

Association of Minnesota Emergency Managers (AMEM) Outdoor Warning Siren Best Practices Recommendation

Executive Summary

Weather Triggers. There are several types of extreme weather that should trigger activation of outdoor warning sirens (and many types that should not). Quick and effective use of sirens is especially important during violent weather events since sirens are designed to warn people engaged in outdoor activities. People outside are the most vulnerable to dangerous weather. Use of sirens for weather warning should be for a clear and present danger to life-safety, not for conditions that mostly threaten property. Of course, almost any stormy weather can increase safety risks that result in death or injuries. Slippery roads, standing water, lightning and other dangers are often part of storms. People should adjust their activities and come inside. But siren activation for public warning is not used for routine storms.

IMPORTANT NOTE: *Siren activation should not be used for routine storms (such as severe thunderstorms as defined by the NWS – winds <58 mph / hail <1.00 inch). Siren activation should be taken only in cases when it is likely that the effects of dangerous weather would likely kill or injure unprotected people outdoors or hurt people in lightly constructed structures such as mobile homes, campers, or tents.*

Best practice recommendation one – Baseline thresholds: Three types of violent weather events should trigger siren activation using the alert tone. These include tornadoes, destructive winds and destructive hail. The National Weather Service recently developed a three-tier description of hazardous thunderstorms across the nation. The highest threat category is called “destructive” and automatically generates a wireless emergency alert (WEA) from the NWS. These baseline/fail safe weather criteria for siren activation in Minnesota represent the final threshold that should not require analysis or discretion on the part of the activation authority. These are:

- **Tornadoes (NWS tornado warnings and/or trained spotter reported)**
- **Destructive Winds (Measured or imminent at or above 80 MPH)**
- **Destructive Hail (measured or indicated at 2.75 inch or above)**

Best practice siren recommendation two – Discretion for local conditions: The NWS “destructive” category is a high bar for public warning in several scenarios. Many factors can decrease the wind speeds needed to produce tragedy. Rain saturated soils can cause healthy trees to topple and kill and injure people with less extreme winds. Urban terrain, mass outdoor events, large campgrounds, significant boating activity, also could be reasons to activate outdoor warning devices in winds well below 80 mph. AMEM encourages local emergency managers or other warning

officials to assess their local conditions including extreme wind duration, soil moisture, tree canopy leaf out, outdoor activities, urban terrain, and other factors and decide whether to depart from the baseline warning criteria for winds speed. Life safety is always the driver for the use of outdoor warning sirens.

IMPORTANT NOTE: *Siren activation should not occur without activating other public warning tools. For instance, if local emergency officials decide to activate sirens due to life-safety risks from winds or other hazard, they should ensure that other public warning tools will be used as well. This may include a civil emergency message for the threatened area using wireless emergency alert (WEA), broadcast crawler messages in the emergency alert system, and other tools. The Integrated Public Alert and Warning System (IPAWS) is ideal for coordinating multiple warning systems. The simultaneous use of multiple public warning tools is an operational best practice to save lives.*