, an *affirmative outreach* approach is necessary to ensure their participation.

The participation of administratively impacted stakeholders is somewhat less complicated. The mayor of the town; state, federal, and other elected officials representing the locality in which the action under consideration will occur, are desirable stakeholders yet are unlikely to be willing to participate. In contrast, members of agencies responsible for preparation, regulation, and implementation of an action are easier to entice to participate. However, at a minimum, those immediately responsible for the action in these agencies should participate in a well-run program.

The generally concerned stakeholders and process concerned stakeholders are normally informed via public media. Their participation is normally determined by the sponsoring agency.

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GUIDANCE FOR STAKEHOLDERS

There is ample evidence suggesting that participation of stakeholders enhances the outcome of those activities which include scientific and engineering issues. This guide provides rules governing the participation of stakeholders in meetings that address these activities.

All meetings are normally chaired by a senior RSI staff. Normally, all segments of technical meetings are open to the public. Stakeholders can attend these meetings, provided the following criteria are met:

1. Consistent with the tradition of professional societies, all attendees must register. All registered individuals will be provided a name tag that must be worn while attending the meeting. All registrants will receive a registration package which includes information such as relevant documents; list of technical issues (questions, lines of inquiry, technical topics, review criteria); and other technical information. As a general rule, there is no registration fee for these meetings.
2. During the meeting, all attendees may ask questions of the speakers. These questions are limited to clarification of specific issues presented by the speaker.
3. A segment of the meeting is slated for comments by stakeholders. Those making statements should be aware that their comments must be directly related to a specific technical issue or several technical issues provided to the audience during registration. A technical issue consists of a question, a line of inquiry, or a review criterion. General statements that are not related to these items cannot be permitted.
4. Due to time constraints, lengthy statements should be avoided as there may not be enough time to accommodate all who wish to participate. Therefore, stakeholders designated by the sponsors of the technical meeting will be provided specific times with a specific duration in the program to state their case. All other stakeholders wishing to make a statement should limit their statements to only a few minutes to allow as many people as possible to make their concerns and questions known during the time allotted for stakeholders= comments.
5. The Chair of the meeting will be responsible for ensuring that the audience adheres to these requirements.

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QUESTIONNAIRE FOR STAKEHOLDERS

THE PROCESS

1. Was the notification process adequate?

Yes No Comments:

2. Were the stakeholders provided sufficient time to identify and describe their concerns?

Yes No

Comments: _____

PRESENTATIONS

1. Did presenters explain the sometimes highly technical issues in a language understandable to an audience of knowledgeable non-specialists?

Yes No

Comments: _____

2. Did presenters explain technical terms in understandable form?

Yes No

Comments: _____

3. Did the presentations address the technical issues?

Yes No Comments:

4. Were the questions from the stakeholders responsive to a specific technical issue?
Yes No Comments:

5. Were the statements by the stakeholders responsive to a specific technical issue?
Yes No Comments:

6. Did questions from the Review Panel directly relate to a specific technical issue?
Yes No Comments:

LOCAL ARRANGEMENTS

1. Was registration performed in a professional manner?
Yes No Comments:

2. Was the registration form acceptable?
Yes No Comments:

3. Was the organization of the meeting room acceptable?
Yes No Comments:

4. Were audiovisual arrangements acceptable?

Yes No Comments:

DEFINITION OF STAKEHOLDERS:

Personally Impacted Stakeholders (PI): This group consists of individuals whose lives are directly impacted by the action under consideration.

Administratively Impacted Stakeholders (AI): This group consists of elected, appointed, or employed individuals who must ensure that the action under consideration is prepared, reviewed, approved, or implemented in accordance with applicable laws, regulations, permits, licenses, or agreements.

Generally Concerned Stakeholders (GC): This group includes individuals who, by virtue of their personal philosophies, beliefs, or ideologies, are interested in or concerned about the action under consideration.

Process Concerned Stakeholders (PC): Members of this group are concerned over the appropriate role of the other three groups of stakeholders in the decision process.

1. Is the definition of various groups of stakeholders as described above reasonable?

Yes No Comments:

2. Please tell us to which group of stakeholders you belong:

PI AI GC PC