# 17 Emergency Information

**DURING SNOWSTORMS, FLOODS, EARTHQUAKES,** terrorist attacks, and other emergencies, most broadcasters mobilize their news teams.[1] They also, at times, turn over the airwaves to government-generated alerts.[2] The government is currently in the middle of a major effort to transform its emergency alert systems to make them more effective and in line with the media platforms of the 21st century.[3]

The Emergency Alert System (EAS) was established in 1994 to provide the president a way to use broadcast, satellite, and cable platforms to deliver vital messages to Americans in times of national emergency,[4] and to provide state and local emergency personnel similar tools. However, the EAS has never been used to deliver a presidential alert; it has been used, almost exclusively, to deliver state and local public emergency messages, such as weather bulletins and AMBER alerts about missing children.[5] The system's track record for local disasters has been mixed.

The adequacy of the EAS was much discussed after a January 2002 freight-train crash and derailment in Minot, North Dakota. The derailment took place in the middle of the night. Neither news broadcasters nor the EAS notified those in the immediate area that a deadly cloud of anhydrous ammonia was heading their way. Local authorities had attempted, unsuccessfully, to trigger the EAS at KCJB, the radio station designated to feed the initial EAS signal to other stations within its coverage area.[6] They then called KCJB and other radio stations in Minot, but no one answered the calls.[7] For an hour after the train derailment, not one of the six local radio stations, all of which are owned by Clear Channel, reported on the event.[8] Meanwhile, the local 911 system was jammed with phone calls, creating dispatch problems.[9] The police department ultimately had to contact a local TV news director at his home to arrange emergency broadcasts.[10]

Subsequent investigations revealed that local government and law-enforcement officials had failed to properly install, test, and train their personnel in the use of EAS equipment and so were unprepared for this crisis. The night of the incident, after emergency personnel realized that their EAS equipment was not working, they tried to use obsolete Emergency Broadcast System equipment. Although the local radio stations may be faulted for not having news staff available, the EAS equipment at the local radio stations was working and could have transmitted the alert automatically, if local officials had known what to do. The author of a 2005 study comparing various local emergency alert system responses to hazardous freight derailments concluded that Minot's emergency alert system failed because of a basic lack of understanding as to how the system works and poor coordination between emergency communication hubs.[11]

According to one study, during three incidents similar to the Minot derailment, emergency personnel never even attempted to activate the EAS.[12] Apparently, it was not used effectively during Hurricane Katrina, either. According to Lieutenant Lawrence McLeary, a public information officer for the Louisiana State Police, the EAS was ineffective during Hurricane Katrina because it was staffed by National Guardsmen, who were often pulled away from the machine to deal with other pressing issues.[13]

Unlike in the case of a presidential alert, use of the system by broadcasters and other players for local incidents is voluntary. Although the FCC's Part 11 EAS rules require periodic testing of the EAS at the state and local level, there is no FCC requirement that local emergency personnel be involved in that testing (although state plans may require such participation). Closer coordination, regular training, and drills between broadcast media and state and local emergency authorities could better prepare EAS participants for actual emergencies.

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Even if the EAS had been successful in Minot, however, it only would have reached those citizens who were listening to the radio or watching television. Those relying on mobile telephones or surfing the Internet would not have been notified. In an attempt to overcome such limitations, the federal, state, and local governments, along with industry groups have begun to coordinate their efforts to ensure that alerts go out by means of every communication medium available. Presidential Executive Order 13407 of 2006 (EO)[14] directs the federal government to create a comprehensive system to warn the American people in situations of war, terrorist attack, natural disaster, and other public hazards. The order vests overall responsibility with the Department of Homeland Security (DHS), which is tasked to establish a fully interoperable system, capable of delivering alerts through as many communication pathways as practicable, and to engage industry and government to ensure that all stakeholders are familiar with the system and trained in its use.[15]

The Federal Emergency Management Administration (FEMA) is developing the Integrated Public Alert and Warning System (IPAWS), the nation's next-generation infrastructure of alert and warning networks.[16] IPAWS is designed to ensure that government emergency alert systems—whether driven by local, state, or national governments—are able to notify the largest number of people possible, using a "system of systems" compatible with all types of communications technologies, both current and future. While Americans still rely on radio and TV for emergency information far more than any other medium,[17] today people are connected to a much wider variety of media. The IPAWS goal is to alert the 85 percent of the population that is connected to some form of media at any given moment within 10 minutes, whether through radio, television, mobile devices, personal computers, or any other communications device in use.

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To help, FEMA has adopted a format known as Common Alerting Protocol, or CAP.[18] CAP is compatible with a wide variety of devices and systems and can be used to carry voice messages, digital images, audio, and video. It will work with programs that translate English messages into other languages, and it is compatible with devices used by the hearing- and sight-impaired. CAP also can incorporate security features to prevent the system from being hijacked. All emergency system participants must be able to receive CAP alerts by September 2011. On May 26, 2011 the FCC released a Notice of Proposed Rulemaking seeking comment on proposed rules by which EAS participants can receive CAP-based EAS alerts.[19]

The widespread use of wireless devices, especially cell phones, has led to the creation of the Commercial Mobile Alert System (CMAS), or, as it will be presented to consumers, the Personal Localized Alerting Network (PLAN). The PLAN will enable mobile phone customers to receive local alerts about imminent danger (such as a tornado or a Minot-type event), presidential alerts, and abducted child (AMBER) alerts from commercial mobile service providers that choose to provide the service.[20] All major wireless carriers have elected to participate. FCC rules require that participating CMS providers develop, test, and deploy the PLAN no later than April 7, 2012.[21] On May 10, 2011, Mayor Michael Bloomberg, FCC Chairman Julius Genachowski, FEMA Administrator W. Craig Fugate, top executives from AT&T, Sprint, T-Mobile and Verizon and others gathered at the World Trade Center site to announce that PLAN will be available in New York City by the end of 2011.[22]

On the state and local level, a number of local emergency alert systems have begun adopting CAP-based systems. In Northern California's Contra Costa County, a map-based computer program generates a single alert message, which in turn triggers a broad array of warning delivery systems including sirens, telephone notification, broadcast EAS, low-power AM transmitters, Twitter and email notification, web displays, and in-building alerting systems. The CAP format allows additional new delivery systems to be added (and obsolete ones to be removed, if necessary) without affecting any of the others.[23]

### Social Media

Social media also is becoming a more important factor during emergencies. A July 2010 opinion survey conducted for the American Red Cross found that Americans—especially those between the ages of 18 and 34—expect government

agencies to use social media during emergencies.[24] A 2009 DHS Advisory Council survey of constituencies who work with emergency warning systems[25] found:

> "Warning systems for extreme events have long been designed in favor of a top-down, command and control model which relies heavily on experts for risk detection, decision making, and information dissemination. However, in the world of Web 2.0, communication modes and mechanisms are changing quickly. Members of the public are no longer reliant on information from public authorities, nor will they wait for official communications in times of need. Instead, they utilize social networks and networked communications to access information, to create and produce information, and to broadcast information to others."[26]

The DHS report says that new media must be integrated within any new emergency advisory system, and that involving the public through blogs and other systems that allow for public input is crucial to the success of any 21st-century risk communications strategy:[27]

> "Specific social media channels that can be utilized include wikis for collaborative information sharing about community risk, national risk, and protective actions; social networks such as Facebook or MySpace, using widgets linked to key protective action information; microblogs such as Twitter, which work as rapid or viral dissemination mechanisms for short text messages; and collaborative mapping for location-based information linked to key events or physical sites where help can be sought for evacuation, sheltering, decontamination, and other assistance. Videos or pictures demonstrating specific protective actions can be linked directly to alert and warning information via sites like YouTube or Flickr. Furthermore, educational campaigns can take advantage of multi-user online game technologies such as Second Life.

> "Now that these technologies exist, members of the public will come to expect that local, state and federal government will make use of them as effective means for communication."[28]

American Red Cross president and CEO Gail McGovern says, "The social web is creating a fundamental shift in disaster response—one that will ask emergency managers, government agencies and aid organizations to mix time-honored expertise with real-time input from the public."[29] The American Red Cross maintains an interactive presence on six social networks.[30]

In 2008, as Hurricanes Gustav and Ike approached the Gulf of Mexico, volunteers used the social-networking platform Ning to collect and organize hurricane information. Participants brought together news feeds from Twitter, Facebook, and blogs, and annotated maps with information about shelters, evacuation routes, and other resources.[31] While social media may seem chaotic, experts believe it can be an effective way to reach large numbers of people quickly. Dr. Jeannette Sutton, senior research scientist in the Trauma Health and Hazards Center at the University of Colorado at Colorado Springs, has concluded: "Social media is very organized. It just isn't organized through a central point." Government authorities have traditionally expressed concern about the reliability of reports from non-official sources, but Sutton argues that social media tends to be self-correcting: "Those who participate on sites like Wikipedia or are invested in a particular conversation have some sort of stake in making sure the information is correct. So they put out information to correct misinformation."

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American nongovernmental groups are also drawing on experiences in third-world countries, where residents without computers or Internet access use their mobile phones to transmit messages, and aid organizations are developing disaster assistance programs that work around cell phone technology. For example, Ushahidi ("testimony" in Swahili) is an open-source system (i.e., freely available to use or modify, without having to license the software) that allows users to construct a map of developments as they unfold in a given locale. Witnesses transmit information via text messages, tweets, and email reports, which is then placed on a map to allow aid workers and other volunteers to track where help is needed. Since its first use tracking post-election violence in Kenya in 2007, Ushahidi has helped

such diverse efforts as targeting aid after the Haitian and Chilean earthquakes, tracking Swine Flu reports, and directing snowplows to road blockages in the snowstorms that closed much of the Washington, D.C., area in early 2010.[32]

Nonetheless, a 2009 American Public Health Association survey found that less than 20 percent of emergency managers use social media as anything other than a traditional, one-way broadcast tool aimed at educating the public or influencing public behavior. Most government agencies are playing catch-up with private businesses and nonprofits in the use of digital technology in times of crisis.[33]

Public broadcasters have begun to help all broadcasters use social media and other tools effectively during crises. They developed the SAFER (Station Action for Emergency Readiness) program, a set of online tools to help radio and television stations plan for staying on the air, online, and in touch with their audiences during emergencies.

CAP, PLAN, and IPAWS were conceived with broadband in mind. Further, the use of social media depends on the proliferation of broadband infrastructure, particularly at the state level. As recommended by the FCC's *National Broadband Plan,* in the spring of 2011 the FCC will launch a comprehensive next-generation alert system inquiry, exploring all issues for developing a broadband-based, next-generation alert system.[34]

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