1

INTRODUCTION

More than 30 years ago, a seminal event in the field of crisis communications occurred at a nuclear power plant operated by Metropolitan Edison in Middletown, Pennsylvania, just outside of the state capital of Harrisburg. The plant, known as Three Mile Island (TMI), was the scene of an incident involving a stuck valve that resulted in the partial meltdown of a nuclear reactor. While TMI was not a serious accident in terms of human fatalities or injuries or release of dangerous radioactivity, it did identify serious gaps in the nuclear industry's ability to communicate during critical events and led to the establishment of the Kemeny Commission, whose tasks included writing recommendations on how nuclear utilities should improve their ability to communicate in the event of an accident.

As a young undergraduate student attending Shippensburg State College (now University), just outside of Harrisburg and Middletown, I remember the difficulties we had in understanding what was happening and how it might affect us at that time and in the future. Living in a college dormitory equipped with pay phones only in the main lobby and one television set for the entire residence of 200-plus students, the methods of communication available to let us know what was happening were extremely limited, leaving us in the dark, while National Guard troops pulled up on our campus as we prepared to take in evacuees.

Imagine how that lack of information would play out if TMI happened today. Our current culture and society relies increasingly on written and verbal messages on a near-constant basis to evaluate the world and the risks associated with living in it. These messages do more than simply provide information; they can cause large groups of people to behave in certain ways as well as change their perceptions of the world around them. As part of their functional responsibilities, safety, health, and environmental (SH&E) professionals are being called upon more frequently to develop the means and messages to assess and communicate risks to the audiences of their organizations. The audiences can include their internal workforce, the general public, vendors, suppliers, and other organizations within their field.

Risk and crisis communications is a process of communicating information by a public or private organization to an audience. The information is typically communicated following a formal or informal risk assessment process that delineates hazards that may occur to the organization and require some level of knowledge imparted to an audience on how the hazards will impact them and how they can prepare for the occurrence of a hazard. The process most often occurs when hazards are already occurring, are about to occur, or being planned for as part of an overall emergency response preparedness process.

In most literature, the terms "risk communications" and "crisis communications" are used to describe both the process of developing a relationship with key audiences which information is communicated about the hazard, as well as the specific messages that are crafted and delivered by various organizational representatives. Risk communications is most often the process and the messages that occur prior to the occurrence of a hazard. Risk communications helps audiences understand their risk as well as what activities they can undertake to prepare for the hazard situation. Crisis communications is the process and messages that are delivered at times of high stress, either because the hazard is already occurring or is imminent.

This book provides readers with a fundamental understanding of the process of developing and delivering risk and crisis communications and has been written to provide a means for SH&E professionals to develop a foundational understanding of risk and crisis communications and use that information to assess the needs of their organization.

In recent years the roles of SH&E professionals have been expanding into new and different arenas. SH&E professionals need to provide value to their organizations by increasing their skill set and the roles they can play in the overall functioning of the organization. The ability to do so will provide a key to their success, both individually and to the profession as a whole. This need to become more valuable to an organization coupled with the increasing role of media and communication methods in the provision of information to the public at large. Organizations must respond to this need for information in a way that is accurate and timely and is structured in such a way as to re successful. This book will provide the information SH&E professionals need to re their success in this process. While the bulk of the earliest history of the development of formal risk and crisis communications techniques centered on the environmental remediation and clean up...

niques and activities described in this book, as well as others, now commonly cover events such as natural disasters; security incidents; public health crises; and workplace catastrophes, including fatalities and major incidents. Some threads of the theoretical foundations of risk and crisis communications can even be woven into much of occupational safety and health training classes that occur in just about every workplace.

The methods used to communicate risk and crisis information also vary from oral methods such as press conferences, broadcast interviews, public meetings, and safety meetings. Written communication methods range from the traditional press release to brochures, safety posters, and newsletters. Newer methods include robocalls, podcasts, websites, blogs, and social networking sites.

This book will take the reader through the fundamentals of risk and crisis communications and begins by providing a common set of working definitions for a variety of terms used throughout the book, including "risk," "crisis," "risk communications," and "crisis communications." Later chapters review the current theoretical foundations that have been developed by such leading experts in the fields such as Vincent Covello and his colleagues at The Center for Risk Communication; Peter Sandman; and Regina Lundgren and Andrea McMakin. Some limited review of research conducted to ascertain the validity of risk and crisis messages will also be addressed.

Information will also be presented that will guide readers through the steps of developing risk and crisis messages, including understanding the constraints of the organization; the audience and communication topic; the goals and objectives of the messages; how to profile the intended audience; and how to successfully deal with strong audience emotions such as anger, mistrust, fear, and apathy. Additional information on avoiding common mistakes made during risk and crisis communication situations will be identified.

Several chapters will address the crafting of the actual messages that are delivered and will include two current techniques for message crafting: influence diagrams, developed by M. Granger Morgan at Carnegie Mellon University in Pittsburgh, Pennsylvania; and message maps, developed by Vincent Covello at The Center for Risk Communication. Vital for the successful delivery of messages is the ability to demonstrate empathy to the audience. This will be discussed as will the method for choosing an effective organizational spokesperson.

Other chapters will look at several models for crisis communications plans that can be used as templates for an organization, which will allow it to be prepared to respond quickly to crisis situations. Working with the media, including successful press conferences and media interviews, will be covered as well. Finally, the use of crisis communications when an organization encounters a fatality or a rumor will be examined in greater detail.

The text will close with case studies of two recent public events that provide a wealth of information to study the actual process: the worldwide H1N1 pandemic of 2009–2010 and the BP Deepwater Horizon explosion and oil spill of 2010, which killed 11 oil rig workers and caused unprecedented environmental damage throughout the Gulf of Mexico. The case studies will analyze comments made by various organiza-

...sions of the text. Comments will be given related to the relative success or failure. A final chapter will summarize the entire text and offer closing comments.

It is hoped that this text will provide readers with a solid foundation and increase their skill set for immediate use within their organizations. It will also provide additional questions that may lead to a more in-depth study of the topic by reading some of the reference material used.

2

GENERAL CONCEPTS OF RISK AND CRISIS COMMUNICATIONS

This chapter will provide a general understanding of the field of risk and crisis communications by looking at the history of the practice. Subsequently, some working definitions will be provided to establish common terms that will be used throughout the remainder of the book. Additional sections will review a basic model of communication and the chapter will end with some comments about the purpose and objectives of risk and crisis communication events.

HISTORICAL BACKGROUND

The use of oral and written communication techniques can be dated as far back as human existence and were used to communicate a variety of needs, wishes, commands, and information, including the types of risks humans were exposed to and as a means to warn of impending crises. However, the science, practice, and specific techniques that form what is currently known as risk and crisis communications have a much shorter history. Not much has been written to accurately date the earliest forms of risk and crisis communications, but many in the field would hesitate to go back any further than 25 or 30 years. Attributions often identify the introduction of the World Wide Web
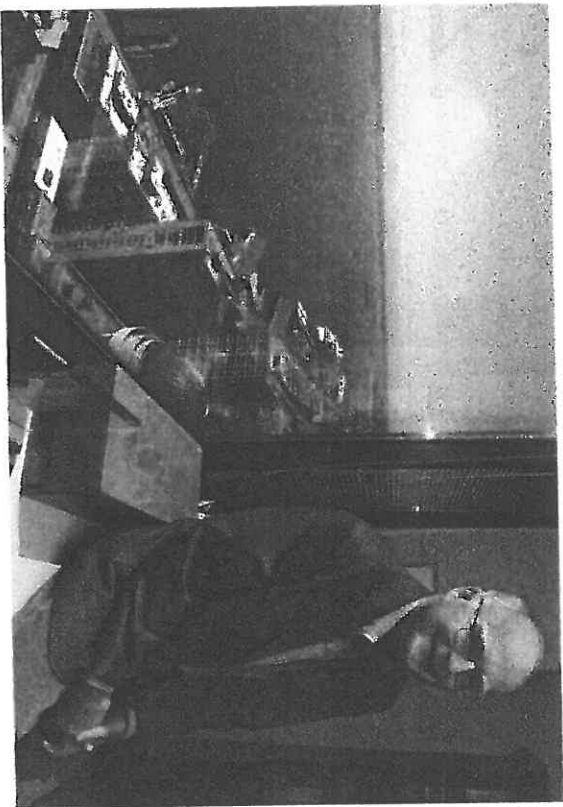
and other forms of digital communication as a turning point in the need to provide messages to audiences that help them understand the risks of their lives due to the sheer speed of Internet messages as well as the substantial increase in the volume and type of messages available to the general public (Fearn-Banks 2007).

Much of what are considered contemporary risk and crisis communication activities have stemmed from environmental clean-up efforts that began in the United States with legislation in the 1980s. Vincent Covello and Richard Peters at The Center for Risk Communication in New York, along with David McCallum from Focus Group in Maryland, trace the terms "risk communications" and "crisis communications" and their widespread use back to William Ruckelshaus (Fig. 2.1), the first administrator of the U.S. Environmental Protection Agency (EPA), a federal agency formed in 1970 by President Richard Nixon (Peters et al. 1997).

Ruckelshaus's first term, which lasted until 1973, was noted for the development of the organizational structure of the EPA as well as its initial enforcement actions. But it was when Ruckelshaus returned to the EPA in 1983 that his mandates to inform and involve the public in decisions about environmental remediation and clean-up activities through the use of risk-based decision making set the stage for much of what is now common community involvement practice by the EPA and other governmental agencies (U.S. EPA 2009).

Subsequent major federal legislative efforts continued to require bureaucrats to involve the public in decision making. The 1986 Superfund Amendments and Reauthorization Act (SARA) added new requirements for such activity under the Superfund program and amended certain existing provisions to reinforce them. SARA

Fig. 2.1. William Ruckelshaus chairs the new Puget Sound Partnership leadership council, seeking to protect and restore Puget Sound (Steve Ringman/The Seattle Times)

also created a major public-private planning process for responding to emergenc[y] hazardous materials incidents under the Emergency Planning and Community Rig[ht] to Know Act of 1986, also known as Title III. The planning process is organized ar[ound] managed by state emergency response committees (SERCs), whose members a[re] appointed by the governor and who oversee the state's response to public and priva[te] hazardous materials emergencies, and by local emergency planning committe[es] (LERCs), whose members are a broad-based representation from governmental age[n]cies, local response organizations and community groups.

KEY DEFINITIONS

In order to proceed with a logical discussion of risk and crisis communications, defi[ni]tions for terms commonly used throughout this book are essential. This foundation w[ill] assist the reader in understanding the framework for all that follows. The two key ter[ms] in this book include "risk" and "crisis." Most definitions of "risk" incorporate [the] concept of a hazard that might or might not occur, along with an understanding of [the] severity of the hazard and the probability of its occurrence. Here are four definiti[ons] that combine these concepts:

From the American National Standard for Occupational Health and Saf[ety] Management Systems (ANSI/AIHA Z10-2005):"The identification and analysis, eit[her] qualitative or quantitative, of the likelihood of the occurrence of a hazardous event [or] exposure, and the severity of injury or illness that may be caused by it."

From the *Framework for Environmental Health Risk Management* (President[ial] Congressional Commission on Risk Assessment and Risk Management, 1997): "R[isk] is defined as the probability that a substance or situation will produce harm under spe[ci]fied conditions. Risk is a combination of two factors: (1) the probability that an adve[rse] event will occur and (2) the consequences of the adverse event."

And, finally, from *The Safety Professionals Handbook* (Fields 2008): "Risk is [the] probability (or likelihood) that a harmful consequence will occur as a result of [an] action."

Similar to the above definitions of risk, those for "crisis" share several comm[on] elements as well, including the idea that the threat posed by the event is at leas[t] serious, and often catastrophic, and that the actual timing of the event is often un[pre]dictable though not necessarily unexpected. Here are three definitions from three dif[f]ferent books on the topic of risk and crisis communications:

• "A crisis can be defined as an event that is an unpredictable, major threat that can have a negative effect on the organization, industry, or stakeholde[r] handled improperly. A crisis is unpredictable but not unexpected" (Coo[mbs] 1999).

• "A crisis is a major occurrence with a potentially negative outcome affectin[g] organization, company, or industry, as well as its publics, products, service good name. A crisis interrupts the normal business transactions and can so[me]times threaten the existence of an organization" (Fearn-Banks 2007).

- "A crisis is a turning point that will decisively determine an outcome" (Lundgren and McMakin 2004).

Risk management and crisis management are terms that include common themes of evaluation and control of the risk or crisis in order to bring about a successful outcome or at least to minimize the damage from the event. Here Lundgren and McMakin say that risk management is "evaluating and deciding how to cope with a risk" (Lundgren and McMakin 2004), while Fearn-Banks (2007) notes that crisis management is "a process of strategic planning for a crisis...that removes some of the risk and uncertainty from the negative occurrence and thereby allows the organization to be in greater control of its own destiny." And finally, Coombs (1999) says crisis management is "a set of factors designed to combat crises and lessen the actual damage inflicted by the crisis."

Communicating with stakeholders about risks is an interactive process that takes time and resources in order to be effective, as noted by Lundgren and McMakin. Their definition of risk communication focuses on the importance of interaction between the communicator and the audience, even if the goal of the interaction is only to solicit simplified information rather than considered opinions and suggested solutions for managing the risks. In addition, risk communication is an integral part of risk management as noted here by the U.S. Department of Health and Human Services (2006): "Risk communication: An interactive process of exchange of information and opinion among individuals, groups, and institutions; often involves multiple messages about the nature of risk or expressing concerns, opinions, or reactions to risk messages or to legal and institutional arrangements for risk management."

Risk communication is also a process that is based upon scientific principles and theoretical foundations, particularly about audience perception of risk (see Chapter 3). Covello and his colleagues at The Center for Risk Communication have contributed significantly to the scientific principles upon which much of current risk and crisis communications are based. They define risk communication as "a science-based approach to communicating effectively in high concern situations" (Covello 2008).

Communicating during crises involves similar elements as are noted above. It is an interactive process between a communicator and an audience to transfer information about the crisis, which is an integral part in managing the crisis to lessen the severity of the outcome at the crisis's conclusion (Lundgren and McMakin 2004; Fearn-Banks 2007).

The foundations of crisis communications also have substantial theoretical foundations, provided by Covello and his colleagues, Fearn-Banks, and Peter Sandman (Sandman was the director of the Environmental Communication Research Program at Rutgers University from 1986 to 1992). During that time, the program published numerous scholarly articles and books on the subject of risk and crisis communications, which provided the foundational elements used by many current practitioners of risk and crisis communications. Following his work at Rutgers, Sandman left to begin a consulting practice and has become one of the preeminent experts in the field (Sandman 2009). Sandman postulates that crisis communications is a subset of risk communications, performed by communicators when the hazard facing the stakeholder is high and a

TABLE 2.1. Differences between Risk Communications and Crisis Communications

Risk Communications	Crisis Communications
• Event that is the focus of the communications is in the future	• Event that is the focus of the communications is about to occur or is already occurring
• Ongoing process between communicator and audience is time consuming	• Shorter process between organization and audience due to the immediacy of the crisis event
• Focus of efforts is on the dialogue generated between the two parties	• Focus of the efforts is the delivery of messages to the audience
• Most communications are two-way events	• Most communications are one-way events
• Goal is to reach a consensus with audience regarding activities and solutions to presenting hazard	• Goal is to inform and compel the audience to action intended to keep them safe
• SH&E professional functions include assisting in the risk assessment process to qualify and quantify the risks and assisting in the development of the messages; in some organizations, the SH&E professional will also deliver the messages, typically to the workforce	• SH&E professional functions include assisting in the understanding of the severity of the crisis and assisting in the development of the messages; in some organizations the SH&E professional will also deliver the messages, typically to the workforce

significant crisis event is happening or is about to happen (Sandman 2004) (see Table 2.1).

The critical difference is the situations in which the various communication forms take place. Risk communication is an ongoing process that helps to define a problem and solicit involvement and action before an emergency occurs. It is a time-consuming process that involves developing relationships with audiences, sharing information about the nature of risks, and working toward a consensus about the best ways to approach the risk. As will be discussed in subsequent chapters, the partnership aspect of the risk communication process is critical. The role of the safety, health, and environmental (SH&E) professional in the process will vary from one organization to another and from one risk situation to another. The key functions often include assisting in assessment of the risk through standardized methods (see Chapter 8). This process allows for messages to be crafted based upon quantitative and qualitative risk measurements in addition to the specific goals and objectives of the organization and the message delivery setting (see Chapter 5). Occasionally, the SH&E professional will be asked to deliver the message(s) in formal settings such a press conferences or organizational meetings with the workforce. Sometimes the message delivery is informal, as in conversations that might occur during walk-throughs of the manufacturing floor or construction site.

Crisis communications are those messages that are given to audiences during an emergency event that threatens them either immediately or at some foreseeable point in the near future. Because of the urgency of the situation, the time needed to develop

a partnership with audiences and come to consensus on appropriate actions is rarely available. In addition, the time needed to develop goals and objectives for the messages is short. In crisis communications, SH&E professionals often fill roles similar to those in risk communications efforts, but their need to know and understand the crisis situation, the audience, and the goals of the communication effort is increased. Their value to their organizations in the process is enhanced if they are suitably prepared to act swiftly and provide relevant advice.

THE STAGES OF A CRISIS

Prior to moving on from the definitions of the various terms used throughout this text, some commonly accepted frameworks for identifying crisis stages will be presented. This will aid in developing a stronger understanding of how the development of a crisis affects how messages are crafted and eventually delivered.

Numerous theories and frameworks have been promoted over the years to address the life cycle of a crisis to aid in understanding the overall management of a crisis and the actions taken by an organization in each stage. One of the earliest and most useful for understanding crisis communications was developed by Fink and published in 1986. Fink's four stages of a crisis include the following:

1. **Prodromal.** An organization is able to identify clues or hints that a crisis is about to occur. Not all organizations have readily developed detection systems in place for identifying prodromes and might argue that a crisis occurred without any warning, but most crisis experts agree that there are very few crises that do not provide clues if an organization is watching and looking for them.

2. **Crisis breakout.** This stage represents the earliest events that are part of the crisis and begins with an identifiable event that produces a specific type of damage, physical or reputational, to the organization.

3. **Chronic.** This stage occurs as the organization attempts to address the effects of the crisis. The length of this stage varies greatly and the activities of an organization serve to either reduce the length and effect of the crisis, or, unfortunately, extend it and spread the damaging effects even further. The fundamental principles of crisis management, while not the topic of this text, describe what an organization should do in this stage.

4. **Resolution.** At some point in the crisis, the organization determines that the events are no longer problematic and no longer affect the various audiences. The effects of the crisis may still linger for an extended period of time, but the immediate and most dangerous effects have been resolved, either on their own or due to the actions of the organization.

While significantly more information will be devoted to crafting crisis communications messages in future chapters, it is helpful to close this section with a few comments

Ideas about how to manage crisis in the various stages are, once again, not the topic of this text, but message development and delivery are. Several years after Fink's publication of the crisis stages noted above, Sturges (1994) began to promote the ideas of various messages during different crisis stages. He suggested that audiences are most receptive to basic information during the acute stages of a crisis immediately after the occurrence of the triggering event and shortly after. The focus of the content should be around what is happening, how it will affect the audience, and what they can do to protect themselves. As will be discussed in later chapters, crisis communication messages are more often simple and one-way. Information is delivered as quickly and succinctly as possible. During the resolution stage, messages can be more detailed and feature two-way dialogues between the organization and the audience. Message goals in this phase tend to be focus around what can keep the crisis from occurring again and how the organization can reestablish a positive relationship with the audience.

THE PROCESS OF COMMUNICATION

A full understanding of risk and crisis communications is aided by a brief discussion of the process of communication (Fig. 2.2). The generic steps of nearly every verbal and written communication involve the following (Berlo 1960):

1. A message is sent by a communicator.
2. The message is received by the receiver.
3. The receiver interprets the message.
4. The receiver sends feedback to the communicator about the message.

These steps are repeated as often as necessary and become a circular process that continues until the communication event is finished. The communication event can range from one simple message sent and received to a lengthy "conversation" of hundreds of different messages that go back and forth between the original sender and the original receiver. In such scenarios, the roles of sender and receiver switch back and forth depending upon the originator of the message. Any message in a communication event can be adjusted based on the feedback from the audience, and sometimes a new message is sent on the same topic as the original message, on a separate subtopic or an entirely new topic. In addition, some communication events involve more than one receiver and more than one sender, as in a group discussion or a presentation delivered by one person to more than one person. Obviously these events involve multiple messages being sent and received, often at the same time. However, regardless of the complexity of the individual communication event, the simple model illustrated above still provides an accurate representation of the process.

Finally, messages received are often encoded to determine their perceived meaning by the receiver, which is not always the intended content of the sender. Feedback messages are often sent back and forth between the participants in the communication event
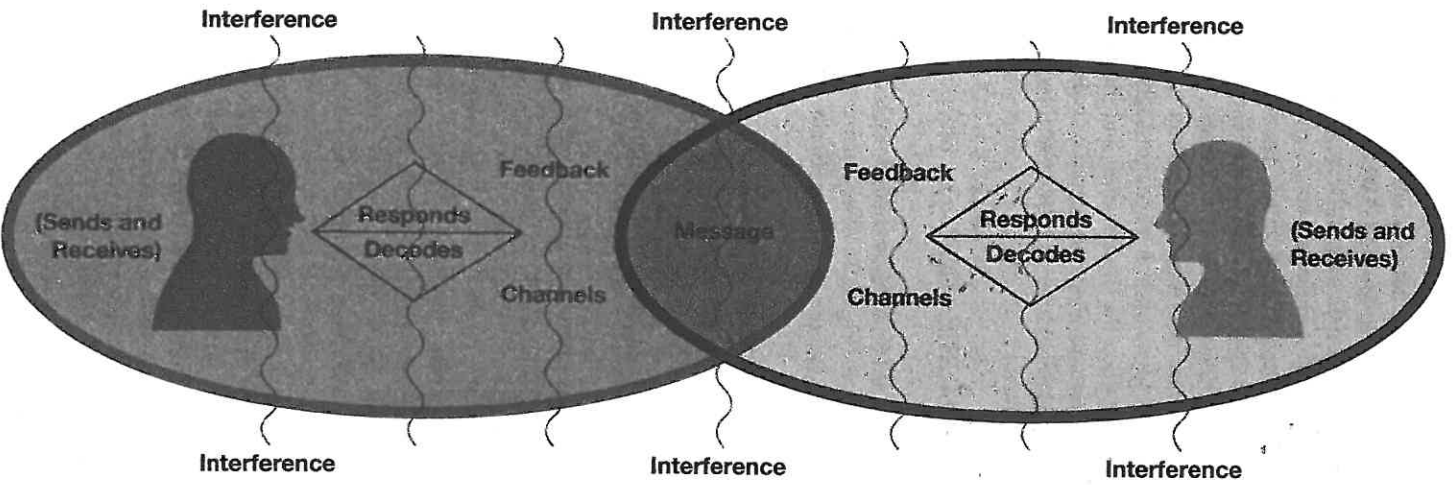
Fig. 2.2. Illustration of the Communication Process

by the receiver based upon their own backgrounds, experiences, and opinions, along with their educational levels and emotional states. These filters are often called interferences and vary among individuals and groups. The message sender needs to take the time to evaluate and understand the receiver's characteristics and emotional state to increase the chances of successful receipt of a message. (Audience profiling is addressed in greater detail in Chapter 4.)

Although many view communication events as an exchange of verbal messages, the communication cycle utilizes both oral and written methods. In traditional risk and crisis communication efforts, the oral methods include press conferences and briefings as well as safety meetings. Safety training is also a form of oral risk communication, as the process typically involves an initial educational component that attempts to help the workforce understand the risk posed by unsafe behavior or the result of not following safe job procedures. The second part of a typical training session more often involves teaching the workforce how to perform a job safely. Risk communication in the form of safety training can occur in the more traditional classroom settings with the use of lectures videos, or it may happen through the use of group and individual exercises. However, more informal safety trainings often called "tailgate meetings" and "toolbox talks" also meet the criteria of a basic risk communication event. Even the more recent forms or oral communications such as audio conferences, podcasts, and robocalls can sometimes take the form of risk and crisis communication events.

Written methods of risk and crisis communications include press releases, brochures, policies and procedures, and newsletters. More recently, organizations have increased their use of e-mail, blogs, and company websites as means of providing risk and crisis communications.

THE PURPOSE AND OBJECTIVES OF THE COMMUNICATION EVENT

As noted above and discussed in Chapter 4, success in risk and crisis communication efforts is increased by understanding the audience and tailoring messages to their needs. Before that process can begin, however, the organization needs to develop a clear understanding of why it is communicating, the purpose and what it hopes to achieve through the effort, and its objectives. Objectives often also answer the "how" questions of the specific types of communication efforts in addition to the frequency and the content of the messages.

One method of understanding the purpose and objectives of the communication effort is to consider what the communicator wants the audience to do with the messages. Sandman suggests that there are three basic scenarios for risk communications. His theories are discussed in greater detail in Chapter 3, but a brief summary at this juncture will assist in clarifying the key process of understanding the purpose and objectives of the communication effort (see Fig. 2.3):

Scenario #1. There is a significant hazard situation, but the audience is uniformed, apathetic, or both, in varying degrees. Therefore, the purpose of the communication event is to increase the audience's understanding of the risk or crisis
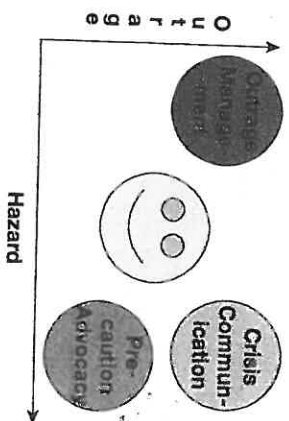
Fig. 2.3. Three types of risk communications—Peter Sandman

that affects it. The objectives of the messages are to persuade the audience members to be more concerned than they currently are and to take a specific action. This type of communication effort involves messages that provide details in a simplified level and are repeated often enough until the audience begins to change its opinion on the hazard, but also agrees with the recommended action and performs it. Sandman calls this "precaution advocacy" (Sandman 2007).

Scenario #2. The audience is angry, upset, or excessively worried, but the actual risks of the hazard, as quantified by a formal risk assessment; do not justify the audience's level of concern. Sandman calls this "outrage management," and the purpose of the messages is to both reduce the excessive emotion of the audience and to help it form a more realistic understanding of the risk of the hazard. The objectives of outrage management messages require a series of communication events that focus on acknowledging both the legitimacy of the audience's fears and concerns, as well as acknowledging the role, or even mistakes, of the organization in creating the situation at hand. These messages are then followed by recommendations for more realistic actions that the audience can take (Sandman 2008).

Scenario #3. The audience is fearful and upset about a situation that is serious and is either already occurring or is about to occur. Sandman calls this "crisis communications," and it is in sync with the definition used above to differentiate these types of communication events from risk communications. The purpose of these communication events is to clearly articulate to the audience what is happening and what it needs to know about the crisis in order to act appropriately. Objectives include adjusting the audience's emotional level with messages that do not downplay the risk so that audience members are able to act in their own best interest to protect themselves, yet not panic (Sandman 2004).

The opposite perspective of what is discussed above is not what the communicator wants the audience to hear, but what the audience wants to hear from the communicator. Morgan et al. (2002) of Carnegie Mellon University of Pennsylvania offer the following view of the various goals of the communica...

• The audience wants **advice and answers**. The members need the kind of detailed information they do not have the time and knowledge to find on their own. They also need instructions on what to do in the form of options that follow their own social forces as well as those of their communities and/or how they might develop their own options. In this scenario, the audience relies on the communicators to be trusted experts who provide the best technical knowledge in a manner that is devoid of vested interests. Communicators preparing messages for audiences will need to provide comprehensive information that includes substantive details.

• The audience wants **information** so its members can make their own decisions about what to do. They want to make their own choices and rely on technical experts to provide them with the information they need that can be evaluated within the framework of their value system and personal situation. Communicators in these situations should first look at the decisions the audience members need to make (or says they need to make) and then work backwards to determine what information is most valid for the decisions at hand. These communication events often involve smaller amounts of information—key points that summarize the situation and what is known about it.

• The audience wants the **processes and a framework** for understanding the situation at hand. These communication events assume an active audience that wants to be involved in helping to assess the risk, identify risky situations, and help develop an action plan. Communicators in these events need to be prepared to fully invest in the interactive process described in the definitions for risk communication noted above and needs to be willing to treat the audience as partners in the communication effort rather than recipients of a message.

While it is all well and good to start any communication effort with a full understanding of the purpose and objectives of the messages, numerous factors should influence the process. Lundgren and McMakin (2004) identify four significant factors:

1. **Legal issues and regulatory requirements.** Many such laws involve the environmental arena as noted at the beginning of this chapter (CERCLA, SARA); however, OSHA and other federal and state regulatory agencies have policies on the requirements of the efforts. For example, OSHA's requirements under the hazard communication standard delineate an organization's responsibility for evaluating and communicating risks to workers from hazardous substances through the use of labels (OSHA 1996). In Pennsylvania (as is true in many other states), the Pennsylvania Community and Worker Right to Know Act adds to these requirements by mandating an annual chemical inventory of hazardous substances and communicating that list by posting it in a location frequented by the workforce (Pennsylvania Department of Labor 1994).

2. **Organizational requirements.** Many organizations have specific written policies for communicating with stakeholders as well as paid professional staff whose responsibilities include both crafting and delivering the messages (public...

officers). Their advice and permission is often required before any risk or crisis communication effort can occur.

3. **The risk itself.** As noted above and discussed in Chapters 3 and 8, quantifying the risk of a part of the communication process so that the specific content of the messages can be crafted. The risk will also determine whether or not an organization is dealing with risk communications, when time is available to develop partnerships and create interactive processes with audiences, or crisis communications, when the goal may be simpler and focuses on rapid information flow.

Along with understanding the factors that influence the development of communication efforts, constraints also play a role. Risk and crisis communicators need to be cognizant of a variety of factors that impact that goals and objectives of the communication effort (Lundgren and McMakin 2004). First and foremost are the constraints of the organization itself. Management will need to be convinced of the necessity of the communication effort, and their reactions range from enthusiastic support to apathy or hostility. Resources may or may not be available to the communicators to achieve their goals. Organizations may have complicated and time-consuming review and approval processes that delay delivery of the message or end up stopping it entirely. Some of the review processes are designed to protect the organization and some are the result of conflicts among various departments and workgroups about how to manage risk or crisis communication effort.

Emotional constraints are those which exist within the communicators themselves. Ideally the communication effort is based upon objective data and facts, but those crafting and delivering the messages are human beings acting on a full range of human emotions and with a broad continuum of expectations, realistic or not. One of the most common constraints is the inability of the communicators to see the public as an equal and legitimate partner, a critical function in risk communications where the process of developing partnerships and decisions based upon consensus can significantly impact the success of the effort. Sometimes this perception is based on a belief that an organization is responsible to make decisions about risks and how to manage them, and sometimes this perception is based on the notion that audiences are not capable of fully understanding the high degree of science behind risk assessment. This leads to messages that can be patronizing or "dumb downed" in such a manner that the typical audience response is one of anger, frustration, or hostility. Finally, individual values can also impede the process for both the communicators and the audience. Because values are often a unique part of individuals, crafting messages that address the full range of values can be tricky at best.

A secondary level of constraint is imposed by the audience. This critical issue will appear in many other chapters within this text and is only introduced at this time. Audiences have many levels of emotionality when faced with a risk or a significant crisis event, and many of them involve highly charged states such as anger, hostility, fear, dread, or frustration, all of which exist on a continuum based upon the event, the audience, and a multitude of other factors. (See Covello's risk perception theory and Sandman's Risk = Hazard + Outrage paradigm, both in Chapter 3).

In addition to the emotionality of the audience, each communication event is characterized by varying levels of knowledge and expertise on the part of the audience, not to mention education levels, cultural barriers, and other significant audience characteristics. Messages will be more likely to be heard, understood, and acted upon when they are crafted to the varying levels of audience understanding in addition to emotional states.

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