

# Residential Smoke Alarms and CO Alarms

## Smoke Alarm and CO Alarm Requirements

- The following requirements for smoke alarms and CO alarms apply to both new one-family and two-family residential homes and to additions, alterations, and restorations of one-family and two-family residential homes.

## Definitions

- Addition:
  - An extension or increase in floor area, number of stories, or height of a building or structure.
- Alteration:
  - Any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit.
- Attic:
  - The unfinished space between the ceiling assembly and the roof assembly.
- Carbon monoxide alarm:
  - A single or multiple-station device that has (1) a sensor capable of detecting the presence of carbon monoxide and (2) an alarm that sounds when carbon monoxide is detected.
- Carbon monoxide detector:
  - A device that (1) has a sensor capable of detecting the presence of carbon monoxide and (2) is connected to an alarm control unit that sounds an alarm when carbon monoxide is detected.
- Carbon monoxide source:
  - Any appliance, equipment, device or system that may emit carbon monoxide (including, but not limited to, fuel fired furnaces; fuel fired boilers; space heaters with pilot lights or open flames; kerosene heaters; wood stoves; fireplaces; and stoves, ovens, dryers, water heaters and refrigerators that use gas or liquid fuel), garages, and other motor vehicle related occupancies.
- Change of Occupancy:
  - A change in the occupancy or use of a building such as a change from a one-family to two-family dwelling or a change from any other occupancy to a one-family dwelling.

- Existing Building:
  - Any building or structure that has been issued a Certificate of Occupancy.
- Dwelling Unit:
  - A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
- Habitable Attic:
  - A finished or unfinished area not considered a story that meets the following requirements:
    - The floor space is not less than 70 square feet.
    - The floor space shall have a minimum ceiling height of at least 5 feet and at least 50% of the floor area shall be at least 7 feet.
    - The space is enclosed by the roof assembly, knee walls (if applicable), and floor-ceiling assembly.
- Relocation:
  - Any building or structure that is moved from its original foundation to a new foundation.
- Sleeping room:
  - A room or space that can be used, either on an occasional or permanent basis, for sleeping. Sleeping areas include, but are not limited to, bedrooms and places where children sleep in a daycare facility.
- Sleeping unit:
  - A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units. Sleeping units include, but are not limited to, dormitory suites with living areas, bedrooms and bathrooms.

## **Smoke Alarm and CO Alarm Requirements for New Construction**

### **Smoke Alarm Requirements**

- Smoke alarms shall comply with NFPA 72.
- Smoke alarms shall be listed per UL 217.
- Where required:
  - In each sleeping room.
  - Outside each sleeping room in the immediate vicinity of the bedrooms.

- On each story, including basements and habitable attics, not including crawl spaces and uninhabitable attics. (On split level houses the adjacent levels shall count as one level as long as there is not a door between levels.)
- No smoke alarm shall be within 3 feet of a door to a bathroom that contains a shower, unless this cannot be avoided.
- No smoke alarms shall be near a cooking appliance, unless this cannot be avoided.
- Interconnection:
  - Within one dwelling unit all smoke alarms installed shall activate when one smoke alarm is actuated. The interconnection can be either hard wired or by listed wireless devices.
- Power Source:
  - All smoke alarms shall be hardwired to the building electrical system.

### **CO Alarm Requirements**

- A carbon monoxide (CO) alarm shall be provided on each level with a sleeping room and each level with a carbon monoxide source. The CO alarm shall be within 15 feet of the doors to the sleeping rooms.
- Interconnection:
  - Within one dwelling unit all CO alarms installed shall activate when one CO alarm is actuated. The interconnection can be either hard wired or by listed wireless devices.
- Power Source:
  - All CO alarms shall be hardwired to the building electrical system.

### **Heat Detector Requirements**

- A Heat Detector shall be provided in new garages that are attached to residential buildings.
- Interconnection:
  - Within one dwelling unit all smoke alarms installed shall activate when one heat detector alarm is actuated. The interconnection can be either hard wired or by listed wireless devices.
- Power Source:
  - All heat detectors shall be hardwired to the building electrical system.

## **Smoke Alarm and CO Alarm Requirements for Existing Construction**

### **Smoke Alarm Requirements**

- When existing dwelling units undergo repairs, alterations, additions, change of occupancy, or relocation smoke alarms shall be provided as follows:
  - Where required:
    - In each sleeping room.
    - Outside each sleeping room in the immediate vicinity of the bedrooms.
    - On each story, including basements and habitable attics, not including crawl spaces and uninhabitable attics. (On split level houses the adjacent levels shall count as one level as long as there is not a door between levels.)
    - No smoke alarm shall be within 3 feet of a door to a bathroom that contains a shower, unless this cannot be avoided.
    - No smoke alarms shall be near a cooking appliance, unless this cannot be avoided.
  - Power Source:
    - Where the interior finishes are to be or have been removed, all smoke alarms shall be hardwired to the building electrical system.
    - Where interior finishes are not removed smoke alarms may be battery powered.
  - Interconnection:
    - Within one dwelling unit all hard wired smoke alarms installed shall activate when one smoke alarm is actuated. The interconnection can be either hard wired or by listed wireless devices.
    - Where battery powered smoke alarms are allowed they do not need to be interconnected.

### **CO Alarm Requirements**

- Existing Construction:
  - When existing dwelling units undergo repairs, alterations, additions, change of occupancy, or relocation CO alarms shall be provided as follows:

- Where required:
  - A carbon monoxide (CO) alarm shall be provided on each level with a sleeping room and each level with a carbon monoxide source. The CO alarm shall be within 15 feet of the doors to the sleeping rooms.
- Power Source:
  - Where the interior finishes are to be or have been removed, all CO alarms shall be hardwired to the building electrical system.
  - Where interior finishes are not removed CO alarms may be battery powered.
- Interconnection:
  - Within one dwelling unit all hard wired CO alarms installed shall activate when one CO alarm is actuated. The interconnection can be either hard wired or by listed wireless devices.
  - Where battery powered CO alarms are allowed they do not need to be interconnected.