Events like Hurricane Katrina, the World Trade Center attack, and the Northeast power outage of 2003 demonstrate the importance of communicating emergency information to the public and other agencies. During these events, poorly constructed, confusing, or incorrect messages added to public distress and interfered with the ability of agencies to respond efficiently.

Prior to a crisis event, many water and wastewater utilities dedicate resources to reviewing and improving emergency and communication processes. However, most of this work focuses on expanding emergency operations plans and security. Only a fraction of the work examines the development and management of communication messages.

This project developed a toolkit to help water and wastewater utilities communicate more effectively with the public and other agencies during a crisis event. The toolkit includes a communications preparedness guide to assist with emergency communications planning; decision-making guides and sample messages for three likely scenario events; and a software tool to help organize and maintain emergency communication information.

The software tool, Emergency Communications Information Management System (eCIMS), provides utility professionals with a unique ability to build, manage, and share a customized emergency communications plan. It also supplements existing emergency operation plans (EOP) and provides a convenient method for storing and managing emergency communications information. Some of the benefits of the tool include:

- Utilities can follow the style and format of the system to expand eCIMS to include any anticipated communication event.
- Both large and small water/wastewater utilities can customize the tool to accommodate their needs.

The eCIMS toolkit software includes an emergency risk communications planning guide and sample messages that can be modified for use in actual emergency situations.
Utilities can modify the eCIMs messages to represent their system.

The eCIMs software can be loaded onto a personal computer for customizing and printing.

The Communications Preparedness Guide can complement an existing EOP and provide an effective way to anticipate, store, and maintain pertinent information.

Utilities identify top threats and communication outlets
To assess the current state of practice concerning emergency communications, researchers surveyed 194 water and wastewater utilities. The most common emergency events were due to natural causes. Human-induced events were much less frequent and typically involved power outages. The top three utility “perceived” threats were: 1) failures in infrastructure; 2) power outages; and 3) natural or human-induced contamination.

Utilities’ messaging outlets include radio and television announcements, press releases, warning sirens, community phone systems, and updated web pages. In non-emergency periods, they generally used an average of five forms of communications. During emergency events, respondents reported that they used an average of four channels of communication. Participants reported that the most effective means of disseminating information were press releases and radio and television announcements.

Case studies illustrate key plan components
To explore the national survey findings, 11 utility respondents participated in follow-up interviews and case study analysis. These case studies demonstrated how important it is for utilities to focus on several key components in an emergency communications plan:

- dedicated personnel to serve as emergency planning coordinators
- a current and formal EOP
- pre-established communication channels for message distribution
- emergency operating center to serve as a hub for collecting and distributing information
- after action reports to identify areas to be targeted for improvement

Focus groups assist with message development
The researchers collected 141 coded communications that the case study participants released during actual emergency events. A community focus group evaluated 15 sample emergency messages from three scenarios. Messages that did not achieve satisfactory scores were improved and used with a second focus group. The second focus group provided input for further improvement of the messages. The revised messages are included in the eCIMs toolkit and provide a foundation for a utility’s emergency communications.

Event scenarios provide additional insight
Users can gain additional insight on the methodologies and tools by exploring three event scenarios that could present an emergency communication challenge to utilities. With input from the project oversight committee and the results of a national survey, the research team devised the scenarios as a system contamination event; a malevolent physical disruption or attack; and facility or area-wide flooding caused by a natural event.

Real life experience provided the foundation
The researchers determined best emergency communications practices through literature reviews, national surveys, and case study interviews. They evaluated emergency communication messages by using dual focus groups and coding analysis of emergency messages.

The step-by-step Communications Preparedness Guide and the eCIMs software toolkit are essential tools as water and wastewater utilities prepare effective communications for adverse events and emergencies.