

LA-UR- 93-2793

**Title:** THE ROLE OF THE RISK COMMUNICATOR IN THE PERMITTING PROCESS

**Author(s):** Margaret E. Durbin  
Linnea E. Wahl

**Submitted to:** 41st Annual Conference of the  
Society for Technical Communication  
Minneapolis, MN  
May 1994

FILED  
AUG 05 1994  
OSTI

**DISCLAIMER**

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

**Los Alamos**  
NATIONAL LABORATORY



DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the University of California for the U.S. Department of Energy under contract W-7405-ENG-36. By acceptance of this article, the publisher recognizes that the U.S. Government retains a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. The Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy.

## **DISCLAIMER**

**Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.**

# THE ROLE OF THE RISK COMMUNICATOR IN THE PERMITTING PROCESS

by

Margaret E. Durbin and Linnea E. Wahl  
Los Alamos National Laboratory

## INTRODUCTION

Under various federal regulations, waste treatment facilities, waste disposal sites, incinerators, and similar facilities require permits for operation. Such permits are supported by detailed studies that demonstrate the need for the facility, the appropriateness of the site, the environmental impact of the project, the safety of the technology used, and the agency's ability to operate it safely.

The National Environmental Policy Act (NEPA) requires public participation, including public meetings, hearings, or other forms of participation, in all permitting processes to ensure "complete assessment and full disclosure of the environmental consequences" of proposed actions under the act.(1) Other regulations (notably the Emergency Response and Community Right to Know Act, Title III of the Superfund Amendments and Reauthorization Act [SARA]) are broad risk communication statutes that ensure that the information is available through statutes, public hearings, and the media.(2) Regulations such as these should ensure adequate public participation. The people should be able to voice concerns and work out compromises at public meetings. In theory, the agency should be able to satisfy its responsibilities to the public simply by filing the permit application, preparing the supporting documentation, and participating in public hearings.(3)

Theory, however, is not borne out by practical experience. Active opposition by the public to projects that meet all permitting regulations has defeated dozens of incinerator, power plant, and landfill projects in the past decade.(3)

## PUBLIC INVOLVEMENT IN PERMITTING

Public hearings about permitting typically include discussions of the risks the facility or operation will impose on the public. These risks, from the viewpoint of scientists and engineers, are measured as absolutes using data and analyses. To the public, however, these risks have a subjective component: outrage.(4) Peter Sandman states that the scientists' risk can be termed *hazard*; everything else that the public considers to be part of risk constitutes *outrage*.(5) The difference in these two perceptions of risk can spell disaster for the permitting process.

To be successful, agencies in the permitting process must develop plans that involve the public and that build and maintain the public's confidence in the project.(6) Public confidence in and acceptance of an agency's plans require that the agency address the public's perceptions of risk. The key is risk communication, usually defined as an interactive process of exchanging information and opinions among individuals, groups, and institutions or agencies concerning a risk or potential risk to human health or the environment.(7)

Unfortunately, many agencies do not use appropriate communication techniques when they interact with the public. Problems abound because the agency has misperceptions about risk communication; it does not know the audience, does not know the language to use in the message, and does not know what message to convey. An agency's well-intentioned efforts can turn into disaster if they increase the fear, hostility, or outrage of the audience. For example, Los Alamos National Laboratory held public hearings on the permit for a controlled-air incinerator but chose not to actively participate in the hearings

with the intent of deferring responses to the legal staff. By this choice, Los Alamos National Laboratory gave the appearance of stonewalling and dishonesty.(8) Outrage increased, and only later did the laboratory become more proactive.

An obvious solution to such problems is to use people in the media or the agency's own public relations people to communicate during the permitting process. However, these people may not have expertise in risk communication techniques or in the appropriate technical field to allow them to communicate effectively with an outraged audience.(9) Risk communicators, then, are the ideal people to assist an agency in the permitting process because they do a thorough audience analysis, translate technical information into the language of the audience, and prepare messages that will promote trust and understanding. The risk communicator can also dispel the agency's misperceptions about risk communication.

## KNOWING THE AUDIENCE

All too often the agency has attitudes that block effective risk communication.

**"One size fits all."** An agency often assumes that one message will reach all groups. In the public hearings on the Los Alamos incinerator, for example, information about the facility and the process was aimed at a highly technical audience, rather than a diverse lay audience. Citizens who attended the hearings included concerned parents with their infant children, physicians, well-educated lay people with some technical knowledge, a homeless man known as "that guy in the dress," and an elder in the Intergalactic Legions of Light for Universal Peace. Cultural differences are also important, especially in northern New Mexico, which has a significant population of Hispanics and Native Americans. One message clearly will not reach all members of a group attending public hearings on a permit.

The risk communicator can ensure that the agency knows the backgrounds of the major audience groups and tailors different approaches and methods of delivery to each group. Small, preliminary meetings with specific groups can help prepare both the agency and the public for the meetings.

**"I'm an engineer, and I understand it."** A common problem is the agency's failure to effectively convey technical information to a lay audience. The agency assumes that the members of the public are stupid because they did not go to engineering school; yet the agency prepares material that is accessible only to an engineer and then assumes it is also accessible to any member of the lay public. The agency may believe that technical information alone, without further explanation, is sufficient to convey the message and carry the day.

The risk communicator knows that people can be intimidated by highly technical language and are likely to tune it out.(9) In this case, the role of the risk communicator can be to review the message for information that is unnecessarily technical and translate it into language that the public is more comfortable with. By simplifying the language, not the content, the risk communicator ensures that the public does not perceive the agency to be condescending.

**"It worked before."** An agency further complicates its efforts to communicate risk by assuming that its messages do not need to be tested: a message that worked before should work again. The agency does not consider how the composition of the audience or the audience's attitudes may have changed.

The risk communicator knows that a technically accurate message does not necessarily communicate and that messages must first be tested with small samples of the target population before the agency can use them as risk messages in the permitting process. A short survey or some focused interviews can help in evaluating the effectiveness of a message. Evaluation can help identify new audience concerns and methods for responding to those concerns, thus improving interaction with the public.(10)

**"The sky is falling; now go home."** An agency sometimes believes that alerting people to the risk imposed by a facility or operation is sufficient. It will describe for citizens the scenario for the worst-case accident the risk imposes but will neglect to tell citizens how to protect themselves from it.

The risk communicator, on the other hand, knows that people want to know how to protect themselves and what alternatives to the proposed action are available. The communicator must ensure that the agency is prepared to answer questions about the risk:(8)

- Do the worst-case scenarios accurately predict future contaminant movement?
- Will citizens have to wait for an accident before they know how to respond?
- Does the permit require the agency or federal or state government to train emergency personnel in the surrounding communities?
- What alternatives to the facility or operation has the agency considered?
- What role does the agency play in determining the acceptable radiation doses to workers and the general public?
- How does the agency address citizens' concern about accumulation and retention of toxic materials in the body?

**"Then it's agreed."** An agency sometimes believes that its efforts are successful only when citizens accept the message. In reviewing the definition of risk communication, however, we know that an interactive exchange, not persuasion, is the goal.

The risk communicator knows that success rests on giving citizens enough information about the risk to make an informed decision and a positive contribution to public policy. The risk communicator can assist the agency by ensuring that the message provides information that is relevant to the issues and decisions, understandable, and able to be acted on.(2)

## KNOWING THE LANGUAGE

A second problem is using language that raises a red flag or pushes the public's "hot buttons":

- words and phrases like *radiation*, *uranium*, and *radioactive waste*;
- "victim language" that makes the public feel they cannot do anything about the risk; for example, *acceptable* or *conservative* (which the public usually interprets as "worst-case"), *insignificant risk*, or *minor impact*;
- scientific notation that is hard to translate and is likely to be translated incorrectly if the public is angry;

- jargon; and
- excessively short sentences, which the public views as offensive and condescending.(11)

The risk communicator must review any communication for this kind of language and determine whether it will push the hot buttons of the intended audience. The risk communicator can ensure that the lines of communication are open.

## KNOWING THE MESSAGE

Before it can frame an effective risk message for a public hearing on permitting, an agency must determine

- what the public perceives as risks and benefits of the proposed action;
- the attitude of the public toward the action;
- how much information (actual and perceived) members of the public already have about the action;
- how much information the audience needs about specific aspects of the action described in the permit; and
- how involved the audience is likely to be in the permitting process.(12)

The risk communicator can then review the agency's message to determine whether it

- emphasizes the information relevant to any practical actions that the public can take;
- puts the information in clear and plain language;
- respects the audience and its concerns; and
- informs the audience honestly.(7)

Guided by the risk communicator, the agency can move from a risk message to a risk policy; it can tailor the information it presents and the actions it takes to the audience's information needs. Policy can be designed to meet public concerns about risk, improve public understanding of risk, and clarify the means by which safety systems operate to prevent or reduce the risk. Such a risk policy addresses risks, benefits, safety, and particularly safety systems that protect health and the environment. Second, the policy defines the necessity of and alternatives to the proposed action. And third, the policy covers the technical and administrative issues that tend to be of secondary interest to the audience.(12)

## SUMMARY

Using risk communicators early in the permitting process can save an agency from embarrassment and public outrage; ensure that the public has enough information to develop an informed decision; and ensure an agency's proactive stance toward future risk communication interactions.

## REFERENCES

1. Department of Energy Order 5440.1D, "National Environmental Policy Act Compliance Program" (February 22, 1991).
2. S. G. Hadden, "Institutional Barriers to Risk Communication," *Risk Analysis* 9, 301-308 (September 1989).
3. R. L. Kotcher, "Turn a Permitting Challenge into an Opportunity," *Chemical Engineering*, 157 (March 1993).
4. S. Hornig, "Reading Risk: Public Response to Print Media Accounts of Technological Risk," *Public Understanding of Science* 2, 96 (April 1993).
5. P. Sandman, *Risk = Hazard + Outrage* (Rutgers University: Environmental Communication Research Program, 1989), p. 6.
6. B. J. Morreale, R. L. Gillins, and J. Steverson, *Case Studies: Public Involvement in Permitting US Department of Energy Hazardous and Radioactive Waste Incinerators* (Idaho Falls: Science Applications International Corporation, 1992), p. 32.
7. Committee on Risk Perception and Analysis, *Improving Risk Communication*, Washington, DC: National Academy Press, 1989.
8. New Mexico Environmental Improvement Division, *Transcripts of the Public Hearings on the Permit for the Controlled-Air Incinerator (July 18-19, 1989)*.
9. Center for Environmental and Hazardous Materials Study, "Strategies for Effective Risk Communication under SARA, Title III," *Hazardous Materials Dialogue* 2, 3-5 (1991).
10. C. M. Velicer, "Risk Communication: an Overview," *NAPEC Quarterly* 3(2):10 (1992).
11. R. Lundgren, "Risk Communication in a Government Laboratory," unpublished notes (June 1991).
12. P. M. Wiedemann, H. Schütz, and H. P. Peters, "Information Needs Concerning a Planned Waste Incineration Facility," *Risk Analysis* 2, 231-232; 236 (1991).