



Fire Alarm and CO Changes in the 2015 IBC/IFC

Thomas P. Hammerberg, SET, CFPS
Technical Director
Automatic Fire Alarm Association



SECTION 403 EMERGENCY PREPAREDNESS REQUIREMENTS

This is a new section in the IFC and affects all occupancies.

It is not in the IBC.



3

SECTION 403 EMERGENCY PREPAREDNESS REQUIREMENTS

403.2 Group A occupancies.
An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group A occupancies...



4

**SECTION 403
EMERGENCY PREPAREDNESS
REQUIREMENTS**

403.5 Group E occupancies.
An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies...

 5

[BG] 308.3.1 Condition 1.

This occupancy condition shall include buildings in which all persons receiving custodial care who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

 19

907.2.6.2 Group I-2.

An automatic smoke detection system shall be installed in corridors in **Group I-2 Condition 1** facilities and spaces permitted to be open to the corridors by Section 407.2 of the International Building Code. The system shall be activated in accordance with Section 907.4.

Group I-2 Condition 2 occupancies shall be equipped with an automatic smoke detection system as required in Section 407 of the International Building Code.

 20

[BG] 308.4 Institutional Group I-2.

Institutional Group I-2 occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

Foster care facilities
 Detoxification facilities
 Hospitals
 Nursing homes
 Psychiatric hospitals



21

Institutional Group I-2

[BG] 308.4.1.1 Condition 1. This occupancy condition shall include facilities that provide nursing and medical care but do not provide

- ✓ emergency care,
 - ✓ surgery,
 - ✓ obstetrics, or
 - ✓ in-patient stabilization units for psychiatric or detoxification,
- including, but not limited to, nursing homes and foster care facilities.



22

Institutional Group I-2

[BG] 308.4.1.2 Condition 2. This occupancy condition shall include facilities that provide nursing and medical care and could provide

- ✓ emergency care,
 - ✓ surgery, obstetrics, or
 - ✓ inpatient stabilization units for psychiatric or detoxification,
- including, but not limited to, hospitals.



23

907.2.13 High-rise buildings.

907.2.13.1 Automatic smoke detection.

907.2.13.1.1 Area smoke detection.

In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors shall be located as follows:

2. In each elevator machine room, machinery space, control room and control space and in elevator lobbies.



35

907.3.1 Duct smoke detectors.

In facilities that are required to be monitored by a supervising station, duct smoke detectors shall report only as a supervisory signal and not as a fire alarm.



40

907.4.2 Manual fire alarm boxes.

907.4.2.1 Location. Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit.

In buildings not protected by an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, additional manual fire alarm boxes shall be located so that the exit access travel distance to the nearest box does not exceed 200 feet (60960 mm).



41

907.5.2 Alarm notification appliances.

907.5.2.1 Audible alarms.

Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm.

Exceptions:

1. Audible alarm notification appliances are not required in critical care areas of Group I-2 Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.



42

907.5.2 Alarm notification appliances.

2. A visible alarm notification appliance installed in a nurses' control station or other continuously attended staff location in a Group I-2 Condition 2 suite shall be an acceptable alternative to the installation of audible alarm notification appliances throughout the suite in Group I-2 Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.



43

907.5.2.3.1 Public **use** areas and common **use** areas.

Visible alarm notification appliances shall be provided in public **use** areas and common **use** areas.



44

Definitions

Same as 2012 - [BE] COMMON USE

Interior or exterior circulation paths, rooms, spaces or elements that are not for public use and are made available for the shared use of two or more people.

Same as 2012 - [BE] PUBLIC-USE AREAS.

Interior or exterior rooms or spaces that are made available to the general public.



45

Chapter 11 – Construction Requirements for Existing Buildings

1103.7 Fire alarm systems.

1103.7.2 Group I-1. An automatic fire alarm system shall be installed in existing Group I-1 facilities in accordance with Section 907.2.6.1.



46

Chapter 11 – Construction Requirements for Existing Buildings

1103.7.3 Group I-2. In Group I-2, an automatic fire alarm system shall be installed in accordance with **Section 1105.9.**



49

Chapter 11 – Construction Requirements for Existing Buildings

1105.9 Group I-2 automatic fire alarm system.

An automatic fire alarm system shall be installed in existing Group I-2 occupancies in accordance with Section 907.2.6.2.

Exception: Manual fire alarm boxes in patient sleeping areas shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2.1 are not exceeded.



50

QUESTIONS?



53

SECTION 915 CARBON MONOXIDE DETECTION

- This section is new in 2015
- Relocated from 908.7 and new requirements were added



54

SECTION 915

CARBON MONOXIDE DETECTION

915.1 General. Carbon monoxide detection shall be installed in

- ✓ new buildings in accordance with Sections 915.1.1 through 915.6
- ✓ existing buildings in accordance with Section 1103.9.


55

SECTION 915

CARBON MONOXIDE DETECTION

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.


56

SECTION 915

CARBON MONOXIDE DETECTION

915.1.2 Fuel-burning appliances and fuel-burning fireplaces.

Carbon monoxide detection shall be provided in

- ✓ dwelling units,
- ✓ sleeping units and
- ✓ classrooms

that contain a fuel-burning appliance or a fuel-burning fireplace.


57

SECTION 915 CARBON MONOXIDE DETECTION

915.1.3 Forced-air furnaces. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms served by a fuel-burning, forced-air furnace.

Exception: Carbon monoxide detection shall not be required... where carbon monoxide detection is provided in the first room or area served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.



58

SECTION 915 CARBON MONOXIDE DETECTION

915.1.4 Fuel-burning appliances outside of dwelling units, sleeping units and classrooms.

Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms located in buildings that contain fuel-burning appliances or fuel-burning fireplaces.



59

SECTION 915 CARBON MONOXIDE DETECTION

Exceptions:

1. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms where there are no communicating openings between the fuel-burning appliance or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.



60

SECTION 915 CARBON MONOXIDE DETECTION

Exceptions:

2. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms where carbon monoxide detection is provided in one of the following locations:
 - 2.1. In an approved location between the fuel-burning appliance or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.
 - 2.2. On the ceiling of the room containing the fuel-burning appliance or fuel-burning fireplace.



61

SECTION 915 CARBON MONOXIDE DETECTION

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:

1. Carbon monoxide detection shall not be required where there are no communicating openings between the private garage and the dwelling unit, sleeping unit or classroom.



62

SECTION 915 CARBON MONOXIDE DETECTION

Exceptions:

2. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms located more than one story above or below a private garage.
3. Carbon monoxide detection shall not be required where the private garage connects to the building through an open-ended corridor.



63

SECTION 915

CARBON MONOXIDE DETECTION

Exceptions:

4. Where carbon monoxide detection is provided in an approved location between openings to a private garage and dwelling units, sleeping units or classrooms, carbon monoxide detection shall not be required in the dwelling units, sleeping units or classrooms.


64

SECTION 915

CARBON MONOXIDE DETECTION

915.1.6 Exempt garages. For determining compliance with Section 915.1.5,

- ✓ an open parking garage complying with Section 406.5 of the International Building Code or
- ✓ an enclosed parking garage complying with Section 406.6 of the International Building Code

shall not be considered a private garage.


65

SECTION 915

CARBON MONOXIDE DETECTION

915.2 Locations. Where required by Section 915.1.1, carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.3.


66

SECTION 915 CARBON MONOXIDE DETECTION

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units

- ✓ 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, carbon monoxide detection shall be installed within the bedroom.

AAA

67

SECTION 915 CARBON MONOXIDE DETECTION

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in sleeping units.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where

- ✓ the sleeping unit or its attached bathroom does not contain a fuel-burning appliance and
- ✓ is not served by a forced air furnace.

AAA

68

SECTION 915 CARBON MONOXIDE DETECTION

915.2.3 Group E occupancies. Carbon monoxide detection shall be installed in classrooms in Group E occupancies.

Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

Exception: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 30 or less.

AAA

69

SECTION 915 CARBON MONOXIDE DETECTION

915.3 Detection equipment. 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.



70

SECTION 915 CARBON MONOXIDE DETECTION

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Sections 915.4.1 through 915.4.3.



71

SECTION 915 CARBON MONOXIDE DETECTION

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring

- ✓ where 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 that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.



72

SECTION 915 CARBON MONOXIDE DETECTION

915.4.2 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

915.4.3 Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.



73

SECTION 915 CARBON MONOXIDE DETECTION

915.5 Carbon monoxide detection systems.

Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through 915.5.3.



74

SECTION 915 CARBON MONOXIDE DETECTION

915.5.1 General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2.

These locations supersede the locations specified in NFPA 720.



75

SECTION 915 CARBON MONOXIDE DETECTION

915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.



76

SECTION 915 CARBON MONOXIDE DETECTION

915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.



77

QUESTIONS?



Thomas P. Hammerberg, SET, CFPS
Technical Director
Automatic Fire Alarm Association, Inc.
TomHammerberg@afaa.org



78
