

SECTION 915

CARBON MONOXIDE DETECTION

Section 915.1.1 Where required is amended as follows:

~~**915.1.1 Where required.** Carbon monoxide detection shall be provided in Group I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist. Installation of carbon monoxide alarm, detection and combination smoke alarm and carbon monoxide alarms in buildings containing residential dwelling units shall comply with Section 915.7. Provisions of Section 915.7 pertaining to dwelling units supersede other regulations referencing dwellings in Section 915.~~

Section 915.1.5 Private garages is amended by adding the following after the last sentence:

~~**915.1.5 Private garages.** Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms in buildings with attached private garages. Exceptions below do not apply to R-2 occupancies.~~

~~**Exceptions 1-4 to remain**~~

Section 915.2.1 Dwelling units is deleted.

Section 915.3 Carbon Monoxide detection is replaced as follows:

~~**915.3 Detection equipment.** Carbon monoxide detection required in dwelling units and sleeping units by *International Fire Code* Sections 915.1 through 915.2.3 shall be provided by carbon monoxide alarms complying with *International Fire Code* Section 915.4.~~

Section 915.3.1 Location is added as follows:

~~**915.3.1 Location.** In locations outside of sleeping units and dwelling units in buildings that are not equipped with either a fire alarm system or a sprinkler monitoring system, carbon monoxide detection required by Sections 915.1 through 915.2.3, shall be provided by carbon monoxide alarms complying with Section 915.4 or carbon monoxide detection systems complying with Section 915.5. In locations outside of sleeping units and dwelling units in buildings that are equipped with a fire alarm system or a sprinkler monitoring system, carbon monoxide detection required by Sections 915.1 through 915.2.3 shall be provided by carbon monoxide detection systems complying with Section 915.5 electrically supervised by the fire alarm control unit.~~

~~**Exception:** One and two family *dwellings* constructed under the *International Residential Code*.~~

Section 915.5.1.7 Carbon monoxide detection systems Central Fuel Burning Appliances/Equipment is added replaced as follows:

~~**915.5.1.7 Carbon monoxide detection systems** shall be provided for buildings containing a central fuel-burning appliance. The carbon monoxide detection system shall be monitored by the building fire alarm system, where provided. This requirement applies to any new equipment installation for which a permit is required by the Building Department. ~~Where carbon monoxide detection is provided in buildings with a fire alarm emergency/voice communication system, use of three pulse temporal pattern signal is permitted.~~~~

~~**Exception:** Carbon monoxide detectors are not required for listed fuel-burning cooking appliances.~~

Section 915.5.2.4 Locations is replaced-added as follows:

~~**915.5.2.4 Locations** Central fuel-burning appliances. System carbon monoxide detectors are required for each room containing a central fuel-burning appliance and shall be located within 25 feet of any fuel-burning appliance. This requirement supersedes the locations specified in NFPA 720.~~

915.7.5.4.6 System type carbon monoxide detectors. Carbon monoxide detectors shall transmit to the central station as a separate/distinct signal and be relayed to DFD Dispatch as such.

Section 915.7 Carbon monoxide (CO) detection and alarm systems is added as follows:

915.7 Carbon monoxide (CO) detection and alarms systems. CO alarms and detectors shall be installed and maintained in buildings with a fuel burning appliance or an attached garage or both, and contain a dwelling unit,

Section 915.7.1 is amended as follows:

915.7.1 Definitions. The following terms are defined for in Chapter 2.

CENTRAL FUEL-BURNING APPLIANCE ROOM

CO (CARBON MONOXIDE)

CO ALARM

CO DETECTOR

FUEL-BURNING APPLIANCE

MULTIPLE PURPOSE ALARM

MULTIPLE STATION ALARM

OWNER

PLUG-IN

SINGLE STATION ALARM

TENANT

915.7.2 Standards. CO alarms and detectors shall comply with the applicable provisions NFPA 70 (NEC), NFPA 72 and NFPA 720, including standards referenced therein.

Wherever CO alarms and detectors are specified, multiple purpose devices are permitted, provided they meet the requirements of all applicable NFPA standards, and:

1. The device is listed for use as a CO alarm/detector (e.g., UL 2034), and
2. Where other sensors are permitted and being utilized to satisfy other alarm/functionality provisions of adopted codes, the device is also listed for those operations, e.g.
 - a. UL 217 for *Single and Multiple Station Smoke Alarms*
 - b. UL 268 for *Smoke Detectors for Fire Alarm Signaling Systems*
 - c. UL 864 for *Control Units for Fire Protective Signaling Systems*
 - d. UL 1484 for *Residential Gas Detectors*
 - e. UL 1971 for *Safety and Signaling Devices for Hearing Impaired*
 - f. UL 2017 for *General Purpose Signaling Devices and Systems*
 - g. UL 2075 for *Gas and Vapor Detectors and Sensors*

915.7.3 When required. CO alarms and detectors shall be installed in dwelling units as specified in Section 915.7.4 in buildings identified in Section 915.7.4.1 and 915.7.4.2, and for which a building permit is issued after **July 1, 2009** for any one or more of the following:

1. New building
2. Addition or relocation of a sleeping room

- ~~3. Interior remodel of a dwelling unit~~
- ~~4. Installation of a fuel burning appliance~~
- ~~5. Change in owner or tenant of a dwelling unit~~

~~**915.7.4 Installation.** Required CO alarms and detectors shall be installed in accordance with this Section. CO alarms required in dwelling units in R-2, R-3, and R-4 occupancies and *Family Child Care Homes* managed by a homeowners association or other common management that will maintain the system may be monitored by an alarm control unit, provided individual devices function autonomously as single and multiple station devices in the event the alarm control unit fails. Additional or redundant CO alarms and detectors shall be in accordance with Section 915.7.5.~~

~~**915.7.4.1 Location.** CO alarms shall be installed in dwelling units in all the following locations:~~

- ~~1. Outside of every sleeping room within 15 feet of the sleeping room~~
- ~~2. In a central location on every occupiable level, and~~
- ~~3. In a central location in every sleeping room that contains a fuel burning appliance.~~

~~A single device is permitted to fulfill multiple criteria on a single level, provided it meets all of the applicable location requirements.~~

~~**915.7.4.2 In existing buildings.** CO alarms may be hard-wired, battery-powered, or plug-in, and may be single or multiple station. *Approved* battery-only alarms shall comply with Section 1103.9~~

~~**Exception:** Low power radio systems installed in accordance with NFPA 72, NFPA 720 and listed in accordance with UL 864 may be battery powered.~~

~~**915.7.4.3 In new buildings.** CO alarms shall be multiple station and hard-wired with battery backup.~~

~~**Exception:** Low power radio systems installed in accordance with NFPA 72, NFPA 720 and listed in accordance with UL 864 may be battery powered.~~

~~**915.7.4.4 Central fuel burning appliance rooms.** CO detectors monitored by the building fire alarm system shall be installed in all central fuel burning appliance rooms in new buildings **for which a building permit was issued after July 1, 2009**, and in central fuel burning appliance rooms in existing buildings containing a fuel burning appliance for which an installation permit was issued by the Building Department after **July 1, 2009**. Each central fuel burning appliance room shall be annunciated on its own zone.~~

~~**Exception:** In existing buildings, battery-powered or plug-in single or multiple station CO alarms may be installed in central fuel burning appliance rooms in lieu of system detectors and need not be monitored by a fire alarm system. *Approved* battery-only alarms shall comply with Section 1103.9.~~

~~Devices shall be installed within 25 feet of every fuel burning appliance and initiate an alarm condition when activated. A single device is permitted to fulfill multiple location criteria in a single central fuel burning appliance room.~~

~~**915.7.4.5 Visual notification.** Where occupant visual notification is installed or accommodated in accordance with Sections 907.5.2.3.2 and 907.5.2.3.3 for smoke alarms, visual notification shall be similarly installed or accommodated for CO alarms and detectors.~~

~~**915.7.4.6 System type carbon monoxide detectors.** Carbon monoxide detectors shall transmit to the central station as a separate/distinct signal and be relayed to DFD Dispatch as such.~~

~~**915.7.5 Non-required CO alarms and detectors.** CO alarms and detectors installed in buildings or occupancies not meeting the criteria identified in Section 915.7 or installed in addition to those required by Sections 915.7.3 or 915.7.4.4, that are monitored by a central station or used for occupant notification shall comply with this Section. Subject to the *fire code official*, non-required CO alarms do not need to function autonomously in case of alarm control unit failure.~~

~~**915.7.4.4 1103.9.1 Central fuel burning appliance rooms.** Carbon monoxide detectors monitored by the building fire alarm system shall be installed in all central fuel-burning appliance rooms in new buildings ~~for which a building permit was issued after July 1, 2009~~, and in central fuel burning appliance rooms in existing buildings containing a fuel burning appliance for which an installation permit was issued by the Building Department after **July 1, 2009**. Each central fuel-burning appliance room shall be annunciated on its own zone.~~

Exception: In existing buildings, battery-powered or plug-in single- or multiple-station carbon monoxide alarms may be installed in central fuel-burning appliance rooms in lieu of system detectors and need not be monitored by a fire alarm system. *Approved* battery-only alarms shall comply with Section 1103.9.

Devices shall be installed within 25 feet of every fuel-burning appliance and initiate an alarm condition when activated. A single device is permitted to fulfill multiple location criteria in a single central fuel-burning appliance room.

915.7.4.6 1103.9.1.1 System type carbon monoxide detectors. Carbon monoxide detectors shall transmit to the central station as a separate/distinct signal and be relayed to DFD Dispatch as such.

Supporting Information (Required):

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?

Original Denver Amendments created in 2009 when the State of Colorado developed carbon monoxide requirements. Since that time, the base fire code has evolved and created section 915 which properly addresses such detection. The only sections to be retained address buildings using central fueled equipment such as building central boilers.

- Reason: Why is your proposal necessary?
Remove amendment language no longer needed but covered by base IFC.

- Substantiation: Why is your proposal valid? (i.e. technical justification)

Achieve the intent to remove amendments not specific to Denver.

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards:

List any new referenced standards that are proposed to be referenced in the code.

Impact:

How will this proposal impact cost and restrictiveness of code? ("X" answer for each item below)

Cost of construction: ___ Increase ___ Decrease x No Impact
Cost of design: ___ Increase ___ Decrease x No Impact
Restrictiveness: ___ Increase ___ Decrease x No Impact

Departmental Impact (City use only):

This amendment proposal increases/decreases/is neutral to the cost of plans review.
This amendment increases/decreases/is neutral to the cost of inspections.

Decrease & Decrease