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TITLE USING PREVIOUS PUBLIC TESTIMONY TO PREPARE RISK MESSAGES

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CHALLENGES IN FINDING INFORMATION ABOUT THE RISKS WE FACE

People need a sense of control over their own lives, but they sometimes feel that they do not have that control when faced with a risk such as that posed by a nuclear power reactor or an incinerator for radioactive waste. Agencies communicating the risk must understand the fears of stakeholders (the people who share in the risk) and try to address those fears.

The Emergency Response and Community Right to Know Act, Title III of the Superfund Amendments and Reauthorization Act (SARA), is a broad risk communication statute that ensures that the information is available through statutes, public hearings, and the media(1). To arrive at a decision about a risk concerning them and thereby achieve a sense of control, stakeholders must have access to the information about a decision and then must understand it. Their task is seemingly simple: they only have to use their rights under Title III to find information on a risk, act on the information, and make an informed choice about the risk.

One way that agencies can help the stakeholders maneuver through the maze of regulations governing a risk and communicating the risk itself is through public hearings that actively seek the involvement of the stakeholders.

PREVIOUS APPROACHES TO RISK COMMUNICATION

Previously, the public perceived risk communication as one-way and rather arrogant because the agencies did not actively seek input and dialog with the stakeholders. Risk communication seemed to be a one-way statement: "It's perfectly safe. Trust us."

Stakeholders perceived problems with the approach.(2)

- Communicators in the agencies were viewed with suspicion if they had an economic stake in the agency.
- The senders of risk messages didn't seek to learn from the stakeholders, only to teach.
- The attitude of the agencies seemed to be that the public would not understand the technical aspects of the risk.
- The agencies were seen as unconcerned about the public and not open or readily accessible.
- The agencies were seen as not wanting to simplify or interpret data for fear that they would minimize or magnify the risk.
- Or they gave the stakeholders a data dump instead, more information that anyone could possibly assimilate. (Such a plethora of information, as anyone who has ever used a material safety data sheet can attest, is a barrier to understanding.)
- The agencies were seen as arrogant in communicating only with their peers in the scientific and technical communities and not with the stakeholders.

- Agencies were sent out to persuade, bully, and advertise rather than educate and establish a dialog.

Cynicism and mistrust abounded.

LEARNING FROM THE STAKEHOLDERS

What, then, can be done? For good risk communication to exist, agencies and stakeholders must first establish two-way communication and dialog. An agency must respect the stakeholders and their concerns. It cannot assume that the stakeholders know nothing about the technical aspects of the risk, nor can it dismiss the concerns of a stakeholder merely because he or she appears to be unstable or dysfunctional. The risks a seemingly dysfunctional stakeholder perceives have as much legitimacy as those of a scientist or engineer familiar with the risk and indeed as much legitimacy as those of the agency itself.

Second the agency must find what the stakeholders want to know and what their concerns and fears are. However, communicating the hazards and risks involved in a technology can be difficult, especially to a hostile audience that is thoroughly prepared to meet what it perceives to be an adversary. For example, in public hearings in 1989 in Santa Fe (3) for permit for the controlled-air incinerator at Los Alamos National Laboratory, the audience was composed primarily of concerned citizens from the neighboring communities of Taos and Santa Fe. The citizens represented a range of people from concerned parents with their infant children to physicians. They had thoroughly prepared for the hearings and had questions and comments on issues of immediate importance to them, especially about radiation safety.

Third, an agency can try only to educate and increase the amount of information available to the stakeholders so that they can make informed decisions about the risk. It cannot try to persuade the stakeholders.(2)

Once the agencies know what the stakeholders' concerns are, the agencies can more credibly address those concerns in the future. How can an agency learn what the stakeholders want to know and how best inform them? Using previous public testimony is one way of preparing risk messages.

Definitions

First, the stakeholders want definitions that will clarify what is being discussed and that will help close the gap in knowledge between themselves and the scientists and engineers. In the Santa Fe hearings on the permit for the incinerator, the audience wanted definitions of such terms as destruction efficiencies, listed wastes, mixed wastes, permit, and the equivalency of state and Environmental Protection Agency (EPA) regulations.

Terms routinely bandied about in normal discourse in waste management are foreign terms outside that arena. Without sound definitions, the public can become easily confused. The term "permit," for example, was interpreted by many to mean permission for an incinerator to be built rather than the terms and conditions for operation. Similarly, because the incinerator would process mixed waste, waste with both radioactive and hazardous chemical components, the public wanted a definition of "mixed" and what regulations governed the storage, treatment, and disposal of the waste.

Waste minimization also concerned the stakeholders. Again, definition of terms is essential. Many thought that waste minimization meant cutting into small pieces the waste already produced.

An effective risk message, then, must define terms, including common terms that might be easily misinterpreted by the stakeholders or terms that have specific meanings within the context of the particular risk or issue. If the risk is complex, a series of meetings between stakeholders and the scientists and engineers may be appropriate so that each term or process can be defined or discussed.

Background

Second, the audience requires specific background information on the source of the risk. Where did the hazard come from? Why does it present a hazard and for how long? The public comments on the incinerator focused on background radiation levels before the first nuclear test at Trinity Site in 1945, how current background radiation levels were established, and how acceptable levels of radiation doses to workers and the public are determined. Many of the questions went back to 1945 and the issue of where the waste came from in the first place, the testing of nuclear weapons. The stakeholders also wanted to know which wastes were proposed for incineration, the estimated volumes, and the number of curies of radioactivity was contained in the wastes.

Regulatory Requirements

Third, recipients of risk messages want to know more about regulatory requirements. After years of one-way communication, stakeholders questioned the credibility and authority of federal and state regulatory agencies and the regulations they promulgate. The lack of credibility of federal agencies also brought up questions about accurate documentation and records management and who was going to maintain the records.

However, multiple federal and state mandates have produced multiple agencies with overlapping functions and overlapping information.(1) Trying to find information on regulations on air emissions, for example, is difficult and frustrating when stakeholders must look through many statutes. All the information that they require certainly exists, but because of the sheer volume of the information and the labyrinthine and overlapping methods of organizing it, similar information is unconsolidated. It appears to the stakeholders, then, that the agencies are hiding the very information that they are looking for.

The stakeholders in Santa Fe were familiar with state and local environmental laws and wanted to know the following:

- the permitting process itself;
- the criteria for the success of the cleanup at Superfund sites;
- the extent of contamination at Superfund sites;
- what laws regulated the storage and disposal of mixed waste; and
- which regulatory agencies and laws were involved in the terms and conditions of the permit.

Air quality and emissions to the atmosphere, for example, were of primary concern to the stakeholders. They were concerned about the effects of the gaseous effluent on the ozone layer and the effectiveness of the high-efficiency particulate air filters. However, regulations on the quality of emissions from the incinerator were not part of the permit. Representatives from the state and federal agencies told the audience that the permit did not address air quality standards and so air quality was not an issue in the hearings. The message that the audience received was that air quality was not important.

Although the concerns about issues seemingly unrelated to permit, such as air quality, were, in a legal sense, peripheral to the issue at hand, the agency must address those concerns in an effective risk message when they are reality to the stakeholders.

Technical Information

Fourth, the recipients want technical information. The audience in Santa Fe had questions about and wanted more information about the technical aspects of incinerator operations, including the components of the incinerator, its operating conditions, and alternatives to incineration technology, including technologies developed in Sweden and Japan. A risk communicator must not assume that the audience will not understand the technical aspects of the risk. Many in the audience will be the peers of the risk communicators in the technical aspects of the issue; others will have done research on the subject and will be thoroughly prepared. The risk message should contain all relevant information and be clear and in plain language.

Health, Safety, and the Environment

The stakeholders in the Santa Fe hearings also wanted information about monitoring, sampling, and testing to protect health, safety (particularly personal safety), and the environment. Of major concern were monitoring aquifers and emissions to the atmosphere, inspections and inspection schedules, monitoring by independent agencies, sampling and testing protocols, acceptable and unacceptable concentrations of hazardous materials, calibration of instruments, mercury in fish in bodies of water downstream from the incinerator, accumulation and retention of toxic materials in the body, the risk of cancer because of exposure to the stack gases, and such considerations as the effect of emissions on vegetable gardens.

One woman asked a hypothetical safety question: What if she and her infant child climbed the stack of the incinerator, inhaled the gaseous effluent, were overcome, and fell into the stack and down into the incinerator itself? Although the question may seem far fetched to an engineer, the risk of such an event actually happening was very real to the woman.

FRAMING THE MESSAGE

Once the agency has used previous testimony as one basis for preparing the risk message, it can then frame the message itself.

A risk message should

- emphasize information relevant to any practical actions that stakeholders can take;
- put the information in clear and plain language;
- respect the audience and its concerns;

- inform the recipient honestly (unless conditions clearly justify an attempt to influence).(2)

Then, assuming that the agency gets a second chance to rectify the errors made the first time, it can more effectively, openly, and honestly tell the stakeholders what they asked to know about.

Perception is reality.(4) What the stakeholders perceive to be real is real to them, even though the agency's perception is that a risk is minimal. By considering what the stakeholders need and want to know, and not necessarily informing them of what the agency thinks they should know, and in increasing the knowledge of the stakeholders so that they can make an informed decision about acting on the particular risk, agencies can use the risk communication more successfully in establishing a dialog with the public.

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