Emergency Communications

During emergencies, the importance of our country's communications systems becomes clear. These communications systems include the wireline and wireless telephone networks, broadcast and cable television, radio, Public Safety Land Mobile Radio, satellite systems and increasingly the Internet. For example, in an emergency, we may dial 911, call our family members to make sure they are safe, and turn on our televisions and radios to get breaking news and important updates. Although our communications systems are among the world's most extensive and dependable, unusual conditions can put a strain on them.

Since September 11, 2001, and Hurricane Katrina, the Federal Communications Commission (FCC) has taken important steps to ensure that 911 services and other critical communications remain operational when disasters strike. For example, in response to recommendations of an independent panel reviewing the impact of Hurricane Katrina, the FCC's Public Safety and Homeland Security Bureau (PSHSB) worked on several fronts to improve communications during emergencies, including streamlining collection of outage information during times of crisis through the Disaster Information Reporting System, helping ensure that communications workers receive "essential personnel" credentials during emergencies, working with other federal agencies to improve interoperability among first responders, and promoting use of enhanced 911 best practices.

The following information will help you better understand what happens to our communications systems during an emergency and how best to use our communications systems during a crisis or disaster.

Emergency Communications Components

There are three main components to emergency communications:

1. 911 call processing and delivery through Public Safety Answering Points (PSAP) and call dispatch;

2. The Emergency Alert System; and

3. Radio and/or broadcast or cable television station news and updates.

All of these components must operate effectively in order to achieve a successful response to an emergency.

Wireline (or landline) 911 Calls

Emergency personnel and others often learn about emergencies through 911 calls. The 911 network is a vital part of our nation's emergency response and disaster preparedness system. This network is constantly being upgraded to provide emergency help more quickly and effectively. Dialing 911 quickly connects you to a PSAP dispatcher trained to route your call to local emergency medical, fire and law enforcement agencies. At the PSAP, the dispatcher verifies the caller's location, determines the nature of the emergency and decides which emergency response teams should be notified.

Most traditional wireline 911 systems automatically report to the PSAP the telephone number and location of calls, a capability called "Enhanced 911" or "E911." With this information, PSAP staff is able to call back if the 911 call is disconnected, and also know where to send emergency services personnel. E911 service from wireline phones is available in most parts of the country.

Wireless 911 Calls

The mobility of wireless telephone service makes determining a wireless 911 caller's location more complicated than determining a traditional wireline 911 caller's location, where numbers are associated with a fixed address. In order to enhance the ability of emergency personnel to respond efficiently and effectively to callers placing wireless 911 calls, the FCC has taken a number of steps to ensure that wireless service providers make location information automatically available to PSAPs.

The FCC's basic 911 rules require wireless service providers to transmit all 911 calls to a PSAP, regardless of whether the caller subscribes to the provider's service or not.

Phase I Enhanced 911 (E911) rules require wireless service providers to provide the PSAP with the telephone number of the originator of a wireless 911 call and the location of the cell site or base station transmitting the call.

Phase II E911 rules require wireless service providers to provide more precise location information to PSAPs; specifically, the latitude and longitude of the caller. This information must be accurate to within 50 to 300 meters depending upon the type of location technology used.

Wireless carriers are required to comply with the FCC's location accuracy rules at either a county-based or PSAP-based geographic level. These standards apply to outdoor measurements only, as indoor use poses unique obstacles.

For more information about wireless 911 services, see the FCC consumer guide at www.fcc.gov/guides/wireless-911-services.

VoIP and 911

Some VoIP services allow you to make and receive calls to and from regular phone numbers, usually using an Internet connection. This type of VoIP service is called an "interconnected VoIP" service, whether the service is one that can only be used at a fixed location, such as a residence, or one that can be used wherever the user travels as long as a broadband Internet connection is available.

Since 2005, the FCC has required interconnected VoIP providers automatically to provide 911 service to all customers as a standard, mandatory feature without customers having specifically to request this service. VoIP providers may not allow their customers to "opt-out" of 911 service.

Before an interconnected VoIP service provider may activate a new customer's service, the provider must obtain from the customer the physical location where the service will first be used so that emergency services personnel will be able to locate VoIP callers who dial 911. Interconnected VoIP providers must also provide ways for all customers to update the physical location they have registered with the provider, if it changes.

- Interconnected VoIP providers must transmit **all** 911 calls, as well as a callback number and the caller's registered physical location, to the PSAP over the 911 network.

- All providers must specifically advise new and existing customers of the circumstances under which 911 service may not be available through the interconnected VoIP service or may in some way be limited in comparison to traditional 911 service. They must distribute labels to all customers warning them if 911 service may be limited or not available and instructing them to place the labels on and/or near the equipment used in conjunction with the interconnected VoIP service.

- Interconnected VoIP providers must obtain **affirmative** acknowledgement from all existing customers that they are aware of and understand any limitations of their 911 service.

For more information about VoIP and 911, see our consumer guide at www.fcc.gov/guides/voip-and-911-service.

911 Calling for Persons with Speech or Hearing Disabilities

Text telephone devices (TTYs) allow persons with speech or hearing disabilities to send and receive text messages over telephone networks. Wireless service providers have made technological changes to their networks to provide TTY compatibility for **digital wireless** calls for consumers with TTY-compatible hand-sets. In certain locations, however, TTY users may not be able to complete 911 calls using these available digital wireless services. In the meantime, TTY users should consider alternatives for placing an emergency 911 call, such as wireline phone service, analog wireless service, or Telecommunications Relay Service. For more information about using TTY devices with digital wireless phones, see the FCC consumer guide at www.fcc.gov/guides/use-tty-devices-digital-wireless-phones.

To further improve emergency call handling for persons with speech or hearing disabilities, the FCC requires Video Relay Service (VRS) and Internet Protocol (IP) Relay service providers to provide regular ten-digit telephone numbers to their subscribers so that subscribers' emergency calls, along with the ten-digit number and location information, automatically route to the appropriate PSAP. VRS and IP Relay providers must inform their subscribers of these procedures and the need to keep location information updated.

For more information about emergency call handling for VRS and IP Relay, see the FCC consumer guide at www.fcc.gov/guides/ten-digit-numbering-and-emergency-call-handling-procedures-internet-based-trs.

Emergency Alert System

In the event of an emergency, many people rely on radio and television to receive updates on what is happening and what to do.

The Emergency Alert System (EAS) is a national public warning system that requires TV and radio broadcasters, cable television systems, wireless cable systems, satellite digital audio radio service (SDARS) providers, direct broadcast satellite (DBS) service providers, and wireline video service providers to offer to the President the communications capability to address the American public during a national emergency. The system also may be used by state and local authorities to deliver important emergency information such as AMBER (missing children) alerts and emergency weather information targeted to a specific area.

The FCC, in conjunction with the Federal Emergency Management Agency (FEMA) and the National Oceanic and Atmospheric Administration's National Weather Service (NWS), implement the EAS at the national level. Only the President determines when the EAS will be activated at the national level, and has delegated the administration of this function to FEMA.

Exception: If your local television, radio tower or studio is damaged during a natural disaster, like a tornado, you might not receive emergency alerts. EAS was designed, however, so that if one link in the dissemination of alert information is broken, the public has multiple alternate sources of warning.

For more information about the EAS, see the FCC consumer guide at www.fcc.gov/guides/emergency-alert-system-eas or visit the Emergency Alert System (www.fcc.gov/general/emergency-alert-system-eas) page.

Wireless Emergency Alerts (WEA)

The FCC, in conjunction with the Federal Emergency Management Agency (FEMA) and the wireless industry, established a public safety system that allows customers who own certain wireless phone models and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. WEA (formerly known as the Commercial Mobile Alert System (CMAS) or Personal Localized Alerting Network (PLAN) utilizes technology that ensures that emergency alerts will not get stuck in highly congested areas, which can happen with standard mobile voice and texting services.

WEA was established pursuant to the Warning, Alert and Response Network (WARN). WEA complements the existing Emergency Alert System (EAS) which is implemented by the FCC and FEMA at the federal level through

broadcasters and other media service providers. WEA and the EAS are part of FEMA's Integrated Public Alert and Warning System (IPAWS).

For more information about WEA, see the FCC consumer guide at www.fcc.gov/guides/wireless-emergency-alerts-wea.

Accessibility of Emergency Information for Persons with Visual or Hearing Disabilities

The FCC requires broadcasters, cable operators and satellite TV providers to make local emergency information accessible to persons who are deaf or hard of hearing, and to persons who are blind or have visual disabilities. Thus, emergency information must be provided both aurally and in a visual format.

In the case of persons who are deaf or hard of hearing, emergency information that is provided in the audio portion of programming must be provided either using closed captioning or other methods of visual presentation, such as open captioning, crawls or scrolls that appear on the screen. In the case of persons with vision difficulties, emergency information that is provided in the video portion of a regularly scheduled newscast or a newscast that interrupts regular programming must be made accessible. This requires the aural description of emergency information in the main audio.

If the programmer provides the emergency information through "crawling" or "scrolling" during regular programming, this information must be accompanied by an aural tone.

If an emergency affects the broadcast station or non-broadcast network or distributor, it may be impossible for that broadcaster, network or distributor to provide accessible emergency information.

For more information about accessibility of emergency information, see the FCC consumer guide at www.fcc.gov/guides/emergency-video-programming-accessibility-persons-hearing-and-visual-disabilities.

Network and Power Outages

The FCC has established the Disaster Information Reporting System (DIRS) to allow wireless, wireline, broadcast and cable providers voluntarily to report on the status of their infrastructure and operations during times of crisis. This information is not made public, but allows the FCC to monitor and evaluate communications services during a crisis. DIRS supplements the Network Outage Reporting System (NORS). Through NORS, the FCC requires wireless, wireline, cable and satellite companies providing voice and paging services to report significant disruptions or outages to their networks, and disruptions affecting 911 facilities or airports. Again the data is not made public, but allows the FCC to monitor and evaluate disruptions and outages.

If there is a power outage during an emergency, your wireline phone, wireless device or VoIP service may not work unless you have a back-up power supply. If you suffer only an electrical power outage, you should still be able to use a traditional wireline (but not cordless) telephone, because electrical and telephone transmissions use different circuits or wires and telephone company facilities have back-up power available. If you keep the battery on your wireless phone or other device fully charged, these devices should also continue working during a power outage.

Note that because wireless networks may be congested during an emergency, sending a text message may work better than placing a voice call. Finally, unless you have a battery-operated TV or radio, these devices will not work during a power outage.

911 call centers or PSAPs currently lack the technical capability to receive texts, photos and/or video.

Emergency Preparedness and Crisis Information

For additional information on communicating during emergencies and helpful tips on emergency preparedness, visit the website of the FCC's Public Safety and Homeland Security Bureau at www.fcc.gov/public-safety-

homeland-security-bureau. You may also want to visit the websites of these other federal government emergency organizations:

The Federal Emergency Management Agency (FEMA), www.fema.gov, is responsible for responding to national disasters and helping state and local governments and individuals prepare for emergencies.

The Department of Homeland Security (DHS), www.dhs.gov/index.shtm, is responsible for preventing terrorist attacks within the United States and reducing America's vulnerability to terrorism. DHS established the Homeland Security Advisory System (HSAS), which rates terrorist threats to federal, state and local authorities and the public utilizing a system of color codes.

The National Terrorism Advisory System (NTAS) replaced the color codes of the HSAS. NTAS will more effectively communicate information about terrorist threats by providing timely, detailed information to the public, government agencies, first responders, airports and other transportation hubs, as well as the private sector.

Consumer Help Center

For more information on consumer issues, visit the FCC's Consumer Help Center at www.fcc.gov/consumers.

Accessible formats

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