

Carbon Monoxide Detector Requirement

Effective July 1, 2008

Last year (2007) the Florida Legislature instructed the Florida Building Commission to establish a requirement mandating “Carbon Monoxide Detectors” (CO detectors) in newly constructed single-family homes and hotels/motels as of July 1, 2008.

The ruling applies to all new residential construction including all buildings with attached garages/room additions when incorporating fossil-fuel burning heaters, appliances, or wood and gas fireplace systems. As a safety precaution, all CO detectors shall be directly wired to the home’s electrical system, the CO alarms must be listed, labeled, and installed within 10-feet of a sleeping/bedroom.

The established requirement is as follows:

(1) Definitions: The following definitions shall apply:

(a) CARBON MONOXIDE ALARM. A device for the purpose of detecting carbon monoxide, that produces a distinct audible alarm, and is listed or labeled with the appropriate standard, either ANSI/UL 2034 - 96, Standard for Single and Multiple Station CO Alarms, incorporated herein by reference, or UL 2075 - 04, Gas and Vapor Detector Sensor, incorporated herein by reference, in accordance with its application.

(b) FOSSIL FUEL. Coal, kerosene, oil, fuel gases, or other petroleum products such as gasoline or hydrocarbon products that emit carbon monoxide as a by-product of combustion.

(2) Every building for which a building permit for new construction is issued on or after 7/1/08 and having a fossil-fuel-burning heater or appliance, a fireplace, or an attached garage shall have an operational carbon monoxide alarm installed within 10 feet of each room used for sleeping purposes.

(3) In new construction, alarms shall receive their primary power from the building wiring when such wiring is served from the local power utility. Such alarms shall have battery back up.

(4) Combination smoke/carbon monoxide alarms shall be listed or labeled by a Nationally Recognized Testing Laboratory.

Note: Please be reminded that Clearwater Gas System does not endorse any particular brand of CO detector; homeowners may contact Underwriters Laboratories at (847) 272-8800 for a list of comparable brands.

FREQUENTLY ASKED QUESTIONS

What is carbon monoxide?

Carbon monoxide (CO) is a poisonous gas that is odorless, colorless and tasteless. It results from the incomplete combustion of organic materials such as gasoline, kerosene, natural gas, propane, coal, wood, charcoal, diesel fuel and heating oil.

When breathed into the body, CO combines with the body's blood and prevents it from absorbing oxygen. A person exposed to high levels of CO may complain of dizziness, headache, nausea, sleepiness and similar symptoms. In extreme cases, CO poisoning can be fatal.

Does the new CO ruling have any effect on existing residential properties?

Overall, the risk of being affected by carbon monoxide poisoning from natural gas equipment is very low. According to the Consumer Product Safety Commission, natural gas and propane (or LP gas) equipment is responsible for less than 140 fatalities from CO poisoning every year. About 53 million American homes have natural gas service. That means the chance of a CO fatality related to natural gas equipment is about one in four million.

The first step to take to prevent CO problems related to natural gas or LP gas equipment is to have an annual inspection by a qualified gas technician. Homeowners should also conduct a visual inspection on a regular basis, looking for indications of a problem, such as soot or water collecting near a vent or appliance.

What are the sources of CO?

CO is a by-product of incomplete combustion; CO sources can include malfunctioning appliances – such as furnaces, stoves, ovens and water heaters – that operate by burning fossil fuels such as natural or liquefied propane (LP). When malfunctioning appliances aren't adequately ventilated, the amount of CO in the air may rise to a level that can cause illness or even death. Other CO sources include motor vehicle exhaust, blocked chimney flues, fuel-burning cooking appliances used for heating purposes, and charcoal grills used in the home, tent, camper, garage or other unventilated areas. Operating emergency generators too close to a window or doorway will also create incomplete combustion.

What are the *potential* visual symptoms of CO poisoning?

CO poisoning victims may initially suffer flu-like symptoms including nausea, fatigue, headaches, dizziness, confusion and breathing difficulty. Because CO poisoning often causes a victim's blood pressure to rise, the victim's skin may take on a pink or red cast.

How does CO affect the human body?

When victims inhale CO, the toxic gas enters the bloodstream and replaces the oxygen molecules found on the critical blood component, hemoglobin, depriving the heart and brain of the oxygen necessary to function.

The following medical related conditions are a result of carbon monoxide poisoning and should be discussed with all members of the household:

Mild exposure: Often described as flu-like symptoms, including slight headache, nausea, vomiting, fatigue.

Medium exposure: Severe throbbing headache, drowsiness, confusion, fast heart rate.

Extreme exposure: Unconsciousness, convulsions, cardiorespiratory failure, death.

Many cases of reported carbon monoxide poisoning indicate that while victims are aware they are not well, they become so disoriented, that they are unable to save themselves by either exiting the building or calling for assistance. Young children and household pets are typically the first affected.

How can I tell if there is a risk of CO poisoning in my home?

Have your fuel-burning appliances inspected by a qualified gas technician at least once a year. A qualified gas technician should have practical knowledge of the operation, installation and proper ventilation of fossil-fuel-burning devices. Always keep a copy of the appliance operation and installation manual for review. Be alert to the danger signs that signal a potential CO problem:

- ❑ Streaks of carbon or soot around the service door of your fuel-burning appliances;
- ❑ The absence of a draft in your chimney (indicating blockage);
- ❑ Excessive rusting on flue pipes or appliance jackets;
- ❑ Moisture collecting on windows and walls of furnace rooms;
- ❑ Fallen soot from the fireplace;
- ❑ Small amounts of water leaking from the base of the chimney, vent or flue pipe;
- ❑ Damaged or discolored bricks at the top of your chimney;
- ❑ Rust on the portion of the vent pipe visible from outside your home.
- ❑ Note: CO poisoning may be the cause when family members suffer from flu-like symptoms that don't disappear but improve when they leave home for extended periods of time.

How can I avoid CO poisoning?

The most important steps are preventive ones. Have a qualified gas service professional inspect your fuel-burning appliances at least once a year. Install only UL Listed CO alarms outside of sleeping areas and near all fuel-burning appliances. Other precautions include:

- ❑ Avoid using charcoal grills inside the home, tent or camper, or in an unventilated garage;
- ❑ Don't allow vehicle exhaust fumes to enter the home; and
- ❑ Make sure all fuel-burning appliances are properly ventilated.

Do CO alarms operate differently than smoke alarms?

Although they may look and sound similar, CO alarms and smoke alarms are designed and intended to detect two separate, distinct hazards, therefore, to help protect your family from both hazards, it's important to install both UL Listed CO alarms and smoke detectors.

Does Clearwater Gas System offer annual inspections to test CO levels?

Yes, Clearwater Gas System's Service and Repair department conducts annual appliance inspections, and additionally provides appliance service and repair at the homeowner's request. Please call (727) 562-4900, ext. 7419 to schedule an inspection by our qualified team of service technicians.

When natural gas is used in a properly adjusted burner with an adequate air supply, its primary by-products are carbon dioxide and water vapor, the same substances that are exhaled when we breathe. However, when not enough air is available to support combustion, less carbon dioxide is produced and carbon monoxide is produced instead. Carbon monoxide can be dangerous, but proper use and maintenance of appliances and equipment can ensure their continued safe operation.

Source: Underwriters Laboratories Inc.

Useful links:

www.ul.com
www.cpsc.gov