

Appendix D
Draft

Dane County/Madison Metropolitan Area
Evacuation Plan
Appendix D
Warning System Guidelines

Draft

Version 2.0



Dane County Emergency Warning System Guidelines for Local Officials

Contents:

Dane County's Warning Options

- Outdoor Sirens
- Reverse 911
- Tone Alert Radio
- Commercial Radio and Television
- NOAA Weather Alert Radio
- Personal Notification

The Decision to Issue a Warning

The Warning Message

Activation Procedures

- Dane County Public Safety Communications
- Local Authorization
- Activation Procedures for Local Officials

Sample Warning Messages

- Evacuation (Hazardous Materials Release) – Alert Message
- Evacuation (Hazardous Materials Release) – Follow-up Message
- Shelter-in-Place (Hazardous Materials Release) – Alert Message
- Shelter-in-Place (Hazardous Materials Release) – Follow-up Message

Public Warning Guidelines For Local Emergencies

Introduction

The purpose of this document is to provide basic procedures for local government and emergency response officials to follow if it is necessary to activate the Dane County Warning System. There are numerous methods available for local officials to issue emergency alerts, information, and instructions. Since no single application can provide warning to all citizens in all situations, this document provides basic information on the options available. Activation guidelines, responsibilities, and procedures are also included.

Note: The effectiveness of an emergency warning is measured not by how quickly it can be disseminated, but by how well people comply with the recommended actions. Effective warnings, those where the affected individuals actually take the recommended actions, require that people have enough information on which to base their decisions to act, and that they receive that information from more than one source. For this reason, the local news media must be among the first notified of any emergent event. News coverage can then provide the necessary corroboration and follow-up information and instructions.

Dane County's Warning Options

Outdoor Sirens

Dane County owns and operates 97 outdoor sirens. The primary activation point of the sirens is in the Dane County communications center, with backup capabilities in the County Emergency Management office. Dane County also encourages local governments to install control components that will allow for local activation of sirens. While tornado warnings are the most common cause for countywide siren activation, the sirens should not be thought of as "tornado sirens." They are intended as an all-hazards warning system and can be activated for any type of emergency situation. Dane County's sirens can be activated individually, in groups or zones, or countywide.

Sirens are an excellent means of warning people who are outdoors. The advantage of the sirens is that they can be readily activated and can provide a rapid alert to the people at risk. The disadvantage of the sirens is that at best, they can only get people's attention. A siren cannot deliver an instructional message. Dane County's public education efforts stress this fact. When the sirens are sounded, people must seek additional information from another source. This underscores the importance of a systematic approach to warning. If the sirens are sounded for a local emergency, instructional information must also be made readily available to those who are alerted by the siren.

Reverse 911

The County has recently purchased a Reverse 911 automated telephone dialing system. In the event of an emergency, the Reverse 911 operator identifies on a map the affected region within the county. A message is recorded that concisely describes the situation and recommends actions residents should take. The message is then sent out to listed telephone numbers within that geographic area. If phone lines are busy, the system will attempt to redial those numbers a predetermined number of times to make contact. If an answering machine picks up the call, the emergency message will be left on the machine. The time required to reach all affected residents is dictated by the number of outgoing telephone lines used by the system, the length of the message, the number of phone numbers called, and the number of redials programmed. Dane County's system can make up to 40 calls simultaneously.

The primary activation point for the Reverse 911 system is the Public Safety Communications Center with back-up capability in Emergency Management.

The advantages of the system are that it provides a rapid alerting capability for people within a defined geographic area, capacity to provide citizens with both the initial alert and instructions for response, and ability to provide indoor warnings, night or day.

There are two significant limitations to the system. First, the system's telephone database includes only listed, published numbers. People with cell phones or unlisted numbers will not be notified unless their numbers have been manually gathered and entered into the system. Second, the system will have a limited effectiveness for warning large geographic areas or large groups of people. Dane County's system has 40 outgoing phone lines and is, therefore, capable of making 40 calls simultaneously. If each outgoing message is one minute long, under ideal conditions, the system could make outgoing calls at the following rate:

Alerting Time	Number of Calls
1 minute	40
5 minutes	200
10 minutes	400
20 minutes	800
40 minutes	1,600
1 hour	2,400

In a true, life or death situation, a five-minute alerting time is about the maximum that would be acceptable. The outgoing message could be shortened, referring recipients to the local news media for details, however, the number of households/businesses called is still limited if the area of impact is large.

Tone Alert Radio

Dane County operates a tone alert radio system on the frequency 45.320 MHz. The system provides emergency broadcasts that can be received by special radio receivers. The primary activation point is the Dane County communications center with backup capabilities in the County Emergency Management office.

Tone alert radios are typically commercial quality receivers and are located in approximately 250 businesses, hospitals, nursing homes, and schools throughout the County. The advantages of the system include reliability and the ability to deliver both an alerting signal and a specific verbal message. The primary disadvantage of the tone alert radio system is the availability and cost of the receivers. A typical receiver costs around \$300 and is usually available only as a special order item. This prevents widespread use of these devices as a residential warning option.

Commercial Radio and Television

Broadcast radio and television can be a very effective means for disseminating warning information. In fact, most people in the County rely on the broadcast media as their primary source of emergency information. The media can play a vital role in the warning process, if provided with official, timely, and accurate information. Through the local Emergency Alert System (EAS), emergency response authorities have the capability to provide uniform information to all local broadcast media outlets almost instantaneously.

The Emergency Alert System (EAS), adopted in 1997 is the successor to the old Emergency Broadcast System (EBS). The Emergency Alert System is a national network of radio and television stations designed to provide the public with uniform and consistent information in an emergency. Participation in the local Emergency Alert System is voluntary, however the following stations have agreed to broadcast local emergency alerts if requested:

- WIBA (1310 AM and 101.5 FM) Radio in Madison.
- WOLX (94.9 FM) Radio in Madison.
- WXJ-87 (162.55 MHz) NOAA Weather Radio in Madison.

By FCC rule, all other local broadcasters (radio, television, and cable television) are required to monitor emergency messages from these sources. On receipt of a local emergency message, the station can then rebroadcast it at their discretion. Most broadcast stations in the County recognize a responsibility to the public and will carry these messages if requested.

Broadcast radio and television, while providing an excellent warning option, have one obvious drawback. The radio or television has to be on and heard or seen to be useful. If the radio or TV is not on or the person is asleep or in another room, the warning will be missed. Local radio and television, however, remains for most people the primary source for warning verification and follow-up information in an emergency.

The primary activation point of the local EAS is Dane County Public safety Communications with backup capability in the County Emergency Management office.

Note: The Emergency Alert System is a very valuable tool in gaining access to broadcast media and cable operators in Dane County. This system, if used properly, can provide a means to rapidly disseminate vital information to the public. The decision to activate the system, however, relies solely on the judgment of officials at the scene of the event. There is one exception. The EAS will not be activated locally for severe weather threats. The National Weather Service alone retains this responsibility.

NOAA Weather Alert Radio

Residents of Dane County can take advantage of the National Weather Service's 24-hour weather broadcast system. NOAA Weather Radio in Madison is broadcast on the frequency 162.55 MHz. The National Weather Service broadcasts continuous weather information 24 hours per day. When conditions warrant, the Weather Service can interrupt programming to broadcast special weather statements and official severe weather advisories.

Through arrangements with the National Weather Service in Sullivan, emergency response officials in Dane County can use the NOAA Weather Radio system to broadcast local emergency warnings. This arrangement has the potential to be a very useful warning option. Weather radios are in widespread use in Dane County, both in residential and commercial and institutional settings. The weather radio system has the distinct advantage of not only providing citizens with the initial alert, but also can be used to deliver detailed instructions and follow-up information, night or day. In addition, most, if not all broadcast radio and television stations in the County monitor NOAA Weather Radio as an input into the broadcast Emergency Alert System. This provides a redundancy in the local EAS activation process.

Personal Notification

This warning method involves using emergency personnel to go door-to-door to deliver a personal warning message. This means of warning can be used in sparsely populated areas, in areas with a large seasonal or recreational populations, or in areas not reachable by other options. The chief advantage of this method is that people are more likely to respond to a warning delivered personally because they are more likely to believe that a real danger exists. However, door-to-door warning is time consuming and may require the commitment of many vehicles and personnel.

The Decision to Issue a Warning

There are many situations in which public warning may be necessary. The systems may be activated to provide public warnings for imminent or on-going threats to life and property. Such threats may include, but are not limited to explosion, hazardous materials release, civil disturbance, dam failure, and prolonged 911-system failure.

Predetermined thresholds for warning system activation, particularly for severe weather threats, have been developed to the extent possible. It is not practical, however, to define all cases when warnings will and will not be issued.

If an event occurs that does not fit the predetermined thresholds, the following criteria should be used as a general guideline for determining the need to issue an emergency warning:

1. Severity - Is the situation a catastrophic emergency or disaster? Is there a significant threat to public life and safety?
2. Public Protection - Is there a need for members of the public to take a protective action in order to reduce loss of life or substantial loss of property?
3. Warning - Will providing warning information assist members of the public in making the decision to take proper and prudent action?
4. Timing - Does the situation require immediate public knowledge in order to avoid adverse impact?
5. Geographic Area – For Reverse 911 consideration, is the situation limited to a defined geographic area? Is that area of a size that will allow for an effective use of the system, given the outgoing call capacity?
6. Are other means of disseminating the information inadequate to ensure proper and timely delivery of the information?

If the answer to all of these questions is “yes”, then local agencies are authorized to activate any or all components of the County warning system.

The Warning Message

The alert/notification message is one of the most important elements of the public warning effort. The content and style of the hazard notification message has a direct impact on the public’s response to a warning and the willingness to comply with the recommended protective actions. A well written warning message that is delivered consistently across all modes of dissemination will provide as much assurance as possible that members of the public will react appropriately to the occurring threat. Please note, however, that because of the digital protocol used,

the maximum length of an EAS message sent over NOAA Weather Radio is approximately one minute. The Reverse 911 system also has a practical limitation of a maximum outgoing message length of about a one-minute. Longer messages will bog down the system. A one-minute message is not very long. It is essential to be concise.

The warning message should be written in a style that clearly conveys the potential hazard to the public. An effective warning message must be specific, clear, consistent, and accurate. The content of the message should include information on five basic elements. These are:

1. The source of the message. The person or persons responsible for issuing the alert should be clearly identified. The message should identify the individuals by name, identify their positions, and state the names of their organizations or offices.
2. Description of the hazard or risk. The warning message must describe the event that has occurred (or may occur) and the danger that it poses. The hazard should be described in sufficient detail so that all members of the public can understand the character of the threat from which they are to protect themselves.
3. Location of the hazard. The message should also describe the geographic areas that are at risk as well as those areas that are not at risk. This is necessary because a wider audience than those at risk will hear the message. The details of the location should be described in terms easily understood by the public using well know landmarks and geographic boundaries. Simply siting distances from the source of the threat is not adequate.
4. Guidance for protective actions. The message must include information on what people should do to protect themselves. People will act properly when clear, detailed guidance is provided. Therefore, the proper protective actions must be described explicitly.
5. Time available to act. Public warnings must also address the “when” aspect of response. The warning message must include information on the time available for those in the affected area to take the appropriate protective action.

Sample messages illustrating these basic principals are included as an attachment to this document. While these samples do not cover every emergency situation, the texts are generic in that incident and location-specific factors can be incorporated into the final message developed by local emergency responders in a real-life situation.

Note: It is very likely that in many cases, it will be impossible to convey all of the necessary information with the one-minute time constraint of the Emergency Alert and Reverse 911 systems. Therefore, it is recommended that emergency information and instructions intended for broadcast by NOAA Weather

Radio/EAS and Reverse 911 be provided to the public in two parts: (1) the initial alert message and (2) essential emergency information and instructions provided in follow-up messages and special news broadcasts. The content of initial alert and follow-up messages will depend on the specifics of the emergency. Response officials will need to make decisions on the content of the alert messages and the content and frequency of follow-up messages.

Again, this underscores the importance of providing all essential information to the media, upfront. If, after receiving a warning via sirens, Reverse 911, or any other means, people turn to the media for more information (which they will), and they do not get the information they seek, the system will lose credibility and people will not take the recommended actions.

Activation Procedures

Dane County Public Safety Communications

The primary activation point in Dane County is the Dane County Public Safety Communications Center (Dane County 911 Center). The Dane County Emergency Operations Center is designated as a back-up activation point. The Incident Commander or designee at the scene of the emergency will forward all requests for activation of the warning system to the County communication center. The Incident Commander will make his or her authority known when requesting the activation. This contact should take place using the normally assigned channels of communication between Incident Command and the communications center. The communications center has in place standard operating procedures for activating the system.

Local Authorization

Any local elected or appointed public official or public safety command officer may request activation of any or all components of the County warning system. This includes commissioners, emergency managers, police or fire officials, or other public safety officers involved in the management of a major incident. Determination of authority to request activation of the warning system rests with local officials, not with County or broadcast station personnel.

Activation Procedures for Local Officials

1. Assess the situation. Determine if a public warning is warranted. Review the criteria listed in the "Decision to Issue a Warning" section of this document.
2. Develop the emergency message to be broadcast. Follow the guidance provided in the "Warning Message" section of this document and the format provided in the attached sample messages.

Reminder: The maximum length of the message should be kept to less than one minute. The EAS/NOAA Weather Radio and Reverse 911 systems

should only be used as a means of getting the attention of the at-risk population. If a message longer than one minute is necessary to convey all relevant information, draft the outgoing message as an initial notification. Subsequent messages containing addition or follow-up information can be covered as a news item by local media outlets.

3. Contact the Dane County communications center. Identify yourself and advise that you need to activate the warning system. Fax or relay by voice to the communications center, the text of your alert message and any follow-up information. Request specific warning system components to be activated:
 - Local sirens (Identify the locations of the units to be activated)
 - Reverse 911 (Identify the geographic area to be alerted)
 - Tone Alert Radio System
 - Emergency Alert System/NOAA Weather Radio system
4. Appoint a Public Information Officer to handle follow up information and news inquiries.
5. Dane County communications center personnel will follow standard operating procedures to activate the requested systems.
6. Issue cancellation of warning notice or otherwise ensure that the public is notified when the emergency situation is terminated.

SAMPLE EAS MESSAGES

Evacuation (Hazardous Materials Release) – Alert Message

(Insert name of local official or officials with titles and organization names) have issued the following emergency bulletin.

At (time), a (description of event) occurred at (facility and location).

This (event description) has caused (may cause) a release of (chemical name) which is extremely hazardous to human health if inhaled or comes in contact with human skin. Vapors from this (chemical name) release may not be visible and can cause serious adverse health effects with very little notice.

(Insert official names and titles) are closely monitoring the situation. The Emergency Alert System has been activated to advise people in the immediate area surrounding (event location) to evacuate immediately (give time frame if not immediate).

The evacuation zone consists of an area approximately (downwind distance) from the (location of event). This area is bounded by _____ on the west, _____ on the north, _____ on the east and _____ on the south.

If you are within this area, you should evacuate immediately. Detailed evacuation instructions have been provided to Madison area broadcast radio and television stations. Please tune to a local station for additional information.

Note: Due to time constraints, a subsequent message will be necessary to provide detailed evacuation instructions. If requested, follow-up messages will also be broadcast on Madison NOAA Weather Radio as special advisories, but will not be broadcast as EAS/SAME or tone alert messages.

SAMPLE EAS MESSAGES *continued*

Evacuation Instructions – Follow-up Message

The following evacuation instructions have been prepared by (jurisdiction and agency). It is extremely important for everyone in the area to leave in a vehicle as quickly as possible. Use only the following recommended evacuation routes.

1. _____
2. _____

Do not deviate from these routes. Do not take short cuts. A short cut may put you in the path of the released chemical.

If you are at home receiving this message to evacuate, assemble the at home family members and pets you wish to take with you. If you are not at home, do not attempt to return to your home before evacuating. If some family members are not at home, do not wait for them to return to leave with you. Get family members and pets that are at home into a single vehicle and depart immediately after this message ends.

Public shelter sites have been established at the following locations. You may use them free of charge.

1. _____
2. _____

You are advised to report to one of these sites even if you will not be utilizing the shelter services. This will allow emergency workers to verify that you have been safely evacuated and assist in reuniting family members.

If you need transportation assistance or other special help, call _____. Emergency workers are in the area to assist.

You are advised to bring with you personal items such as identification, money or credit cards, medications, eye glasses, hearing aids, tooth brushes, and a change of clothes for yourself and each member of your family. Also bring items for your baby such as diapers, formula, or baby food.

If your children are at school in this area, they will be evacuated to a safe location. Do not go to the school to pick them up.

Do not call 9-1-1 unless you have an emergency to report. Do not call 9-1-1 for information.

If you are not located in the affected area, please stay away so emergency vehicles can respond.

Once again, the (organization names) are advising people located within the area approximately (downwind distance) from the (location of event) to evacuate immediately. This area is bounded by _____ on the west, _____ on the north, _____ on the east and _____ on the south.

Stay tuned to this station for additional information and instructions.

SAMPLE EAS MESSAGES *continued*

Shelter-in-Place (Hazardous Materials Release) – Alert Message

(Insert name of local official or officials with titles and organization names) have issued the following emergency bulletin.

At (time), a (description of event) occurred at (facility and location).

This (event description) has caused (may cause) a release of (chemical name) which is extremely hazardous to human health if inhaled or comes in contact with human skin. Vapors from this (chemical name) release may not be visible and can cause serious adverse health effects with very little notice

(Insert official names and titles) are closely monitoring the situation. The Emergency Alert System has been activated to advise people in the immediate area surrounding (event location) to Shelter-in-Place immediately (give time frame if not immediate). Due to the nature of this event, outdoor concentrations of (released chemical) will not be at levels high enough to cause harmful effects. Sheltering indoors will provide you with an extra margin of safety. Do not attempt to evacuate at this time because you will risk greater exposure by going outside than if you remain indoors.

The Shelter-in-Place zone consists of an area approximately (downwind distance) from the (location of event). This area is bounded by _____ on the west, _____ on the north, _____ on the east and _____ on the south.

If you are within this area, you should Shelter-in-Place immediately. Detailed sheltering instructions have been provided to Madison area broadcast radio and television stations. Please tune to a local station for additional information.

Note: Due to time constraints, a subsequent message will be necessary to provide detailed Shelter-in-Place instructions. If requested, follow-up messages will also be broadcast on Madison NOAA Weather Radio as special advisories, but will not be broadcast as EAS/SAME or tone alert messages.

SAMPLE EAS MESSAGES *continued*

Shelter-in-Place Instructions – Follow-up Message

The following Shelter-in-Place instructions have been prepared by (jurisdiction and agency). Shelter-in-Place is a precaution intended to limit your exposure to the release of (Chemical name) and keep you safe while you remain in your home.

All family members and pets should go indoors immediately. If you are already indoors, you should stay there. You will be safe inside until the danger has passed. Once inside take the following precautions:

- Shut and lock all windows and doors, including interior doors. These actions will reduce air circulation in the building.
- Shut off all ventilation systems including your furnace, air conditioner, window fans, exhaust fans and vents.
- Go to an interior room with the fewest windows and doors. Remain calm and relaxed.
- Turn on a radio or television so that you can be notified when it is safe to leave your home. Wait for (insert organization name) to provide the official notification that it is safe for you to leave.

If your children are at school in the affected area, they will be protected at the school. Do not travel to the school to get them.

Do not call 9-1-1 unless you have an emergency to report. Do not call 9-1-1 for information.

If you are not located in the affected area, please stay away so emergency vehicles can respond.

Once again, the (organization names) are advising people located within the area approximately (downwind distance) from the (location of event) to Shelter-in-Place immediately. This area is bounded by _____ on the west, _____ on the north, _____ on the east and _____ on the south.

Stay tuned to this station for additional information and instructions.