Fire Prevention Week 2016: Check the date, technology, and application

NFPA 72, *National Fire Alarm Code®*, requires smoke alarms to be replaced at least every 10 years, but because the public is generally unaware of this requirement, many homes have smoke alarms past their expiration date, putting people at increased risk. To find out how old a smoke alarm is, look at the date of manufacture on the back of the alarm; the alarm should be replaced 10 years from that date.

It is vital that when choosing new smoke and CO alarms to understand the features and technology for the best application to protect your household. A number of different Wi-Fi enabled smoke and CO alarms are currently available that provide automatic notification when you are away, so you can alert a 911 dispatch center from your smartphone. The public should be aware that although these alarms notify you or other specified persons you select to be notified, and they do not send notifications directly to 911 or first responders, and have other limitations.

Vulnerable populations, fire emergencies, and 911 reporting: the challenges and solutions

Home fire emergencies create unique hazards requiring immediate evacuation of the burning structure and notification to emergency responders. Vulnerable populations (elderly, disabled) are at higher risk because they may not effectively react in home fires to immediately evacuate and call 911.

According to the NFPA, over 43 million Americans have a disability. The composition of the group of Americans with disabilities is constantly changing. A disability could be short- or long-term, and include even people who are recovering from injuries, and taking prescription medication for pain and sleep. Further, over 46 million Americans are above age 65. Elderly persons need to know what to do in a fire emergency. At age 65, people are twice as likely to be killed or injured by fires compared to the population at large.

In most fire or CO emergencies, the home occupants are in a state of anxiety and may have difficulties locating and using a land-line or mobile phone to call 911. Often these phones are located inside the building where these individuals are attempting to evacuate. Taking time to locate a phone, dial 911, and articulate the emergency is a

known challenge for most people during an emergency who are in a heightened state of fear—even more for the elderly, children, or disabled persons.

Specialized smoke and CO alarm devices and accessibility to 911 is key to protecting vulnerable persons from these known hazards. While there are a number of alarm devices and paid third party emergency services that aim to serve these populations, they are not configured to directly contact 911 emergency services in a timely manner. Congress and the FCC have mandated that Next-Generation 911 (NG911) systems include non-human initiated automatic event alerts such as alarms, telematics, and sensor data. Wireless IoT 911-connected smoke/CO/heat alarms are configured for vulnerable populations to transmit emergency text-messages directly to 911 dispatch centers and mobile emergency response personnel with mobile computing devices. Wireless communication/location technologies include multi-band/mode cellular, IP networking, WiFi, and WiMAX. Other features include time delay/disable means allowing a user to cancel unintentional or non-emergency 911 calls, and RF verification features, allowing a user to verify that the unit has a wireless signal.

Smartphone Connected Wi-Fi Alarms and Emergency Reporting

The latest WiFi-only enabled wireless smoke/CO alarms require a separate on-site WiFi router and personal computer equipment to send an emergency notification. Such separate unprotected equipment can be vulnerable to fire or heat damage even before the WiFi alarm senses smoke or fire, or can relay an emergency signal. The company Alarm.com also found:

> If you don't see the text alert from your smart smoke detector no one will alert emergency services until it's too late. If you see it but you're out of town, dialing 911 won't necessarily reach your hometown police or fire department. If your home's broadband is down, you're definitely out of luck. WiFi is fine for surfing the Internet, but depending on it for life safety puts your home and family at risk. Loss of Internet service, power outages and WiFi signal reliability can all prevent a device from sending emergency alerts. Fire/smoke detectors in essential areas like basements or attics may not work properly due to weak WiFi signals. In contrast, an always on dedicated cellular connection provides a highly reliable signal, while battery backup keeps that signal strong during a power outage.

Peletech Corporation®
www.peletechcorp.com
www.twitter.com/@peletechcorp
www.facebook.com/peletechcorp