



Issue: Carbon Monoxide Detection in Schools

Carbon monoxide (CO) is a colorless, odorless, tasteless, and poisonous gas that is produced by the incomplete burning of various fuels, including coal, wood, charcoal, oil, kerosene, propane, and natural gas. Because CO has no odor, color, or taste, and is otherwise undetectable by human senses, people may not realize they are being exposed to the “silent killer.” Detrimental health effects depend on the length of exposure, blood concentration levels, and personal health conditions. Due to their smaller size, children are especially vulnerable to the effects of CO, may be more severely affected by exposure to the gas, and may exhibit signs (which often mimic the flu) sooner. As such, an adult teacher may not intuitively recognize that a number of sleepy students could be attributable to exposure to elevated levels of CO if he or she has not been affected to the same extent.

Position:

NEMA supports the installation of carbon monoxide detectors in schools. Carbon monoxide detection devices should be tested and listed by a Nationally Recognized Testing Laboratory accredited by the U.S. Occupational Safety and Health Administration to applicable product standards—ANSI/UL 2075 *Standard for Gas and Vapor Detectors and Sensors* or ANSI/UL 2034 *Standard for Single and Multiple Station Carbon Monoxide Alarms*—and be installed in accordance with NFPA 720 *Standard for Installation of Carbon Monoxide Detection (CO) and Warning Equipment* (2012), which is published by the National Fire Protection Association.

Importance:

The need for CO detection in schools gained national attention in December 2012 when 43 children and 10 adults at an elementary school in Georgia were sent to the hospital after experiencing mild-to-moderate symptoms of CO poisoning. Almost one year later, a similar incident occurred in southern Utah when a CO leak forced 280 students and faculty to evacuate an elementary school, sending 44 to the hospital. Over the past several years, there have been a number of recorded incidents of CO exposure at schools nationwide. However, because CO affects each individual differently and symptoms of exposure mimic those of common ailments such as the flu, it is highly probable that the number of CO exposure incidents has been underreported. The number of CO incidents in schools could rise over the coming years, particularly if HVAC equipment is not properly maintained due to resource constraints or other factors.

It is important to ensure that children, faculty, and support staff are protected while they are away from home. One of the most effective ways to reduce the incidence of CO poisoning is to ensure that effective CO detectors are installed in places where people live, work, sleep, and study. Carbon monoxide detection devices are a cost-effective, reliable way to alert of CO dangers and protect the public from CO poisoning. Requiring CO detectors in schools has the potential to save lives, prevent illness, and lessen the time away from school.

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NEMA is the association of electrical equipment and medical imaging manufacturers, founded in 1926 and headquartered in Rosslyn, Virginia. Nearly 400 members strong, its companies manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical imaging and radiation therapy systems. Total U.S. shipments for electroindustry products exceed \$100 billion annually.

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- NEMA promotes safety, innovation, interoperability, environment, and market enhancement through advocacy, business information, and standards for products, systems, and technologies.
- NEMA publishes over 600 standards, application guides, white papers, and technical papers.
- NEMA responds to codes and standards proposals of other organizations in the U.S. and around the world, facilitating the development of international and North American harmonized standards.
- NEMA was named in the Energy Independence and Security Act of 2007 to work with federal agencies on efforts to enhance the efficiency, sustainability, and security of the electricity grid. As part of this, NEMA has been instrumental in the Smart Grid Interoperability Panel (SGIP) and the National Institute of Standards and Technology (NIST) Smart Grid Federal Advisory Committee.