



North Central Texas Outdoor Warning Siren Framework



Purpose: To describe the regional framework regarding the use of outdoor warning siren systems in the North Central Texas Area (NCT), and to establish recommendations for their use.

I. Outdoor Warning Sirens

An Outdoor Warning Siren (OWS) system consists of siren(s) designed to alert citizens of approaching or existing hazardous conditions, which will require immediate protective actions in order to save lives. Traditionally, these systems have been mistakenly referred to as “tornado sirens” but the term fails to acknowledge all applications for activating sirens. In order to avoid any confusion as to the purpose of these systems, the NCT area shall refer to sirens as “Outdoor Warning Sirens” in an effort to reinforce the multiple conditions for which communities may activate sirens to alert citizens in outdoor areas. Additional work is necessary to change peoples' thinking of “tornado sirens” and instead think of Outdoor Warning Sirens.

II. Reasons for Activation

Communities develop an OWS system to alert and notify citizens in outdoor areas of emergency situations. Although the typical use of these systems has been to notify residents of potentially dangerous weather conditions, there are several reasons why public safety personnel could activate their systems. Some of these reasons include:

- Severe Weather capable of producing effects that are hazardous to persons or property
- Local Warning Point activities in coordination with the National Emergency Alert System
- Hazardous materials release into the atmosphere
- Catastrophic emergencies that pose an immediate threat to safety (i.e. dam failure)

III. Activation Considerations

Even though communities vary in specific criteria for activating OWS systems, there are some commonalities in determining general activation criteria. Each community should review their activation criteria with policy makers on an annual basis in order to maintain a clear understanding of the community’s OWS system and the capabilities by which the system can alert citizens in emergency conditions. Communities should also conduct routine public education activities in order to ensure the purpose of the OWS system and proper response to OWS activation is understood to the greatest extent possible. It should also be understood that this framework is not prescriptive in nature and does not bind jurisdictions to strict adherence to the provisions below. Each jurisdiction makes activation decisions based on the totality of risk using the information available at the time. Therefore, this framework is intended to serve as a guide to be used to provide a general baseline where OWS activation may be prudent.

Jurisdictions may consider activating their OWS systems when the following conditions are observed or predicted in their area:

- The National Weather Service (NWS) issues a Tornado Warning.
- The National Weather Service Issues a Severe Thunderstorm Warning and indicates the potential for destructive winds of 70 mph or greater. A community existing in multiple counties should pay close attention to the warning area.
- Trained storm spotters have reported a tornado in the jurisdiction, or in a neighboring jurisdiction that has the potential to affect your community. (Each community should determine satisfactory methods for verifying tornado activity reports.)
- Observed hail of 1.5” in diameter or greater. The size of hail that warrants OWS activation may be adjusted at the discretion of local officials in the event of special situations such as large outdoor public gatherings where the potential for injury is increased.
- Other emergency as directed by the community’s designated public safety officials.

IV. Notification of Activation

A jurisdiction should make external notifications to neighboring jurisdictions, the NWS, and additional partners as soon as possible indicating the OWS system has been activated. Doing so allows regional partners to understand the nature of the activation and to anticipate if the conditions that necessitated the activation will apply to their jurisdiction. The NWS Chat tool is the recommended tool to share this activation information due to the intersectoral audience that monitors the site. Additionally, during NWS requested amateur radio net activations, the notification can be conducted by making an announcement via the net in progress or other means available.

V. System Considerations

OWS systems usually come in two types, omnidirectional and rotating. In some cases, jurisdictions may have a combination of these two types. Omnidirectional sirens typically consist of multiple stationary outputs that allow for continuous 360° sound propagation. Rotational sirens typically employ a single output that rotates for the duration of the siren activation.

Sound propagation is affected by several factors such as vegetation, obstacles, and the insulating factors of homes, buildings and vehicles. This greatly affects the ability of people inside buildings or vehicles to hear the OWS system when activated. Therefore, it is important to communicate that OWS System design is intended to ensure that persons who are outdoors should be able to hear the sirens. This means that persons who are indoors may not necessarily hear the sirens in their area.

VI. Monthly Testing

Communities in NCT test their OWS systems during the first week of each month based on their testing protocols. OWS systems will not be tested during periods in which severe or inclement weather is possible, so as to avoid confusion between actual weather events and testing. Some cities may conduct additional testing to ensure systems are functioning properly as needed.

VII. Media Talking Points

In recognition of the considerable capability of the NCT media outlets to disseminate information during emergencies, the following talking points are offered so that our media partners may

provide the most accurate information to the public in the event OWS systems are activated:

- Jurisdictions that operate OWS systems make activation decisions based on the impact of the incident on their community given the totality of the conditions present. This may cause a jurisdiction to activate their systems prior to reaching the thresholds outlined in Section III. Jurisdictions may also decide that activation is not necessary even when the conditions in Section III are present. For example, a jurisdiction may decide to activate their OWS system in response to hail that is less than 1.5 inches if there are a large number of people concentrated outdoors at a special event.
- Jurisdictions do not generally use the activation of OWS system in a neighboring jurisdiction as justification for OWS system activation in their community. The close proximity of many Dallas/Fort Worth Metroplex communities often results in OWS system activation in several communities. However, each jurisdiction makes activation decisions based on the conditions present in their community independent of the decisions made by their neighbors.
- The intended response to any OWS system activation is for residents to go indoors and seek further information from the various information sources available to them.

VIII. References

- Federal Emergency Management Agency (FEMA) Outdoor Warning System Guide, CPG1-17R
- National Fire Protection Agency 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications, Chapter 14 Public Alerting Systems

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