



OUTDOOR WARNING SIRENS

There are many areas of the country that are frequently impacted by tornadoes and other severe weather. In those parts of the country many people rely heavily on tornado sirens to alert them to immediate danger. But there are some important things about tornado sirens that you may not know. For example, sirens have a specific purpose, and many people either don't know or misunderstand the reason they're there. The vast misconception is that you can count on outdoor sirens to alert you when you are indoors, especially at night. That is not their design. Below is what you need to know!

Tips You Should Know

- Did you know that sirens are only designed to be heard while you are outside? Many people rely on them as a warning system wherever they are but don't realize that they likely will not hear them indoors.
- There is no nationwide requirement for tornado sirens. The National Weather Service issues watches and warnings but it is up to the local governments to have a community readiness system in place for their citizens.
- Tornado sirens only have an audible footprint of one to two miles, meaning that you have to be within that, in any direction, of the siren to be able to hear it. Keeping that in mind, during the rain and hail that comes along with many severe storms, it becomes even harder to hear a siren at a distance. Wind speed and direction will also affect that sound range.
- They are not precise. Almost all tornado sirens are set to sound for any county-wide tornado warning instead of for storm-specific warnings which means that often times when they are sounding you are not in immediate danger.

Tornado sirens are a valuable tool in helping to keep the public safe but they should not be the only way that you get warned about dangerous weather. Emergency officials suggest numerous layers of protection against severe thunderstorms including our storm specific products, NOAA weather radios for a heads up, and a television tuned to your nearest television news station that takes severe weather coverage seriously.

Tornadoes, confirmed funnel clouds, and potential tornado like weather events are the main events that will prompt officials to activate the outdoor warning sirens. But it isn't just weather that the sirens are used for. They could also alert the public in case of a chemical or hazardous material release – such as a truck, train, or pipeline accident.

The City of McCook has nine outdoor warning sirens installed and operating. These sirens serve as a pre-event warning device. The sirens are not required by law and they are simply another device to warn the citizens in the community of any life threatening situations which require emergency preparedness response actions by the population.

These sirens are tested on the first Monday of every month at approximately 12:00 PM. All areas of the city of McCook are within audible range of a siren. **It should be understood that the sirens are designed and intended to be an audible warning device for those persons who are out-of-doors. When sounded, sirens may not be an effective warning device for those persons who are in dwellings or automobiles. Emergency officials stress that citizens should utilize a weather alert radio for their homes.**

There are many factors that determine the ability of a siren to activate and the ability of the listener to hear the sound. These factors are explained below.

The location and condition of the power line that feeds the siren. Many of the sirens were installed with an overhead power line to an adjacent power source. This line may be vulnerable to falling tree limbs and flying debris.

The geographical proximity of the siren relative to the listener. Sound power decreases as distance from the horn increases. Hills, valleys, buildings, trees and other obstructions may have an overall negative effect on the sound level perceived by the listener as well.

The sound power of the siren horn. The sirens purchased by the city of McCook have an overall effective design radius of at least one mile from the horn in an open field. The volume of the siren tone is fixed and cannot be increased or decreased.

The rotation of the horn. Siren effectiveness is improved as the horn rotates during activation. Due to the design of the horn and a phenomenon known as the Doppler Effect, the rotating siren horn will oscillate in pitch relative to the listener. The sound produced by a rotating siren can usually be discerned from other noises. The wind also affects the sound heard by the listener.

The ambient noise level near the listener. If the listener is near a loud radio, television or other sound source, the siren may not be heard.

The composition and quantity of the shielding between the siren horn and the listener. If the listener is inside a car or home, the sirens may not be heard. Concrete and brick structures can be effective at reducing the siren sound level to the listener. Weather alert radios are strongly recommended for all dwellings, businesses, schools, mobile homes, and occupied trailers.

The existing wind conditions during siren activation. As the wind increases so does the resultant noise that it produces. People have often stated that a tornado sounds similar to an approaching freight train producing a roaring sound that can mask any other sound or audible communication. During a high wind condition if you are located upwind of a siren, it can be difficult to hear a siren that is located downwind.

The listener's ability to consciously hear the siren. Persons with varying degrees of hearing loss may have difficulty hearing the sirens. This group includes the elderly and those with hearing impairment. Additionally, persons at rest or sleeping may not be awakened by the sirens.

Upon hearing the siren, citizens should immediately tune in to local radio or television stations for information concerning the siren activation.

America's wireless industry is also helping to build a Weather-Ready Nation through a nationwide text emergency alert system, called Wireless Emergency Alerts (WEA), which will warn you when weather threatens. Wireless Emergency Alerts (WEA) are emergency messages sent by authorized government alerting authorities through your mobile carrier. Government partners include local and state public safety agencies, FEMA, the FCC, the Department of Homeland Security, and the National Weather Service.

The importance of the WEA is that alerts that are received at the right time can keep you safe during an emergency. With WEA, alerts can be sent to your mobile device when you may be in harm's way, without need to download an app or subscribe to a service.

You will receive alerts for several different types of emergencies including:

- Extreme weather warnings
- Local emergencies requiring evacuation or immediate action
- AMBER Alerts
- Presidential Alerts during a national emergency

You can find out more about WEA on NOAA.gov

During a tornado warning, citizens should exercise their tornado preparedness plan and take cover immediately in the best available protective area that they have identified. Businesses should also exercise their severe weather plan.

For other emergencies which would necessitate the activation of sirens, the public should stay tuned to local radio and television stations for further instructions.

If you have any questions concerning the outdoor sirens, please call Red Willow County Emergency Manager Alan Kotschwar at 345-1850, McCook Police Chief Ike Brown at 345-3450, or McCook Fire Chief Marc Harpham at 345-5710