

Risk Communication and Public Involvement: Planning and Personnel

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In 2015 the U.S. experienced a number of serious environmental crises. Some of the most notable included: The Flint, Michigan water crisis; EPA's accidental release of 3 million gallons of toxins in the Animus River in southern Colorado; the costliest wildfire season in U.S. history (\$1.7 billion fighting 8.9 million acres of fire); and, Southern California Gas Company's 112-day methane gas leak in Los Angeles County, California. As I followed these unfortunate situations in the media, I observed how the agencies and industries involved applied their risk communication and public involvement skills. In some of these crises I noted the organizations involved practiced appropriate risk communication and public involvement strategies. They publicized information on the crisis fairly quickly, set-up public information sites, and took responsibility for causing the crisis and resolving it (using help from the public).

Other organizations, however, did not do so well. They showed a lack of skill and foresight in implementing effective risk communication and public involvement strategies in a crisis situation. The best example of what not to do was demonstrated by government agencies involved in the Flint, Michigan water crisis last year. The Michigan Department of Environmental Quality (MDEQ) and Flint officials made a number of serious mistakes in their efforts to explain and resolve the lead contamination in the community's water supply, which was a result of their decisions and actions. First, they gave the public false and misleading information, and it was the media who disclosed the inaccuracies and discrepancies in the information the agencies were releasing. Second, they ignored and dismissed public concerns, despite legitimate evidence presented to them regarding the excessive levels of lead in households' water. Had the public been considered a legitimate partner by these agencies, and their concerns taken seriously, the potentially adverse effects to the health of 8,000 children who drank lead contaminated water could likely have been avoided.

I was tracking agency and industry risk communication and public involvement efforts last year because I was in the process of updating Shiple Group's *Risk Communications* course. I figured following these crises would help me identify the aspects of risk communication and public involvement agencies and industry seemed to be lacking in to ensure the course focus was appropriate. One aspect I noted lacking was an understanding of the need to plan for effective risk communication and public involvement when working in a potential risky situation. For example, the EPA seemed to be taken completely off-guard when they broke through a retaining wall and leaked toxins into the Animus river in Colorado. Considering they were working in an abandoned mine with toxic materials near a major water source, they should have recognized the potential for problems with this action were fairly high. A second aspect I believe needs enhancement is the importance of public involvement during a crisis. As mentioned earlier, the agencies involved in the Flint water crisis focused solely on informing the public, even when the information was incorrect. While disseminating information is important, public involvement in helping determine the extent of the problem, and finding and implementing solutions is equally important. Thus, we have renamed the course *Risk Communication and Public Involvement*, and put new emphasis on planning and involving the public early to assist in finding and implementing solutions to a problem.

Risk communication and public involvement are processes that must go hand-in-hand for an effective risk communication plan to get the results the agency or industry is hoping for, such as maintaining their credibility and integrity with the public. However, it should be noted, a good public involvement process and public trust must be in place long before a crisis occurs for it to be effective during a crisis.

Risk Communication and Public Involvement Plans

Hazardous situations usually occur suddenly and spread quickly. Therefore, government agencies and industry should have an effective risk communication and public involvement plan in place for actions they know have the potential to cause risk to public health, safety, and economic wellbeing. If an organization does not have a plan in place, as well as qualified personnel trained to handle risk communication and public involvement, it puts the organization at a serious disadvantage from the start (Sinisi, 2014, Covello 2008, Covello, et.al., 2001). Gaining public confidence early in a crisis is crucial for ensuring support and assistance in finding and implementing solutions. If the public detects the agency or industry is floundering, giving poor or incorrect information, lacks support from other government entities, or has a spokesperson who appears incompetent, public confidence and support will be difficult to obtain.

Peter Sandman (2012) identified two types of risk communication used by government agencies and industry:

1. The first is attempting to get an apathetic or unwilling public to do something or change their behavior when they are faced with a risk they refuse to acknowledge. For example, in Pacifica, CA sandstone cliffs are crumbling beneath rows of apartments teetering on the edges of those cliffs. Despite the risk of sudden collapse, many residents of the apartments ignored officials' warnings and chose to continue living in the apartments.
2. The second type of risk communication is trying to inform and reassure people when some type of action taken results in either a real or perceived risk to the public's health, safety, or economic wellbeing. For example, the water crisis in Flint, Michigan resulted in nearly 8,000 children being exposed to lead in their drinking water, which in turn has resulted in an extremely angry and frustrated public (NY Times, 2016). In this type of risk communication, Sandman suggests the level of public **outrage** (which is high in Flint) is what agencies must manage when developing a plan for communicating risk and getting the public involved in finding and implementing solutions. I'll discuss the concept of *outrage* later in the article.

It is the second type of risk communication we focus on in our course, and that I will focus on in this article. Most governments and industries find themselves involved in a crisis resulting from an action heading in the wrong direction. In these situations, agencies and industries need a communication strategy in place that openly and honestly addresses the action and its potential risks, and encourages meaningful public involvement.

The Evolution of Risk Communication and Public Involvement

Approaches to communicating risk to the public have evolved over time. Initially, government agencies and industry tended to ignore the public, even when their decisions affected the public's quality of life. However, by the end of the 1970s the public was no longer willing to be ignored, and governments and industry recognized the need to change their approach. The primary changes have included giving the

public better information, and understanding the benefits of getting the public involved both in finding and implementing solutions (Covello and Sandman, 2001).

Decide, Announce and Defend (DAD)

In the 1940s and 1950s most government agencies used a simple risk communication approach: *Decide, Announce, Defend* (DAD). This approach was accepted by the majority of people because they believed government, industry, and scholars were trustworthy, and looking-out for their best interest. The public assumed government and industry experts were the appropriate group to determine risk levels.

Eventually, however, the public found this was not always the case. For example, the experts were wrong when estimating the risks of radiation and DDT, and people and ecosystems paid a large price for those inaccuracies.

Acceptable Risk

By the 1960s and 1970s the public's level of trust in government and industry looking out for their best interests began to decline. In an attempt to reassure the public, government and industry introduced the concept of *acceptable risk*. The purpose of this approach was to quantify risk so they could educate the public on how risky a situation or action actually was (i.e., what were the odds of people getting sick or dying) when exposed to a particular substance over a particular period of time. For example, the EPA, as well as other environmental regulators use the concept of *one in a million* (10^{-6}), or *risk of one additional occurrence of cancer in one million people*. This is considered an acceptable risk level in determining allowable amounts of public exposure to certain toxins in air and water (Niemi, 2013; Covello and Sandman, 2001; Hunter and Fewtrell, 2001).

Risk-Benefit-Analysis

A *risk-benefit-analysis* was later added to the *acceptable risk* equation to help balance the quantification of risk against the potential beneficial aspects of an action or policy. The risk-benefit analysis weighs the benefits of an action to society against its potential risks to human health, safety, and economic wellbeing. This allows the agency or industry, and the public to view the big picture and determine if benefits out-weigh risk. For example, in the debate over whether or not a city should put fluoride in their water requires looking at the actual risk of consuming fluoride (a known toxin in high levels), versus the benefits the public receives from fewer dental problems. However, an accurate risk-benefit analysis is usually difficult to achieve. Numerous variables are involved in the analysis, and evaluating the degree of their benefits versus the risks can vary by person and community (Hunter and Fewtrell, 2001).

Stakeholder Involvement Strategy (SIS)

Beginning in the 1980s a new approach to risk communication emerged that included more direct public involvement when government or industry actions have or could result in a risk to human health, safety, or economic wellbeing. This approach is referred to as the *Stakeholder Involvement Strategy* (SIS). The SIS approach moves beyond simply disseminating information through one-way dialog (they talk, we listen), to discussing the risks with the public, and the complexities and uncertainties associated with assessing and managing it. It requires a two-way (or more) dialog between the agency, industry, and concerned public. It also ensures public concerns are heard and addressed in the risk assessment and final decision. Most risk communication and public involvement plans today are based on SIS, which

allows transparency of potential risks to the public by government and industry actions. It also helps address the outrage factor government and industry previously tended to ignore (Covello and Sandman, 2001).

Federal Laws Influencing Agencies Risk Communication and Public Involvement

Because of public demand for more information and dialog regarding government actions, Congress passed a number of laws ensuring public involvement in government decision-making. They also tried to increase transparency of government decision-making and actions by giving public access to government documents on potential actions and their risks before decisions were made. The following laws have been the most influential in pushing Federal agencies toward the SIS approach to risk communication.

Administrative Procedures Act (APA)

One of the first laws Congress passed was the 1946 Administrative Procedures Act (APA). It requires Federal agencies to disclose to the public new policies or regulations they are considering implementing, or reinterpretation of past policies or regulations. Agencies must publish proposed policies or regulations in the Federal Register and allow the public a 30- to 60-day comment period. In finalizing a policy or regulations they must address all comments from the public. Additionally, the APA opens Federal decisions and actions to public lawsuits and judicial review. Federal courts review agency decisions to determine if they are reasonable, are not arbitrary and capricious (describes by the U.S. Supreme Court in *Motor Veh. Mfrs. Ass'n v. State Farm Ins.*, “a “rational connection between facts and judgment”), and the agency has correctly interpreted the laws and regulations affecting their action.

Freedom of Information Act (FOIA)

In 1966 Congress passed the Freedom of Information Act (FOIA), which allows any person to request for any reason access to government records. Agencies are expected to fulfill the request in a timely manner and at a reasonable cost (if the agency decides to pass the costs of retrieving and sending information onto the requestor). As noted in a *CRS Report for Congress* (Relyea, 2005), FOIA, “has become a somewhat popular tool of inquiry and information gathering for various quarters of American society — the press, business, scholars, attorneys, consumers, and environmentalists, among others.”

National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) was passed by Congress in 1969, and, “...serves as the basic national charter for protection of the environment” (CEQ Regulations § 1500.1). Public involvement in Federal agency decision-making serves as one of the primary purposes of the Act. It requires Federal agencies to inform the public of actions they are considering, and the potential environmental impacts the actions may have on the natural, physical, social, and economic environment humans inhabit or are concerned about. It also requires Federal agencies to make a diligent effort to involve the public through public meetings, discussions, consultations, and written communication. Agencies must include and respond to all public comments on their actions in the documents they produce under NEPA requirements.

Federal Advisory Committee Act (FACA) and Government in the Sunshine Act

In 1972 the Federal Advisory Committee Act (FACA) and in 1976 Government in the Sunshine Act were passed by Congress to ensure fairness of accessibility to Federal agencies when it comes to face-to-face meetings and sharing of information. Both laws require Federal agencies to have open meetings, chartering, public involvement, and reporting.

Developing a Plan for Risk Communication and Public Involvement

Before beginning the process of developing a risk communication and public involvement plan an agency or industry should identify the types of actions they take that could result in a crisis. Through consideration of past experiences with these actions, and the types of problems that have occurred (e.g., wildfires, oil spills, water contamination, gas leaks, mud slides, etc.) an agency or industry should be able to develop a more effective plan. Many organizations using this planning method develop a template as part of the plan so staff can simply fill in the blanks on the information initially needed and who should be involved (CERC, 2014).

A risk communication and public involvement plan should **include** the following information (CERC, 2014; Covello, 2008; EPA, 2003):

- Who is responsible for notifying individuals within and outside the organization of the crisis.
- Who should be notified and in what order.
- A template on the type of information staff should gather (depending on the crisis), and who will be gathering it.
- How information will be gathered, and how will staff identify factual information from rumors.
- How the organization will address uncertainties and missing information.
- Who will develop media releases and what type of releases would the public be expecting from the organization.
- Who are the organization's qualified personnel to address the media and public's concerns.

A risk communication and public involvement plan should have the following **goals** (Covella, 2008; EPA 2003; Sinisi, 2001):

- 1) To build public trust and improve the agency's credibility with the public through honest communication regarding the level of risk, accuracy of information, and admission of uncertainties related to the risk.
- 2) To encourage open dialogue between the agency and the public, and to encourage public involvement and assistance in finding and implementing solutions.
- 3) To encourage open dialog within an organization and determine the importance of either speaking with one voice, or allowing public discussion of different experts' points-of-view within the organization on the risk and solutions.
- 4) To get information to the public as quickly as possible through collaboration with other government agencies, industries, and community organization.
- 5) To Influence public behavior when necessary to reduce potential effects to human health and safety posed by the risk.

Meeting these goals assists the organization in fostering public trust in the information received from the agency or industry, as well as their ability to resolve the problem.

Although having a plan in place is no guarantee everything will go smoothly during a crisis, without it an agency or industry begins the process with additional unnecessary confusion. Having a plan in place will help reduce misunderstandings and mistakes in the initial stages of a crisis.

Risk Communication and Public Involvement Personnel

As mentioned above, hiring and training qualified personnel to take responsibility for communicating risk to the media and public, and actions used to encourage public involvement, should be part of the plan.

Using the appropriate professionals to communicate risk and get public involvement is as important as having a good plan in place. Agencies and industries should ensure they hire professionals who are prepared, trained, and effective at addressing public concerns and anger (i.e., outrage). Additionally, communication staff must be capable of establishing long-term relationships and trust with people in the community before and after a crisis occurs. As most professionals in risk communication will attest, establishing and keeping the public's trust is ongoing, and requires, "a constant process of informing, listening, and exhibiting consistency and competence" (McDaniel, 2014, pp.2-3; Sinisi, 2001).

The Center for Disease Control and Prevention's *Crisis and Risk Communication Guidelines* (CERC, 2014, pp. 88) identifies the following important communication objectives for all risk communication personnel:

- *Acknowledge the event with empathy.*
- *Explain to and inform the public in simple and clear terms about their risk.*
- *Establish organization and spokesperson credibility.*
- *Provide emergency courses of action, including how and where to get more information.*
- *Coordinate messages with other organizations and agencies.*
- *Commit to stakeholders and the public to continue communication and remain accessible.*

Understanding and Managing Public Outrage

Peter Sandman is an expert in risk communication and public involvement. He is well known for developing the concept of *public outrage*, why it occurs and how government agencies and industries can most effectively address and manage it. While most risk assessors define *risk* as the magnitude of impact on the public, and the probability of something happening (magnitude x probability= risk), Peter Sandman (1987) defines risk differently when applying it to risk communication. He suggests using the word *hazard* in lieu of risk for the magnitude x probability equation above. He defines *outrage* as the level of public concern about the risk. Thus, risk becomes a function of hazard and outrage (Risk = Hazard + Outrage or $R = f(H,O)$). Public outrage can rise to a level much higher than the hazard actually calls for because of concerns the public has, which the agency or industry has not considered. Outrage factors needing consideration include: the public's level of trust in the agency or industry's assessment of the risk; how serious they view the risk (death, dreaded disease); how well they understand the risk, how much control they feel over being subjected to the risk, fairness of who is being exposed to the risk (i.e., are those most affected by the risk also beneficiaries of the action, or are the benefits going elsewhere while the community bears the risk), and familiarity with the risk (Sandman, 1987; Covello, 2008).

Often, agencies and industry misunderstand or ignore public outrage, either because they do not understand the public's concerns (lack of listening carefully), or they choose to downplay public concerns hoping they will go away. However, public outrage seldom simply disappears because it's being ignored. In fact, ignoring public outrage often has the opposite effect. It results in higher levels of outrage, and

destroys an agency or industry's credibility with the public. The consequence of ignoring public outrage is likely to be increased mistrust by the public of the agency's or industry's motives on this action, as well as future actions.

Additional Information on Risk Communication and Public Involvement

Risk communication and public involvement is a complex process involving numerous factors, many of which are not discussed in this article, but are discussed in our course, *Risk Communication and Public Involvement*. These include:

- Obstacles to effective risk communication: uncertainties, conflicting information from the experts, distrust of the agency or industry, sensationalizing information by the media, etc.
- Seven cardinal rules of risk communication as identified by the EPA (see appendix A).
- Factors influencing the public's level of outrage regarding the crisis (see appendix B).
- Importance of public trust and how to foster it.
- Methods of informing and involving the public.

All of these aspects of risk communication are as important as planning and training personnel to ensure an agency or industry is prepared in the event of a crisis. However, for fear of overwhelming you with too much information I decided to focus on only these two aspects, which as I noted above, appear to have been lacking in many of the environmental risk situations occurring in 2015. Since few government agencies are immune to the need for risk communication and public involvement plans and strategies, and many industries also find themselves in need of understanding and implementing the same types of plans and strategies, we felt it was time to renew this discussion. I hope this information, and our course on *Risk Communication and Public Involvement*, will be helpful in ensuring government agencies and industries are prepared in the event of an environmental crisis to effectively inform and involve the public. It is critically important to identify who must be contacted, and keep all communication and information open and honest about potential risks to human health, safety, and economic wellbeing due to the crisis. It is equally important to get the public involved in finding and implementing solutions to the crisis. Both will help agencies and industry gain and keep public trust, as well as their credibility and integrity.

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Motor Vehicle Manufacturers Association of the United States, Inc v. State Farm Mutual Automobile Insurance Co. 463 U.S. 29 (1983)

Appendix A

Seven Cardinal Rules of Risk Communication identified by the Environmental Protection Agency (1988):

1. ***Accept and involve the public as a legitimate partner.*** This means making a good faith effort to identify who should be involved in solving the problem. The basic tenants of this rule are, the public has a right to be involved in decisions affecting them, and they should be involved as early as possible. Early public involvement allows meaningful participation in problem solving, and true collaboration between the agency and the people affected.
2. ***Plan carefully and evaluate your efforts.*** Prepare a plan with clear and explicit objectives for openly and honestly communicating risks and effectively involving the public. Carefully evaluate information you have about the risks, and understand the strengths and weaknesses of data being used to analyze risk. In addition, determine if views on the risks differ within a community, and if so how people's needs, concerns, priorities, and preferences may also differ.
3. ***Listen to the public's specific concerns.*** Remember, communication is a two-way street. If you do not listen to others they likely will not listen to you. Most people are concerned about an agency's credibility, competence, control, fairness, consideration, empathy, and if they are offering opportunities to get involved. Often, the best communicator is the best listener.
4. ***Be honest, frank and open.*** When communicating information on potential risks, trust and credibility with the public are your most precious assets. So, it's fine to state your credentials, but don't think it automatically translates into trust. To gain and keep trust always be honest in your responses, and if you don't know the answer, say so. Also, be willing to admit any mistakes the agency made right from the beginning, and as mentioned above, discuss uncertainties associated with risks and data.
5. ***Coordinate and collaborate with other credible sources.*** Allies can help in coordinating and ensuring effective risk communication. Devote effort, time, and hard work to organizing information both within your own agency, and between your agency and other entities you are working with. It's important to build bridges with ethical and credible intermediaries. These should be organizations or people within the community who are perceived as trustworthy and sincere. Ask for their help in disseminating information and discussing it with people unwilling to work with you.
6. ***Meet the needs of the media.*** Media serves as a primary transmitter of information. Unfortunately, media outlets can often be more interested in politics than risks, simplicity than complex concepts, and danger than safety. Prepare information for the media in advance to help assure information they publicize is correct, and facts are not misinterpreted. Also, give the media background information to help explain complex risk issues. For television and newspaper media provide graphics and visual aids.
7. ***Speak clearly and with compassion.*** Use simple, non-technical language. Be familiar with the local culture and know what issues the community is sensitive to, then address those issues as appropriate. Promise only what you can deliver, and then follow up on those promises. And remember, despite the effort you put into making your message clear, credible, and



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compassionate, some people are simply not going to like the message, so try not to take it personally.

Appendix B

Peter M. Sandman, *Responding to Community Outrage: Strategies for Effective Risk Communication*

12 Questions to Ask in Risk Communication

1. Is it voluntary or coerced?
2. Is it natural or industrial?
3. Is it familiar or exotic?
4. Is it not memorable or memorable?
5. Is it not dreaded or dreaded?
6. Is it chronic or catastrophic?
7. Is it knowable or not knowable?
8. Is it controlled by me or by others?
9. Is it fair or unfair?
10. Is it morally irrelevant or morally relevant?
11. Can I trust you or not?
12. Is the process responsive or unresponsive?