

February 2007

Eliminating Confusion:

Proper Placement, Testing and Maintenance
of Carbon Monoxide Detectors

For security dealers, installers, distributors and authorities having jurisdiction (AHJs) in the life safety community, the cycling of product introductions tends to cause mass confusion with proper placement, testing and maintenance. The life safety industry's newest and fastest growing segment is system-connected carbon monoxide detection. This document details the National Fire Protection Agency's (NFPA) requirements for the proper placement, testing and maintenance of system-connected carbon monoxide detectors.

Industry Challenges

Unlike smoke detection devices that have been drastically enhanced over thirty-plus years, system-connected carbon monoxide (CO) detectors are still in a stage of infancy. The stringent NFPA 72 National Fire Alarm Code that exists for fire alarm systems does not yet exist for the CO segment in NFPA 720, Standard for the Installation of Carbon Monoxide (CO) Warning Equipment in Dwelling Units. In fact, many manufacturers and states have different installation and maintenance requirements for CO detectors. This causes confusion for fire protection professionals in search of consistent codes.

Because the life safety community is so large and widespread, communicating the vast array of CO requirements is difficult.

The purpose of this document is to detail the existing placement, testing and maintenance requirements of NFPA 720, 2005 edition.

NFPA's Current Requirements for Carbon Monoxide Detection

The current 2005 edition of NFPA 720 only covers dwelling/household occupancies and only states the following:

Placement:

- 5.1.1.1 - A carbon monoxide alarm or detector shall be centrally located outside of each separate sleeping area in the immediate vicinity of the bedrooms.
- 5.1.1.2 - Each alarm or detector shall be located on the wall, ceiling, or other location as specified in the installation instructions that accompany the unit.
- 5.4.1.1 - All carbon monoxide alarms or detectors shall be installed in accordance with manufacturer's installation instructions.

NOTE: The Fire Protection Research Foundation (FPRF) may conduct research involving the placement and spacing of CO detectors. Such research could

aid in creating more specific and objective CO detection standards.

Testing:

- 5.5.2 - Testing Alarms, systems, and all connected notification appliances shall be inspected and tested in accordance with the manufacturer's instructions at least once a month.
- Note that NFPA 720 does not require functional field testing, the introduction of CO gas to the detector via a canned aerosol tester. Most manufacturers of system-connected CO detectors recommend field testing via a test button. Functional testing is not recommended unless the testing kits are UL listed. Furthermore, using these testing kits can be expensive and time consuming.

Maintenance:

- 5.5.1 – If batteries are used as a source of energy, they shall be replaced in accordance with the instructions provided by the manufacturer.

Expanding Past Infancy Stage for CO Detection

Although the 2005 edition of NFPA 720 only covers dwelling/household occupancies, the NFPA 720 Technical Committee is currently in the process of revising the standard, which is expected to include non-dwelling occupancies such as hotels, day care centers and schools (the standard will mirror NFPA 72). The revised NFPA 720 will most likely include more precise placement, testing and maintenance sections, which, in turn, will force manufacturers to design system-connected CO detectors to a uniform code.

Benefits of Standardizing Placement, Testing and Maintenance of CO Detectors

Manufacturers will be obliged to comply with industry standards. This benchmark will lead to the creation of stronger products, which will:

- Better meet the life safety needs of the general public.
- Eliminate confusion amongst the life safety community as to where to place and how to test and maintain CO detectors.

Conclusion

Until the revised edition of NFPA 720 is released, contact local or state jurisdictions for local and state requirements. Also, check with the manufacturer for the CO detector's particular requirements.

For placement, testing, maintenance or other information regarding System Sensor's
new CO1224 carbon monoxide detector contact:

System Sensor
3825 Ohio Avenue
St. Charles, Illinois 60174
1-800-sensor2
www.systemsensor.com

