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## State Fire Marshal Division

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### CARBON MONOXIDE ALARMS – MINNESOTA STATUTE 299F.50

#### SECTION 1 – GENERAL INFORMATION

##### 1.1 MN Statute 299F.50

Minnesota Statute 299F.50 requires approved carbon monoxide (CO) alarms in all single family homes and multifamily apartment units with effective dates as follows:

- All new construction single family homes and multi-family dwellings where building permits were issued on or after January 1, 2007.
- All existing single family homes effective August 1, 2008.
- All existing multi-family or apartment dwelling units effective August 1, 2009.

Minnesota Statute 299F.50 does not apply to hospitals, nursing homes, boarding care homes, jails and prisons.

##### 1.2 Underwriters Laboratories listing requirements

All carbon monoxide alarms must be certified by a nationally recognized testing laboratory that conforms to the latest Underwriters Laboratories (U/L) Standard UL-2034.

##### 1.3 Smoke alarms vs. carbon monoxide alarms

It is important to recognize the differences between smoke alarms and carbon monoxide (CO) alarms. CO alarms activate based on the concentration of CO over a period of time; this allows for a brief period to ensure that everyone is alright and for the occupant(s) to investigate possible sources of CO accumulation within the residence. When a smoke alarm sounds, all occupants should immediately vacate the premise and call 911.

Alternatively, if a CO alarm sounds in the residence a person should verify that the occupants are not showing signs of CO poisoning (headache, nausea, vomiting, disorientation, etc.). If anyone in the home has symptoms of CO poisoning, call 911 immediately. If no one has symptoms of CO poisoning, open windows or doors to allow fresh air to enter and contact the utility company or appliance repair company as soon as possible.

There is a difference between smoke alarms and carbon monoxide alarms and they shall not be used interchangeably. The Minnesota State Fire Code (MSFC) has regulations on the location, placement and power supply of smoke alarms inside residential dwelling units depending on the date of construction. For additional information on this subject please review the State Fire Marshal Division Information Sheet titled *Smoke Alarm Requirements for Residential Occupancies*. Some manufacturers, however, have devices that are combination smoke alarm/carbon monoxide alarms. These devices are acceptable. In the case that these combination devices are installed, the smoke alarm installation requirements shall be followed.



#### **1.4 Carbon monoxide alarm life-span.**

Carbon monoxide alarms have an effective life-span of 5-7 years. Many manufacturers recommend these devices be replaced at six (6) year intervals.

## **SECTION 2 –LOCATION REQUIREMENTS**

### **2.1 Location**

Every single family dwelling and every multifamily dwelling unit shall be provided with a minimum of one approved and fully operational carbon monoxide alarm installed within ten (10) feet of each room lawfully used for sleeping purposes. If bedrooms are located on separate floors additional carbon monoxide alarms would be necessary within ten feet of these areas. If bedrooms are located in separate areas (on the same level), additional carbon monoxide alarms would be necessary within ten (10) feet of these areas. In lieu of installing multiple CO alarms in the hallway, a separate CO could be installed inside each sleeping room.

It is important that these devices be installed in accordance with the manufacturer's installations instructions and not be placed in 'dead' air pockets such as corners of rooms, at the junction of walls and ceilings or within thirty-six (36) inches of ventilation ducts.

### **2.2 Height requirements**

Carbon monoxide alarms shall be installed at the height specified in the manufacturer's installation instructions.

## **SECTION 3 – MULTI-FAMILY DWELLING UNITS & STATE OPERATED FACILITIES**

### **3.1 Owner responsibilities in multifamily dwellings**

It shall be the owner's responsibility of a multifamily dwelling that is required to be equipped with carbon monoxide alarms to:

- (1) provide and install one approved and operational carbon monoxide alarm within ten feet of each room lawfully used for sleeping (please see section 2.1 above for alternatives); and,
- (2) replace any required carbon monoxide alarm that has been stolen, removed, found missing, or rendered inoperable during a prior occupancy of the dwelling unit and which has not been replaced by the occupant prior to the commencement of a new occupancy of a dwelling unit.

### **3.2 Battery removal and tampering prohibited**

No person shall remove batteries from, or in any way render inoperable, a required carbon monoxide alarm.

### **3.3 Multi-family dwelling unit and state operated facility exceptions**

#### **3.3.1 Multi-family dwelling unit exception**

As an alternative to installing carbon monoxide alarms inside each dwelling unit, multifamily dwellings may have approved and operational carbon monoxide alarms installed between 15 and 25 feet of carbon monoxide producing central fixtures and equipment provided there is a centralized alarm system or other mechanism for responsible parties to hear the alarm at all times.

Carbon monoxide detectors may be connected as a supervisory signal to the building fire alarm system provided the signal transmitted is a distinct carbon monoxide supervisory signal that is sent to a central station alarm monitoring location or to a constantly attended

location. It is not appropriate for the signal to transmit to the building management office, a dwelling unit or any other location that is not constantly attended. Carbon monoxide alarms shall not be connected to a fire alarm system evacuation signal. Building management can contact a licensed fire alarm contractor or electrician to make these modifications.

The notification method of a carbon monoxide detector installed per the exception provided within the statute shall notify responsible persons one of three ways. Carbon monoxide detectors may: 1) Sound a general alarm throughout the building provided it is independent and distinct from the fire alarm system and shall deactivate upon a fire alarm activation, 2) Sound a local alarm at a constantly attended location such as a nurse's station or security office or, 3) Be connected to the fire alarm system telephone dialer and be monitored as a distinct carbon monoxide alarm by an approved remote or central station service, per NFPA 72.

### **3.3.2 Multi-family dwelling unit with little or no sources of carbon monoxide**

An owner of a multifamily dwelling that contains minimal or no sources of carbon monoxide may be exempted from the requirements of MN Statute 299F.50, provided that such owner certifies to the commissioner of public safety that such multifamily dwelling poses no foreseeable carbon monoxide risk to the health and safety to the dwelling units. For additional information on this subject please follow the link to the [Carbon Monoxide Commissioner Certification of Exemption](#) form.

Please consider when completing the certificate of exemption that the following are common sources of carbon monoxide that can be hazardous to human occupants:

- Gas, oil, wood, coal, kerosene or corn furnaces, heaters, boilers and stoves
- Gas, charcoal grills allowed within a building
- Gas or oil water heaters
- Gas clothes dryers
- Gas ovens
- Gas kitchen range
- Gas fryers or other gas kitchen appliances
- Portable fuel or gas heaters
- Gas, oil, wood fireplaces
- Other fuel burning appliances
- Attached or tuck-under parking garage
  - Size of garage area. (larger areas may tend to dilute any CO produced)
  - Number of vehicles likely operating at one time.
  - The ventilation system in the garage
  - Any CO detection interconnected to ventilation system
  - Are all openings from garage to the building sealed?
  - Delivery or other vehicles running for extended periods
  - Other gas fired equipment operating in garage area

### **3.3.3 State operated facilities**

The requirements outlined in MN Statute 299F.50 do not apply to facilities owned or operated by the state of Minnesota.

If you have additional questions or need further information on the carbon monoxide legislation please contact the State Fire Marshal Division at 651-201-7200, visit our web site at [www.fire.state.mn.us](http://www.fire.state.mn.us) or e-mail your questions to [firecode@state.mn.us](mailto:firecode@state.mn.us).