

more approved carbon monoxide alarms must:

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stolen, removed, found missing, or rendered inoperable during a prior occupancy of the dwelling unit and which has not been replaced by the prior occupant prior to the commencement of a new occupancy of a dwelling unit.

Subdivision 3. **Occupant's duties.** The occupant of each dwelling unit in a multifamily dwelling in which an approved and operational carbon monoxide alarm has been provided and installed by the owner must:

1. Keep and maintain the device in good repair; and
2. Replace any device that is stolen, removed, missing, or rendered inoperable during the occupancy of the dwelling unit.

Subdivision 4. **Battery removal prohibited.** No person shall remove batteries from, or in any way render inoperable, a required carbon monoxide alarm.

Subdivision 5. **Exceptions; certain multifamily dwellings and state-operated facilities.**

- a. In lieu of requirements of subdivision 1, 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.
- b. An owner of a multifamily dwelling that contains minimal or no sources of carbon monoxide may be exempted from the requirements of subdivision 1, 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 of the dwelling units.
- c. The requirements of this section do not apply to facilities owned or operated by the State of Minnesota.

#### 299F.50 Definitions

Subdivision 1. **Scope.** As used in sections 299F.50 and 299F.51, the terms defined in this section have the meanings given them.

Subdivision 2. **Installed.** "Installed" means that an approved carbon monoxide alarm is hardwired into the electrical wiring, directly plugged into an electrical outlet without a switch, or, if the alarm is battery-powered, attached to the wall of the dwelling.

Subdivision 3. **Single and multifamily dwelling.** "Single and multifamily dwelling" means any building or structure which is wholly or partly used or intended to be used for living or sleeping by human occupants.

Subdivision 4. **Dwelling unit.** "Dwelling unit" means an area meant for living or sleeping by human occupants.

Subdivision 5. **Approved carbon monoxide alarm.** "Approved carbon monoxide alarm" means a device meant for the purpose of detecting carbon monoxide that is certified by a nationally recognized testing laboratory to conform to the latest Underwriters Laboratories Standards (known as UL2034 standards).

Subdivision 6. **Operational.** "Operational" means working and in service.

**NOTE: This section, as added by Laws 2006, chapter 260, article 3, section 21, is effective January 1, 2007, for all newly constructed single-family and multi-family dwelling units for which building permits were issued on or after January 1, 2007; August 1, 2008, for all existing single family dwelling units; and August 1, 2009, for all multifamily dwelling units. Laws 2006, chapter 260, article 3, section 21, the effective date.**

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## SMOKE AND CARBON MONOXIDE ALARMS

*Guidelines for  
placement and use  
of smoke  
alarms and carbon  
monoxide alarms*



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## WHY ARE SMOKE ALARMS REQUIRED?

More fire deaths occur in residential buildings than in any other building type. More than half of all fire deaths that occur in residential buildings occur when the occupants are asleep and are unaware there is a fire. Death usually results from asphyxiation long before the fire reaches the occupants.

Smoke alarms installed in a home give an early warning of smoke and fire thus giving the occupants the critical few moments needed to escape.

In order to address the tragic loss of lives in residential buildings, The Minnesota State Building Code has requirements for the installation of smoke alarms in a home.

## GENERAL REQUIREMENTS

In general, the code requires that smoke alarms be provided on each floor of a dwelling, in the corridor giving access to bedrooms and in bedrooms. Alarms in new construction must receive their power from the building wiring and have a battery backup in the event of loss of electrical power. During remodeling where connection to the building wiring is difficult to achieve, battery-operated alarms may be used. (Refer to International Residential Code, Section R313.1)

An important feature of the requirement for alarms being connected into the building's electrical wiring is that there must be no disconnecting means other than the primary over current protection (fuse or circuit breaker). Those means alarms must be wired directly into the building's wiring system and that no switches, plugs or mechanical disconnects are permitted between the electric service panel and the alarm.

## SPECIFIC CODE REQUIREMENTS

### General

Dwelling units, congregate residences and hotel or lodging guests rooms that are used for sleeping purposes must be provided with smoke alarms. Alarms must be installed in accordance with the approved manufacturer's instructions.

### POWER SOURCE

In new construction, the required smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a

disconnecting switch other than those required for over-current protection. Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power or in buildings that undergo alterations or additions regulated by Section R317.1.(1)

## LOCATIONS WITHIN A DWELLING UNIT

### R313.1 Single- and multiple-station smoke alarms

Single- and multiple-station smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and cellars, but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

All smoke alarms shall be listed and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

### R313.1 Alterations, repairs or additions

When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hardwired.

Exceptions:

1. Smoke alarms in existing areas shall not be required to be interconnected and hardwired where the alterations or repairs do not result in the removal of

the interior wall or ceiling finishes exposing the structure, unless there is a crawl space or basement available which could provide access for hardwiring and interconnection without the removal of interior finishes.

2. Work on the exterior which does not require entry into the interior for inspection.

### Follow the manufacturer's installation instructions.

Make sure everyone in the residence knows what the alarm sounds like and knows what to do in case of a fire. A smoke detector is just one part of an emergency escape safety plan, especially if a fire occurs in the middle of the night and no lights are available to aid escape.



**Note:** Some manufacturers recommend installing smoke detectors on walls instead of ceilings which may result in the alarm going off sooner because sometimes a pocket of air forms at the ceiling delaying smoke reaching alarms.

### 299F.51 Requirements for carbon monoxide alarms.

Subdivision 1. **Generally.** Every single family dwelling and every dwelling unit in a multifamily dwelling must have an approved and operational carbon monoxide alarm installed within ten feet of each room lawfully used for sleeping purposes.

Subdivision 2. **Owner's duties.** The owner of a multifamily dwelling unit which is required to be equipped with one or