

# Government Relations Update

## › The Silent Killer: Are Children Being Poisoned at School? *Carbon Monoxide Leaks Prompt Legislative, Regulatory Response*

On December 3, 2012, an elementary school in Atlanta, Georgia, was evacuated due to elevated—and potentially lethal—levels of carbon monoxide (CO). Forty-three students and ten adults were sent to area hospitals for treatment after exhibiting mild to moderate symptoms of CO poisoning. This event quickly gained national media attention, with coverage on NBC’s *Today Show* and *Nightly News*, as well as in *USA Today* and countless newspapers, radio stations, and TV networks.

Unfortunately, it wasn’t an isolated incident. Based on a compilation of media reports, NEMA has estimated that more than 60 incidents of suspected or confirmed CO leaks have been reported at schools nationwide since 2004. Because CO affects each individual differently and symptoms of exposure mimic those of common ailments such

as the flu (see below “What is Carbon Monoxide?”), it is highly probable that the number of CO exposure incidents has been underreported. Because of their size, young children are especially vulnerable to the effects of CO, may be more severely affected by exposure to the gas, and may exhibit signs sooner. An adult teacher may not intuitively recognize that a number of sleepy students could be attributable to exposure to elevated levels of CO if she has not been affected to the same extent.

NEMA’s Signaling, Protection, and Communication Section has been at the forefront of promoting life safety and CO detection in homes, apartments, dormitories, hotels, and other residential and commercial occupancies for years. As a result, more than three dozen states have adopted some level of CO detection requirements via statute or code.

Recognizing that CO dangers in schools pose a new frontier for advancing life safety, NEMA engaged the Connecticut legislature in 2011 on legislation (PL 11-248) to require CO detection in all public and non-public schools. Building on that success, NEMA achieved enactment of a second statewide law in Maryland (SB 173, Chapter 38) in 2012.

In 2013, legislation has been introduced in several states to mandate the installation of CO detection systems in educational occupancies including California (AB 56), Florida (HB 63 / SB 116), Georgia (HB 23/SB 89), Illinois (HB 3059), Maine (LD 593), Massachusetts (H 2168), New Jersey (AB 3640 / SB 2402), New York (AB 3752 / SB 1848), Pennsylvania (HB 615), and South Carolina (H 3363). In addition, Georgia and Virginia are considering administrative rules to require CO

## › What is Carbon Monoxide?

Carbon monoxide (CO) is a colorless, odorless, tasteless, poisonous gas that is produced by the incomplete burning of various fuels including coal, wood, charcoal, oil, kerosene, propane, and natural gas. Equipment powered by internal combustion engines—such as cars, portable generators, lawn mowers, and power washers—all produce CO.

Through the normal process of respiration, oxygen enters the lungs and is transported by hemoglobin in the blood to various organs and tissues in the body, such as the heart and brain. When CO is inhaled, it enters the bloodstream and attaches to hemoglobin forming the COHb molecule. COHb reduces the ability of the blood to carry oxygen to

vital organs by preventing the oxygen molecule from attaching to the hemoglobin.

### **SYMPTOMS OF CO POISONING**

At low to moderate concentrations, CO symptoms are similar to the flu and include:

- headaches
- dizziness
- sleepiness
- nausea
- shortness of breath
- mental confusion
- disorientation
- vomiting

At high concentrations in the blood, CO can cause:

- cognitive impairment
- loss of muscle coordination
- loss of consciousness
- coma
- death ☠

## › CO podcasts

This four-part podcast series with Richard Roberts, co-chair of NEMA 3SB Smoke/CO Group, covers carbon monoxide detection, difference between detectors and alarms, detection in buildings and dwellings, state and model building code developments, and frequently asked questions.

[www.nema.org/podcast-series-Carbon-Monoxide](http://www.nema.org/podcast-series-Carbon-Monoxide)

detection in schools, and Atlanta adopted an ordinance earlier this year to require CO detectors in all public buildings—including schools—within the city. NEMA has specifically engaged representation in New York to advocate for enactment of AB 3752 / SB 1848 and is actively working with the bill sponsors to advance this bill during the remainder of the 2013 legislative session.

### C&S COMMUNITY RESPONDS

The need for CO detection in educational occupancies also has garnered the attention of the codes and standards community. The current 2012 edition of National Fire Protection Association (NFPA) 101 *Life Safety Code*®, has entered a revision cycle to create the 2015 version. During the First Draft meeting in August 2012, the

committee accepted a NEMA Public Input to require CO detection in K-12 educational occupancies. The First Draft Report was open for public comment via the NFPA website through May 3, 2013. In addition, the 2012 editions of the *International Building Code* and *International Fire Code* have entered the 2015 revision cycle, and in April 2013, the International Code Council (ICC) membership and interested stakeholders will have the opportunity to review and vote on code change proposals to require CO detection in Group E (Educational) Occupancies for both codes.

Recognizing the importance of ensuring that children, faculty, and support staff are protected from CO dangers while they are away from home, NEMA has positioned itself within the life safety

community as a leading advocate for CO detection in schools. NEMA is working closely with state legislators and regulators, the codes and standards community, and other partners to raise awareness of this need and to work toward common-sense solutions. Requiring CO detectors in schools has the potential to save lives, prevent illness, and lessen the time away from school. It is an idea whose time has come.

For more information on carbon monoxide and other fire and life safety issues, please visit [www.lifesafetysolutionsonline.com](http://www.lifesafetysolutionsonline.com). ☎

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## › OSHA to Update Regulations to Reference Z535 Standards

At NEMA's request, the Occupational Safety and Health Administration (OSHA) plans to issue a direct final rule (DFR) this spring to incorporate in its regulations references to 2011 versions of several ANSI Z535 standards published by NEMA.

Recommended for publication by OSHA's Advisory Committee on Construction Safety and Health, the DFR will update ANSI standards references in four provisions of OSHA's general industry and construction standards (29 CFR):

- §1910.07 *Nonionizing radiation*;
- §1910.145 *Specifications for accident prevention signs and tags*;
- §1910.261 *Pulp, paper, and paper board bills*; and
- §1926.200 *Accident prevention signs and tags*.

OSHA's existing regulations reference American Standards Association (ASA) Z53.1-1967 (*Safety Color Code for Marking*

*Physical Hazards and the Identification of Certain Equipment*), Z35.1-1968 (*Specifications for Accident Prevention Signs*), and Z35.2-1968 (*Specifications for Accident Prevention Tags*).

Currently, employers who want to use signage that comply with the newer Z535 standards are technically in violation of existing regulations, but are not fined by OSHA via a "*de minimus* situation" provision.

To right this wrong and minimize compliance burdens for industry, OSHA will allow manufacturers to comply with either OSHA's existing referenced standards or the referenced 2011 ANSI Z535 standards. The ANSI Z535 series of standards are routinely cited in litigation as defining the state of the art when there is a question to the adequacy of safety communication.

ANSI Z535 standards offer several advantages over the outdated ASA standards including better definition for safety sign content; improved

sign formats; differentiation between varying degrees of risk/hazard severity; consistency leading to improved comprehension, particularly for increasingly multicultural workforces; and superior overall guidance on safety sign design.

OSHA is pursuing a dual path of utilizing the DFR in conjunction with a typical Notice of Proposed Rulemaking (NPRM). If OSHA receives no significant adverse comments on the DFR during the public comment period, the changes will become effective 90 days after publication in the *Federal Register* and OSHA will withdraw the NPRM.

If OSHA receives significant adverse comments, it will withdraw the DFR and proceed with rulemaking through the standard NPRM process. ☎

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