

# IT'S TIME FOR COMMERCIAL

THE ARGUMENT GROWS FOR LAWS REQUIRING BUSINESSES TO MONITOR CARBON MONOXIDE



by John V. Carvalho III

In 2014, a carbon monoxide leak in the heating system at a large national seafood restaurant chain in New York resulted in the death of a restaurant manager, the hospitalization of another staff member and the need for 26 patrons to be treated at a local hospital. This tragedy sent a shockwave through the restaurant community. The seafood restaurant responded by installing carbon monoxide detectors in all the chain seafood restaurants. Yet the question most people had was, "why didn't the restaurant have carbon monoxide detectors to begin with?"

This is a good question with a most troubling answer: most states, including Rhode Island, do not require restaurants and retail outlets to have carbon monoxide detectors.

The Rhode Island Uniform Fire Code (RIUFC) does require carbon monoxide detectors in all apartment buildings, dormitories, lodging and rooming houses, one-, two- and three-family dwellings and child day-care facilities, but for places where patrons will not be sleeping, there is no requirement.

The scary reality is that it doesn't take much of a leak to have an impact. For example, if your employees work an eight-hour shift in an environment with an unknown carbon monoxide leak with a concentration of 200 parts per million (PPM), they would begin to experience headaches in as little as two to three hours.

## Health Effects of Carbon Monoxide (CO):

**• 9 PPM %: 0.0009**

*Exposure time and symptoms:*  
Maximum allowed ambient by EPA

**• 35 PPM %: 0.0035**

*Exposure time and symptoms:*  
Maximum for 8 hour exposure

**• 200 PPM %: 0.02**

*Exposure time and symptoms:*  
Headache in 2 to 3 hours

**• 400 PPM %: 0.04**

*Exposure time and symptoms:*  
Life threatening after 3 hours

**• 800 PPM %: 0.08**

*Exposure time and symptoms:*  
Dizziness, nausea, convulsion in 45 minutes. Death within 2 to 3 hours

**• 1600 PPM %: 0.16**

*Exposure time and symptoms:*  
Headache, dizziness, nausea in 20 minutes. Death within 1 hour

**• 3200 PPM %: 0.32**

*Exposure time and symptoms:*  
Headache, dizziness, nausea in 10 minutes. Death in 30 minutes

**• 6400 PPM %: 0.64**

*Exposure time and symptoms:*  
Headache, dizziness, nausea in 2 minutes. Death in 10 to 15 minutes

**• 12800 PPM %: 1.28**

*Exposure time and symptoms:*  
Death in 1 to 3 minutes

Making the problem difficult to pinpoint is that everyone reacts differently to carbon monoxide. Some people fall ill in a short amount of time; for others it can be longer. As was the case at the seafood restaurant, it doesn't take overnight exposure to carbon monoxide for it to be lethal. In some cases, 10 to 15 minutes of exposure can put you at serious risk.

We recommend a carbon monoxide detection system for any retail store,

restaurant, hotel/inn that uses fossil fuel sources (oil, propane, and natural gas) in the basement or boiler room. It is even more important to have a detector if your heating systems employ elbow-shaped pipes. Elbow pipes can be dangerous when there's a leak because the shape of the pipe will slow the flow of the carbon monoxide and create much greater exposure than a straight pipe.

In terms of the types of systems businesses should choose, that can vary on the size of the building and the number of people in that building at a given time.

A smaller business could get by with a store-bought, battery-operated carbon monoxide detection system similar to the ones you might have in your home. Yet when you consider the potential risks and the devastating impact one incident can have on a business—even with no fatalities—it makes sense to take that extra precaution for your customers and staff.

One recommendation we make with the installation of any gas detection



**“ Some people fall ill in a short amount of time; for others it can be longer. ”**

is a maintenance plan. Why? If the gas detection system doesn't work, you typically find out when someone gets sick or worse. Regrettably, many facilities managers for hospitality and retail outlets go by the mantra that if the gas detection system doesn't see or read anything other than zero then nothing is wrong. Unfortunately, you can't know a gas detection system is working unless it's tested with the appropriate gases. That's why it's critical to work with a certified gas detection company with the appropriate accreditations.

Sure, a maintenance plan is an added expense, but think of the cost of one incident like the one at the seafood restaurant. For smaller stores, restaurants or hotels, that could be a business-ender. When you compare the cost for a gas detection system and maintenance plan to potential litigation and bankruptcy, it really is a no-brainer.

**John V. Carvalho, III** is the president of Apollo Safety, Inc. Veteran-owned, Apollo Safety specializes in gas detection products and services for portable and stationary systems. For information, please visit [www.gasmonitorinstallation.com](http://www.gasmonitorinstallation.com) or call 800-813-5408.



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