IMPROVING DIALOGUE WITH COMMUNITIES

How Communities See Risk
Earning Trust and Credibility
When to Release Information
Interacting With The Community
Explaining Risk

Division of Science and Research
New Jersey Department of Environmental Protection
Improving Dialogue with Communities: A Short Guide For Government Risk Communication

SUBMITTED TO:
New Jersey Department of Environmental Protection
Division of Science & Research

(This report accompanies two related volumes: Improving Dialogue with Communities: A Risk Communication Manual for Government, and "Encouraging Effective Risk Communication In Government: Suggestions for Agency Management.")

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Dear Reader:

The New Jersey Department of Environmental Protection (NJDEP) Division of Science and Research (DSR) made a conscious decision to include risk communication as an integral part of its overall program to investigate environmental health risk assessment. To some, this was a bold initiative. Historically, communicating environmental health risks to the public has been tagged on as the "tail end" of agencies' efforts to identify, assess and remediate environmental health hazards. However, to DSR, the inclusion of risk communication as an integral component of an environmental health investigation represents a logical step forward in our efforts to improve the way that environmental health hazards are addressed by government. Including risk communication up-front in our efforts to identify and assess environmental health risks not only allows the affected public to have a genuine "stake" in the decisions made, but it also increases the likelihood that the decisions made will be supported both by the agency and by the community.

The research investigation that provided the basis for developing this manual was one of DSR's first efforts to investigate better ways for agencies to generate productive dialogues with communities. Since undertaking this project, our efforts in this area have grown. DSR has established a three-person Risk Communication Unit which is specifically charged with conducting research to identify effective risk communication and public participation strategies. In addition, the Risk Communication Unit is involved in testing and practicing these strategies in a variety of case studies. We intend to continue our efforts in this area by undertaking even more challenging research and case studies.

We appreciate the hard work and insight of the researchers at the Rutgers University Environmental Communication Research Program (ECRP), Billie Jo Hance, Caron Chess and Peter Sandman, who undertook this research investigation and prepared this manual. Special thanks are extended to Caron Chess who initiated this research investigation while she was a staff person at NJDEP. I would like to personally thank the members of the DSR Risk Communication Unit who worked closely with the researchers to develop this manual as well as the members of the interagency
advisory group that was established to consult on the direction of this research investigation. Lastly, I would like to thank DSR Assistant Director Hank Garie and DSR Manager of Policy and Administration, Marty Rosen, who provided the management support that is essential to the success of a project of this kind.

There are two companion pieces to this manual: a condensed version of the guidelines and a report discussing policy implications of incorporating risk communication into environmental risk management. If you would like additional copies of this manual or the two companion reports, please contact the DSR Risk Communication Unit at the address above or at (609) 984-6072. I hope that this manual provides you with inspiration and guidance for integrating the public into your environmental health decision-making.

Sincerely,

Robert K. Tucker, Ph.D.
Director
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INTRODUCTION

Agency representatives who deal with environmental health issues often feel frustrated with communities that don’t seem to listen and many times seem frightened of the “wrong” risks. In response, agency policy-makers and staff can choose to ignore communities (and in all likelihood face increased hostility). Or they can choose to interact more effectively with the public. This guide was written for those who understand that they must deal with communities but need some help in doing so.

Risk communication can help agencies to:

- understand public perception and more easily anticipate community response to agency actions;
- increase the effectiveness of risk management decisions by involving concerned publics;
- improve dialogue and reduce unwarranted tension between communities and agencies;
- explain risks more effectively; and
- alert communities to risk in constructive ways.

Communicating about environmental problems, however, cannot replace effective risk management. This guide will not provide techniques to make environmental problems disappear. Although it might seem possible to sell “bad” policy with “good” communication, we doubt that communities will buy the result.

DEVELOPMENT OF THIS GUIDE

“Improving Dialogue with Communities” was made possible by a contract from the Division of Science and Research (under the Spill Research Fund Program), New Jersey Department of Environmental Protection. Not only did DSR fund this project, but it also contributed substantive input and cooperated in setting up an advisory committee with staff of NJDEP and the New Jersey Department of Health.

Because the research literature lags significantly behind the wisdom of many practitioners, who have been “experimenting” for years, the suggestions in this guide are based largely on interviews with more than 50 academic experts, industry representatives, citizen leaders, and agency staff throughout the country. These suggestions have undergone a review process involving both an advisory committee and those we interviewed. The authors are grateful to all the people who agreed to be interviewed; they are listed in the longer version of this guide, Improving Dialogue with Communities: A Risk Communication Manual for Government.

Although based on extensive interviewing and a review of the research literature, this guide does not purport to be derived from quantitative analysis or entirely free of bias. We attempted to distill the wisdom, judgments, values, and intuitions of those whom we interviewed in ways that would be helpful to practitioners.

USING THIS GUIDE

This guide, which is an abbreviated version of a longer manual, is useful to those who wish a quick overview of how the public sees risk and how to improve inter-
actions with the public. As such, this guide may help orient new staff or those unfamiliar with strategies for dealing with communities. It may also serve as a reference for more seasoned practitioners.

Because most risk communication issues are so interrelated, we suggest you read the entire guide first. Pay particular attention to Chapter I, which lays the groundwork for much of the guide. When you are dealing with a particular communication problem, you may wish to consult the longer manual for more in-depth guidance. If the suggestions here strike you as a bit too “cut and dried,” also consider consulting the longer manual for more substantiation. Although the guide you are reading contains nearly all the “guidelines” in the longer version and sections entitled “Yes, But....” to deal with the most likely concerns, we have omitted a variety of features: (a) in-depth explanations of the rationale for each suggestion; (b) extensive quotations from those we interviewed concerning the suggestions; and (c) anecdotes and examples that illustrate the suggestions. (The complete manual is available from NJDEP’s Division of Science and Research, 401 East State Street, CN 409, Trenton, 08625.)

Finally, some of the suggestions may seem difficult to implement without support from agency policy-makers. This issue is discussed in a separate report, “Encouraging Risk Communication in Government: Suggestions for Agency Management,” also available from the Division of Science and Research.

A FINAL NOTE

Many of the suggestions in this guide may seem common sense. Unfortunately, these common-sense guidelines are routinely violated in agency practice, leading to the all-too-common battles between agencies and communities. We hope this guide will help common sense become more common than the battles.
I. HOW COMMUNITIES SEE RISK

Agency scientists and policy-makers are particularly confused and frustrated by public reactions to environmental risk. Tempers flare at a public meeting concerning a risk that the agency estimates might cause considerably fewer than one-in-a-million increased cancer deaths. Yet people will smoke during the break and drive home without seat belts—risks far greater than those discussed at the public meeting. When agency scientists point out this apparent contradiction (ignoring the fact that smoking and driving without a seat belt are risks that people choose, not an environmental risk that chooses them), people become even angrier. Conversely, risks that the agency sees as serious—naturally occurring radon gas in homes, for example—can be met with relative indifference by the public.

In order to reduce the level of hostility between agencies and the public, those who work within agencies need to understand better how communities perceive risk. Agencies sometimes respond to unexpected community reactions by dismissing them as irrational and concluding that the public is unable to understand the scientific aspects of risk. But when agencies make decisions that affect communities without involving those communities, they often elicit even angrier responses.

In order to break this cycle, agencies might begin by recognizing that communities are quite capable of understanding the scientific aspects of risk assessment. "The public" includes doctors, chemists, and teachers, as well as persons with less scientific background, who understand many of the technical intricacies of risk. In fact, while government personnel may change over the course of an environmental problem, residents of affected communities often remember studies, reports, and agency actions with an impressive amount of recall. Too often government assumes that because communities don't agree with an agency action, they don't understand it.

Because outbursts of citizen anger make agencies understandably uncomfortable, they also tend to forget that public outrage can be extremely positive. In fact, most environmental agencies and a significant number of the laws they enforce are the results of citizen campaigns, fueled by anger over environmental degradation. Funding for these laws, and consequently for agency staff, also depends in some cases on tough legislative battles fought by citizens. In addition, most agencies can admit to a number of environmental problems that wouldn't have been uncovered were it not for community action.

On the other hand, agencies particularly resent anger directed at them rather than at the environmental problem. Unfortunately, agencies tend to act (often unwittingly) in ways that provoke such anger.

FACTORS IN COMMUNITY OUTRAGE

Admittedly, public fears are often not well-correlated with agency assessments. While agencies focus on data gathered from hazard evaluations, monitoring, and risk assessments, the public takes into account many other factors besides scientific data. Collectively, it is helpful to think of these non-technical factors as the "outrage" dimension of risk, as opposed to the "hazard" dimension more familiar to agency professionals. Because the public pays more attention to outrage than the experts do, public risk assessments are likely to be very different from agency risk assessments. Ignoring the
variables that influence public perception—or worse, labeling them irrational and then discounting them—is guaranteed to raise the level of hostility between community members and agency representatives and will ultimately stand in the way of a successful resolution of the problem.

Merely hammering away at the scientific information will rarely help. Most agency representatives can recall instances when explaining the science made little difference—or made people even angrier. While it may be tempting to conclude from this that laypeople cannot understand risk assessment data, research in the field of risk perception, backed by much anecdotal evidence, strongly suggests that other factors are at work. Below are some of the key variables that underlie community perception of risk:

1. **Voluntary risks are accepted more readily than those that are imposed.** When people don't have choices, they become angry. Similarly, when communities feel coerced into accepting risks, they tend to feel furious about the coercion. As a result, they focus on government's process and pay far less attention to substantive risk issues; ultimately, they come to see the risk as more risky.

2. **Risks under individual control are accepted more readily than those under government control.** Most people feel safer with risks under their own control. For example, most of us feel safer driving than riding as a passenger. Our feeling has nothing to do with the data—our driving record versus the driving record of others. Similarly, people tend to feel more comfortable with environmental risks they can do something about themselves, rather than having to rely on government to protect them.

3. **Risks that seem fair are more acceptable than those that seem unfair.** A coerced risk will always seem unfair. In addition, a community that feels stuck with the risk and little of the benefit will find the risk unfair—and thus more serious. This factor explains, in part, why communities that depend on a particular industry for jobs sometimes see pollution from that industry as less risky.

4. **Risk information that comes from trustworthy sources is more readily believed than information from untrustworthy sources.** If a mechanic with whom you have quarreled in the past suggests he can't find a problem with a car that seems faulty to you, you will respond quite differently than if a friend delivers the same news. You are more apt to demand justification, rather than ask neutral questions, of the mechanic. Unfortunately, on-going battles with communities erode trust and make the agency message far less believable.

While the above factors are those most frequently stumbled over by government agencies, social scientists have identified additional variables that are also likely to be relevant to agencies dealing with the public about environmental health issues:

5. **Risks that seem ethically objectionable will seem more risky than those that don't.** To many people, pollution is morally wrong. As former EPA Assistant Administrator Milton Russell put it, speaking to some people about an acceptable level of pollution is like talking about an acceptable number of child molesters.

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1 Baruch Fischhoff, Paul Slovic, and Sarah Lichtenstein conducted much of the ground-breaking research that developed an understanding of risk perception variables.
f. *Natural risks seem more acceptable than artificial risks.* Natural risks provide no focus for anger; a risk caused by God is more acceptable than one caused by people. For example, consider the difference between the reactions to naturally occurring radon in homes and the reactions to high radon levels caused by uranium mine tailings or industrial sources.

g. *Exotic risks seem more risky than familiar risks.* A cabinet full of household cleansers, for example, seems much less risky than a high-tech chemical facility that makes the cleansers.

h. *Risks that are associated with other, memorable events are considered more risky.* Risks that bring to mind Bhopal or Love Canal, for example, are more likely to be feared than those that lack such associations.

The greater the number and seriousness of these factors, the greater the likelihood of public concern about the risk, regardless of the scientific data. As government agencies have seen many times, the risks that elicit public concern may not be the same ones that scientists have identified as most dangerous to health. When officials dismiss the public’s concern as misguided, moreover, the result is controversy, anger, distrust, and still greater concern. None of this is meant to suggest that people disregard scientific information and make decisions based only on the other variables—the outrage factors. It does suggest, however, that outrage also matters, and that by ignoring the outrage factors, agencies skew the balance and cause people to become still more outraged. This is the logic that leads to the guideline that follows.

Pay as much attention to outrage factors, and to the community’s concerns, as to scientific variables. At the same time, don’t underestimate the public’s ability to understand the science.

Agencies too often focus on the scientific data and ignore the outrage factors. They pay the price for doing so. Insistence on dealing with the “right” risks, the “right” way, may seem to many outside the agency as arrogant at best. If you fail to attend to the outrage factors and people’s concerns from the outset, you will often be forced to attend to them later, after you have angered the public—a far more difficult situation.

For example, communities which were not consulted during the decision-making process more readily fight agency decisions. Similarly, agency representatives have sometimes been shouted down when trying to present data because communities have felt their concerns were not acknowledged, much less addressed.

Nonetheless, there are examples of agency successes. The New York Department of Health asked office workers their concerns and gave them opportunities for input following a fire that contaminated their office building with dioxin. Trust was built in the process. NJDEP listened to and responded to community concerns in Clinton where extremely high radon levels were found, leading to a community response to NJDEP that seemed far more positive than in many other instances. In Virginia, a developer involved the community in the risk assessment process, building sufficient credibility that when the risk assessment showed negligible risks, the results were believed. In most of these instances of success, communities that were consulted about their concerns were also helped to understand the science, and their understanding seemed to increase.
In short, response to risk is more complex than a linear response to "the facts." This does not mean that people don't need to know—or want to know—the facts. It means rather that agencies need to take into account other factors as well.

YES, BUT....

* Our job is to protect public health. That means relying on data, not dealing with outrage factors.

There are basically three responses to this point:

First, if you merely run with scientific information and ignore the outrage factors, you will outrage the public. As a result, risks the agency deems minimal will become battlegrounds. Agencies will have less time for serious risks. In short, one way or another agencies will have to deal with these factors.

Second, in a democracy controversial issues are not merely determined by those with technical expertise. For example, the experts in the Pentagon have great technical expertise in weaponry, but few people, regardless of their political beliefs, feel that American defense policy should be determined solely by the Pentagon.

Third, data are not always complete, and management options are rarely perfect. The public's raising other concerns can lead to better technical solutions.

* If it were not for activist groups, there would be no outrage.

As anyone who has tried to organize a community can attest, it is hard to create outrage when none exists. Advocacy groups can focus or direct the community's anger, but rarely create it. In fact, most environmental activists count on government to create the outrage. In many cases where environmental officials blame public-interest groups for blocking solutions, the blame needs to be shared by the officials themselves, who unwittingly goaded the outrage by neglecting from the outset to listen to community concerns. Instead of blaming citizens for not understanding risk, in short, agencies might spend more time trying to understand citizen concerns.
II. EARNING TRUST AND CREDIBILITY

Agencies achieve trust, in large part, by being consistently competent, caring, and honest. If you communicate with honesty and fairness, your audience will often respond in kind. On the other hand, slick packaging with a veneer of honesty is easy to see through and more likely to undermine trust than to build it. Jim Callaghan, who spent many years advising industry as senior vice president of the public relations firm of Hill and Knowlton, puts it this way: The only way to achieve credibility is to "be credible."

Of course, acting trustworthy is no guarantee that people will ultimately trust you. But if you fail to "be credible," you will virtually guarantee community opposition, in the form of both disagreement with the science and resentment of the agency.

Bruce Bentley, citizen participation specialist at the New York State Department of Environmental Conservation, points out that a key to building trust can be involving people in decision-making. A controversy over what to do with PCBs in the Hudson River was fueled by the lack of trust resulting from the agency's failure to ask people about disposal of the PCBs. Bentley says, "We failed to involve people in determining what the criteria for a site should be and then went ahead and selected the site.... By that time, people were not willing to buy into the criteria and certainly, therefore, not willing to buy into the site."

Conversely, trust can be built by dealing with the public forthrightly. When a fire contaminated a Binghamton office building with dioxin, the New York State Department of Health decided to make all working sessions of the technical risk assessment committee open to the public and the media. The committee, which consisted of people from the city, union members, and technical people unaffiliated with the health department, struggled with difficult questions openly. Although the meetings were not public information meetings, there was time allotted for questions at the end of each session. As Faith Schottenfeld, community relations specialist at the department, pointed out, "It was really helpful for people to see the kind of interchange that went on between these experts when it came to making difficult decisions."

The guidelines in this chapter provide a framework for the more specific recommendations in other chapters.

1. **Be aware of the factors which inspire trust.** Trust in an agency depends, in large part, on whether the agency: (a) seems competent; (b) seems caring; (c) encourages meaningful public involvement; (d) seems honorable and honest; and (e) takes into account the "outrage factors" which influence perception of risk. (See Chapter 1.) In essence, instead of pushing the public to trust them, agencies should strive toward acting consistently trustworthy.

2. **Pay attention to process.** In many cases citizen opposition focuses not only on agency action (or inaction), but also on the manner in which the agency proceeded toward that action. Try, whenever possible, to involve affected communities in agency action.

3. **Explain agency procedures.** Communities need to understand government's internal workings, and agencies need to show that they operate in some logical manner. Indicate how public input fits into the process.
“People read the agencies and their actions more carefully than they read the details of the studies. That’s what we have generalized skill at.” Baruch Fischhoff, leading researcher on risk perception, Carnegie-Mellon University.

4. **Be forthcoming with information and involve the public from the outset.** If you fail to disclose information or involve people early, the public is apt to mistrust the agency. The agency will then be put on the defensive. (See Chapter III.)

5. **Focus on building trust as well as generating good scientific data.** As explained in Chapter I, people’s risk judgments are seldom based solely on scientific information, but rather on a combination of the data, their perception of the risk due to other variables, and their feelings about the agency.

6. **Follow up.** When your promises fall through the cracks, you might not notice, but those to whom you made the promises usually do. Make every effort to get back to people and check to see if your promises are becoming reality. In particular, consider making sure that notes are taken at public meetings regarding commitments. Then write follow-up memos and take follow-up actions to make the promises happen.

7. **Make only promises you are sure you can keep.** It is often tempting to make unrealistic promises when pressed by the public, or to promise something you genuinely expect to deliver, only to find out later you can’t. Consider explaining goals and the process leading to them rather than promising firm dates. Providing regular progress reports, even when progress is slow, can be very helpful. If you find you can’t follow through on a promise you have made, explain fully as soon as possible rather than hoping people will forget. They probably won’t.

8. **Provide information that meets people’s needs.** Anticipate what people want to know—and what they will need to know even if they don’t ask for it. Take some time to develop a list of problems, issues, and needs people might have, and prepare responses that address them. Keep in mind that different organizations and types of people will have different needs—a pregnant woman may have different concerns than the Chamber of Commerce. (See Chapter V.)

9. **Get the facts straight.** Although agency representatives work hard to provide accurate information, sometimes facts get jumbled or key information is left out so people later feel misled. Try to spot areas in advance where confusion might occur and make an extra effort to be clear. If the effort fails, correct the misimpression as quickly as possible.

10. **Try to coordinate with other agencies.** When communities get mixed messages, they are apt to feel confused and distrustful. To the extent possible, coordinate agency messages. When agencies have honest differences, acknowledge them.

11. **Make sure to coordinate within your agency.** Lack of coordination within the agency creates confusion and an impression of agency ineptness. Responses to various issues should be consistent from one division to another, or the differences should be acknowledged and explained.
12. **Don't give mixed messages.** Risk issues are sufficiently confusing that any inconsistencies—or seeming inconsistencies—can make matters worse. For example, if you tell a community that risks are minimal and then take samples wearing protective gear, to reduce confusion, explain the seeming contradiction before you take the action.

13. **Listen to what various groups are telling you.** Try to foster mutual respect and consideration with all stakeholders in an issue. Avoid offending any group, including activists. Agencies tend to overestimate the power of activist groups. These groups can't create outrage; they can only nurture existing outrage.

14. **Enlist the help of organizations that have credibility with communities.** Groups that have local credibility (not merely organizations which agencies believe should have credibility) can be involved in helping explain risks. However, this approach can't replace forthrightness or more extensive community involvement.

15. **Avoid "closed" meetings.** While casual meetings—the routine turning of government wheels—are rarely suspect, private meetings—those closed to the public—are more likely to cause distrust. The meetings agencies feel they can't afford for the public to know about are the very ones the public will probably eventually hear about. You may avoid many problems by keeping meetings open.

16. **If you are dealing with a situation in which trust is low, consider taking the following steps:**

a. Review the outrage factors in Chapter I and the guidelines in this chapter. Consider which ones may have been violated.

b. Acknowledge the lack of trust: "I know you may feel I can't be trusted because the person who handled this case before me delayed in giving you the information...."

c. Indicate what steps you plan to take to prevent the trust-eroding actions from happening again: "In order to make sure you get information as quickly as possible, I am going to send you bi-weekly updates about the status of the situation. These updates will include all new data."

d. Ask those who distrust you what they feel would make them more likely to trust you. To the extent possible, implement their suggestions.

e. Respond on a personal level, when appropriate (see Chapter IV).

f. Try to reduce reasons for distrust by sharing information and involving the public in developing solutions (see Chapter IV).

g. Be patient. Don't expect all the people to trust you all the time, even if you feel you are totally trustworthy.

Because it may take a lot of effort to recoup trust, expect to go out of your way for people. If you are the person who aroused the distrust, acknowledge your mistakes.

"Because communities don't trust us they forget what is logical. The reason they don't trust us is that we didn't involve them in the decisions." Bruce Bentley, Citizen Participation Specialist, New York Department of Environmental Conservation.
YES, BUT....

- It seems that no matter what we do, some people will never trust us.

True. However, the fact that you can't earn the trust of all the people all the time does not imply that you should forgo the effort. Check to make sure that—despite a basic commitment to trustworthiness—you have not violated some of the basic principles in this guide. The agency may also be confusing trust with agreement; people can trust each other's integrity and still disagree on fundamental matters.

TEN WAYS TO LOSE TRUST AND CREDIBILITY

Take a good look at most risk communication "horror stories" and you'll probably find a major breakdown in trust between government representatives and the public they are supposed to serve. The next time someone comes to you with a sob story about communicating with the public, you might want to hand them this tongue-in-cheek list. Or better yet, hand it out before the damage is done.

1. Don't involve people in decisions that directly affect their lives. Then act defensive when your policies are challenged.

2. Hold onto information until people are screaming for it. While they are waiting, don't tell them when they will get it. Just say, "These things take time," or "It's going through quality assurance."

3. Ignore peoples' feelings. Better yet, say they are irrelevant and irrational. It helps to add that you can't understand why they are overreacting to such a small risk.

4. Don't follow up. Place returning phone calls from citizens at the bottom of your "to do" list. Delay sending out the information you promised people at the public meeting.

5. If you make a mistake, deny it. Never admit you were wrong.

6. If you don't know the answers, fake it. Never say "I don't know."

7. Don't speak plain English. When explaining technical information, use professional jargon. Or simplify so completely that you leave out important information. Better yet, throw up your hands and say, "You people could not possibly understand this stuff."

8. Present yourself like a bureaucrat. Wear a three-piece suit to a town meeting at the local grange, and sit up on stage with seven of your colleagues who are dressed similarly.

9. Delay talking to other agencies involved—or other people involved within your agency—so the message the public gets can be as confusing as possible.

10. If one of your scientists has trouble relating to people, hates to do it, and has begged not to, send him or her out anyway. It's good experience.
III. DECIDING WHEN TO RELEASE INFORMATION

Perhaps no other aspect of agency communication of environmental risk is so closely related to the agency's credibility as its decision about when to share information with the public. Agencies fear that releasing information early may lead to undue alarm or lead to disclosure of incorrect or misinterpreted data. Agencies also hold onto information while developing risk management options rather than going to the public empty-handed.

But what agencies view as responsible caution, communities are apt to see as a "cover-up" or as bureaucratic intransigence. When health risks are involved, regardless of the level of risk, communities find it difficult to accept any justification for withholding information. Therefore, community anger over agency process may block possibilities for constructive dialogue over the risk itself. Moreover, waiting to release information until the agency has made its management choices reduces the chances for community participation in the risk management process, and thus lessens the chances of a solution acceptable to the agency and the community.

For example, Susan Santos, formerly with the Superfund program in EPA Region I and currently manager of the Risk Assessment Group at E.G. Jordan Company, was once in a position where the release of test results was delayed for three months while the agency analyzed an additional round of samples, interpreted the data, and decided whether EPA or state government should take the lead. By the time the agency let the community know the level of contaminants in their wells, residents were so upset with the agency that communication was extremely difficult, if not impossible.

On the other hand, Bruce Bentley, citizen participation specialist with the New York Department of Environmental Conservation, tells of a county health department going door-to-door sampling wells for TCE and explaining the potential risk as soon as there was any reason for suspicion of contamination of private wells. Results of the tests were sent by mail, informing residents of times for "availability sessions" with state and county representatives to answer questions. People were alerted to each step of the process before it happened, and as a result discussion with the community centered on the risk itself, not on the way people were treated.

The following suggestions provide guidance about deciding when to communicate and steps to take if you decide to delay release.

1. If people are at risk, do not wait to communicate—and to act on—risk information. If a hazard is putting people at immediate risk, the agency should follow its mandate to protect public health without hesitation.

2. If the agency is investigating a potential risk that people aren't aware of, the agency should seriously consider making known what it is doing and why. When an agency announces findings from an investigation people have not been aware
of, the agency is forced to defend its delay in announcing the investigation, and to justify the possibility that people were exposed to a risk longer than necessary. The public, in its anger over not being told, is more likely to overestimate the risk and far less likely to trust any recommendations that the agency makes concerning the risk itself.

3. If it seems likely that the media or someone else may release the information before you are ready, release it yourself. When information is leaked, agencies lose the ability to shape the issues and are instead engaged in playing “catch up” at the expense of their credibility and the accurate portrayal of information.

4. If it is likely that the media will “fill in” with information concerning an on-going story while they are waiting for you to speak, speak first. When you wait to communicate about an issue that is already news, the press will shape the issue without you. You may spend more time defending your views or your credibility.

5. If you really don’t trust your data, talk to the public about your procedures but don’t release the data. Obviously, hold onto data for which your preliminary review shows serious quality control or methodological flaws. However, be up-front and tell citizens what has happened and when they will be able to get some results.

6. If the preliminary results do show a problem—and you are fairly confident of the results—release them and explain the tentativeness of the data. If you are fairly confident that the data show a problem, then holding onto data for any length of time for any reason is likely to be considered unconscionable. You will leave the agency vulnerable to charges of cover-up later on and risk creating a great deal of anger.

7. Before deciding to wait to communicate—especially if the news is bad—consider the effect on the credibility of the agency representative dealing with the public. Because credibility can be a scarce commodity, difficult to replace, you might make it a major variable in your decision about timing the release of information. In particular, take into account the effect of your decision on those staff who are dealing with the community.

8. Release information while the risk management options are tentative, rather than waiting to develop solutions. If they are not consulted during the decision-making process, people are likely to resent decisions that affect their lives. Consider, instead, giving people risk management options, not decisions, when you release the data. Then work with them to develop risk management decisions. (See Chapter IV.)

9. If you feel the information will not make sense unless released with other relevant information—and you don’t have all the information yet—wait to release

"When you’re designing an investigation or a regulatory strategy, the communication should begin just as soon as you sit down to design it if you are going to be successful and build credibility." Thomas Burke, Deputy Commissioner, New Jersey Department of Health.
it all at once. But explain to the public why you are waiting, and get the information as soon as you can. If piecemeal release of information would seriously disrupt the agency’s program or the public’s understanding, then consider delay. But take a hard look at whether explanations really need to wait or, in fact, need to be handled better. If you wait, be sure to be clear about your reasons, and say when the information will be available.

10. If you wait until the data are quality-assured to release them, use the time—and the preliminary data—to develop management options and advise the community on interim actions, if necessary. While the agency may choose not to release data until it is fully confident, it can still use those preliminary results to guide discussions about the risk and possible mitigation efforts.

11. If you are waiting to communicate data or information for some other reason, don’t say you are waiting for data to undergo quality assurance. Use this rationale only when it is the real reason. Agencies lose credibility when they tell half-truths or remain silent and let others fill in the information gaps—often incorrectly. If you need to delay release of information, you will generally do better by being forthright and not using quality control as an excuse.

12. If you have decided that you can’t communicate right away about the risk, talk to the public about the process you are going through to get the information, etc. Don’t merely remain silent. In the absence of information from the agency, people may fill in the blanks of missing information themselves, or they may become more fearful thinking that the truth is too awful to be told.

YES, BUT....

• Releasing information early, while data are still preliminary and we don’t have a clear game plan, leaves the agency vulnerable to criticism.

This guide is not suggesting releasing information without forethought and planning. We are suggesting that you consider releasing the data if you trust them, and if you have developed some management options or a process leading to development of options. Although the agency is obviously vulnerable to criticism, you may be more vulnerable if you hold onto information. You will be taking a gamble with your credibility.
By releasing information early, we may cause undue alarm.

You may cause greater alarm, compounded by resentment and hostility, if you hold onto information. When people are not given information, they may think that the truth is too awful to be told, or they may consider the agency uncaring. Instead, consider releasing information in context and with caveats, if necessary.

We run the risk of legal liability if we release information early.

The number of cases in which liability is a primary concern—rather than a convenient rationale—is questionable. "Can we do this?" will probably elicit a different response from a lawyer than "We want to do this, so can you help us deal with any legal concerns?" If, in fact, there might be a liability problem, vulnerability to legal action should be weighed against the ten reasons given below for considering early release of information.

TEN REASONS TO RELEASE INFORMATION EARLY

Decisions about when to release information depend, in large part, on the situation. However, agencies should seriously examine the implications of holding onto information. The next time you contemplate whether to make information public, consider some of the reasons to release information early:

1. People are entitled to information that affects their lives.

2. Early release of information sets the pace for resolution of the problem.

3. If you wait, the story may leak anyway. When it does, you are apt to lose trust and credibility.

4. You can better control the accuracy of information if you are the first to present it.

5. There is more likely to be time for meaningful public involvement in decision-making if the information is released promptly.

6. Prompt release of information about one situation may prevent similar situations elsewhere.

7. Less work is required to release information early than to respond to inquiries, attacks, etc. that might result from delayed release.

8. You are more apt to earn public trust if you release information promptly.

9. If you wait, people may feel angry and resentful about not learning of the information earlier.

10. People are more likely to overestimate the risk if you hold onto information.
IV. INTERACTING WITH THE COMMUNITY

Agency staff and members of the public are apt to feel equally frustrated by stormy interactions. Both get weary of arguments that revolve around “who said what to whom when,” rather than issues that contribute substantively to solving environmental health problems.

In response, some agency representatives feel that the best interaction with the public is no interaction. They fervently hope that risk communication techniques will make the public go away and leave the agency to make decisions in peace. However, there is a strong consensus among experienced practitioners that the solution to the problems described above is more, rather than less interaction.

Two cases illustrate this point and contrast markedly with the battles that sometimes characterize agency interactions with the public:

In Tacoma, Washington EPA was confronted with a difficult policy question: How should the agency regulate an arsenic-emitting smelter that provided a substantial economic base for the community? The problem involved (as environmental health problems often do) issues of equity, economics, and community values in addition to technical concerns. EPA decided to open the process to the public, enabling the community to grapple with some of the uncertainties and judgment calls that often face agencies. While making clear that the final decision rested with the agency, EPA demonstrated by word and by action genuine interest in the community's concerns and values. For example, EPA staff who lived in the area by the smelter critiqued presentations so that the agency better addressed community needs. To demonstrate EPA's commitment to soliciting input, informational presentations were followed by question-and-answer sessions in small groups, facilitated by people from outside the agency. Because the smelter closed, a decision was never required. But the experiment in Tacoma is an example of an agency respecting community values and attempting to involve people outside the agency meaningfully in the decision-making process.

Lois Gibbs of the Citizen's Clearinghouse for Hazardous Wastes (and previously a key citizen leader at Love Canal) relates a story in which a private developer was confronted with high levels of arsenic in groundwater. In the interests of selling homes and avoiding litigation, he provided potential homeowners with funds to hire a technical consultant agreeable to both sides. The consultant or the community members themselves were involved in every step of the risk assessment process, including developing sampling plans and determining the assumptions on which the assessment was based. When the risk assessment showed negligible risk, people trusted the results sufficiently to purchase homes.

When interacting with the public, consider the following guidelines.

1. **Recognize the importance of community input.** Citizen involvement is important because: (a) People are entitled to make decisions about issues that directly affect their lives; (b) Input from the community can help the agency make better decisions; (c) Involvement in the process leads to greater understanding of—and more appropriate reaction to—a particular risk; (d) Those who are affected by a problem bring
different variables to the problem-solving equation; and (e) Cooperation increases credibility. Finally, without community input, battles that erode public confidence and agency resources are more likely.

2. **To the extent possible, involve the community in the decision-making process.** Agencies typically spend considerable effort developing a risk management strategy, announce it to the community, and then defend the strategy against the onslaught of opinion—often a reaction to the agency’s failure to involve those affected. Instead, particularly with issues which are apt to provoke controversy, consider involving the public in risk management decisions. Some practitioners and academic experts also suggest public involvement in the risk assessment process, as illustrated by the story at the beginning of this chapter.

As illustrated by the “Citizen Participation Ladder” on the following page, citizen involvement takes a variety of forms from fairly minimal participation (“Government Power”) to citizens taking the lead (“Citizen Power”). Consider placing agency interactions with the community at a higher rung on the ladder. Propose a higher level of involvement from the outset rather than being pushed by the community to the next rung. Increasing the level of public participation is particularly important when: (a) controversy exists; (b) feelings run high; (c) the agency genuinely needs input; or (d) citizens request it.

- **Involve the community at the earliest stage possible.** Meaningful input is easier before agency staff feel committed to a course of action. Communities are also more likely to be responsive to agency ideas when they are involved early.

- **Clarify the public’s role from the outset.** In other words, clearly define your position on the Citizen Participation Ladder. For example, don’t promise the public input and then essentially ask for ratification of agency decisions.

- **Acknowledge situations where the agency can give the community only limited power in the decision-making.** Present legal or other constraints (resources, time, staffing, regulatory limitations, etc.) from the outset, but avoid using them as false excuses. Consider community suggestions for ways to deal with these constraints.

- **Find out from communities what type of involvement they prefer.** Different communities will want different types of interaction and should be consulted about these preferences.

3. **Identify and respond to the needs of different audiences.** Although the term “the public” is used throughout this guide, in fact there are many publics, each affected differently by an issue. Depending on the issue, the agency may need to communicate with industry representatives, environmental groups, civic organizations, sporting or recreational associations, local government agencies, local elected officials, local businesses, property owners, realtors, etc. These interests should be identified and spoken with about their concerns.
LADDER of CITIZEN PARTICIPATION

**Citizen Power**
Citizens act without communicating with government
- volunteer fire department;
- citizen investigation;
- citizen development and implementation of programs

**Power-Sharing**
Citizens and government solve problems together
- funding of citizen groups to hire technical consultants and/or implement projects;
- citizen oversight and monitoring;
- meetings called jointly by government and citizen groups

**Consult 2**
Government asks citizens for meaningful input and intends to listen
- citizen advisory committees;
- informal meetings;
- on-going dialogue;
- some public hearings

**Consult 1**
Government asks citizens for limited input and would prefer not to listen
- most public hearings;
- most requests for responses to formal proposals;
- pro-forma meetings and advisory committees

**Inform**
Government talks; citizens listen
- some public meetings;
- press releases and other informational strategies: newsletters, brochures, etc.

**Government Power**
Government acts without communicating with citizens
- some investigations;
- legal and enforcement actions
Try to identify the various interests in a situation at the beginning and meet with them informally. This involves a networking process: (a) Make a list of the aspects of the issue and types of organizations that might be interested; (b) Contact groups with which you are familiar; and (c) Ask those groups for the names of others. Then contact the affected groups. Keep working to expand the range of constituencies to ensure that you have consulted those affected by the issue.

Recognize the strengths and weaknesses of citizen advisory groups. Define the role of the group from the outset. Such groups work most effectively if they represent the affected public and involve people in meaningful ways, rather than distance the agency from concerned citizens. Before developing a citizen advisory group, consult the full-length version of this manual (see Introduction).

Deal with everybody equally and fairly. For example, don't give one group information that you refuse another. Be especially careful not to favor industry or local government over environmental organizations.

4. When appropriate, develop alternatives to public hearings. In particular, hold smaller, more informal meetings. Large public meetings often lead to posturing on both sides rather than problem-solving or meaningful dialogue. Instead of waiting until a formal meeting is necessary, consider other options for exchanging information, such as drop-in hours at the local library for questions, newsletters, telephone hot lines, information booths, advisory committees, etc. Most importantly, attempt to hold informal meetings with interested parties and maintain contact on a routine basis. The more controversial the issue, the wiser it is to meet with the affected groups frequently, separately, and informally.

If you cannot avoid a large public meeting, the logistics should be developed so that both the agency and the community are treated fairly. For example, structure a meeting so that people do not feel upset by having to wait a long time to speak.

Consider breaking larger groups into smaller ones. This approach can be helpful for question-and-answer sessions or discussion groups.

Be clear about the goals for the meeting. If you cannot adequately fulfill a citizen request for a meeting, propose alternatives. Prepare so that you can attain the goals of the meeting and meet citizen concerns. If you do not know or cannot address those concerns, meet informally to discuss community needs and to develop a meaningful process to address those needs.

In certain situations one-to-one communication may be best. When sampling, it is critical to prepare technicians to respond to people's questions, or provide them with literature to hand out and a phone number for residents to call. Also, leave time after meetings to respond to personal concerns.
5. **Recognize that people's values and feelings are a legitimate aspect of environmental health issues, and that such concerns may convey valuable information.** Feelings are not only an inevitable part of environmental health issues, they often contain valuable information about: (a) what is important to people; (b) technical aspects of the problem, such as the frequency and duration of an odor; and (c) creative approaches to solving the problem.

- **Provide a forum for people to air their feelings.** People will become more frustrated when an agency attempts to squelch their saying how they feel. Provide mechanisms for expression of feeling, such as telephone hotlines, small meetings, and one-to-one communication.

- **Listen to people when they express their values and feelings.** When people do not feel they are being heard, often they will express their concerns more loudly.

- **Acknowledge people's feelings about an issue.** Try restating what people have said so that they know you have heard them: "I can tell that you are angry about this proposal because...."

- **When people are speaking emotionally, respond to their emotions. Do not merely follow with data.** Do not use scientific data in an attempt to refute feelings or concerns. Instead, acknowledge the feelings and respond to the concerns in addition to providing information.

- **Show respect by developing a system to respond promptly to calls from community residents.** Put calls from community residents toward the top of the priority list and develop mechanisms for your program to handle them efficiently.

- **Recognize and be honest about the values incorporated in agency decisions.** Communities sense when there is more going on than science, and the agency loses credibility unless it acknowledges those issues.

- **Be aware of your own values and feelings about an issue and the effect they have on you.** Agency representatives also become invested in positions or feel strongly about issues. Recognize when your own feelings cause you to resist modifications of a project or to react strongly to a community group.

6. **Prepare responses to personal questions about risk.** Agencies develop policies to protect public health generally, but individuals are usually most interested in how a risk or policy specifically affects them and their families. Anticipate and prepare honest responses to such individual-level questions, including those asking you what you would do in a similar situation: "Would you drink the water?" Personal responses are particularly important when the situation is not clear-cut and people need some context for their own decisions.

- **When you speak at a public meeting, tell people who you are, what your background is, and why you are there.** Give people a sense of why you are qualified to discuss a topic and what you can and can't do for them.

> "You realize that people need a forum to get those emotions and questions out and that if you can do that outside a large meeting which is impersonal ... it can be much more effective." Susan Santos, Manager, Risk Assessment Group, E.C. Jordan Company, formerly with EPA Region I Superfund program.
• **Let people see you are human.** People will treat you as a person if you act like one. If you act like a bureaucrat, you will be treated accordingly.

• **When speaking personally, put your views into the context of your own values, and urge your audience to do the same.** If you tell people how you might handle a situation, put your response into context (such as whether you smoke, exercise, etc.) so they can do the same.

• **If your personal position does not agree with agency policy, do not mislead the community.** Instead, try modifying the agency position or having the task reassigned. Or find a way of acknowledging the lack of consensus within the agency. Misrepresenting the situation or dodging questions about your position will obviously reduce your and the agency's credibility.

• **If speaking personally makes you uncomfortable, work on it until it gets easier.** If you just don't think it's appropriate, don't do it.

7. **Use community relations staff to amplify community concerns within the agency.** Instead of acting as buffers between the public and agency technical staff, community relations people should make community concerns heard before the public feels a need to shout.

8. **Choose carefully those who represent the agency and provide appropriate support.** Because agency representatives can give an impression of the entire agency, they should be carefully chosen and given the time and training to do the job adequately. People who cannot cope with communication tasks should not be required to do so.

• **Technically qualified people should have a major role in communicating with the public about risk.** Communities usually want to talk to people who are directly involved in problem-solving.

• **Make sure that representatives are appropriate to the situation.** Send people who have the expertise and authority to respond to people's concerns.

• **The agency representative should be consistent throughout the life of the project or situation, if possible.** Trust takes time to build.

• **In some situations a non-agency communicator may be more useful than someone from inside the agency.** Consider using academic experts, local community people, and representatives of civic organizations (such as the League of Women Voters) to present information. This needs to be done with care so that such groups are not perceived as "agency fronts."

SSS
YES, BUT....

• **As an agency, we are supposed to protect health—not deal with feelings.**

As explained in Chapter I, protecting health will be quite difficult if you do not take into account community concerns. Ignoring such concerns will not only lead to stress on the part of the community, but ultimately will also undermine the agency’s ability to implement risk management decisions.

• **Communities worry about the “wrong” risks. Involving them in decision-making will lead to poor policy.**

Public response to risk is not merely a function of the numbers but also involves other considerations, explained in Chapter I, such as equity. In many cases agency risk management decisions are also based on values, not merely technical factors. Agencies’ values are no more legitimate than communities’. Furthermore, in many cases if you do not involve the public, the subsequent outrage may lead to even less logical policy decisions. Just as important, communities often provide valuable insight into problems and creative approaches to solutions.

• **We don’t have the time or resources to do the type of outreach recommended in this guide.**

Some changes suggested in this guide do not take more time and money—merely a shift in attitude. For example, it takes no more time to listen to people’s feelings than to argue with them. Although involving the public in decision-making can be labor-intensive, in some cases it is far more efficient than the alternative. Finally, the quality of projects can increase as a result of a diversity of input, thus reducing the likelihood of having to back up and rectify oversights.
• Be sensitive to related issues that may be more important to many people than the risk itself. Expect different people to see the risk differently. Sometimes the risk that practitioners are trying to explain is secondary to people's other concerns, such as property values. Regardless of whether the agency sees these concerns as important or within the scope of the agency's authority, they can critically influence a community's views. Try to identify and address these concerns. If you cannot address them, at least consider acknowledging them and explaining why your agency cannot deal with them.

2. Find out what risk information people want and in what form. There may be differences between the risk information scientists and regulators think communities should have and the information communities actually want. Before presenting risk information, understand community concerns by meeting with the community or developing a checklist of likely concerns based on agency experience with similar situations.

3. Anticipate and respond to people's concerns about their personal risk. Consider responding personally. Although agencies are concerned largely with risks to populations, people are most concerned about their own risk and that of their families. Prepare to respond to personal concerns ("Can I drink the water?") and incorporate answers in presentations and informational materials. Some practitioners suggest speaking personally and giving an individual perspective on the risk, while making clear the distinctions between agency policy and your personal opinions: "The levels of contamination in your water are low enough that the agency feels you can continue to drink it without worry. Personally, I would drink the water. My sister, however, tries to eat mainly natural foods and I suspect she would be concerned enough to consider drinking bottled water—despite the fact that bottled water is not regulated."

4. Take care to give adequate background when explaining risk numbers. Most people do not have the same frames of reference as scientists and need some background to put the risk in perspective.

• If you are explaining numbers derived from a risk assessment, explain the risk assessment process before you present the numbers. Some practitioners have held risk assessment workshops to explain the process even before the risk assessment was completed.

• Explain and, if possible, show in clear and simple graphics the routes of exposure. Frequently, the issue is not whether a dangerous substance exists in relatively high quantities but whether the routes of exposure put people at risk.

• Put data in perspective. Avoid dichotomizing risk. Agencies should avoid fueling communities' tendency to see risks as "safe" or "dangerous." Instead of presenting standards as a cut-off figure, attempt to explain risk numbers in ranges: 1-10 ppb as "low risk," for example. Also show how data relate to similar data. To provide con-

"Health matters raise very strong fears, concerns, and emotions among people. To treat it as a technical analysis and not to recognize the extent to which people feel strongly, not to acknowledge their concerns and fears and attempt to deal with them is a fatal mistake...." Vincent Covello, Director of Risk Assessment, National Science Foundation
text for one community’s data, for example, you might compare it to the regulatory action level and to the levels found in other communities in the state.

- Express risks in several different ways, making sure not to evade the risk question. People whose minds are not already made up are very influenced by how data are presented. Because no presentation of risk is entirely objective, it may help to present risk in a variety of ways, expressing it both in terms that might make the risk seem larger and in other terms that might make the risk seem smaller. This approach also reduces the tendency of agencies to minimize the risk, which is likely to be viewed with skepticism by those outside the agency.

- Explain the agency’s protective approach to risk assessment and standard-setting. People are often not aware of the extent to which buffers are built into risk assessments to ensure that they err on the side of caution. Because the word “conservative” has other connotations which may be misleading, substitute the word “protective” or “cautious.”

5. Take care when comparing environmental risks to other risks:

- Avoid comparisons that ignore the “outrage factors.” The least useful and most inflammatory comparisons agencies can use are those that ignore the variables discussed in Chapter I. In particular, beware of comparisons of everyday activities people do of their own accord—such as smoking—to imposed risks. These comparisons backfire most often when used to reassure people; they can be used a bit more freely when trying to alert people to risk.

- Avoid comparisons that seem to minimize or trivialize the risk. For example, it’s generally not useful to compare parts per billion to sheets of toilet rolls spanning continents or drops in swimming pools. Also, these comparisons assume (inaccurately) that low concentration necessarily means low risk.

- Develop comparisons of similar situations or substances.
  a. Use comparisons of the same risk at two different times: “in 1979 before regulation versus this year after regulation.”
  b. Compare with a standard: “This level is 25% below the federal standard and somewhat below the state guideline.” (Use this comparison carefully if the standard is controversial.)
  c. Compare with different estimates of the same risk: your estimate of the risk side-by-side with the industry assessment and the environmentalists’. Then explain the differences.
  d. As stated previously, explain how the data relate to other data: the levels in one community compared to national averages, to other levels in the state, etc.

6. Acknowledge uncertainty. Obscuring uncertainties makes you extremely vulnerable to charges of inaccuracy at best, or “cover up” at worst. You are better off leading with an explanation of the uncertainty than waiting to be confronted with it.
• **Give people background on the inevitable uncertainty of science.** Help people understand uncertainty so that they do not assume something is amiss if the agency says it doesn’t know.

• **Be specific about what you are doing to find answers.** In order to avoid people thinking that you are hiding something or acting incompetently, explain the process you are using to find the information. Or explain why it is not possible to find.

• **Consider involving the public in resolving the uncertainty.** It is easier for people to accept uncertainty if they can play a role in its resolution. This approach not only is likely to be perceived as fairer but may also lead to better solutions.

• **Give people as much individual control as possible over an uncertain situation.** Give people something they can do other than wait. At a minimum, give them a telephone number to call for information or to report problems.

• **Stress the caution built into setting standards and developing risk assessments.** Even though people don’t necessarily like the idea that the agency isn’t sure, they are relieved to know that you are taking a protective approach in response to the uncertainty.

• **If people are demanding certainty, pay attention to values and other concerns, not just the science.** When people demand certainty, the underlying issue is often a question of values and process, not merely science. The demand for absolute certainty can result from frustration because agency representatives failed to involve people, did not listen to their concerns, etc. When confronted by a demand for certainty, back up and listen to the concerns behind the demand. Consider working with the community to address those concerns.

• **Acknowledge the policy disagreements that arise from uncertainty.** Attempt to explain and clarify the areas of disagreement. When the disagreements are about judgment calls or management options, rather than science, it is usually not helpful merely to argue the science. In addition, agency credibility is likely to suffer from highlighting limitations of “opposing” scientists. Arguing issues can be productive, but attacking individuals is likely to elicit hostility from those who respect them.

7. **Recognize that communities determine what is acceptable to them, not the agency.** Agencies realize that even with unlimited funds they could not reduce most risks to zero. While communities need to appreciate this reality, agencies need to appreciate that “acceptable risk” is a relative term. The more agencies try to impose a definition of “acceptable” on communities, the more communities will resist that definition. (See Chapter I.)

• **Don’t confuse people’s understanding of a risk with their acceptance of it.** People can fully understand the nature of a risk but not want to live with it.

• **To the extent possible, build in ways for people to have control over the risk.** Because people feel more comfortable with risks over which they have control,
consider giving people more control. Community monitoring, oversight, and on-going feedback can be measures that help people exert some control over risks and thus feel more comfortable with them.

• **Acknowledge that there are other aspects of decision-making besides risk, and be prepared to listen and address people's concerns.** People will often argue about risk when they're as concerned about issues such as property values, because risk is considered a more legitimate issue by agencies. As said previously, it is usually helpful to recognize, acknowledge, and address these other concerns.

• **Help people to help their neighbors decide what is acceptable to them.** Sometimes people can better accept problems when they can talk them over with others. Encourage rather than discourage dialogue.

8. **Take even greater care presenting technical information than presenting other information.** Many of the keys for presenting technical information are the same as those for presenting other information, but are often overlooked.

• **Know your audience and gear your presentation to its level.** Think through: (a) what the audience already knows; (b) what the audience wants to know; and (c) what you want the audience to know. When explaining technical information, it can help to imagine that you are talking to an intelligent but uninformed friend and speak at that level.

• **Prepare as thoroughly as you can.** Practice your presentations. Role-playing can also help.

• **Consider which information is most important to convey.** This often includes: (a) the facts your agency wants people to know about a situation; (b) the background information they need in order to understand the facts; and (c) the additional facts they need to know so they won't get misimpressions. Identify three or four main ideas you want to convey and make sure the details support those points, rather than obscuring them by sheer volume. Finally, make sure to address people's concerns rather than just giving the facts.

• **Be sure to give people sufficient background.** Don't assume that condensing information is the same as making it clearer.

• **Use as down-to-earth language as possible.** Watch jargon and acronyms.

• **Beware of the tendency to oversimplify and give only data that support your point.** People know when you are using ammunition for your argument as opposed to presenting information.

• **Choose supporting graphics that illustrate your message clearly and simply.** Be cautious about using the same graphics used for technical audiences. Hastily or ill-conceived graphics can be worse than none. Even well-executed graphics will not go over well if they do not deal with people's concerns.
• Be aware of body language and other signals your audience gives you that they're lost. Slow down, back up, or ask questions.

• Have background material available at meetings.

• Always have question-and-answer periods after presentations.

• Critique your presentation afterward, so you can learn from the things you did right as well as those you did wrong.

YES, BUT....

• We still don't have clear ways to explain very complex information. If we did, it's likely the public would understand better.

It is true that further research is needed about how to explain environmental health risks. EPA and DEP's Division of Science and Research are both funding projects in this area. However, regardless of our sophistication in explaining risk, people's perception of the risk will be influenced by far more than scientific data. If you continue to stress explaining data and fail to attend to these other variables, you will probably create problems.

• It is extremely difficult to help people put environmental health risks in perspective if we can't compare these risks to other risks in people's lives.

Comparisons can be used, but those employed by agencies are frequently not helpful. Comparing voluntary to involuntary risks and other comparisons that ignore the outrage factors are apt to make people angry. The section on comparing risks in this chapter gives examples of some useful comparisons. Further research is being done to develop and test others.

• It is difficult to see why an agency should admit uncertainty when people will use such admissions against us.

This chapter suggests that people are already alert to uncertainty. Failing to disclose uncertainty is likely to undermine trust in the agency. As suggested, agency representatives should not merely admit uncertainty and then drop the subject. The uncertainty should be put in context in several ways, as suggested in this chapter.
VI. TEN MYTHS OF RISK COMMUNICATION

As with most myths, myths concerning risk communication have an element of truth. But they should not be swallowed whole. The following beliefs often interfere with effective risk communication and deserve closer scrutiny.

1. **We don’t have enough time and resources to do risk communication.** Risk communication does take time and staff. But if you don’t devote efforts to interacting with the public, you may be forced to mop up communications disasters—which typically takes more resources.

   **Suggestion:** Train the staff you have, including clerical staff who answer the telephone, to communicate more effectively. Plan projects to include time to involve the public.

2. **Communicating with the public about a risk is more likely to unduly alarm people than keeping quiet.** Risk communication can be risky. But not giving people a chance to express their concerns is likely to increase rather than decrease alarm.

   **Suggestion:** Consider releasing information earlier rather than later.

3. **If we could only explain risks clearly enough, people would accept them.** True, explaining risk is important. But data are not the only factors which influence people’s perception of risk.

   **Suggestion:** Pay as much attention to your process for dealing with people as you do to explaining the data.

4. **We shouldn’t go to the public until we have solutions to environmental health problems.** Problems can seem easier to deal with when coupled with solutions. But failing to involve people in decisions that affect their lives may result in tremendous opposition.

   **Suggestion:** Release risk management options, not decisions, and involve communities in discussions of risk management strategies in which they have a stake.

5. **These issues are too tough for the public to understand.** Environmental health issues can be complex. But as demonstrated by citizen groups throughout the country, laypeople can grasp a great deal of the substance.

   **Suggestion:** Do not assume that the public’s disagreement with your policies indicates a misunderstanding of the science.
6. **Technical decisions should be left in the hands of technical people.** Technical staff generally are better versed in the scientific aspects of environmental health. But many of the problems government deals with raise policy and values issues that go beyond the technical realm.

**Suggestion:** Develop mechanisms to listen to communities' concerns about policy and values issues. Inside the agency, involve staff with diverse backgrounds in developing policy.

7. **Risk communication is not my job.** True, you were probably hired because of other credentials. But as public servants, agency staff have a responsibility to deal with people.

**Suggestion:** Learn to integrate communication into your job and help others to do the same.

8. **If we give the public an inch, they'll take a mile.** If the interaction with the community more closely approximates a battleground than a discussion, this may be true. But if you listen to people when they are asking for inches, they are less likely to demand miles.

**Suggestion:** Avoid the battleground. Involve people early and often.

9. **If we listen to the public, we will devote scarce resources to issues that are not a great threat to public health.** In any public policy arena we can find such inconsistencies. But closing out the public is likely to cause distrust and further skew the policy debate.

**Suggestion:** Be sensitive to public concerns. Otherwise you will unwittingly create controversy and contribute to raising the profile of issues of lesser significance.

10. **Activist groups are responsible for stirring up unwarranted concerns.** True, activists help to focus people's anger. But activists do not create the concerns; they merely arouse and channel those that already exist.

**Suggestion:** Deal with the groups and their concerns rather than merely fighting them.