IMPROVING RISK COMMUNICATION

NATIONAL RESEARCH COUNCIL

IMPROVING RISK COMMUNICATION

Committee on Risk Perception and Communication

Commission on Behavioral and Social Sciences and Education
Commission on Physical Sciences, Mathematics, and Resources

National Research Council

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This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

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Preface

In 1983 the National Research Council completed a study on managing risk, leading to a report *Risk Assessment in the Federal Government: Managing the Process.* This report focused on improving risk assessment and risk decisions within the government. However, a major element in risk management in a democratic society is communication about risk. Growing concern that risk communication was becoming a major problem led to the chartering of a National Research Council committee to examine possibilities for improving social and personal choices on technological issues by improving risk communication.

The National Research Council initiated the study out of recognition that technological issues, in addition to being critically important, are complex, difficult, and laden with political controversy. Because the issues are scientific and technical in content, and cut across the concerns of many government agencies, scientific disciplines, and sectors of society, the National Research Council seemed to provide an ideal forum for the conduct of such a study. Moreover, in past work on policy in the areas of risk assessment and risk management (notably, the above-mentioned report on risk assessment), the National Research Council has helped develop concepts widely used in thinking about the policy issues.

It became evident in discussions with representatives of some key federal agencies that no single agency was willing to undertake

the needed study on its own or even to act as the primary source of support for a study at the National Research Council, even though representatives of several agencies recognized the importance of risk communication to their activities. As a result, the National Research Council initiated the study with its own funds, eventually receiving support for about half the cost from a consortium of federal and private sources.

To reflect the breadth of issues to be studied, the Committee on Risk Perception and Communication was made responsible to two major units of the National Research Council, the Commission on Physical Sciences, Mathematics, and Resources and the Commission on Behavioral and Social Sciences and Education. The committee represents a cross section of many relevant kinds of experience and expertise. It includes members with extensive experience analyzing, managing, and communicating about diverse risks, including those from radiation, chemicals, drugs, disease, and consumer products. Members have experience in diverse settings, including federal and local decision-making bodies, industry, the mass media, and environmental and citizens' groups. The committee also exhibits diverse disciplinary backgrounds, including physical and social sciences, law, journalism, public health, and communications research. The National Research Council has tried in constituting the committee to achieve a balance of perspectives on all these dimensions.

The committee's charge was to offer knowledge-based advice to governments, private and nonprofit sector organizations, and concerned citizens about the process of risk communication, about the content of risk messages, and about ways to improve risk communication in the service of public understanding and better-informed individual and social choice. This report does not provide a set of prescriptional guidelines, a "how-to" manual for risk communicators. The committee concluded that many participants in the process lack fundamental understanding of the important points that form the basis for successful risk communication. Therefore this report concentrates on developing those points. The committee believes that without such understanding detailed guidelines would not be useful. With such understanding, organizations should be able to develop their own guidelines to fit their own somewhat unique functions.

Committee members met six times during the period from May 1987 to June 1988. The committee sought knowledge from several

sources: experimental research on processes of perception, cognition, and understanding in individuals, including studies of the understanding of risk estimates; laboratory and field research on the conditions affecting the effectiveness of communications; and the collected experience of individuals and organizations that have engaged in organized communication about risk. The committee discussed a wide range of hazards, including but by no means restricted to those posed by toxic and carcinogenic substances and by radioactivity. It considered communication both about social choices, such as whether or how strictly to regulate hazardous substances or processes, and about personal choices, such as whether to change eating habits to avoid cancer or sexual habits to avoid AIDS. And the committee considered addressing advice to several audiences, including public agencies at all levels of government; legislatures; firms and industrial associations; environmental, consumer, and citizens' groups; journalists and mass media organizations; scientists and the organizations that employ them; and the interested public.

This report presents the insights of the committee. The report should significantly improve the understanding of what the problems are in risk communication, particularly the risk communication activities of government and industry. The committee's recommendations, if followed, would significantly improve the risk communication process.

JOHN F. AHEARNE, *Chairman*
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