

Appendix 3 GUIDE TO DEVELOPING AN EAS PUBLIC WARNING PLAN TO SERVE LOCAL AREAS

Background

This document will focus on three principles. First, all radio, television and cable systems are required to install, maintain and test Emergency Alert System (EAS) equipment. Second, all National Weather Service (NWS) offices use a digital protocol called Specific Area Message Encoder (SAME) for weather warnings issued on NOAA Weather Radio (NWR). SAME matches the digital protocol used by the EAS equipment. Therefore, the two systems are compatible nationwide. Third, public and private warning assets need to be included with EAS and NWR to form an integrated warning system.

Authority for broadcasters and cable operators to participate in EAS planning rests in Title 47, Code of Federal Regulations (CFR), Part 11, as amended February 22, 2002, Federal Communications Commission (FCC), Emergency Alert System (EAS), as pertains to Section 11.21, State and Local Area Plans and FCC Mapbook. These plan procedures are prepared by the Local Emergency Communications Committees (LECC). LECC membership includes the above entities and other interested organizations and individuals. Acceptance of or participation in a plan shall not be deemed as relinquishing program control by broadcasters and shall not be deemed to prohibit a broadcast licensee from exercising independent discretion and responsibility in any given situation. Broadcast stations transmitting emergency communications shall be deemed to have conferred rebroadcast authority. The concept of management of each broadcast station exercising discretion regarding the broadcast of emergency information and instructions to the general public is provided in Part 11. These procedures shall be considered an appendix to and part of the State EAS Plan. The FCC must review and approve this plan because it involves Federal licensees and communications facilities.

Development of this plan will focus on using SAME and EAS as published in Part 11, Section 11.31. The equipment for both of these systems can serve as the core building block for a local warning system or to act as the local element of a state or national warning system. This is possible because of the monitoring capacity that has been built in to all FCC certified EAS equipment. While EAS is the nation's broadcast and cable warning system, some areas may also have different unique systems available for warning the public. For example, the Nuclear Regulatory Commission (NRC) requires nuclear generating facilities to install, maintain and test siren and other warning systems near nuclear plants. Nuclear plant licensees must be able to warn local residents 24 hours a day, seven days a week. Nuclear plants may have a siren system, telephone alerting system, or have NWR alert receivers in nearby homes, as well as a method to activate EAS.

Although there is no nationwide fully functional single warning protocol for conveying warnings to all concerned parties, the Organization for the Advancement of Structured Information Standards (OASIS) has endorsed a standard protocol called CAP, Common Alerting Protocol. CAP is a simple, flexible data interchange format for collecting and distributing "all-hazard" safety notifications and emergency warnings over information

networks and public alerting systems. This standard is compatible with SAME and EAS and it is capable of working with other systems as well. As new protocols and warning standards are developed along with new digital radio and television services, they can be included in updates of local, state and national plans. This is possible because certain parts of a local plan, such as local area boundaries, communications links, assets, emergency personnel and facilities, etc. do not appreciably change. Appendix A is a list of web sites that contain emergency planning information. If your local area already has a warning plan, review it based on this document.

Initial Meeting

The initiative to convene a planning meeting can come from several groups or individuals including emergency management, state and local government, NWS, broadcast and cable industries and private industry. It is important that an initial meeting be held to start the planning and for participants to get acquainted. Find a meeting site at a central location that is neutral ground for all invitees. Examples include local government facilities, libraries, schools, media facilities, hotels, etc. Letter invitations are best but email and telephone contact are also recommended. Before the meeting, it is a good idea to determine if the existing broadcast station(s) serving as the key EAS source(s) for the local area will attend the meeting and that they are prepared to continue to volunteer in that capacity. Otherwise, a new source(s) will need to volunteer. Follow-up meetings on a scheduled basis are necessary to finalize and update the plan, acquaint new participants and update test schedules.

Participants

Invitees to the meeting should include the following groups: local emergency management which may be a stand-alone group or individual, or exist in the form of police, fire, or elected officials; NWS personnel (Warning Coordination Meteorologist and Meteorologist in Charge); all broadcasters and cable operators including any local chapters of the Society of Broadcast Engineers (SBE) and the Society of Telecommunications Engineers (SCTE); local FCC and DHS/FEMA personnel; local internet providers; wired and wireless telephone company personnel; state and federal officials; and key local civic and industry representatives. Invitees should also include representatives from local nuclear power plants, chemical plants, local federal facilities, and major railroad and highway arteries.

Area Boundaries

It is necessary to define the boundaries of the local area. The local area can be as small as a city or as large as several counties. Factors that can define the boundaries include: the warning area of the local NWS office, local area jurisdictional boundaries, the location of facilities such as a nuclear power plant, chemical plant, government facility, highway, waterway, dam, etc. Other factors can be the coverage area of local broadcast stations or the service area of cable systems. Once the area boundaries are defined, it is important that local broadcast stations and cable systems set their EAS equipment to transmit only those warnings that directly impact their audiences. Above all, identify the entity that has the legal responsibility for local warnings. County or city codes should provide this information. Failing to identify the top level warning agency in the area could mean that

the local plan could be in conflict with actual emergency practices for emergency management requests such as evacuation orders.

Assets

The next step in plan development is to catalog the assets of the area such as the communications links between the sources of emergency information and the public. For instance, the municipal water system may have an extensive radio system that could be used as a wireless backbone between the civil warning center and the key EAS broadcast station(s). Asset holders include: NWS facilities, 911 centers and Emergency Operating Centers (EOCs), police and fire communications, radio and television stations, cable systems, local internet nodes and servers, paging companies, wire and wireless telephone and internet providers, satellite systems that can distribute local warning messages, private industry communications and any state or national government facilities that can be identified. It is important that the representatives in charge of these assets recognize their role and participate in the development of the plan. Without their participation, segments of the community may not receive warning information on a timely basis.

Authorities

Develop a list of officials who are authorized to originate emergency messages and to request activation of the local EAS. List them in Appendix B. NWS personnel will be at the top of this list. Local civil officials are usually responsible for issuing notices to the public for evacuations and other public protection actions. In some cases, state officials have warning authority. Federal officials have powers within federal jurisdictions but they do not have authority in local or state areas.

Sources of Warnings and Emergency Information

As explained above, NWS is the source for weather warnings and other weather related information. NWS is also developing procedures to act as a source of non-weather warnings. Warnings and emergency information from civil authorities can come from several jurisdictions and even different states for local areas near state lines. It is very important in areas that have several jurisdictions that there be only one or at most two locations that act as clearinghouses for warnings and emergency information. Having one source for authoritative warnings increases public confidence. Multiple uncoordinated warning sources may confuse the public and make emergency information challenges like rumor control difficult. Some areas use EOCs or 911 calling and dispatch centers as warning centers.

Originating Warning Messages

EAS equipment can store up to two minutes of audio. Experience has shown that EAS warnings for clear and present danger should be shorter and be tagged with an announcement directing people at risk to stay tuned to a local source of live broadcast news. Emergency Public Information (follow up reports) become the vehicle and process that live news sources use as the emergency plays out. Local emergency management should be trained in recording EAS warnings, previewing them, and playing them back within the EAS protocol. If CAP is being used as the platform for originating warning messages, it should be interoperable with all warning dissemination systems. Warning

messages must contain the information necessary for the public to fully understand the message and take action to protect themselves and their property.

SAME/EAS messages have four elements. *First* is the digital header in the following format: ORG-EEE-PSSCCC+TTTT-JJHHMM-LLLLLLLL. It contains coded information that identifies the who (ORG), what (EEE), where (PSSCCC), and when (+TTTT-JJHHMM) of the message. *Second* is an 8 to 10 second audio warning tone. *Third* is the two minutes or less audio message that contains additional information and instructions. *Fourth* is the digital End of Message (EOM) code that resets equipment and provides broadcasters and cable operators with a signal to return to normal programming.

What Types of Emergencies Can Affect Your Local Area

The list of SAME/EAS Event codes (EEE) used in the digital header is published in Part 11, Section 11.31(e). Select what Event codes might apply to your area and list them in Appendix C. The CEM, CDW, and LAE codes can be used for any civil emergency not listed. There can be as many as 31 SAME/EAS Location codes (PSSCCC) in a message. There are Location codes to identify each U.S. State and off-shore (marine) area (SS), each county (CCC), and part of a county (P). The Location code numbering system is based on the Federal Information Processing System (FIPS) described in U.S. Department of Commerce publication FIPS 6-4 and the list provided in Part 11, Section 11.31(f). Appendix A contains the FIPS web address. Broadcasters and cable operators should check their EAS equipment to ensure it is capable of handling the Event and Location codes described in their local area plan and that the equipment is monitoring the correct local sources for emergency information. Also, they should upgrade any older EAS equipment to handle the new codes as published in Part 11. Upgrades are available from manufacturers for free or for a very minimal cost.

Emergency Public Information

It is important to distinguish the difference between initial warnings and followup emergency information. Followup emergency information is often referred to as Emergency Public Information (EPI). Warnings should be used to alert the public to specific clear and present danger when immediate public action is necessary to protect life and property. EPI includes the warning but it provides more detailed information. As an example, the Emergency Digital Information Service (EDIS) in California distributes EPI. The EDIS web address is in Appendix A.

AMBER Messages

The local EAS plan and system can be used to distribute Amber alerts. Amber (America's missing broadcast emergency response) alerts have been very successful in using the reach and immediacy of broadcasting to recover and save the lives of hundreds of abducted children. Therefore, it is very important that all of the EAS equipment at broadcast stations, cable systems and the message origination facilities recognize the Child Abduction Emergency (CAE) Event code. Otherwise, Amber messages will not be widely distributed. This is especially true if the key local EAS source (Local Primary station) cannot process the CAE message from the origination point. It is recommended that the Amber origination point and the origination point used by local authorities for

other emergencies be the same. Authorities should distribute the Amber alert by any other distribution methods available. These include NWR, the Amber Alert Web Portal, EMNET satellite system, EDIS, faxes, highway signs, etc. Faxing a picture of the abducted child to the wire services and television stations and providing follow-up information to the media is essential to complete the distribution process.

Authentication

One method of authentication between officials and the media is personal recognizance. This can be accomplished through periodic meetings and exercise of the testing procedures developed in the plan. The use of code words is acceptable but they can be time consuming. Using secure communications links adds more protection. Dedicated telephone and wireless links and encrypted communications are preferable. Areas should use the most secure communications links available between officials and the media. Confidential authentication procedures including unlisted telephone numbers should not be part of the public copy of the plan, especially if the plan is posted on the internet. Confidential procedures should be distributed only to participants that have a need to know.

Public Distribution Systems

Officials in charge of critical facilities have several methods to communicate with warning centers and the public. NWS issues weather warnings on NWR. NWR should be monitored by all radio and television stations and cable systems in addition to the Local Primary stations. Local authorities may use sirens, pagers, wire and wireless telephone, reverse 911, private systems, etc. Radio and television stations and cable systems have other systems to alert their staffs. It is important that all of these systems provide consistent warning information in a coordinated and cooperative manner. It is recommended that local authorities install SAME/EAS and/or CAP equipment so they can originate and receive messages. Using compatible equipment and message coding between NWS, the media, and local officials increases message reliability and credibility as far as the public is concerned. In other words, everyone is saying the same thing at the same time. The media can instantly decode and retransmit EAS messages even if their facilities are unattended. SAME/EAS and CAP messages can be formatted for transmission on paging systems, cell phones, amateur radio, and email on the internet.

Existing Radio Systems

Almost every local area has radio system assets such as those described above in Public Distribution Systems. However, there may also be other types of systems that are very unique to an area. Areas prone to air quality problems may have a special radio system to announce and distribute air quality alerts. Highway signs can display information to alert motorists to traffic problems or weather events. Local jurisdictions including police and fire may have area-wide common emergency frequencies. Transit systems have communications systems linking their buses, stations and operating personnel. All of these systems can play a unique role in alerting operating personnel and consequently the public.

Consumer Alerting Devices and SAME/EAS Equipment

Private companies sell specialized alert systems for the distribution of warning messages. These systems can be used to alert businesses that provide services to particular segments of the public. Several manufacturers sell NWR receivers to the public. They can be programmed to receive certain warnings for specific areas. The receivers will turn on when they receive the proper codes. EAS consumer receivers operate in the same manner except they are tuned to a radio or television station. The receivers will turn on immediately after receiving the proper codes. There are also receivers that can be used on cable systems to alert cable subscribers even if the subscriber is not watching cable television. Some devices can receive warning messages even if the owner is playing a CD, DVD or game.

Testing Procedures

Testing is one of the most important elements of a plan. FCC EAS regulations permit officials to originate EAS test and audio messages after media approval. These tests are specified in Part 11, Section 11.61(a)(4). This tests the system end to end and acquaints the public to the plan.

Updating Plans

The data in some plans can become outdated even before the plans are signed and approved. Broadcasters change their call signs, officials come and go, new systems come on line, etc. Also, it is a good idea to divide the plan into sections with each section on a separate page. The pages can be replaced as a procedure or data change. Plan sections can include; assets, communications links, authentication and activation procedures, authorized officials and codes, testing procedures, etc.

Summary

Steps to develop an effective local plan.

1. Convene an initial meeting with scheduled follow-up meetings.
2. Select members to serve on the Local Emergency Communications Committee including a Chair and Vice-Chair.
3. Identify the participants, area boundaries, assets, responsible authorities, sources of warnings and emergency information, types of emergencies affecting the local area, appropriate SAME/EAS Event and Location codes and public distribution systems.
4. Develop authentication and testing procedures.
5. Train personnel in using SAME/EAS, CAP and other communications equipment.
6. Conduct periodic tests with participants.
7. Include other systems that can be used to deliver emergency information such as speed fax, internet, reverse 911, etc.
8. Promote the local plan to the public and encourage the public to purchase warning enabled consumer equipment.

Appendix A

WWW Information Sites

FCC EAS	fcc.gov/eb/eas
FCC EAS Plans	fcc.gov/eb/eas/plans.html
FEMA	fema.gov

NOAA NWS	nws.noaa.gov
Federal Information Processing System (FIPS)	itl.nist.gov/fipspubs/fip6-4
National Emergency Management Association (NEMA)	nemaweb.org
Society of Broadcast Engineers (SBE)	sbe.org
Society of Cable Telecommunications engineers (SCTE)	scte.org/standards
Amber Plans	missingkids.com
Cellular Telecommunications & Internet Association	ctia.org
Emergency Digital Information Service (EDIS)	edis.ca.gov
<u>Possible Funding Sources</u>	
Department of Homeland Security	dhs.gov/grants
COPS grants for Technology and Training	cops.usdoj.gov
Searchable Database for Federal Grants	FedGrants.gov
Register and Apply for Federal Grants	grants.gov
Justice Technology Information Network	justnet.org
National Institute of Justice	
Catalogue of Federal Domestic Assistance	cfda.gov
Office of Domestic Preparedness	ojp.usdoj.gov/odp/grants
Bureau of Justice Assistance	ojp.usdoj.gov/BJA
Federal Emergency Management Agency	usfa.fema.gov/fire-
service/grants	
National Telecommunications and Information Admin.	ntia.doc.gov/top/grants

Appendix B

List of Officials Authorized to Request Activation of the EAS Local Area

Appendix C

SAME/EAS Codes Used in the EAS Local Area