Indoor and Outdoor Warning Systems

November 10th, 2010
The Fire Service should encourage states to adopt OSHA rules and issue citations.
Background

- July 2010 thunderstorm
- CodeRed Weather Warning
- August 23rd directed by Council to research indoor and outdoor warning options
Outdoor Manufacturers

FEDERAL SIGNAL

WHELEN
ENGINEERING COMPANY INC

AMERICAN SIGNAL CORPORATION
Outdoor Types

- Mechanical
- Electro-Mechanical
- Electronic
Outdoor Activation
Outdoor Activation
Outdoor Activation
Outdoor Power

A.C.

Battery

Solar
Indoor Systems

Tone Alert Radios

NOAA Weather Radio

Direct Messaging
OWS Manufacturers
Recommendations

“...people indoors may not be able to hear the warning signals.”
OWS Manufacturers
Recommendations

“Separate warning devices or procedures may be needed to effectively warn people indoors.”
Federal Recommendations

“...an outdoor warning device cannot be counted upon to alert people in ... buildings unless they are very close to the device.”
“...it is even less likely in the future that people indoors will be alerted by outdoor audible warning devices.”
Federal Recommendations

Probability of people indoors being awakened when windows are open.

17% - 52%
Federal Recommendations

“Sirens are an outdoor warning system designed to only alert those who are outdoors that something dangerous is approaching.”
Federal Recommendations

“For alerts indoors, every home and business should have a NOAA Weather Radio.”
State & Local Recommendations

Outdoor Warning Sirens are not designed to warn people indoors. Use a NOAA Weather Radio and sign up for automatic notifications.
Outdoor Effectiveness

Moorhead Outdoor Warning Siren Coverage 2010

Coverage = 8400 feet from siren
Indoor Effectiveness

Reliability

Perceptions
Other Issues

$0.36 / Household

$36 / Household

$60 / Household

Public Education
Recommendations

1. Outdoor Warning Sirens will not work indoors
2. Individuals should use NOAA Weather Radios and CodeRed Weather Alert
3. A public education program should be developed
Recommendations

4. Add one Outdoor Warning Siren at Moorhead Municipal Airport

5. Upgrade controls to two-way NOAA automatic activation

6. Consider desired power supply