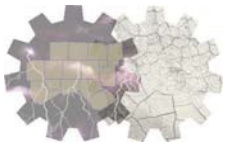
North Central Texas Outdoor Warning Siren Framework



Purpose: To describe the regional framework regarding the use of outdoor warning siren systems in the North Central Texas Area (NCT), and to establish guidance 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 people's 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 events or conditions that pose a threat to life or property, there are several reasons public safety personnel may activate their systems. These 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 or Wireless Emergency Alerts (WEA)
- Hazardous materials release into the atmosphere
- Catastrophic emergencies that pose an immediate threat to safety (i.e. dam failure)

III. Activation Considerations

The decision to activate OWS is ultimately the responsibility of emergency management/public safety officials in each jurisdiction and is made on a case-by-case basis considering the best information available at the time:

- Time of day
- If there are any large / outdoor events taking place

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.
- 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.)

- The National Weather Service Issues a Severe Thunderstorm Warning, which indicates one or more of the following:
    - Trained storm spotters: Have reported hail 1.5 inch or greater
    - Trained storm spotters: Have reported winds of 70 mph or greater at ground level
    - A "Destructive" 80 mph wind tag (which automatically triggers WEA), regardless of ground observation
    - A "Destructive" 2.75 inch or larger hail tag (which automatically triggers WEA), regardless of ground observation
- Other emergencies as directed by the community's designated public safety officials.

Each community should review its activation criteria, processes, and policy with decision makers/leadership and process 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.

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.

V. System Considerations

OWS systems generally come in two types, omnidirectional and rotating. Some 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 factors such as vegetation, terrain, obstacles, and the sound-blocking effects 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 routine testing.

Some cities may also conduct additional tests as needed to confirm that their systems are working as intended.

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, conditions, and life safety risk present in their own community. Activation may occur before formal thresholds are met, or may not occur even when thresholds are present, as outlined in Section III. For example, a jurisdiction may activate sirens for hail below 1.5 inches if large numbers of people are gathered outdoors for a special event
- Jurisdictions do not use OWS activation in a neighboring city as justification for activating their own system. While multiple Dallas/Fort Worth Metroplex communities may activate sirens at the same time due to shared weather or incident conditions, each jurisdiction makes its decision independently based on local conditions.
- The intended response to any OWS activation is for people to go indoors and seek additional information from trusted sources such as local media, city websites, weather radios, and alert systems.

VIII. References

- Federal Emergency Management Agency (FEMA). Outdoor Warning Systems Guide (CPG 1-17R). Washington, D.C.: FEMA, 2006

- National Fire Protection Agency 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications, Chapter 14 Public Alerting Systems

Approved by Emergency Management Working Group on December 14, 2017
Approved by NCTCOG Executive Board on April 26, 2018