

DATE

SCOTT COUNTY AUDITOR

## RESOLUTION

### SCOTT COUNTY BOARD OF SUPERVISORS

MARCH 19, 2009

**WHEREAS**, a document entitled *Quad City Metro Area Outdoor Warning Sirens – Guidance for Testing and Activation* has been created jointly by Scott County Emergency Management Agency, Rock Island County Emergency Management Agency, the National Weather Service Quad Cities, and, the United States Army Garrison – Rock Island Arsenal; and

**WHEREAS**, this document contains common guidelines for activation of outdoor warning sirens throughout the Quad City Metro Area; and

**WHEREAS**, sirens are used to alert citizens who are outdoors of an imminent hazard and prompt them to go indoors to seek further information; and

**WHEREAS**, this document does not intend to relieve, replace or supersede any authority or responsibility local jurisdictions might have to protect the citizens of their community; and

**WHEREAS**, using common guidelines will minimize confusion in an emergency situation; and

**WHEREAS**, the guidelines are based on current communications technology systems available in our area and the current science of severe weather warnings.

**NOW, THEREFORE, BE IT RESOLVED**, by the Scott County Board of Supervisors that the document entitled *Quad City Metro Area Outdoor Warning Sirens – Guidance for Testing and Activation*, dated January 28, 2009, be hereby adopted by Scott County and be incorporated into the Emergency Operations Plan for the County.

**BE IT FURTHER RESOLVED**, that all municipalities known to have sirens and use them as outdoor warning systems be asked to adopt this policy as well.

**BE IT FURTHER RESOLVED**, that once adoption by all municipalities has been attained, a Quad Cities Metro Area public awareness effort to explain the policy will begin.

# Quad City Metro Area Outdoor Warning Sirens Guidance for Testing and Activation

## **Purpose**

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The purpose of this document is to establish common guidelines for activation of outdoor warning sirens throughout the Quad City metro area.

The outdoor warning sirens represent only one part of a broader public emergency notification system. Other components might include: NOAA Weather Radio All-hazards, law enforcement, text notification networks, and the media. Sirens are used to alert citizens who are outdoors of an imminent hazard and prompt them to go indoors and seek further information.

This document is not intended to relieve, replace, or supersede any authority or responsibility local jurisdictions might have to protect the citizens of their community.

## **Background**

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Confusion hinders public response. Using common guidelines for the outdoor warning sirens throughout the various jurisdictions of the Quad Cities will minimize confusion in emergency situations. Establishing common guidelines will also enable communities to partner in an area-wide public education campaign regarding sirens and the overall public emergency notification system.

These guidelines are based on communication technology and systems available in the Quad City metro area, and also on the current science of severe weather warnings.

## **Siren Activation for Imminent Threats**

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Upon hearing outdoor warning sirens it is important that all persons immediately refer to local broadcast media (radio, TV, etc.) for additional information!

When activated, the tone should be sounded for 3-5 minutes, re-sounding for the duration of the threat (every 10-15 minutes is recommended). Repeated sounding of sirens has directly resulted in saved lives in numerous cases, including local examples such as Granville/Utica (2004) and Iowa City (2006). In both of these cases, the initial siren tone was not heard, but later tones alerted people to the continuing threat.

If sirens have more than one tone, local officials should pre-determine the tone that is most discernible and use that tone for all alerts.

## **Severe Weather**

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National Weather Service warnings define the area threatened by the storm and include information about the history and/or potential of the specific storm. In addition, trained spotters provide real-time reports of an imminent threat approaching or occurring in the community. When a warning includes the specific hazards defined below or when trained spotters report any of these hazards, sirens should be activated for all jurisdictions in the threatened area.

**Tornadoes** – Activation recommended for:

- Tornado Warning issued by the National Weather Service and/or
- Tornado or funnel cloud reported by a trained spotter

**Severe Thunderstorms** – Activation recommended for:

Severe Thunderstorm Warning issued by the National Weather Service or a report from a trained spotter that includes:

- wind 70 mph\* or greater, and/or
- golf ball sized hail\*\* or larger

\* Most fatalities during tornadoes or severe thunderstorms occur due to falling trees or large branches. 70 mph is the typical threshold at which large branches and small trees break. (Additional background for this threshold is available in the engineering document for the Enhanced Fujita damage scale: [www.spc.ncep.noaa.gov/efscale](http://www.spc.ncep.noaa.gov/efscale))

\*\* Hail begins to break windows when it reaches or exceeds golf ball size.

**Additional considerations:**

Although other weather factors pose a risk, community-wide outdoor warning sirens should NOT be sounded for lightning or flash floods. By its nature, lightning is “self-alerting” and citizens should go indoors when thunder is heard. Also, because of the frequency of lightning, sounding sirens could desensitize the public to the sirens. Although flash floods present a threat, that threat is localized and typically in a known area. In addition, Flash Flood Warnings are often issued more than one hour before the flooding occurs, allowing local officials time for mitigation efforts, and eliminating the usefulness of community-wide sirens in this situation.

**Local Life-threatening Events**

Non-weather emergencies (hazmat incident, terrorism, nuclear emergency, etc.) that pose a threat to those outdoors and require action to protect life, should be alerted via the outdoor warning sirens by local officials based on existing agreements or local discretion depending on the emergency. If outdoor warning sirens are activated, the life-threatening conditions should also be relayed to Quad Cities NWS for broadcast on NOAA Weather Radio All-hazards.

**All Clear**

There will be no “all clear” signal from outdoor warning sirens. Citizens are expected to be indoors and should monitor local media for additional information.

**Testing**

Outdoor warning sirens will be tested the first Tuesday of each month at 10:00 a.m.

If a severe weather watch or warning is in effect for the Quad City metro area prior to 10 a.m. on a scheduled test day, the sirens should **not** be tested that day. Outdoor warning siren tests will resume on the next scheduled monthly date.

Illinois state law mandates siren testing on the first Tuesday. Iowa does not have a law regulating siren testing.

# Quad City Metro Area Outdoor Warning Sirens

## Public Safety Answering Point (PSAP) Quick Reference Guide for Activation and Testing

Sirens should be sounded for 3-5 minutes, resounding for the duration of the threat (every 10-15 minutes is recommended).

### Severe Weather

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#### Tornadoes

- Tornado Warning issued by the National Weather Service and/or
- Tornado or funnel cloud reported by a trained spotter

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Severe Thunderstorm Warning issued by the National Weather Service or report received from a trained spotter that includes:

- wind 70 mph or greater, and/or
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February 2, 2009

Subject: Outdoor Warning Systems

Objective: To determine a standardized outdoor warning system implementation policy.

Facts Bearing On Objective:

1. Outdoor warning systems (sirens) are not intended to warn the public when indoors.
2. Standard outdoor warning systems alert the public to a potentially dangerous situation.
3. Local commercial radio, television or National Oceanic and Atmospheric Administration (NOAA) Weather Alert Radios provide detailed information concerning the warning.
4. The National Weather Service (NWS) / NOAA will not advise jurisdictions to activate outdoor warning systems.
5. The decision to activate the outdoor warning system currently lies with individual jurisdictions.
6. Existing sirens will need upgrade.
7. Continued public education concerning warning policies is required.

Discussion:

A severe thunderstorm, by NOAA definition, is one where winds exceed 58 mph, and/or hail three-quarters of an inch in diameter, and/or is capable of producing a tornado. National Weather Service records reflect that Scott County receives, on average, nine (9) severe thunderstorm warnings per year. There is an annual average of two (2) tornado warnings per year. According to the Fujita Scale which categorizes tornadoes, 60% of the tornadoes annually reported nationwide are classified as F0. Referred to as a 'gale tornado' the wind speed is from 40 to 72 mph with damages typically being to chimneys, downed tree branches, uprooting small trees, minor siding and roof damages. In 2007 there were 670 confirmed F0 tornadoes nationwide with zero (0) fatalities.

There is not a mandatory nor recommended standard for severe weather siren usage. Neither the federal government nor the state government has identified a standard for outdoor warning. This is left up to the local or county jurisdictions.

FEMA's stand on outdoor sirens is summed up in a recent document entitled Are You Ready? where the reader is advised to: "Learn about the hazards that may strike your community, the risks you face from these hazards, *and your community's plans for warning and evacuation.*" (italics added).

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February 2, 2009

Subject: Outdoor Warning

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Outdoor warning systems are used for various reasons around the country. Although most commonly used to warn of a tornado, sirens are also used to alert the public to severe thunderstorms and hazardous materials incidents. When used for multiple purposes, the citizens are educated to react to a siren by going inside a safe building and listen to radio or watch local television for more information.

Jurisdictions advise that the outdoor warning system is a supplemental system designed to warn only those citizens who are outside. The primary means of warning should be NOAA Weather Radios and such devices are highly recommended. A recent Homeland Security grant has allowed for a minimum of two advanced technology weather radios to be distributed to each jurisdiction within Scott County.

The historically tornado-prone jurisdictions appear to lean towards using outdoor alerting only in the event of a tornado sighting. These locations include:

- ❖ Douglas County, Kansas
- ❖ Olathe, Kansas
- ❖ Nashville, Tennessee
- ❖ Niles, Ohio
- ❖ St. Louis County, Missouri
- ❖ Johnson County, Kansas
- ❖ Dallas, Texas
- ❖ Rock County, Wisconsin
- ❖ City of Ankeny and Polk County, Iowa

The general consensus is that there will not be an "all clear" siren. Once the warning siren has sounded, citizens are to learn of the "all-clear" via commercial radio, television or NOAA Weather Radio.

There are many jurisdictions which use outdoor warning systems as simply an alert to danger. Plano, Texas advises its citizens that the outdoor warning system "is a *supplemental* warning system, designed to warn those who are outside, or who are in close proximity to a siren. As a supplemental warning system, it may not always be audible inside homes, buildings with a high ambient noise level (such as offices or factories), or when you are sleeping.

As a primary means of warning, Weather Alert Radio Receivers are strongly encouraged for every home and business. They are available from a variety of retailers, and typically cost between \$30 and \$80. These receivers sit silently until the National Weather Service issues a warning; at which time they give out a loud alarm sound, followed by the specific warning message. The Weather Alert Radios can easily be configured to warn the hearing and visually impaired.

It is imperative that you remain aware of the potential for severe weather, especially during the spring and fall storm seasons. By remaining alert, you can anticipate severe weather, and possible watches or warnings. If the potential for severe weather exists, be prepared. Monitor your Weather Radio or a local radio/television station for updates. "

Plano, Texas is representative of many jurisdictions where outdoor warning serves multiple purposes. "In Plano, residents can experience a variety of emergencies, including the effects of tornadoes, civil defense and hazardous materials accidents. The Warning System would be used in the event the public needed to be notified of these situations."

Jurisdictions which use outdoor warning systems for multiple purposes, to include activation for severe thunderstorms, are also represented by:

- ❖ Longmont, Colorado
- ❖ Whitewater, Wisconsin
- ❖ Dakota County, Minnesota
- ❖ Will County, Illinois
- ❖ Shiller Park, Illinois
- ❖ Eau Claire County, Wisconsin

The agency or jurisdiction responsible to activate the outdoor warning system varies throughout the jurisdictions identified in this paper. Jurisdictions with local siren control include:

- ❖ Olathe, Kansas
- ❖ Longmont, Colorado (fire department responsibility)
- ❖ Nashville, Tennessee (Mayor's Office of Emergency Management)
- ❖ Whitewater, Wisconsin
- ❖ Plano, Texas
- ❖ Niles, Illinois (911 Communications Center)
- ❖ Napierville, Illinois (local EMA)
- ❖ Dakota County, Minnesota (all local jurisdiction control)
- ❖ Dallas, Texas (emergency communications center)
- ❖ St. Charles, Illinois
- ❖ Shiller Park, Illinois (local control coordinated by M.A.B.A.S. Division 20)

Centralized outdoor warning occurs in:

- ❖ Douglas County, Kansas (County Emergency Communications Center)
- ❖ Ankeny & Polk County, Iowa (Polk County Dispatch)
- ❖ St Louis County (St Louis County Police Department)
- ❖ Will County, Illinois (County 911 Center)
- ❖ Rock County, Wisconsin (EMA)
- ❖ Eau Claire County, Wisconsin (County Emergency Center)

A combination of county and local control occurs in Johnson County, Kansas.

As a result of a discussion with the local National Weather Service, it was learned that outdoor warning has come to the forefront once again given the recent wind events. NWS policy regarding the definition of a severe thunderstorm may be changed to reflect levels of severity. What is being studied is making a severe thunderstorm warning a three tiered alert. Level 1 may be those storms capable of producing winds between 58 and 70 mph; Level 2 would be a moderate concern with winds anticipated between 70 and 80 mph; and the highest stage, Level 3, would be for thunderstorms capable of producing non-tornadic winds in excess of 80 mph. Given this change occurs then a policy to activate the outdoor warning system for a Level 3 thunderstorm would be understandable. According to the NWS, outdoor warning system utilization is also being re-considered by Rock Island Arsenal and our neighboring Illinois counties. It may be possible to use the NWS to coordinate policies/actions. If the end result is differing policies within the QCA, public education becomes all the more important.

**Options:**

1. Do nothing. Current methodology is not violating any set procedures or rules. Each jurisdiction maintains individual authority.
2. Set county wide policy that outdoor warning systems will be used only for tornado warnings and allow individual jurisdictions control over activation.
3. Set county wide policy that outdoor warning systems will be used only for tornado warnings and centralize activation at the Scott Emergency Communications Center.
4. Set county wide policy that outdoor warning systems will be used for severe thunderstorm warnings and tornado warnings and allow individual jurisdictions control over activation.
5. Set county wide policy that outdoor warning systems will be used for severe thunderstorm warnings and tornado warnings and centralize activation at the Scott Emergency Communications Center.
6. Set county wide policy, to support QC metro-wide policy, that outdoor warning systems will be used for any life threatening emergency and centralize activation at the Scott Emergency Communications Center / local PSAPS.

**Discussion:**

1. Any options are secondary to promotion of NOAA Weather Radios for warnings and other information. NOAA radios may be and are used to broadcast life-threatening conditions, e.g. a major hazmat incident or buried pipeline breach. Outdoor warning systems may not be heard indoors or when sleeping. A radio set to alert will wake you up.
2. The success of any option is dependent upon a coordinated public information outreach to ensure policy understanding.
3. Option # 1 does not meet the intended objective of a standardized policy.
4. Option # 2 limits the use of a warning system and may result in disparate warning times to the public.
5. Options # 3, # 4 and # 5, again, limits the use of the warning system.
6. Option # 6 would be the best use of available resources to alert the citizenry to potential or actual danger in a coordinated manner.
7. Option # 6 would best meet the needs for the combined area.



**Recommendation:**

Use outdoor warning systems to alert public of a severe thunderstorm or tornado emergency as described in the following policy guidance.

This recommendation would require:

- ❖ Adoption of the policy by Scott County jurisdictions and County Supervisors.
- ❖ Training of PSAP and future SECC employees on activation procedures and actions.
- ❖ Public education (to be coordinated by Scott County EMA, Rock Island County EMA, RIAA and the National Weather service).