

RICHMOND OUTDOOR WARNING SIREN ACTIVATION GUIDELINES

PURPOSE:

The purpose of this standardization protocol document is to establish guidelines for the activation of outdoor warning sirens for the City of Richmond, Missouri.

The intent of this guideline is to enhance decision making by citizens when outdoor warning sirens are activated. The City of Richmond will continue to meet its responsibility to warn citizens as possible if a situation falls outside of the parameters of this policy.

Outdoor warning sirens represent only one part of the public emergency notification system. Other components include: National Oceanic and Atmospheric Administration (NOAA) All-Hazards Weather Radio, National Weather Service (NWS), NWSChat, law enforcement, fire service, emergency management, text notification networks, private sector meteorologists, and the broadcast media. Sirens are used to alert citizens of an imminent hazard, prompt them to take immediate action in finding shelter, and, once there, seek additional information on the threat to life and property.

BACKGROUND:

In 2011, there were over 1,600 tornadoes reported in the United States. These supercell storms spawned tornadoes in 48 of the 50 states and claimed 550 lives. In addition to the large loss of life there was over \$21.5 billion in insured property loss.

The National Weather Service (NWS), in collaboration with social scientists, conducted damage survey assessments after the southeast U.S. tornadoes in April 2011 and the Joplin tornado in May 2011. These NWS surveys indicated the average person verified the tornadic threat with three separate sources of information before taking life saving actions. This is a disturbing discovery for the emergency management community, as time saves lives and every second counts during a pending weather emergency.

Many of us have watched video of the Joplin High School graduation as it was culminating at Missouri Southern University, and witnessed several people milling about in the parking lot as the outdoor warning sirens were sounding. It appeared the persons in the video were oblivious to the threat that was approaching from the west. Unfortunately, 161 people lost their lives in the Joplin EF-5 tornado and thousands were injured. The complacency of the general public, tornado warning false alarm rates by the NWS and the desensitization of the public to outdoor warning sirens due to overuse has brought about the re-evaluation of the policies of the City of Richmond by those responsible for emergency management in the city. Research shows that confusion results in a delayed public response during emergencies. Using common guidelines for outdoor warning sirens will reduce this potential confusion. Establishing a standard will also enable Richmond to partner in an area-wide public education campaign regarding outdoor warning sirens, develop alternative methods for receiving severe weather warnings/information, and improve the overall public emergency notification system.

DEFINITIONS:

For the purposes of this document, the following definitions apply;

Activation: Refers to the activation of the outdoor warning siren system in an actual severe weather event or other locally defined emergency or incident.

Monthly Testing: Refers to the monthly audible testing of the outdoor warning siren systems. It does not necessarily refer to other tests throughout the year that test the sirens without sounding the audible sound for the community to hear, such as the testing performed by our siren maintenance contractor.

OWS: Outdoor warning sirens.

Severe Thunderstorm Watch: Issued by the National Weather Service when conditions are favorable for the development of severe thunderstorms in and close to the watch area. A severe thunderstorm by definition is a thunderstorm that produces one inch hail or larger in diameter and/or winds equal or exceed 58 miles an hour. During the watch, people should review severe thunderstorm safety rules and be prepared to move a place of safety if threatening weather approaches.

Severe Thunderstorm Warning: Issued when either a severe thunderstorm is indicated by Doppler radar or a trained storm spotter reports a thunderstorm producing hail one inch or larger in diameter and/or winds equal or exceed 58 miles an hour; therefore, people in the affected area should seek safe shelter immediately. Severe thunderstorms can produce tornadoes with little or no advance warning. Severe thunderstorms can occur without a watch being in place.

Tornado Watch: Issued by the National Weather Service when conditions are favorable for the development of tornadoes in and close to the watch area. During the watch, people should review tornado safety rules and be prepared to move a place of safety if threatening weather approaches.

Tornado Warning: Issued when a tornado is indicated by Doppler radar or sighted by spotters; therefore, people in the affected area should seek safe shelter immediately. They can be issued without a Tornado Watch being already in effect. Tornadoes can occur without a watch being in place.

Tornado Emergency: An exceedingly rare tornado warning issued when there is a severe threat to human life and catastrophic damage from an imminent or ongoing tornado. This tornado warning is reserved for situations when a reliable source confirms a tornado, or there is clear radar evidence of the existence of a damaging tornado, such as the observation of debris.

OWS ACTIVATION RECOMMENDED GUIDELINES

Communities vary in specific criteria for activating OWS systems; however, there are some commonalities in determining activation guidelines. The City of Richmond should review its activation criteria with policy makers on an annual basis in order to maintain a clear understanding of the community's OWS, as well as the capabilities and limitations of the system during emergency conditions. Furthermore, at the minimum, efforts to brief the community of the usage of the local OWS system should be conducted annually.

The following are factors to consider as minimum OWS activation guidelines:

- The National Weather Service issues a tornado warning and the City of Richmond is located within the tornado warning polygon.
- Trained storm spotters have reported a tornado near the City of Richmond, or in a neighboring jurisdiction that has the potential to directly affect the City of Richmond.
- Other emergencies as directed by the City of Richmond's designated emergency management officials. At present, these officials are to include the Fire Chief or his designate, the Chief of Police or his designate, the City of Richmond City Administrator or his designate, and the Mayor of the City of Richmond.

Following initial activation, the OWS system will be re-sounded at a set interval to be established by the limitations of our siren system, until the weather threat has passed.

OWS ACTIVATION RATIONALE AND THEORY

Jurisdictions develop outdoor warning systems to alert and notify citizens who are outdoors of emergency weather situations. These situations should only include tornado warnings for the jurisdictions covered in a National Weather Service warning polygon or instances when the City of Richmond is in danger of imminent tornadic activity. We should only activate warning sirens based on the aforementioned criteria.

In addition, a NOAA All-Hazards Weather Radio (with Specific Area Message Encoding SAME), along with other third party equipment, computer software and smart phone applications can provide advanced warning and notification for severe weather situations. An alternative and redundant method to receive time-critical severe weather information is strongly encouraged and recommended, both for our city agencies and for our citizens.

NOTIFICATION OF OWS ACTIVATION

Richmond should make external notifications to neighboring jurisdictions as soon as possible indicating the OWS system has been activated. This can be accomplished via telephone, public safety radio, or 911 interoperable terminals. During Amateur Radio ARES© net activations, the notification should be made via the amateur radio SKYWARN net in progress or any other means available. The purpose of this notification is to allow other jurisdictions to have the knowledge of the impending tornado warning and the possibility for serious physical injuries, death, and significant property damage to our community, as well as possible danger to their own communities.

MONTHLY OUTDOOR WARNING SIREN TESTING

This guideline recommends that the City of Richmond conduct monthly outdoor warning system tests at 11 a.m. on the first Wednesday of each month. This test specifically refers to sounding the audible sound of the outdoor warning sirens for the community to hear, weather permitting. *Examples of weather that would not permit the testing are: thunderstorms in the area, temperatures below 32F, or other criteria that the manufacturer recommends the sirens not be sounded.* The recommended testing day and time coincides with the weekly test of the NOAA All Hazards Weather radio by the National Weather Service local weather forecast offices. This practice shall remain in effect.

UNACCEPTABLE PRACTICES

Most communities in Ray County have fairly similar criteria for utilizing their outdoor warning siren (OWS) system. However many “bad practices” exist, and the intent of this guideline is just as much geared towards removing the “bad practices” as it is in establishing a standardized outdoor warning siren document.

An “all-clear” tone does nothing but add confusion to the public. Outdoor warning sirens are simply notification to citizens, who are outdoors, that a hazardous severe weather event is approaching. Once the outdoor warning sirens are activated all persons should seek a place of safety and, once there, find out more information about the severe weather threat. Using the sirens to signify that there is no threat diminishes the value of the outdoor warning siren system. There are many other methods (NOAA All-Hazards Weather Radio) for the public to learn that the threat has passed, so there is no reason for sounding an all-clear.

Some communities sound their sirens for warnings in neighboring counties as an added level of protection. This unnecessary sounding adds no value and only causes confusion when people tune in for more information and find they are not under any weather warning. Other jurisdictions alert for any severe thunderstorm warning issued during a tornado watch, because “xx years ago a tornado touched down with no warning.” While that may be true, a vast majority of severe thunderstorm warnings do not produce tornadoes. Furthermore, lowering the criteria means the sirens are sounded much more often than needed; which desensitizes the public to the outdoor warning siren tone.

The emergency managers designated in this document may cause the OWS system to be activated at any time they deem there is an imminent threat to the public. However, when activation is done outside of a NWS warning and the reason for the alert is not communicated to the public, unexpected messages may be delivered.

For example, a local spotter may see a funnel cloud approaching town. However, if it is not evident on radar and there is no warning, it is likely that the television and radio stations will simply tell viewers that they do not know why the sirens are sounding. It is a true statement unless they are informed otherwise, and leads to the public not responding. This is why clear communication is critical. Therefore, it is recommended that the OWS system NOT be activated for any reason other than those situations outlined in this document unless doing so will save lives.

It is unacceptable to sound the OWS system for emergencies other than those weather emergencies outlined in this document, unless the public has received extensive education, prior to such an event, that the warning siren may have another meaning. For example, if a chemical spill were to threaten the city and cause the need for immediate evacuation, the OWS system should NOT be used for notification unless the citizens have been adequately educated in advance that this situation may warrant an OWS activation. People would know to look to other sources of information to understand the meaning of the warning.

SUMMARY

The policy of the City of Richmond, Missouri shall be that the following criteria are to be used when making the determination to sound the OWS system.

Siren Testing:

- Warning Siren testing shall be done on a regular schedule to coincide with the state weekly test, using the standard "ALERT" (steady) sound.
- Testing of Sirens should *not* be done if conditions are in the area (non-severe storms, etc.) could confuse the public, and should *not* be rescheduled.

Siren Alerting:

- ONLY the "ALERT" (steady) Sound is to be used, lasting for 3 minutes.
- Only sirens in the path of the storm (within the National Weather Service warning polygon) should be activated.
- An "all clear" tone WILL NOT be used.

Siren Activation:

- When the National Weather Service issues or re-issues a Tornado Warning. This means that some part of the City of Richmond is included in the warning area as mapped by the National Weather Service. OWS will sound for three minutes.

If a tornado is confirmed in the area, continue to sound the sirens at regular intervals, sounding three minutes with ten minutes between activations, with the goal of sounding as continuously as possible while the tornado is still in the area.

...or...

- During a Severe Thunderstorm Warning ONLY IF destructive winds of 80mph or greater are observed by a trained spotter or indicated in the National Weather Service warning statements. OWS will sound for three minutes.

...or...

- Without a warning, when reliable reports from TRAINED weather spotters indicate a tornado or extreme winds are occurring or imminent in the area.

The National Weather Service should be notified as soon as possible that our sirens have been activated, and for what weather event. OWS will sound for three minutes.

City of Richmond Missouri OWS working group:

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Richard Roark—Ray County 911 Director
Andy Bailey-- National Weather Service WCM
Mark Sowder—Richmond Fire Department

Reference documents used in the formation of this storm warning policy included:

Mid America Regional Council Kansas City Metro Area Outdoor Warning Sirens Guidance for Testing and Activation

International Association of Emergency Managers: Recommended Best Practices for the Activation of Outdoor Warning Sirens

REGION H OUTDOOR WARNING SIREN ACTIVATION GUIDELINES

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