

# UPDATE ON IL SMOKE DETECTOR & CARBON MONOXIDE DETECTOR REQUIREMENTS IN RESIDENTIAL HOUSING

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## Hand-Out Contents:

### 1. SMOKE DETECTOR REQUIREMENTS

IL Smoke Detector Act – recently amended to include 10-yr. sealed battery requirements:

- Original statute enacted January 1, 1988 – Hardwired or battery required in all existing residential dwelling units constructed prior to January 1, 1988
- All new construction must have hard-wired & interconnected smoke alarms
- Amended January 1, 2011 – Must be hard-wired & have back-up power source
- Amended January 1, 2022 – Must have 10-yr. sealed battery back-up power

Section R314 –2015 International Residential Code (IRC) – Smoke Alarms

Section 907.2.10 – 2016 International Building Code (IBC) – regarding residential occupancy smoke alarms.

Smoke Alarm Safety at Home – NFPA Fact Sheet

Office of the Illinois State Fire Marshal Fact Sheets:

“What a Single-Family Homeowner Needs to Know About the Detector Act”

“What a Tenant of Landlord Needs to Know About the Smoke Detector Act for Multifamily Buildings”

### 2. CARBON MONOXIDE DETECTOR REQUIREMENTS

IL Carbon Monoxide Alarm Detector Act (Enacted Jan. 1, 2007)

Section R315 – 2015 International Residential Code (IRC) – Carbon Monoxide Alarms

Policy Interpretation of the IL Carbon Monoxide Detector Alarm Act (2007)  
IL Office of the State Fire Marshal

AN ACT concerning safety.

**Be it enacted by the People of the State of Illinois,  
represented in the General Assembly:**

Section 5. The Smoke Detector Act is amended by changing Sections 3 and 4 as follows:

(425 ILCS 60/3) (from Ch. 127 1/2, par. 803)

Sec. 3. (a) Every dwelling unit or hotel shall be equipped with at least one approved smoke detector in an operating condition within 15 feet of every room used for sleeping purposes. The detector shall be installed on the ceiling and at least 6 inches from any wall, or on a wall located between 4 and 6 inches from the ceiling.

(b) Every single family residence shall have at least one approved smoke detector installed on every story of the dwelling unit, including basements but not including unoccupied attics. In dwelling units with split levels, a smoke detector installed on the upper level shall suffice for the adjacent lower level if the lower level is less than one full story below the upper level; however, if there is an intervening door between the adjacent levels, a smoke detector shall be installed on each level.

(c) Every structure which (1) contains more than one dwelling unit, or (2) contains at least one dwelling unit and

(e) The requirements of this Section shall apply to any dwelling unit in existence on July 1, 1988, beginning on that date. Except as provided in subsections (f) and (g), the smoke detectors required in such dwelling units may be either: battery powered provided the battery is a self-contained, non-removable, long term battery, or wired into the structure's AC power line, and need not be interconnected.

(1) The battery requirements of this Section shall apply to battery powered smoke detectors that: (A) are in existence and exceed 10 years from the date of their being manufactured; (B) fails to respond to operability tests or otherwise malfunctions; or (C) are newly installed.

(2) The battery requirements of this Section do not apply to: (A) a fire alarm, smoke detector, smoke alarm, or ancillary component that is electronically connected as a part of a centrally monitored or supervised alarm system; (B) a fire alarm, smoke detector, smoke alarm, or ancillary component that uses: (i) a low-power radio frequency wireless communication signal, or (ii) Wi-Fi or other wireless Local Area Networking capability to send and receive notifications to and from the Internet, such as early low battery warnings before the device reaches a critical low power level; or (C) such other devices as the State Fire Marshal shall designate through its regulatory process.

(f) In the case of any dwelling unit that is newly

**SECTION R314  
SMOKE ALARMS****R314.1 General**

Smoke alarms shall comply with NFPA 72 and Section R314.

**R314.1.1 Listings.**

Smoke alarms shall be *listed* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

**R314.2 Where required.**

Smoke alarms shall be provided in accordance with this section.

**R314.2.1 New Construction**

Smoke alarms shall be provided in *dwelling units*.

**R314.2.2 Alterations, repairs and additions.**

Where *alterations, repairs* or *additions* requiring a permit occur, or where one or more sleeping rooms are added or created in existing *dwelling units*, the individual *dwelling unit* shall be equipped with smoke alarms located as required for new *dwelling units*.

**Exceptions:**

1. Work involving the exterior surfaces of *dwelling units*, such as the replacement of roofing or siding, the *addition* or replacement of windows or doors, or the *addition* of a porch or deck, are exempt from the requirements of this section.
2. Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

**R314.3 Location.**

Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional *story* of the *dwelling unit*, including *basements* and *habitable attics* and not including crawl spaces and uninhabitable *attics*. In *dwelling units* 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.

**R314.3.1 Installation near cooking appliances.**

Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3.

1. Ionization smoke alarms shall not be installed less than 20 feet (6069 mm) horizontally from a permanently installed cooking *appliance*.
2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking *appliance*.

- 2.1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or Section 903.3.1.2; and
- 2.2. The notification appliances will activate upon sprinkler flow.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.

**[F] 907.2.10 Single- and multiple-station smoke alarms.** Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72.

**[F] 907.2.10.1 Where required.** Single- or multiple-station smoke alarms shall be installed in the locations described in Sections 907.2.10.1.1 through 907.2.10.1.3.

**[F] 907.2.10.1.1 Group R-1.** Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story within the sleeping unit, including basements. For sleeping 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.

**[F] 907.2.10.1.2 Groups R-2, R-3, R-4 and I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1, regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each story within a dwelling unit, including basements 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.

**[F] 907.2.10.1.3 Group I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in sleeping areas in Group I-1 occupancies.

**Exception:** Single- or multiple-station smoke alarms shall not be required where the building is equipped throughout with an automatic fire detection system in accordance with Section 907.2.6.

**[F] 907.2.10.2 Power source.** In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

**Exception:** Smoke alarms are not required to be equipped with battery backup in Group R-1 where they are connected to an emergency electrical system.

**[F] 907.2.10.3 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in Group R-2, R-3 or R-4, or within an individual dwelling unit or sleeping unit in Group R-1, the smoke alarms shall be interconnected in such a manner that the activation 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.

**[F] 907.2.10.4 Acceptance testing.** When the installation of the alarm devices is complete, each detector and interconnecting wiring for multiple-station alarm devices shall be tested in accordance with the household fire warning equipment provisions of NFPA 72.

**[F] 907.2.11 Special amusement buildings.** An approved automatic smoke detection system shall be provided in special amusement buildings in accordance with this section.

**Exception:** In areas where ambient conditions will cause a smoke detection system to alarm, an approved alternative type of automatic detector shall be installed.

**[F] 907.2.11.1 Alarm.** Activation of any single smoke detector, the automatic sprinkler system or any other automatic fire detection device shall immediately sound an alarm at the building at a constantly attended location from which emergency action can be initiated, including the capability of manual initiation of requirements in Section 907.2.11.2.

**[F] 907.2.11.2 System response.** The activation of two or more smoke detectors, a single smoke detector with alarm verification, the automatic sprinkler system or other approved fire detection device shall automatically:

1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level;

# Smoke Alarm Safety at Home



Smoke alarms are an important part of a home fire escape plan. When there is a fire, smoke spreads fast. Working smoke alarms give you early warning so you can get outside quickly.

## SAFETY TIPS

- »» INSTALL smoke alarms inside every bedroom, outside each sleeping area and on every level of the home, including the basement.
- »» Larger homes may need ADDITIONAL smoke alarms to provide enough protection.
- »» For the best protection, INTERCONNECT all smoke alarms so when one sounds they all sound.
- »» An IONIZATION smoke alarm is generally more responsive to flaming fires and a PHOTOELECTRIC smoke alarm is generally more responsive to smoldering fires. For the best protection, both types of alarms or a combination alarm (photoelectric and ionization) are recommended.
- »» INSTALL smoke alarms following manufacturer's instructions high on a wall or on a ceiling.
- »» REPLACE batteries in all smoke alarms at least once a year. If an alarm "chirps," warning the battery is low, replace the battery right away.
- »» REPLACE all smoke alarms when they are 10 years old or sooner if they do not respond properly when tested.
- »» FIRE WARNING EQUIPMENT is available to awaken people who are deaf or hard of hearing. This equipment uses strobe lights and vibration equipment (pillow or bed shakers) for people who are deaf and mixed-low-frequency signals for people who are hard of hearing. Some of this equipment is activated by the sound of the smoke alarm.

## FACTS

- ❗ Roughly **two thirds** of home fire deaths happen in homes with no smoke alarms or no working smoke alarms.
- ❗ Working smoke alarms cut the risk of dying in reported home fires in **half**.

**AND DON'T FORGET...**  
All smoke alarms should be tested at least once a month using the test button.



Your Source for SAFETY Information [www.nfpa.org/education](http://www.nfpa.org/education)  
NFPA Public Education Division • 1 Batterymarch Park, Quincy, MA 02169



# Fact Sheet on: Smoke Alarms

Office of the Illinois State Fire Marshal

Bruce Rauner, Governor • Matt Perez, State Fire Marshal

April 2016

## What a Single-Family Homeowner Needs to Know About the Detectors Act

The Smoke Detector Act (425 ILCS 60/) addresses the requirement for smoke alarms <sup>1</sup> in one- and two-family homes. Smoke alarms shall be provided as follows:

- Within 15 feet of every room used for sleeping purposes.
- On every story of the dwelling unit, including basements but not including unoccupied attics.

The detector shall be installed on the ceiling and at least 6 inches from any wall, or on a wall located between 4 and 6 inches from the ceiling.

For dwelling units with split levels, a smoke alarm shall be installed on the upper level if the lower level is less than one full story below the upper level; however, if there is an intervening door between the adjacent levels, a smoke detector shall be installed on each level.

For dwelling units in existence on July 1, 1988 smoke alarms may be battery-powered or wired into the building's electrical system and need not be interconnected.

For dwelling units newly constructed, reconstructed, or substantially remodeled after December 31, 1987, the smoke alarms shall be permanently wired into the building's electrical system and if more than one smoke alarm is required, the smoke alarms shall be wired so that the initiation of one smoke alarm will initiate all the smoke alarms in the dwelling unit.

For any dwelling units newly constructed, reconstructed, or substantially remodeled after January 1, 2011 smoke alarms permanently wired into the building's electrical system must also maintain an alternative back-up power source, which may be either batteries or an emergency generator.

<sup>1</sup>For the purpose of this document in reflection of the Act; the terms "detector" and "alarm" are interchangeable and mean a device that senses smoke and produces a localized alarm.



# Fact Sheet on: Smoke Alarms

Office of the Illinois State Fire Marshal

Bruce Rauner, Governor • Matt Perez, State Fire Marshal

April 2016

## What a Tenant or Landlord Needs to Know About the Smoke Detector Act for Multifamily Buildings

The Smoke Detector Act (425 ILCS 60/1) addresses the requirement for smoke alarms<sup>1</sup> in structures that (1) contain more than one dwelling unit, or (2) contain at least one dwelling unit and is a mixed-use structure, shall provide at least one approved smoke alarm:

- Installed within 15 feet of every room used for sleeping purposes
- Installed at the uppermost ceiling of each interior stairwell.

Smoke alarms shall be installed on the ceiling, at least 6-inches from the wall or on a wall located between 4 and 6 inches from the ceiling.

For dwelling units in existence on July 1, 1988 smoke alarms may be battery-powered or wired into the building's electrical system and need not be interconnected.

For dwelling units newly constructed, reconstructed, or substantially remodeled after December 31, 1987, the smoke alarms shall be permanently wired into the building's electrical system and if more than one smoke alarm is required, the smoke alarms shall be wired so that the initiation of one smoke alarm will initiate all the smoke alarms in the dwelling unit.

For any dwelling units newly constructed, reconstructed, or substantially remodeled after January 1, 2011 smoke alarms permanently wired into the building's electrical system must also maintain an alternative back-up power source, which may be either batteries or an emergency generator.

### **Tenant responsibility is to:**

- Provide general maintenance for the smoke alarms within the tenant's dwelling rooming unit. It is recommended the batteries be tested weekly.
- Replace any required batteries in the smoke alarms found in the tenant's dwelling unit.
- Notify the owner or the authorized agent of the owner in writing of any deficiencies which the tenant is unable to correct.
- Provide the owner or the authorized agent of the owner with access to the dwelling unit to correct any deficiencies with the smoke alarm that have been reported.

### **Owner responsibility is to:**

- Supply and install all required detectors and confirm the smoke alarm is functional at the time the tenant takes possession.



AN ACT concerning safety.

**Be it enacted by the People of the State of Illinois,  
represented in the General Assembly:**

Section 1. Short title. This Act may be cited as the Carbon Monoxide Alarm Detector Act.

Section 5. Definitions. In this Act:

"Approved carbon monoxide alarm" or "alarm" means a carbon monoxide alarm that complies with all the requirements of the rules and regulations of the Illinois State Fire Marshal, bears the label of a nationally recognized testing laboratory, and complies with the most recent standards of the Underwriters Laboratories or the Canadian Standard Association.

"Dwelling unit" means a room or suite of rooms used for human habitation, and includes a single family residence as well as each living unit of a multiple family residence and each living unit in a mixed use building.

Section 10. Carbon monoxide detector.

(a) Every dwelling unit shall be equipped with at least one approved carbon monoxide alarm in an operating condition within 15 feet of every room used for sleeping purposes. The carbon monoxide alarm may be combined with smoke detecting devices provided that the combined unit complies with the respective provisions of the administrative code, reference standards, and departmental rules relating to both smoke detecting devices and carbon monoxide alarms and provided that the combined unit emits an alarm in a manner that clearly differentiates the hazard.

(b) Every structure that contains more than one dwelling unit shall contain at least one approved carbon monoxide alarm in operating condition within 15 feet of every room used for sleeping purposes.

(1) A residential unit in a building that: (i) does not rely on combustion of fossil fuel for heat, ventilation, or hot water; (ii) is not connected in any way to a garage; and (iii) is not sufficiently close to any ventilated source of carbon monoxide, as determined by the local building commissioner, to receive carbon monoxide from that source.

(2) A residential unit that is not sufficiently close to any source of carbon monoxide so as to be at risk of receiving carbon monoxide from that source, as determined by the local building commissioner.

## SECTION R315 CARBON MONOXIDE ALARMS

### R315.1 General

Carbon monoxide alarms shall comply with Section R315.

#### R315.1.1 Listings.

Carbon monoxide alarms shall be *listed* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* in accordance with UL 2034 and UL 217.

### R315.2 Where required.

Carbon monoxide alarms shall be provided in accordance with Section R315.2.1 and R315.2.2.

#### R315.2.1 New Construction

Carbon monoxide alarms shall be provided in *dwelling units* where either or both of the following conditions exist.

1. The *dwelling unit* contains a fuel-fired appliance.
2. The *dwelling unit* has an attached garage with an opening that communicates with the dwelling unit.

#### R315.2.2 Alterations, repairs and additions.

Where *alterations, repairs* or *additions* requiring a permit occur, or where one or more sleeping rooms are added or created in existing *dwelling units*, the individual *dwelling unit* shall be equipped with carbon monoxide alarms located as required for new *dwelling units*.

#### Exceptions:

1. Work involving the exterior surfaces of *dwelling units*, such as the replacement of roofing or siding, the *addition* or replacement of windows or doors, or the *addition* of a porch or deck, are exempt from the requirements of this section.
2. Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

### R315.3 Location.

Carbon monoxide alarms in *dwelling units* shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

### R315.4 Combination alarms.

Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

### R315.5 Power source.

Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall

**OFFICE OF THE STATE FIRE MARSHAL  
STATE OF ILLINOIS**

Statute, Rule or Standard Policy Interpretation:

Policy Number: O6-FP-001                  Carbon Detector Alarm Act                  Effective Date: October 23, 2006

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Title:                                  Carbon Monoxide Detector Alarm Act  
Part:                                    430 ILCS 135  
Subpart:  
Subpart Title:  
Section Number:  
Section Title:

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Purpose:                                This instruction provides the agency's technical interpretation of the Carbon Monoxide Detector Alarm Act enacted by PA 094-0741 (430 ILCS 135) and the current administrative rules in effect.

Scope:                                Effective statewide on January 1, 2007

Current Code:                        N/A

Policy Interpretation: Approved CO Detector: The detector or combination detector (combined CO and smoke detection) must bear the label of a nationally recognized testing laboratory and shall meet the standard of UL 2034.

Type of CO Detector: The detector may be either a battery powered, plug-in with a battery back-up, or hardwired with a battery back-up.

Occupancies: Any occupancy or structure that has a room used for sleeping.

Location: A detector must be installed within 15' of every room used for sleeping.

Owner's Responsibility: The owner must supply and install the detector and provide written information regarding the detector testing and maintenance to the occupant.

Tenant's Responsibility: The tenant must test, maintain and replace the batteries when needed in the detector. The tenant must notify the owner in writing of any problem and permit the owner access to the detector to correct the problem.

Exemption to the Requirement: An occupancy or structure that meets the following conditions does not need a carbon monoxide detector:

The occupancy or structure does not:

- 1) rely on combustion of fossil fuel to cook, heat, ventilate or produce hot water [see note below];
- 2) is not connected in any way to an *enclosed garage*; and
- 3) is not sufficiently close to any ventilated source of carbon monoxide, as determined by the local building commissioner or authority having jurisdiction, to receive carbon monoxide from that source.