



Emergency Communication Systems (Mass Notification Systems)

Recent occurrences of violence in the workplace and on university campuses have resulted in loss of life. These occurrences demonstrate that in spite of an emphasis on improving security in public and work places, events still occur that threaten the well-being of the public and/or employees. Many times, the loss of life could be mitigated by rapid and effective communication with the people directly exposed and to initiate the proper response from emergency forces. College campuses, corporate campuses, and office buildings, in particular, can encompass large areas and should seek increased safety through better communications systems.

The most recent edition of NFPA 72 (2010) now governs the installation, maintenance and testing of Emergency Communications Systems (sometimes known as Mass Notification Systems). This is new to the 2010 revision, and the name of NFPA 72 has changed from "National Fire Alarm Code" to "National Fire Alarm and Signaling Code". NFPA 72 states that the purpose of an Emergency Communications System (ECS) is "for the protection of life by indicating the existence of an emergency situation and communicating information necessary to facilitate an appropriate response and action." The "emergency situations" are intended to include fire, human-caused events (accidental and intentional), other dangerous situations, accidents, and natural disasters.

ECS Systems can incorporate the following:

- **Inside Buildings (In-Building Systems):** These systems are designed to provide real time information and instructions to people in a building(s) using intelligible voice communications (both prerecorded messages and live messages), audible and visible signals, text, graphics or other communication methods. Equipment usually includes speakers, strobes, textual devices such as LED displays, etc.
- **Outdoor Areas (Wide Area Mass Notification Systems):** These systems are intended to provide real-time information to outdoor areas. Equipment includes high power speaker arrays (sometimes referred to as giant voice) to provide capability for intelligible voice and tone communication.

Some manufacturers are building capabilities into their equipment to send text messages, cell messages, emails, etc from the ECS, allowing easy, rapid communications to a large number of people. These systems include the capability of sending different messages simultaneously to different groups of people.

Common ECS/fire alarm systems are allowed by NFPA 72, as long as they are approved for such use and designed and installed with NFPA 72 requirements (Chapter 24). Where in-building ECS systems and fire alarm systems are provided in the same area, they must be interfaced. Also, in-building systems must be interfaced with wide area mass notification systems where both are present.

In addition to threats of violence, these systems can be utilized to warn employees and the public of severe weather conditions, tornadoes, chemical spills, and other events that threaten people.

When are these systems required? Uniform Facilities Criteria 4-021-01 includes requirements for Department of Defense facilities. To date, local building codes do not require these types of systems in other facilities. However, the October 2009 amendments to the Higher Education Opportunity Act, Section 668.46 require "timely notification" of emergencies to students and employees. While ECS systems are not required by this act, many universities are turning to these types of systems to meet the requirement for timely notification.

Regardless of requirements, many facilities are considering these systems as added security for students, employees, and the public. These systems are becoming more and more common at

- Educational campuses (K-12 and higher education)
- Corporate campuses
- State and Federal complexes
- Military facilities
- Religious campuses

ECS systems are unique and should be specifically designed for each application. In recognition of this, NFPA 72 is performance-based as respects ECS rather than prescriptive-based. NFPA 72 requires a risk analysis be performed that can be used as the basis for each unique design.

If you have any questions regarding Emergency Communications Systems or a Risk Assessment, please contact Dave Lewis at 913.577.8814 or at dlewis@gbateam.com.