(9.2.3) Commercial Cooking Equipment Operations. Where required by another section of this Code, commercial cooking equipment operations shall be protected in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, unless such installations are approved existing installations, which shall be permitted to be continued in service.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

(9.2.4) Ventilating Systems in Laboratories Using Chemicals. Ventilating systems in laboratories using chemicals shall be in accordance with NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals, or NFPA 99, Health Care Facilities Code, as appropriate.

Statement: The FR incorporates PI 101- Log #348, the substantiation for which follows:

"There is no longer any need to reference NFPA 45 and NFPA 99. The requirements for ventilation of laboratories have been removed from NFPA 99, and users are directed to NFPA 45.
15.5.2.4 Ventilating Systems in Laboratories Using Chemicals. Ventilating systems in laboratories using chemicals shall be in accordance with NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals. [101:9.2.4]"

(9.3.1 through 9.3.3) Smoke Control Systems. Where required by the provisions of another section of this Code, smoke control systems shall be designed, installed, inspected, tested, and maintained in accordance with NFPA 92, Standard for Smoke Control Systems; NFPA 204, Standard for Smoke and Heat Venting; or nationally recognized standards, engineering guides, or recommended practices, as approved by the authority having jurisdiction.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.
9.5 Rubbish Waste Chutes, Incinerators, and Laundry Chutes.

9.5.1 Enclosure.

9.5.1.1 Rubbish Waste chutes and laundry chutes shall be separately enclosed by walls or partitions in accordance with the provisions of Section 8.3.

9.5.1.2 Chute intake openings shall be protected in accordance with Section 8.3.

9.5.1.3 The doors of chutes specified in 9.5.1.2 shall open only to a room that is designed and used exclusively for accessing the chute opening.

9.5.1.4 The room used for accessing the chute opening shall be separated from other spaces in accordance with Section 8.7.

9.5.1.5 The requirements of 9.5.1.1 through 9.5.1.4 shall not apply where otherwise permitted by the following:

1. Existing installations having properly enclosed service chutes and properly installed and maintained chute intake doors shall be permitted to open to a corridor or normally occupied space.

2. Rubbish Waste chutes and laundry chutes shall be permitted to open into rooms not exceeding 400 ft\(^2\) (37 m\(^2\)) that are used for storage, provided that the room is protected by automatic sprinklers.

9.6.1.3 Fire alarm systems required for life safety by this Code shall be installed, tested, and maintained in accordance with the applicable requirements of NFPA 70, National Electrical Code, and NFPA 72, National Fire Alarm and Signaling Code, unless it is an approved existing installation, which shall be permitted to be continued in use.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000. It is noted that NFPA 5000 does not include the text pertaining to existing systems because NFPA 5000 does not address existing installations.
Final Action:

9.6.1.6* Where a required fire alarm system is out of service for more than 4 hours in a 24-hour period, the authority having jurisdiction shall be notified, and the building shall be evacuated, or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service. Fire alarm system impairment procedures shall comply with NFPA 72, *National Fire Alarm and Signaling Code*.

**Statement:** The committee concurs with the substantiation for PI 101- Log #380, which follows:

“A similar change was made last cycle to Paragraph 9.7.6 regarding sprinkler systems. The intent is to refer to the reference standard, in this case NFPA 72, to identify when impairment procedures need to be implemented and what procedures are to be implemented.”

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Final Action:

9.6.1.7 For the purposes of this Code, a complete fire alarm system shall provide functions for initiation, notification, and control, which shall perform as follows:

(1) The initiation function provides the input signal to the system.

(2) The notification function is the means by which the system advises that human action is required in response to a particular condition.

(3) The control function provides outputs to control building equipment to enhance protection of life.

**Statement:** The language in 9.6.1.7 does not mandate anything. Rather, it describes the various functions of a fire alarm system. Such language is not appropriate in the body of the Code.
Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.1.8 Protection of Fire Alarm System:
9.6.1.8.1* In areas that are not continuously occupied, and unless otherwise permitted by 9.6.1.8.1.1 or 9.6.1.8.1.2, automatic smoke detection shall be installed to provide notification of fire at the following locations:
(1) Each fire alarm control unit
(2) Notification appliance circuit power extenders
(3) Supervising station transmitting equipment
9.6.1.8.1.1 The provisions of 9.6.1.8.1(2) and (3) shall not apply to existing alarm systems.
9.6.1.8.1.2 Where ambient conditions prohibit installation of a smoke detector, a heat detector shall be used.

Statement: The committee concurs with the substantiation for PI 101- Log #172, which follows:
This change will remove the retroactive requirement to install a smoke detector (or a heat detector) above an existing fire alarm control unit since the installation of that detector may not have originally been required by the installation standard and there is no reason to retroactively require a detector above an existing control unit. If the installation standard required it at the time of installation, then the detector should be there. Section 9.6.1.3 requires fire alarm systems to be installed in accordance with NFPA 72 unless it is an approved existing system. NFPA 72 has not always required protection of the fire alarm system to be provided. For instance, the 2007 Edition of NFPA 72 allowed the sprinkler exception as follows: NFPA 72 (2007): 4.4.5* Protection of Fire Alarm System. In areas that are not continuously occupied, automatic smoke detection shall be provided at the location of each fire alarm control unit(s), notification appliance circuit power extenders, and supervising station transmitting equipment to provide notification of fire at that location. Exception No. 1: Where ambient conditions prohibit installation of automatic smoke detection, automatic heat detection shall be permitted. Exception No. 2: Fully sprinklered buildings shall not require protection in accordance with 4.4.5. In addition, prior to the 2007 Edition, the requirement to protect the notification appliance circuit power extenders and supervising station transmitting equipment was not included in NFPA 72. Since all new systems will have to meet the requirements of NFPA 72 and approved existing installations don’t, this will eliminated the need to extract this material from NFPA 72. In addition, the only reason that 9.6.1.8.1.2 reads the way it does is that the fire alarm code can’t mandate any device to protect itself other than fire alarm devices. It is hard to understand why the Life Safety Code would want to permit one heat detector to “protect the fire alarm system” when the Life Safety Code could use a room full of heat detectors with water behind them (known as sprinklers) to actually protected the unit and initiate the signal. Acceptance of this proposal would also be in line with the retroactivity clause of NFPA 72 that reads as follows: 1.4 Retroactivity. 1.4.1 Unless otherwise noted, it is not intended that the provisions of this document be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation prior to the effective date of the document. 1.4.2 In those cases where it is determined by the authority having jurisdiction that the existing situation involves a distinct hazard to life or property, retroactive application of the provisions of this document shall be permitted. Note that it is also the intent to delete the annex note associate with this section.

Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.2.1 Where required by other sections of this Code, actuation of the complete fire alarm system shall be initiated, occur by, but shall not be limited to, any or all of the following means of initiation but shall not be limited to such means:
(1) Manual fire alarm initiation
(2) Automatic detection
(3) Extinguishing system operation
9.6.2.2 Manual fire alarm boxes shall be used only for fire-protective signaling purposes. Combination fire alarm and guard’s tour stations shall be acceptable permitted.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.
Final Action:

(9.6.2.6, 9.6.2.7)

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.6.2.6* For fire alarm systems using automatic fire detection or waterflow detection devices to initiate the fire alarm system in accordance with Chapters 11 through 43, not less than one manual fire alarm box, located as required by the authority having jurisdiction, shall be provided to initiate a fire alarm signal. The manual fire alarm box shall be located where required by the authority having jurisdiction.

9.6.2.7* Each manual fire alarm box on a system shall be accessible, unobstructed, and visible.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.
Smoke alarms shall be permitted to be connected to the building fire alarm system for the purpose of remote annunciation in accordance with NFPA 72, National Fire Alarm and Signaling Code, unless otherwise provided in 9.6.2.10.1.2, 9.6.2.10.3, or 9.6.2.10.4.

-9.6.2.10.1.2 The installation of smoke alarms in sleeping rooms shall be required where required by Chapters 11 through 43.

9.6.2.10.2 Where automatic smoke detection is required by Chapters 11 through 43, smoke alarms shall not be used as a substitute.

9.6.2.10.4 The interconnection of smoke alarms shall apply only to new construction as provided in 9.6.2.10.3.

9.6.2.10.2 (1) The requirement of 9.6.2.10.3 shall not apply where permitted by another section of this NFPA 72.

9.6.2.10.4 (2) The requirement of 9.6.2.10.3 shall not apply where permitted by another section of this NFPA 72.

9.6.2.10.5 Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from a door to a bathroom containing a shower or tub. [72;29.8.3.4(5)]

9.6.2.10.4.4 System smoke detectors in accordance with NFPA 72, National Fire Alarm and Signaling Code, and arranged to function in the same manner as single-station or multiple-station smoke alarms shall be permitted in lieu of smoke alarms.

9.6.2.10.27 Smoke alarms, other than existing battery-operated smoke alarms as permitted by other sections of this Code, shall be powered in accordance with the requirements of NFPA 72, National Fire Alarm and Signaling Code.

9.6.2.10.28 In new construction, where two or more smoke alarms are required within a dwelling unit, suite of rooms, or similar area, they shall be arranged so that operation of any smoke alarm shall cause the alarm in all smoke alarms within the dwelling unit, suite of rooms, or similar area to sound, unless otherwise permitted by one of the following:

(1) The requirement of 9.6.2.10.24 shall not apply where permitted by another section of this Code.

(2) The requirement of 9.6.2.10.24 shall not apply to configurations that provide equivalent distribution of the alarm signal.

9.6.2.10.49 The alarms described in 9.6.2.10.27 shall sound only within an individual dwelling unit, suite of rooms, or similar area and shall not actuate the building fire alarm system, unless otherwise permitted by the authority having jurisdiction. Remote annunciation shall be permitted.

9.6.2.10.10 Smoke alarms shall be permitted to be connected to the building fire alarm system for the purpose of remote annunciation in accordance with NFPA 72.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000. The reference to 'existing' with regard to battery operated smoke alarms in 9.6.2.10.2 (now 9.6.2.10.7) is deleted because the Code permits the installation of new battery-operated smoke alarms in limited circumstances.

The FR incorporates the proposed revision from PI 101- Log #259, the substantiation for which follows:

"There continues to misapplication of installers and architects using smoke alarms as a cheaper version of monitored smoke detection. Smoke alarms are designed for residential applications specifically to awaken those in a bedroom of a 1-2 family home of the sleeping room of any of the other residential occupancies. There are being misapplied in corridors and other locations."

The FR extracts portions of NFPA 72 relating to smoke alarm areas of exclusion in response to PI 101- Log #146a, the substantiation for which follows:

"This proposal is intended to reduce nuisance alarms attributed to locating smoke alarms or smoke detectors in close proximity to cooking appliances and bathrooms in which steam is produced. The proposed provisions are based on the
findings in the Task Group Report - Minimum Performance Requirements for Smoke Alarm Detection Technology - February 22, 2008 and are consistent with similar requirements included in the 2010 edition of NFPA 72.

Section 9.6.2.10.1.1 already requires smoke alarms to be installed in accordance with NFPA 72, which theoretically describes where alarms should and should not be installed. As a convenience to the code user, requirements on where smoke alarms should not be installed in proximity to permanently installed cooking appliances and steam producing bathrooms will be included in this section."

101- Log #FR614 SAF-BSF

Final Action:

(9.6.2.11)

Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.2.11 Where required by Chapters 11 through 43, an automatic fire detection system shall be provided in hazardous areas for initiation of the signaling system.

Statement: The requirement of 9.6.2.11 is superfluous. Any such requirement is appropriately located in the applicable occupancy chapter.

101- Log #FR616 SAF-BSF

Final Action:

(9.6.3.5)

Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.3.5 Unless otherwise provided in 9.6.3.5.1 through 9.6.3.5.8, notification signals for occupants to evacuate shall be audible and visible signals in accordance with NFPA 72, National Fire Alarm and Signaling Code, and ICC/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities, or other means of notification acceptable to the authority having jurisdiction shall be provided.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

101- Log #FR617 SAF-BSF

Final Action:

(9.6.3.5.2)

Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.3.5.2 Visible-only signals shall be provided where specifically permitted in health care occupancies in accordance with the provisions of Chapters 18 and 19.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

101- Log #FR618 SAF-BSF

Final Action:

(9.6.3.5.4)

Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:

9.6.3.5.4 Visible signals shall not be required in lodging or rooming houses in accordance with the provisions of Chapter 26.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.
9.6.3.6.1 The general evacuation alarm signal shall operate throughout the entire building, other than the locations described in 9.6.3.6.4 and 9.6.3.6.5.

9.6.3.6.2* Where total evacuation of occupants is impractical due to building configuration, only the occupants in the affected zones shall be initially notified. Provisions shall be made to selectively notify occupants in other zones to afford orderly evacuation of the entire building when approved by the authority having jurisdiction.

9.6.3.6.3 Where occupants are incapable of evacuating themselves because of age, physical or mental disabilities, or physical restraint, all of the following shall apply:

1. The private operating mode, as described in NFPA 72, National Fire Alarm and Signaling Code, shall be permitted to be used.
2. Only the attendants and other personnel required to evacuate occupants from a zone, area, floor, or building shall be required to be notified.
3. The notification shall include means to readily identify the zone, area, floor, or building in need of evacuation.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

9.6.3.9.2 Where permitted by Chapters 11 through 43, automatically transmitted or live voice announcements shall be permitted to be made via a voice communication or public address system that complies with all of the following:

1. Occupant notification, either live or recorded, shall be initiated at a constantly attended receiving station by personnel trained to respond to an emergency.
2. An approved secondary power supply shall be provided for other than existing, previously approved systems.
3. The system shall be audible above the expected ambient noise level.
4. Emergency announcements shall take precedence over any other use.

Statement: The proposed revision clarifies that all of the items listed in (1) through (4) must be met.

9.6.3.10.2 Emergency voice/alarm communication systems shall be permitted to be used for other purposes, subject to the approval of the authority having jurisdiction, if the fire alarm system takes precedence over all other signals, with the exception of mass notification inputs in accordance with NFPA 72, National Fire Alarm and Signaling Code.

Statement: The proposed revision is intended to eliminate any conflicts with NFPA 72.
Final Action:

(9.6.4.2)

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.6.4.2 Where fire department emergency forces notification is required by another section of this Code, the fire alarm system shall be arranged to transmit the alarm automatically via any of the following means acceptable to the authority having jurisdiction and shall be in accordance with NFPA 72, National Fire Alarm and Signaling Code:

1. Auxiliary fire alarm system
2. Central station fire alarm system
3. Proprietary supervising station fire alarm system
4. Remote supervising station fire alarm system

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000. It is noted that the title of 9.6.4 is ‘Emergency Forces Notification’ and not ‘Fire Department Notification’. Automatic notification might be provided to a private fire brigade rather than, or in addition to, the public fire department.

Final Action:

(9.6.4.4)

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.6.4.4 Where fire alarm systems are required to provide emergency forces notification, supervisory signals and trouble signals shall sound and be visibly displayed either at an approved, remotely located receiving facility or at a location within the protected building that is constantly attended by qualified personnel.

Statement: The proposed revision adds language from NFPA 5000 that is currently not contained in NFPA 101 for correlation.

Final Action:

(9.6.7.4)

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.6.7.4 If where a floor area exceeds 22,500 ft\(^2\) (2090 m\(^2\)), additional fire alarm zoning shall be provided, and the length of any single fire alarm zone shall not exceed 300 ft (91 m) in any direction, except as provided in 9.6.7.4.1 through 9.6.7.4.6 or as otherwise modified by another section of this Code.

Statement: The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

Final Action:

(9.6.7.4.3 (New) )

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.6.7.4.3 Where the building is protected by a water mist system in accordance with 9.8.1 and Table 9.8.1, the area of the fire alarm zone shall be permitted to coincide with the allowable area of the water mist system.

Statement: The committee concurs with the substantiation for PI 101- Log #251, which follows:

"Water Mist systems are installed in equivalent sprinkler applications. Water mist sprinkler heads are spaced in similar areas of protection configurations. The fire alarm zone should be monitoring the same protection area as the mist system coverage just as with a sprinkler system."

It is noted that 9.7.3.1 and Table 9.7.3.1 are renumbered as 9.8.1 and Table 9.8.1, respectively, via 101- Log #FR626.
### (9.6.7.4.3 through 9.6.7.4.5)

**Submitter:** Technical Committee Building Service and Fire Protection Equipment  
**Recommendation:**

9.6.7.4.3 Unless otherwise prohibited elsewhere in this Code, where a building not exceeding four stories in height is protected by an automatic sprinkler system in accordance with 9.7.1.1(1), the sprinkler system shall be permitted to be annunciated on the fire alarm system as a single zone.

9.6.7.4.4 Where the building is protected by an automatic sprinkler system in accordance with 9.7.1.1(2) or 9.7.1.1(3), the sprinkler system shall be permitted to be annunciated on the fire alarm system as a single zone.

9.6.7.4.5 Where the building is protected by an automatic sprinkler system in accordance with 9.7.1.1(3), the sprinkler system shall be permitted to be annunciated on the fire alarm system as a single zone.

**Statement:** The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

### (9.6.7.4.4 (New))

**Submitter:** Technical Committee Building Service and Fire Protection Equipment  
**Recommendation:**

9.6.7.4.4 Unless otherwise prohibited by another section of this Code, where a building not exceeding four stories in height is protected by an automatic water mist system in accordance with 9.7.3, the water mist system shall be permitted to be annunciated on the fire alarm system as a single zone.

**Statement:** The FR incorporates PI 101- Log #252, the substantiation for which follows:

Water Mist systems are installed in equivalent sprinkler applications. Water mist sprinkler heads are spaced in similar areas of protection configurations. The fire alarm zone should be monitoring the same protection area as the mist system coverage just as with a sprinkler system.

### (9.6.7.5 and 9.6.7.6)

**Submitter:** Technical Committee Building Service and Fire Protection Equipment  
**Recommendation:**

9.6.7.5 A system trouble signal shall be annunciated at the control center by means of audible and visible indicators in accordance with NFPA 72, National Fire Alarm and Signaling Code.

9.6.7.6 A system supervisory signal shall be annunciated at the control center by means of audible and visible indicators in accordance with NFPA 72, National Fire Alarm and Signaling Code.

**Statement:** The proposed revision deletes the term 'control center' which is undefined, and adds references to NFPA 72 for specific annunciation requirements.

### (9.6.7.8)

**Submitter:** Technical Committee Building Service and Fire Protection Equipment  
**Recommendation:**

9.6.7.8 Where permitted by another section of this Code, the alarm zone shall be permitted to coincide with the permitted area for smoke compartments.

**Statement:** The proposed revision adds language from NFPA 5000 not currently contained in NFPA 101 for correlation.
9.7 Automatic Sprinklers and Other Extinguishing Equipment.

9.7.1 Automatic Sprinklers General.

9.7.1.1* Each automatic sprinkler system required by another section of this Code shall be in accordance with one of the following:

(1) NFPA 13, Standard for the Installation of Sprinkler Systems

(2) NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

(3) NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height

9.7.1.2 Sprinkler piping serving not more than six sprinklers for any isolated hazardous area shall be permitted to be connected directly to a domestic water supply system having a capacity sufficient to provide 0.15 gpm/ft² (6.1 mm/min) throughout the entire enclosed area.

9.7.1.3 Sprinkler piping serving hazardous areas as described in 9.7.1.2 shall be provided with an indicating shutoff valve, supervised in accordance with 9.7.2 or NFPA 13, Standard for the Installation of Sprinkler Systems, shall be and installed in an accessible, visible location between the sprinklers and the connection to the domestic water supply. In areas protected by automatic sprinklers or an automatic water mist system, automatic heat-detection devices required by other sections of this Code shall not be required.

9.7.1.4 Automatic sprinkler systems installed to make use of an alternative permitted by this Code shall be considered required systems and shall meet the provisions of this Code that apply to required systems.

9.7.2 Supervision.

9.7.2.1* Supervisory Signals.

9.7.2.1.1 Where supervised automatic sprinkler systems are required by another section of this Code, supervisory attachments shall be installed and monitored for integrity in accordance with NFPA 72, National Fire Alarm and Signaling Code, and a distinctive supervisory signal shall be provided to indicate a condition that would impair the satisfactory operation of the sprinkler system.

9.7.2.1.2 Supervisory signals shall sound and shall be displayed either at a location within the protected building that is constantly attended by qualified personnel or at an approved, remotely located receiving facility.

9.7.2.2 Alarm Signal Transmission.

9.7.2.2.1 Where supervision of automatic sprinkler systems is required by another section of this Code, waterflow alarms shall be transmitted to an approved, proprietary alarm-receiving facility, a remote station, a central station, or the fire department.

9.7.2.2.2 Each The connection described in 9.7.2.2.1 shall be in accordance with 9.6.1.3.

Statement: The proposed revision editorially makes Section 9.7 apply only to automatic sprinkler systems, consistent with the format of NFPA 5000. The term 'isolated' is deleted from 9.7.1.2 because it is undefined in response to PI 101-Log #471 (Public Input No. 424-NFPA 101-2012). Other revisions are editorial for correlation with NFPA 5000.

The revision to 9.7.1.3 (renumbered as 9.7.1.4) correlates with action taken on NFPA 5000 public input, the substantiation for which follows: Water Mist systems have been approved and installed in many sprinkler applications globally for over 15 years. They have been listed by national and internationally recognized testing laboratories such as: UL (Ordinary Hazard Group 1), FM (Light Hazard occupancies, Computer Rooms, Subfloors, Special Hazard Machinery & spaces), City of New York (Light Hazard Occupancies, Combustion Turbines, Machinery Spaces), VdS Germany (Light Hazard, Ord Haz Grp I,II parking garages & III selected occupancies, Cable Tunnels), KfV Austria (Light Hazard, Ord Haz Grp I, Combustion Turbines) and other agencies. These listings and installations have demonstrated equivalent fire protection to the authority having jurisdiction (AHJ). The addition of the proposed text will provide the AHJ a clear option to accept water mist systems as an equivalent system to an approved automatic sprinkler system thereby allowing construction alternatives without having to prove equivalency or be considered an alternative extinguishing system.
(9.7.3)

**Submitter:** Technical Committee Building Service and Fire Protection Equipment

**Recommendation:**

**9.7.39.8 Other Automatic Extinguishing Equipment.**

**9.7.39.8.1 Alternative Systems.** In any occupancy where the character of the fuel for fire is such that extinguishment or control of fire is accomplished by a type of automatic extinguishing system in lieu of an automatic sprinkler system, such extinguishing system shall be installed in accordance with the appropriate applicable standard, as determined referenced in accordance with Table 9.7.38.1.

***Table 9.7.38.1 Fire Suppression System Installation Standards*** (NO CHANGES)

**9.7.39.8.2 Alarm Activation.**

_9.8.2.1_ If the extinguishing system is installed in lieu of a required, supervised automatic sprinkler system, the activation of the extinguishing system shall activate the building fire alarm system, where provided.

_9.8.2.2_ The actuation of an extinguishing system that is not installed in lieu of a required, supervised automatic sprinkler system shall be indicated at the building fire alarm system, where provided.

**Statement:** The proposed revision is intended to editorially correlate with similar language in NFPA 5000.

(9.7.4)

**Submitter:** Technical Committee Building Service and Fire Protection Equipment

**Recommendation:**

**9.7.49.9 Manual Extinguishing Equipment (Portable Fire Extinguishers).**

_9.7.49.9_ Where required by the provisions of another section of this Code, portable fire extinguishers shall be selected, installed, inspected, and maintained in accordance with NFPA 10, Standard for Portable Fire Extinguishers.

**9.7.49.10 Standpipe Systems.**

_9.10.1_ Where required by the provisions of another section of this Code, standpipe and hose systems shall be provided in accordance with NFPA 14, Standard for the Installation of Standpipe and Hose Systems.

_9.10.4 9.10.2_ Where standpipe and hose systems are installed in combination with automatic sprinkler systems, installation shall be in accordance with the appropriate provisions established by NFPA 13, Standard for the Installation of Sprinkler Systems, and NFPA 14, Standard for the Installation of Standpipe and Hose Systems.

**Statement:** The proposed revision is intended to editorially correlate with similar language in NFPA 5000.
Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.7.5 Maintenance and Testing. All automatic sprinkler and standpipe systems required by this Code shall be inspected, tested, and maintained in accordance with NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.


9.7.7 Documentation. All required documentation regarding the design of the fire protection system and the procedures for maintenance, inspection, and testing of the fire protection system shall be maintained at an approved, secured location for the life of the fire protection system.

9.7.8 Record Keeping. Testing and maintenance records required by NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, shall be maintained at an approved, secured location.

Statement: The proposed revision renumbers maintenance and testing, impairments, and documentation requirements as a new Section 9.11.

Submitter: Technical Committee Building Service and Fire Protection Equipment

Recommendation:

9.8 Carbon Monoxide (CO) Detection and Warning Equipment. Where required by another section of this Code, carbon monoxide (CO) detection and warning equipment shall be provided in accordance with NFPA 720, Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment.

9.9 Special Inspections and Tests.

9.9.1 System Verification. Where required by another section of this Code, special inspections and tests shall be performed to verify the operation of the fire protection system in its final condition for acceptance by the authority having jurisdiction.

9.9.2 Experience. The special inspector's relevant experience in the design, installation, and testing of the fire protection systems being tested shall be documented.

9.9.3 Documentation. The design documents shall provide the procedures and methods to be used and items subject to special inspections and tests.

9.9.4 Report. The special inspector shall submit an inspection and test report to the authority having jurisdiction and registered design professional (RDP) in responsible charge.

Statement: The proposed revision editorially renumbers Sections 9.8 and 9.9 for consistency with other first revisions, and makes other editorial revisions for consistency with NFPA 5000.
Submitter: Technical Committee Building Service and Fire Protection Equipment
Recommendation:  
A.9.6.1.8.1 The Code intends that only one smoke detector is required to be installed at the fire alarm control unit, the notification circuit power extenders, and the supervising station transmitting equipment, even when the area of the room would require more than one smoke detector if installed according to the spacing rules in NFPA 72, National Fire Alarm and Signaling Code, Chapter 5.
Statement: See First Revision 101- Log #FR608 which deletes 9.6.1.8.1.
As per annex material located in A.29.5.1 of NFPA 72, it is not normally recommended that smoke alarms or smoke detectors be placed in kitchen spaces. This section of the code provides guidelines for safe installation if a need exists to install a smoke alarm or smoke detector in a residential kitchen space or cooking area.

Within this Code section, a fixed cooking appliance is any appliance that is intended to be permanently connected electrically to the wiring system or the fuel source. A stationary cooking appliance is any appliance that is intended to be fastened in place or located in a dedicated space, and is connected to the supply circuit or fuel source.

Smoke alarms and smoke detectors that are currently available to consumers are susceptible to particles released into the air during normal cooking procedures. If smoke alarms and smoke detectors are placed too close to the area where the cooking source originates, a high level of nuisance alarms can occur. Frequent nuisance alarms can result in an occupant disabling the smoke alarm or smoke detector.

Nuisance alarm studies show that commercially available residential smoke alarms and smoke detectors are susceptible to nuisance alarms when installed too close to cooking appliances. As the horizontal distance between the smoke alarm or smoke detectors and the cooking appliance increases, the frequency of nuisance alarms decreases. Smoke alarms or smoke detectors that use ionization smoke detection have been shown to be more susceptible to cooking nuisance alarms than those that use photoelectric smoke detection when the alarms or detectors are installed within 10 ft (3.0 m) along a horizontal smoke travel path from a cooking appliance. Smoke alarms or smoke detectors that use photoelectric smoke detection produce nuisance alarms when installed less than 10 ft (3.0 m) from a cooking appliance, though to a lesser degree.

The occurrence of the higher frequency of nuisance alarms observed in smoke alarms or smoke detectors that use ionization detection have been documented in the fire research data. Due to the differences in technology between ionization detection and photoelectric detection, the sensitivity typically used for ionization detection is much higher than that used for photoelectric detection. This sensitivity difference is a result of each type of the detection being required to satisfy UL 217, Single and Multiple Station Smoke Alarms performance tests. Removing detection technology from consideration, the frequency of nuisance alarms is solely due to the sensitivity of the detection method used. Thus, both ionization and photoelectric detector technologies will produce nuisance alarms due to cooking, but currently available smoke alarms and smoke detectors that use ionization detection typically produce more cooking related nuisance alarms.

The higher sensitivities of currently available smoke alarms and smoke detectors that use ionization detection do provide a benefit at the expense of a potentially higher rate of cooking-related nuisance alarms. Research has demonstrated that ionization detection will typically respond faster than photoelectric detection to flaming fires, providing earlier warning to occupants that might allow for quicker intervention or faster egress. In general, the installation of smoke alarms or smoke detectors that use ionization detection will result in increased fire safety at the risk of a higher frequency of nuisance alarms. The installation of smoke alarms or smoke detectors that use photoelectric detection will result in reduced fire safety for flaming fires and a reduced risk of nuisance alarms. Based on the trade-off between faster response to fires and the frequency of nuisance alarms, detectors that utilize both technologies (i.e., ionization, photoelectric, and a combination) are allowed to be installed between 10 ft (3.0 m) and 20 ft (6.1 m) along a horizontal flow path from a standard or fixed cooking appliance if the specific detector is equipped with an alarm silencing means or is of the photoelectric-type. Nuisance alarm studies provide data on cooking nuisances that emanate from both fixed cooking appliances and stationary cooking appliances (e.g., stove, oven) as well as portable cooking appliances (e.g., toaster). Based on these studies, which demonstrate the potential of all cooking appliances to generate nuisance sources, a zone of exclusion has been specified surrounding each stationary or fixed cooking appliance. The purpose of this zone is to limit the installation of smoke alarms and detectors in areas where stationary, fixed, or portable cooking appliances will be located within the residential kitchen space such that potential nuisance alarms are minimized. The size of the zone of exclusion is specified to attempt to take into account the unknown and transitory locations of portable cooking appliances. This zone of exclusion is determined by measuring a 10 ft (3.0 m) radial distance from the closest edge of a stationary or fixed cooking appliance. The zone of exclusion is not intended to pass through walls or doorways. Figure A.9.6.2.10.4(a)(72)- Figure A.29.8.3.4(4)(e)) provides an example of the zone of exclusion in a generalized residential kitchen. If other areas of this Code require that a smoke alarm or smoke detector be placed within a horizontal flow path distance between 10 ft (3.0 m) and 20 ft (6.1 m) from a stationary or fixed cooking appliance, the following method should be used to determine the distance, and only photoelectric detection or smoke alarms/detectors with alarm silencing means can be installed in this area.
To install a smoke alarm or detector between 10 ft (3.0 m) and 20 ft (6.1 m) from the cooking appliance, an installer must first determine the 10 ft (3.0 m) area of exclusion. Once the area of exclusion is determined, an installer must then determine the horizontal flow distance. This is the horizontal distance along the ceiling from the closest edge of the cooking appliance to the smoke alarm or detector. The horizontal distance can consist of line segments due to impediments, such as interior partitions. Once an impediment is met, the measurement of the distance will then continue along the new horizontal path segment until the distance requirement is met or another impediment is encountered. Figure A.9.6.2.10.4(b) provides an example for placement outside a kitchen in a nearby hallway. Figure A.9.6.2.10.4(c) provides another example of appropriate placement outside of a kitchen in an adjacent room. At a horizontal flow path distance of greater than 20 ft (6.1 m), any type of smoke alarm or smoke detector can be installed. In rare cases, a residential dwelling can be of such size and configuration that an area of exclusion of 10 ft (3.0 m) from a stationary or fixed cooking appliance excludes the placement of a smoke alarm or smoke detector required by other areas of this Code. In these cases, a smoke alarm or smoke detector using photoelectric detection can be installed at least 72 in. (1.83 m) from the fixed or stationary cooking appliance. Figure A.9.6.2.10.4(d) provides an example of this situation in practice where a smoke alarm or smoke detector is required outside of the sleeping area, but the space is in close proximity to the kitchen space.

Studies indicate that smoke alarms and smoke detectors that use ionization detection, photoelectric detection, or a combination of ionization and photoelectric detection, are susceptible to nuisance alarms caused by steam. Little research has been done on the comparative response of these types of detection to steam. Steam particles, in general, are visible, reflect light easily, and are typically produced in a size range that would be more likely to activate a photoelectric sensor. Thus, it is required that smoke alarms and smoke detectors be installed greater than 36 in. (910 mm) from the bathroom door where possible. Increasing the distance between the smoke alarm or smoke detector and the bathroom door can reduce the frequency of nuisance alarms from bathroom steam. Frequent nuisance alarms can result in the occupant disabling the smoke alarm. Each incremental increase in separation, up to 10 ft (3.0 m), between the bathroom door and the smoke alarm or smoke detector is expected to reduce the frequency of nuisance alarms.

Statement: The proposed revision adds Annex A material extracted from NFPA 72 to correspond with code requirements extracted from NFPA 72 in First Revision 101- Log #FR615.
There are typically two different ways that extinguishing systems other than fire sprinkler systems are used. The first is when the entire building is protected with one of these alternate systems. When this is the case, the exceptions, reductions and alternative code provisions that are offered as options when fire sprinkler systems are installed should not be granted to the other extinguishing system unless the other system has demonstrated the same temperature control during a fire and reliability of operation as a fire sprinkler system. Reliability of operation needs to extend to the long-term use of the other system and an analysis of the reliability of the component parts. Some component of other extinguishing systems can show reliability data from their use in systems outside of fire protection where they get exercised on a regular basis, but acceptance on this basis is cautioned because many mechanical parts that sit for a long time without being exercised, as fire protection systems need to do, may not have the same reliability. A reliability analysis should also take into account inspection, testing and maintenance criteria and the likelihood of a building owner knowing and understanding what needs to be performed to keep the other system operational.

The second manner in which other systems are used as alternatives to fire sprinkler systems are in individual rooms or spaces of otherwise sprinklered occupancies. Here the authority having jurisdiction needs to use some judgment in the application of exceptions, reductions and alternative code provisions that are offered for sprinklered occupancies. The permission to utilize such exceptions, reductions and alternative code provisions far from the space with the other fire protection system should be granted. Closer to the space with the alternate system, exceptions, reductions and alternate code provisions for sprinklers could be granted if the system was analyzed as discussed above and found to be equivalent to a fire sprinkler system.

Statement: The FR incorporates the revision in PI 101- Log #32, the substantiation for which follows:

"After experiencing the discussion from the SAF-BSF committee and several of the occupancy committees, it is clear that something needs to be said in the Life Safety Code about this subject. But a blanket ban on using the sprinkler "trade-ups", or a blanket statement that you can always use the sprinkler "trade-ups", does not seem to work either way. Some judgment needs to be used depending on the type of alternative system proposed and the extent to which it is substituting for the sprinkler system. Some of these alternative systems are very good fire protection agents with a good history. Others are just coming to the market place and are using equipment that has not traditionally been used in fire protection systems and we just don’t know how well they will work in the long-run. The annex note seemed to be the best way to provide guidance to AHJ’s for now."