



M E T R O P O L I S  
G R O U P . I N C .

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# CODE COMPARISON

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NYC Building Code 2014 & 2022

PREPARED BY | DATE

Metropolis Technical Affairs Department | May 13, 2022



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# CHAPTER 9

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## Fire Protection Systems



PREPARED BY | DATE

Metropolis Technical Affairs Department | May 13, 2022



## 2014/2022 NYC BUILDING CODE COMPARISON

Starting November 7, 2022 all new buildings and many alterations will be required to comply with the 2022 NYC Building code. In order to assist the design and development community in understanding what implications the updated code may have on current and future projects, Metropolis has developed the enclosed comparison chart. We have separated our analysis in line with the individual chapters contained in the NYC construction code. The chart lists a 2014 code section with it's corresponding 2022 section next to it. The final column in the chart provides a brief commentary summarizing the substance of any change that occurs in that section. Note that to create a more useful and readable document we have omitted all sections that did not change or had only clerical changes (ex. referenced code sections where the section numbers changed).

Note that we have also color-coded certain sections that we believe represent significant code changes that can have a major effect on certain building types (see example below). Of course, code compliance and the impact that compliance can have on building design is always project specific and the professional must decide for themselves the significance of all code changes.

Example:

**903.2.1.6 Assembly occupancies on roofs.** Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied

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2014 BUILDING CODE	2022 BUILDING CODE	COMMENTS
<b>BC 901 - GENERAL</b>		
<p><b>901.1.1 Referenced standards.</b> Where this code makes reference to the nationally recognized standards NFPA 13, NFPA 13D, NFPA 13R, NFPA 14, NFPA 20, or NFPA 72, such standard shall be as modified for New York City in accordance with Appendix Q.</p>	<p><b>901.1.1 Referenced standards.</b> Where this code makes reference to the nationally recognized standards NFPA 13, NFPA 13D, NFPA 13R, NFPA 14, NFPA 20, or NFPA 72, <u>or NFPA 92</u>, such standard shall be as modified for New York City in accordance with Appendix Q <u>of this code</u>.</p>	<p><b>New reference standard added; NFPA 92-2018, Standard for Smoke Control Systems as modified in Appendix Q.</b></p>
<p><b>901.2.1 (not in 2014 code)</b></p>	<p><b>901.2.1 Fire protection systems within a building.</b> <u>Fire protection systems shall be dedicated to one building only.</u></p> <p><b>Exception:</b> <u>Upon review and approval by the commissioner and the Fire Department, multiple buildings may be served by one fire protection system.</u></p>	<p><b>Separate service requirements aligning with the practice of the department is now codified.</b></p>
<b>BC 902 - DEFINITIONS</b>		
<p><b>902.1 Definitions</b></p>	<p><b>202 Definitions (moved to BC chapter 2)</b></p>	<p><b>All definitions are now in chapter 2 of the Building Code.</b></p>
<b>BC 903 – AUTOMATIC SPRINKLER SYSTEMS</b>		
<p><b>903.1.2 Construction documents.</b> Construction documents for automatic sprinkler systems shall contain plans that include the following data and information:</p> <p>1.The location and size of water supplies and the location, spacing, number, and type of sprinkler heads to be used, with approximate location and size of all feed mains, valves and other essential features of the system. For hydraulically calculated systems, hydraulic data substantiating pipe sizes shown shall be submitted and hydraulic reference points and areas must be indicated on the plan.</p>	<p><b>903.1.2 Construction documents.</b> Construction documents for automatic sprinkler systems shall contain plans that include the following data and information:</p> <p>1.The location and size of water supplies and the location, spacing, number, and type of sprinkler heads to be used, with approximate location and size of all feed mains, valves and other essential features of the system. For hydraulically calculated systems, hydraulic data substantiating pipe sizes shown shall be submitted and hydraulic reference points and areas must be indicated on the plan. <u>If any other methods are utilized to size the sprinkler system and its components, as allowed by NFPA 13, supporting documentation shall be submitted to the department.</u></p>	<p><b>Clarification for plan submittals</b></p>

<p><b>903.2 Where required: Exception 3 (Not in 2014 Building Code)</b></p>	<p><b>903.2 Where required.</b>  <b>Exceptions:</b>  3. <u>Sprinklers shall not be required in rooms and spaces protected by an alternative fire suppression system in accordance with the <i>New York City Fire Code</i> and Section 904 of this code.</u></p>	<p><b>Clarification related to redundant fire protection systems</b></p>
<p><b>903.2.1.6 Assembly occupancies on roofs (Not in 2014 Building Code)</b></p>	<p><b>903.2.1.6 Assembly occupancies on roofs.</b> <u>Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.</u>  <b>Exception:</b> <u>Open parking garages of Type 1 or Type 2 construction.</u></p>	<p><b>New code compliance added. Potential major impact for existing buildings creating rooftop occupancies</b></p>
<p><b>903.2.1.7 Multiple Fire Areas (Not in 2014 Building Code)</b></p>	<p><b>903.2.1.7 Multiple Fire Areas:</b> <u>An automatic sprinkler system shall be provided where multiple fire areas of Group A-1, A-2, A-3 or A-4 occupancies share exit or exit access components and the combined occupant load of these fire areas is 300 or more.</u></p>	<p><b>New code compliance added. Adjacent assembly occupancies must be considered cumulatively</b></p>
<p><b>903.2.2.1 Ambulatory health care facilities.</b> An automatic sprinkler system shall be installed throughout all fire areas containing a Group B ambulatory health care facility occupancy when either of the following conditions exists at any time:</p> <ol style="list-style-type: none"> <li>1. Four or more care recipients are incapable of self-preservation.</li> <li>2. One or more care recipients who are incapable of self-preservation are located at other than the level of exit discharge serving such an occupancy.</li> </ol> <p>*Section 903.2.2.1 was added by Local Law 78 of 2015. This law has an effective date of December 31, 2015.</p>	<p><b>903.2.2.1 Ambulatory health care facilities.</b> <u>An automatic sprinkler system shall be installed throughout all fire areas containing a Group B ambulatory health care facility occupancy in buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor where such care is provided as well as all floors below, and all floors between the level of ambulatory care and the nearest level of exit discharge, including the level of exit discharge.</u></p>	<p><b>Code compliance updated. Exception removed. Sprinkler upgrades may need to extend beyond the area of Ambulatory health care facilities.</b></p>
<p><b>903.2.2.2 Animal service facilities.</b> An automatic sprinkler system shall be provided for animal service facilities. This provision shall be retroactive and shall apply to all such facilities in existence on the effective date of this provision, and such facilities shall achieve compliance no later than December 31, 2016.</p>	<p><b>903.2.2.2 Animal service facilities.</b> An automatic sprinkler system shall be provided for animal service facilities.</p>	<p><b>No change. Obsolete retroactive provision removed.</b></p>

<p><b>903.2.3 Group E.</b> An automatic sprinkler system shall be provided for Group E occupancies as follows:</p> <ol style="list-style-type: none"> <li>1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m<sup>2</sup>) in area.</li> <li>2. Throughout every portion of educational buildings below the level of exit discharge.</li> </ol> <p><b>Exception:</b> An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level without intervening corridors, passageways, or exit enclosures.</p>	<p><b>903.2.3 Group E.</b> An automatic sprinkler system shall be provided for Group E occupancies as follows:</p> <ol style="list-style-type: none"> <li>1. Throughout all Group E fire areas greater than <u>12,000 square feet (1114.8 m<sup>2</sup>)</u> in area.</li> </ol>	<p><b>Code compliance updated. Compliance required for a smaller fire area. No change to exception #2</b></p>
<p><b>903.2.4. Group F (#5 Not in 2014 Code)</b></p>	<p><b>903.2.4. Group F:</b></p> <ol style="list-style-type: none"> <li>5. Where a <u>Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232.3 m<sup>2</sup>).</u></li> </ol>	<p><b>New code compliance added. Stricter area requirement for this occupancy No change to exceptions 1-4.</b></p>
<p><b>903.2.6 Group I. (Exceptions #2 and #3 not in 2014 Code)</b></p> <p><b>Exception:</b></p> <ol style="list-style-type: none"> <li>1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities.</li> </ol>	<p><b>903.2.6 Group I. Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities <u>if located in an I-1 occupancy building or a residential building, provided such building is six stories or less in height.</u></li> <li>2. <u>An automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has not less than one exterior exit door.</u></li> <li>3. <u>In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge, and all floors below the level of exit discharge other than areas classified as an open parking garage.</u></li> </ol>	<p><b>Code compliance updated. Limited exceptions added. Sprinkler upgrades may need to extend beyond the area of daycare facilities.</b></p>

<p><b>903.2.7 Group M. (#4 not in 2014 Code)</b>  An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where any one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. Where a Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);</li> <li>2. Where a Group M fire area is located more than three stories above grade plane.</li> <li>3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).</li> </ol>	<p><b>903.2.7 Group M.</b>  An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where any one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. Where a Group M fire area exceeds 12,000 square feet <u>1114.8 m<sup>2</sup></u>);</li> <li>2. Where a Group M fire area is located more than three stories above grade plane.</li> <li>3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (<u>2229.7 m<sup>2</sup></u>).</li> <li>4. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464.5 m<sup>2</sup>).</li> </ol>	<p><b>New code compliance added. Stricter area requirement for this retail type. No changes to exceptions 1-3</b></p>
<p><b>903.2.9 Group S-1. (#5 and #6 not in 2014 Code)</b>  An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where any one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. A Group S-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);</li> <li>2. The building is greater than 1,000 square feet (92.9 m<sup>2</sup>) in area and the main use or dominant occupancy is Group S-1; or</li> <li>3. A Group S-1 fire area is located more than three stories above grade plane.</li> <li>4. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).</li> </ol>	<p><b>903.2.9 Group S-1.</b>  An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where any one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. A Group S-1 fire area exceeds 12,000 square feet (<u>1114.8 m<sup>2</sup></u>);</li> <li>2. The building is greater than 1,000 square feet (92.9 m<sup>2</sup>) in area and the main use or dominant occupancy is Group S-1; or</li> <li>3. A Group S-1 fire area is located more than three stories above grade plane.</li> <li>4. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (<u>2229.7 m<sup>2</sup></u>).</li> <li>5. A Group S-1 fire area used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464.5 m<sup>2</sup>).</li> <li>6. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232.3 m<sup>2</sup>).</li> </ol>	<p><b>New code compliance added. Stricter area requirement for these storage types. No changes to exceptions 1-4</b></p>
<p><b>903.2.9.3 High-piled storage. (not in 2014 Code)</b></p>	<p><b>903.2.9.3 High-piled storage.</b> <u>An automatic sprinkler system shall be provided in accordance with the New York City Fire Code in all buildings or portions thereof in Group S-1 occupancies where the storage of merchandise is in high-piled or rack storage arrays.</u></p>	<p><b>New code compliance provided.</b></p>

<p><b>903.2.10.4 High-piled storage. (not in 2014 Code)</b></p>	<p><b>903.2.10.4 High-piled storage.</b> An automatic sprinkler system shall be <u>provided in all buildings or portions thereof Group-S-2 occupancies in accordance with the <i>New York City Fire Code</i>.</u></p>	<p><b>New code compliance provided.</b></p>
<p><b>903.2.11.1 Above-or below-grade stories.</b> 2. Openings entirely above the adjoining ground level totaling at least 20 square feet (1.86 m<sup>2</sup>) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior walls facing onto a street, public way or frontage space, in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).</p>	<p><b>903.2.11.1 Above-or below-grade stories.</b> 2. Openings entirely above the adjoining ground level totaling <u>not less than 20 square feet (1.86 m<sup>2</sup>) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior walls facing onto a street, public way or frontage space, in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm). The bottom of the clear opening shall not exceed 36 inches (914.4 mm) measured from the floor.</u></p>	<p><b>Code compliance updated.</b> <b>Maximum distance from the interior floor for openings in exterior walls provided.</b></p>
<p><b>903.2.11.1.3 Below-grade stories.</b> Where any portion of a below-grade story is located more than 75 feet (22 860 mm) from openings required by Section 903.2.11.1, the below-grade story shall be equipped throughout with an approved automatic sprinkler system.</p>	<p><b>903.2.11.1.3 Below-grade stories.</b> Where any portion of a below-grade story is located more than 75 feet (22 860 mm) from openings required by Section 903.2.11.1, <u>or where walls, partitions, or other obstructions are installed that restrict the application of water from hose streams,</u> the below-grade story shall be equipped throughout with an approved automatic sprinkler system.</p>	<p><b>Code compliance updated.</b> <b>Partitioned cellar spaces will trigger sprinkler requirement.</b></p>
<p><b>903.2.11.6 Rubbish and linen chutes.</b> An automatic sprinkler system shall be installed at the top of rubbish and linen chutes, in chute access rooms, and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Chute sprinklers shall be accessible for servicing.</p>	<p><b>903.2.11.6 Rubbish and linen chutes.</b> An automatic sprinkler system shall be installed at the top of rubbish and linen chutes, in chute access rooms, and in their terminal rooms. Chutes shall have additional sprinkler heads installed <u>at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, or through areas with no openings, such an extension shall have sprinklers installed that are recessed from the drop area if the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors, beginning with the second level below the last intake and ending with the floor above the discharge.</u> [Chute] All chute sprinklers shall be accessible for servicing and shall not obstruct the vertical path for rubbish or linens.</p>	<p><b>Code compliance updated.</b> <b>Clarifications added related to location and placement of in chute sprinklers</b></p>



<p><b>903.2.11.7 Buildings over 55 feet in height.</b> An automatic sprinkler system shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of Fire Department vehicle access.</p>	<p><b>903.2.11.7 Buildings over 55 feet (16,764 mm) or more in height.</b> An automatic sprinkler system shall be installed throughout buildings <u>that have one or more stories</u> with an occupant load of 30 or more located 55 feet (16 764 mm) or more above the lowest level of Fire Department vehicle access, <u>measured to the finished floor.</u></p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. <u>Open parking structures without any other occupancy groups, unless otherwise required.</u></li> <li>2. <u>Occupancies in Group F-2, unless required by the New York State Department of Labor.</u></li> </ol>	<p><b>Clarifications added. New exceptions provided.</b></p>
<p><b>903.2.13 Type IV construction with cross-laminated timber (CLT) or structural composite lumber (SCL) (not in 2014 Code)</b></p>	<p><b>903.2.13 Type IV construction with cross-laminated timber (CLT) or structural composite lumber (SCL).</b> <u>Automatic sprinkler systems in accordance with NFPA 13 shall be required throughout buildings utilizing Type IV construction with CLT or SCL as follows:</u></p> <ol style="list-style-type: none"> <li>1. <u>In all occupancies where the building is more than three stories above grade plane.</u></li> <li>2. <u>In Group B occupancies, where a floor exceeds 28,500 square feet (2647.7 m<sup>2</sup>).</u></li> </ol>	<p><b>New code compliance related to the introduction of allowances for CLT &amp; SCL construction in the code.</b></p>

<p><b>903.3.1.1.1 Exempt locations protected by other means. (#2 not in 2014 Code)</b>  903.3.1.1.1 Exempt locations protected by other means. When approved by the Fire Department, automatic sprinklers shall not be required rooms or areas protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion, and an alternative automatic fire-extinguishing system in accordance with this code and the New York City Fire Code. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment. This exemption shall not apply to a generator or transformer room unless, in addition to the above requirements, such room is separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours, and the generator in such room shall not use high pressure flammable gas in excess of 15 psig (103 kPa gauge).  *Section BC 903.3.1.1.1 was amended by Local Law 195 of 2018. This law has an effective date of May 30, 2019.</p>	<p><b>903.3.1.1.1 Exempt locations protected by other means.</b>  When approved by the Fire Department, automatic sprinklers shall not be required in the following:</p> <ol style="list-style-type: none"> <li>1. In rooms or areas protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion, and an alternative automatic fire-extinguishing system in accordance with this code and the New York City Fire Code. Sprinklers shall not be omitted from any room merely because it is of fire-resistance-rated construction or contains electrical equipment. This exemption shall not apply to a generator or transformer room unless, in addition to the above requirements, such room is separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours, and the generator in such room shall not use high pressure flammable gas in excess of 15 psig ([103] 103.4 kPa gauge).</li> <li>2. <u>Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.</u></li> </ol>	<p><b>Code compliance added. Exempt locations added.</b></p>
<p><b>903.3.1.2 NFPA 13R sprinkler systems.</b> Where allowed in buildings of Group R, up to and including six stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R as modified in Appendix Q.</p>	<p><b>903.3.1.2 NFPA 13R sprinkler systems.</b> Where allowed in buildings of Group R, up to and including six stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R  <u>The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from the horizontal assembly creating separate buildings.</u></p>	<p><b>Code compliance added. New consideration added. Sections 510.2-Horizontal building separation allowance and 510.4-Parking beneath Group R have not changed.</b></p>
<p><b>903.3.1.2.2 Open-ended corridors. (not in 2014 Code)</b></p>	<p><b>903.3.1.2.2 Open-ended corridors.</b> <u>Sprinkler protection and freeze protection shall be provided in open-ended corridors and associated exterior stairways and ramps as specified in Section 1027.6, Exception 3.</u></p>	<p><b>New section to coordinate with conditions for non-separated exterior corridors.</b></p>

<p><b>903.3.2 Quick-response and residential sprinklers.</b> Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in the following areas in accordance with Section 903.3.1 and their listings:</p> <ol style="list-style-type: none"> <li>1. Throughout all spaces within a smoke compartment containing patient dwelling units in Group I-2 in accordance with this code.</li> <li>2. Dwelling units in Group R and I-1 occupancies.</li> <li>3. Light-hazard occupancies as defined in NFPA 13.</li> </ol>	<p><b>903.3.2 Quick-response and residential sprinklers.</b> Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in <u>all of the</u> following areas in accordance with Section 903.3.1 and their listings:</p> <ol style="list-style-type: none"> <li>1. Throughout all spaces within a smoke compartment containing <u>care recipient dwelling units</u> in Group I-2 in accordance with this code.</li> <li>2. Throughout all spaces within a smoke compartment containing <u>treatment rooms in ambulatory care facilities.</u></li> <li>3. Dwelling units <u>and sleeping units</u> in Group-I-1 <u>and R</u> occupancies.</li> <li>4. Light-hazard occupancies as defined in NFPA 13.</li> </ol>	<p><b>Code compliance added. Exception #2 added to coordinate with additional protections required for ambulatory health care.</b></p>
<p><b>903.3.5.1.1 Limited area sprinkler systems.(Moved to 903.3.8 and updated)</b>Limited area sprinkler systems serving fewer than 20 sprinklers on any single connection are permitted to be connected to the domestic service where a wet automatic standpipe is not available. Limited area sprinkler systems connected to domestic water supplies shall comply with NFPA 13.The domestic service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13R or NFPA 13D.</p>	<p><b>903.3.5.1.1 Limited area sprinkler systems. (Removed from 2022 code and renamed)</b>  <b>903.3.5.1.1 Residential combination services.</b></p>	<p>See 903.3.8</p>
<p><b>903.3.5.2 Secondary water supply.</b> A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings in Seismic Design Category C or D as determined by this code, and in any high-rise building with occupied floors located more than 300 feet (91 440 mm) above the lowest level of Fire Department vehicle access. The secondary water supply shall have a duration not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.</p>	<p><b>903.3.5.2 Secondary on-site water supply.</b> <u>A secondary on-site water supply for high-rise buildings shall be provided in accordance with Section 403.3.3.</u></p>	<p><b>Code compliance updated. Secondary supply requirement height trigger greatly increased. See BC 403.3.3</b></p>

**903.3.8. Limited area sprinkler systems. (Formally 903.3.5.1.1. Updated in 2022 Code)**

**903.3.8. Limited area sprinkler systems.** Limited area sprinkler systems shall be in accordance with the standards listed in Section 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

**903.3.8.1 Number of sprinklers.** Limited area sprinkler systems shall not exceed six sprinklers in any single fire area.

**903.3.8.2 Occupancy hazard classification.** Only areas classified by NFPA 13 as Light Hazard or Ordinary Hazard Group 1 shall be permitted to be protected by limited area sprinkler systems.

**903.3.8.3 Piping arrangement.** Where a limited area sprinkler system is installed in a building with an automatic wet standpipe system, sprinklers shall be supplied by the standpipe system. Where a limited area sprinkler system is installed in a building without an automatic wet standpipe system, water shall be permitted to be supplied by the plumbing systems provided that the plumbing system is capable of simultaneously supplying domestic and sprinkler demands.

**903.3.8.4 Supervision.** Control valves shall not be installed between the water supply and sprinklers unless the valves are of an approved indicating type that are supervised or secured in the open position.

**903.3.8.5 Calculations.** Hydraulic calculations in accordance with NFPA 13 shall be provided to demonstrate that the available water flow and pressure are adequate to supply all sprinklers installed in any single fire area with discharge densities corresponding to the hazard classification.

**Code compliance updated. Instances where sprinkler heads can be supplied from the domestic supply has been significantly reduces**

<p><b>903.4 Sprinkler system supervision and alarms. (Added a 7<sup>th</sup> exception labeled as exception #2)</b></p> <p>All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and water-flow switches on all sprinkler systems shall be electrically supervised by the fire alarm system where a fire alarm system is required by Section 907.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Automatic sprinkler systems protecting one-and two-family dwellings.</li> <li>2. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.</li> <li>3. Jockey pump control valves that are sealed or locked in the open position.</li> <li>4. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.</li> <li>5. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.</li> <li>6. 6. Trim valves to pressure switches in dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position.</li> </ol>	<p><b>903.4 Sprinkler system supervision and alarms.</b></p> <p><b>Exceptions:</b></p> <p>All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and water-flow switches on all sprinkler systems shall be electrically supervised by the fire alarm system where a fire alarm system is required by Section 907.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Automatic sprinkler systems protecting one-and two-family dwellings.</li> <li>2. <u>Limited area sprinkler systems in accordance with Section 903.3.8.</u></li> <li>3. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.</li> <li>4. Jockey pump control valves that are sealed or locked in the open position.</li> <li>5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.</li> <li>6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.</li> <li>7. Trim valves to pressure switches in dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position.</li> </ol>	<p><b>Code compliance updated. New exception provided.</b></p>
<p><b>BC 904 – ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHER SYSTEMS</b></p>		
<p><b>904.3.2 Actuation.</b> Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section 904.11.1.</p>	<p><b>904.3.2 Actuation.</b> Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section <u>904.12.1. Where more than one hazard could be simultaneously involved in fire due to their proximity, all hazards shall be protected by a single system designed to protect all hazards that could become involved.</u></p> <p><b>Exception:</b> <u>Multiple systems shall be permitted to be installed if they are designed to operate simultaneously.</u></p>	<p><b>Code compliance updated. Clarification that extinguishing system must be capable to protect all potential hazards in proximity</b></p>

**904.11 Commercial cooking systems** (*Moved to 904.12 and 904.11 is changed to Automatic water mist systems*).

**904.11 Automatic water mist systems.** Automatic water mist systems shall be permitted in applications that are consistent with the applicable listing or approvals and shall comply with Sections 904.11.1 through 904.11.3.

**904.11.1 Design and installation requirements.** Automatic water mist systems shall be designed and installed in accordance with Sections 904.11.1.1 through 904.11.1.4.

**904.11.1.1 General.** Automatic water mist systems shall be designed and installed in accordance with the manufacturer's instructions and the New York City Fire Code.

**904.11.1.2 Actuation.** Automatic water mist systems shall be automatically actuated.

**904.11.1.3 Water supply protection.** Connections to a potable water supply shall be protected against backflow in accordance with the New York City Plumbing Code.

**904.11.1.4 Secondary water supply.** Where a secondary water supply is required for an automatic sprinkler system, an automatic water mist system shall be provided with an approved secondary water supply in accordance with the New York City Fire Code.

**904.11.2 Water mist system supervision and alarms.** Supervision and alarms shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.

**904.11.2.1 Monitoring.** Monitoring shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.1.

**904.11.2.2 Alarms.** Alarms shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.2.

**904.11.2.3 Floor control valves.** Floor control valves shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.3.

**904.11.3 Testing, operation and maintenance.** Automatic water mist systems shall be tested, operated and maintained in accordance with the New York City Fire Code.

Code compliance updated. Detailed compliance path now added for this system.

<p><b>904.12 Water-mist systems (Moved to 904.11 and 904.12 is changed to Commercial cooking systems).</b></p>	<p><b>904.12 Commercial cooking systems.</b></p> <p>The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Pre-engineered automatic wet-chemical extinguishing systems shall be approved by the Fire Commissioner, tested in accordance with UL 300, and listed and labeled for the intended application.</p> <p>The protected area shall include the area under the hood and over the cooking equipment, the area above or behind the filters and the opening of the hood into the branch duct. Where a pre-engineered system is installed and the size of the protected area exceeds that allowed for a single pre-engineered system, additional pre-engineered systems arranged for simultaneous operation shall be provided.</p> <p>Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions. Only automatic fire-extinguishing systems of the following types shall be installed in accordance with the New York City Fire Code:</p> <ol style="list-style-type: none"> <li><u>1. Foam water sprinkler system or foam water spray systems.</u></li> <li><u>2. Wet-chemical extinguishing systems.</u></li> </ol> <p><u>Automatic sprinkler systems, dry-chemical fire-extinguishing systems, and carbon dioxide fire-extinguishing systems shall not be installed to protect commercial cooking equipment and exhaust systems.</u></p>	<p><b>Code compliance added. Applicable Fire-extinguishing systems additions and restrictions included.</b></p>
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<p><b>904.13 Domestic cooking systems in Group I-2 (Not in 2014 Code)</b></p>	<p><b>904.13 Domestic cooking systems in Group I-2.</b> In Group I-2 occupancies where cooking facilities are installed in accordance with Section 407.2.6 of this code, the domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.</p> <p><b>904.13.1 Manual system operation and interconnection.</b> Manual actuation and system interconnection for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2, respectively.</p> <p><b>904.13.2 Portable fire extinguishers for domestic cooking equipment in Group I-2.</b> A portable fire extinguisher complying with Section 906 shall be installed within a 30-foot (9144 mm) distance of travel from domestic cooking appliances.</p>	<p><b>Code compliance added.</b> <b>Extinguishing system needed for domestic cooktops open to I-2 corridors</b></p>
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BC 905 – STANDPIPE SYSTEMS		
<p><b>905.3.4 Stages.</b> Stages greater than 1,000 square feet in area and any assembly occupancy with a stage and an occupant load of 1,000 or greater, shall be equipped with a Class III wet standpipe system with 1½ inch and 2½ inch (38 mm and 64 mm) hose connections on each side of the stage.</p> <p><b>905.3.4.1 Hose and cabinet.</b> The 1½ inch (38 mm) hose connections shall be equipped with sufficient lengths of 1½ inch (38 mm) hose to provide fire protection for the stage area. Hose connections shall be equipped with an approved adjustable fog nozzle and be mounted in a cabinet or on a rack.</p>	<p><b>905.3.4 Stages.</b> Stages greater than 1,000 square feet in area, <u>or any assembly occupancy having an occupant load of 1,000 or more with a stage of any size</u>, shall be equipped with a Class III wet standpipe system with <u>a hose station on each side of the stage. Such hose stations shall comply with Section 905.6 and shall have sufficient hose to provide protection for the entire stage area from either standpipe location. The exceptions allowed under Section 905.3.1 shall not apply to these hose stations.</u></p>	<p><b>Code compliance updated. Section corrected to clarify that all stages in high occupancy assembly spaces require standpipe coverage</b></p>
<p><b>905.3.8 Rooftop gardens, landscaped roofs and green roofs. (Not in 2014 Code)</b></p>	<p><b>905.3.8 Rooftop gardens, landscaped roofs and green roofs.</b> Buildings with a rooftop garden, landscaped roof, green roof, or roof used for any purpose other than weather protection or maintenance that are equipped with a standpipe system shall extend the standpipe system to the roof level on which the rooftop garden, landscaped roof, green roof, or roof used for any purpose other than weather protection or maintenance is located.</p>	<p><b>New code compliance provided. Occupied landscaped roofs, require standpipe protection</b></p>
<p><b>905.3.9 High-piled stock or rack storage (Not in 2014 Code)</b></p>	<p><b>905.3.9 High-piled stock or rack storage.</b> Where exit passageways are required in accordance with Chapter 10 of this code, a standpipe system shall be provided in accordance with the New York City Fire Code in all buildings containing high-piled stock or rack storage.</p>	<p><b>New code compliance provided.</b></p>

**905.4 Location of Class I standpipe hose connections. (Additional 7<sup>th</sup> location provided)**

Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be readily accessible and located at the riser on each floor-level landing and on the entrance floor above the standpipe riser control valve. Nonrequired enclosed stairways are not required to have hose connections. Stairways without hose connections shall have a sign on the door to the stairway stating, "No standpipe connections in stairway."
2. On each side of the wall adjacent to the exit opening of a horizontal exit.

**Exception:** Where floor areas adjacent to a horizontal exit are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the horizontal exit.

3. In every exit passageway at the entrance from the exit passageway to the other areas of a building.

**Exception:** Where floor areas adjacent to an exit passageway are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered mall buildings, in accordance with Section 905.3.3.2.
5. Where the roof has a slope of less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of stairways with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.
6. Where the most remote portion of a floor or story is more than 150 feet (45720mm) from a hose connection, additional hose connections shall be provided in approved locations. For the purposes of this section, a penthouse with an occupant load greater than 10 shall be considered a story.

**905.4 Location of Class I standpipe hose connections.** Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be readily accessible and located at the riser on each floor-level landing and on the entrance floor above the standpipe riser control valve. Nonrequired enclosed stairways are not required to have hose connections. Stairways without hose connections shall have a sign on the door to the stairway stating, "No standpipe connections in stairway."
2. On each side of the wall adjacent to the exit opening of a horizontal exit.

**Exception:** Where floor areas adjacent to a horizontal exit are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the horizontal exit.

3. In every exit passageway at the entrance from the exit passageway to the other areas of a building.

**Exception:** Where floor areas adjacent to an exit passageway are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered mall buildings, in accordance with Section 905.3.3.2.
5. Where the roof has a slope of less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of stairways with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes. This additional hose connection shall not be required when a roof manifold is installed in accordance with NFPA 14.
6. Where the most remote portion of a floor or story is more than 150 feet (45720mm) from a hose connection, additional hose connections shall be provided in approved locations. For the purposes of this section, a penthouse with an occupant load greater than 10 shall be considered a story.
7. In any staircase where the change in elevation between floor landings is more than 25 feet (7620 mm), in addition to the hose connections required by Item 1, a hose connection shall be installed at the first intermediate stair landing below the higher floor level.

**Code compliance added. Additional hose outlet required in stairs covering high ceilinged stories.**

<p><b>905.5 Location of Class II standpipe hose connections.</b> Class II standpipe hose connections shall be accessible and located in accordance with Section 905.3.4.</p> <p><b>905.5.1 Reserved.</b></p> <p><b>905.5.2 Protection.</b> Fire-resistance-rated protection of risers and laterals of Class II standpipe systems is not required.</p>	<p><b>905.5 Location of Class II standpipe hose connections.</b> Class II standpipe hose connections shall be prohibited.</p> <p><b>905.5.1 Reserved.</b></p>	<p><b>Code compliance updated. Hose connections no longer allowed for this system.</b></p>
<p><b>905.6 Location of Class III standpipe hose connections.</b> Class III standpipe systems shall have hose connections located as required for Class I standpipes in Section 905.4 and shall have Class II hose connections as required in Section 905.5.</p>	<p><b>905.6 Location of Class III standpipe hose connections.</b> Class III standpipe systems shall have <u>2½-inch (63.5 mm)</u> hose connections located as required for Class I standpipes in Section 905.4. <u>At each hose connection, there shall be a hose station. The hose stations shall be equipped with a minimum of 125 feet (38 100 mm) but not more than a maximum of 150 feet (45 720 mm) of 1½-inch (38.1 mm) fire hose connected to an adjustable fog nozzle. The hose shall be attached to the 2½-inch (63.5 mm) hose connection by a 2½-inch (63.5 mm) by 1½-inch (38.1 mm) non-swivel reducing coupling. The hose shall be mounted on a rack and may be located in a cabinet, in accordance with Section 905.7. A pressure restricting device shall be installed when required by NFPA 14. Such pressure restricting device and reducing coupling shall be installed in such a manner that they are readily removable by the Fire Department.</u></p>	<p><b>Code compliance updated. Hose stations required at each connection</b></p>
<p><b>905.7.1 Cabinet equipment identification. (Added a 2<sup>nd</sup> exception).</b> Cabinets shall be identified in an approved manner by a permanently attached sign with white letters not less than 2 inches (51 mm) high and a red background color, indicating the equipment contained therein.</p> <p><b>Exception:</b> Doors that have either an approved visual identification clear glass panel or a complete glass door panel are not required to be marked.</p>	<p><b>905.7.1 Cabinet equipment identification.</b></p> <p><b>Exceptions:</b></p> <p>Cabinets shall be identified in an approved manner by a permanently attached sign with white letters not less than 2 inches (51 mm) high and a red background color, indicating the equipment contained therein.</p> <p><u>1. Doors not large enough to accommodate a written sign with 2-inch lettering shall be marked with a permanently attached pictogram indicating the equipment contained therein, in addition to corresponding smaller white lettering on a red background adjacent to such pictogram.</u></p> <p>2. Doors that have either an approved visual identification clear glass panel or a complete glass door panel are not required to be marked.</p>	<p><b>Code compliance added. New exception added.</b></p>

BC 907 – FIRE ALARM AND DETECTION SYSTEMS		
<p><b>907.2.1.2 Emergency voice/alarm communication captions. (Not in 2014 code)</b></p>	<p><b>907.2.1.2 Emergency voice/alarm communication captions.</b> <u>Stadiums, arenas and grandstands required to caption audible public announcements shall be in accordance with Section 907.5.2.2.4.</u></p>	<p><b>New code compliance provided.</b></p>
<p><b>907.2.2 Group B.</b> A manual and automatic fire alarm system shall be installed in Group B occupancies that are protected by an automatic sprinkler system where one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. The combined Group B occupant load of all floors is 500 or more.</li> <li>2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.</li> <li>3. The Group B fire area contains a Group B ambulatory health care facility.</li> </ol>	<p><b>907.2.2 Group B.</b> A manual and automatic fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. The combined Group B occupant load of all floors is 500 or more.</li> <li>2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.</li> <li>3. The fire area contains an ambulatory care facility, <u>which shall comply with Section 907.2.2.1.</u></li> </ol> <p><u>Where such Group B occupancies meeting any one of the above conditions are not protected by an automatic sprinkler system, a partial coverage automatic smoke detection system shall be installed in accordance with NFPA 72.</u></p>	<p><b>Code compliance added. Automatic Smoke detection required for certain B occupancies when sprinklers are not present.</b></p>
<p><b>907.2.3 Group E.</b> A manual and automatic fire alarm system shall be installed in Group E occupancies. When automatic sprinkler systems or, smoke detectors are installed such systems or detectors shall be connected to the building fire alarm system.</p>	<p><b>907.2.3 Group E.</b> A manual and automatic fire alarm system shall be installed in Group E occupancies. <u>An emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies.</u> Automatic sprinkler systems, smoke detectors [are installed,] and/or other initiating devices, shall be installed in accordance with other sections of this code. When such systems, initiating devices, and/or detectors are installed, they shall be connected to the building fire alarm system.</p> <p><b>Exception:</b> <u>Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual and automatic fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.</u></p>	<p><b>Code compliance added. Exception added exempting elements of Fire alarm system for small occupant loads.</b></p>

<p><b>907.2.5 Group H. (Exceptions revised)</b>  A manual and automatic fire alarm system shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. In addition to the automatic fire alarm system requirements of Section 907.2, an automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with the New York City Fire Code, and shall be connected to a central supervising station.  <b>Exceptions:</b> A smoke detection system shall not be required in detached storage buildings equipped throughout with an approved automatic fire-extinguishing system and used only to store the following:</p> <ol style="list-style-type: none"> <li>1. Organic peroxides.</li> <li>2. Liquid or solid oxidizers</li> </ol>	<p><b>907.2.5 Group H.</b>  A manual and automatic fire alarm system shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. In addition to the automatic fire alarm system requirements of Section 907.2, an automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with the New York City Fire Code, and shall be connected to a central supervising station.  <b>Exception:</b> <u>Where exempt under the <i>New York City Fire Code</i>.</u></p>	<p><b>Code compliance updated.  Exception added</b></p>
<p><b>907.2.6.2.1 Group I-2 hospital buildings.</b> Group I-2 hospital buildings where the highest occupied floor is less than 75 feet (22 860 mm) above the lowest level of Fire Department vehicle access shall be provided with partial coverage automatic smoke detection connected to an automatic fire alarm system in accordance with Section 907.2.13.1 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.</p>	<p><b>907.2.6.2.1 Group I-2 hospital buildings. (Removed form 2022 code)</b></p>	<p><b>Code compliance path removed.</b></p>
<p><b>907.2.8.4 Large Group R-1 occupancies. (Moved to 907.2.8.5 and 907.2.8.4 is changed to 'Group R-1 student dormitories').</b></p>	<p><b>907.2.8.4 Group R-1 student dormitories.</b> A manual and automatic smoke detection system shall be installed in occupancies for student or school staff dormitory housing in all of the following locations:</p> <ol style="list-style-type: none"> <li><u>1. Common spaces outside of sleeping units.</u></li> <li><u>2. Laundry rooms, mechanical equipment rooms and storage rooms.</u></li> <li><u>3. Interior corridors serving sleeping units.</u></li> </ol> <p><b>Exception:</b> <u>An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units or dwelling units and where each sleeping unit or dwelling unit either has a means of egress door opening directly to an exterior exit access that leads directly to an exit or a means of egress door opening directly to an exit.</u></p> <p><u>Required smoke alarms for student or staff dormitory housing shall be interconnected with the fire alarm system in accordance with NFPA 72.</u></p>	<p><b>New code compliance provided. New requirements for automatic smoke detection specifically for dormitories</b></p>

<p><b>907.2.10 Reserved.</b></p>	<p><b>907.2.10 Group S.</b> A manual and automatic fire alarm system shall be installed in Group S occupancies where any one of the following conditions exists:</p> <ol style="list-style-type: none"> <li>1. Group S fire area has an occupant load of 300 occupants or more;</li> <li>2. The combined occupant load of all Group S fire areas on all floors, including mezzanines, is 300 or more.</li> </ol> <p><b>907.2.10.1 Large-area buildings.</b> Group S occupancies having a total gross area exceeding 500,000 square feet (46 451.5 m<sup>2</sup>) located in buildings, where the highest occupied floor is 75 feet (22 860) or less above the lowest level of Fire Department vehicle access, shall be provided with automatic smoke detection connected to an automatic fire alarm system in accordance with Section 907.2.13.1 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2 that initiates a total evacuation signal.</p>	<p><b>New code compliance provided.</b>  <b>New requirements for Group S occupancies</b></p>
<p><b>907.2.11.1 Smoke alarms in Groups R-2, R-3, and I-1.</b> Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3 and I-1, regardless of occupant load at all of the following locations within all dwelling units:</p> <ol style="list-style-type: none"> <li>2. In each room used for sleeping purposes.</li> </ol> <p><b>Exception:</b> Single- or multiple-station smoke alarms in Group I-1 shall not be required where smoke detectors are provided in the sleeping rooms as part of an automatic smoke detection system.</p>	<p><b>907.2.11.1 Smoke alarms in Groups R-2 and R-3. (Exception for #2 removed)</b> Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2 and R-3 regardless of occupant load at all of the following locations within all dwelling units:</p> <ol style="list-style-type: none"> <li>2. In each room used for sleeping purposes.</li> </ol>	<p><b>Code compliance updated.</b>  <b>Exception for #2 removed.</b></p>
<p><b>907.2.11.1.1 Group R-2 occupancy. (Not in 2014 Code)</b></p>	<p><b>907.2.11.1.1 Group R-2 occupancy.</b> Smoke alarms shall be provided with the capability to support visible alarm notification appliances in accordance with ICC/ANSI A117.1.</p>	<p><b>New code compliance provided.</b>  <b>Visible alarm notification required for R-2 occupancies</b></p>

<p><b>907.2.11.3 Interconnection. (Moved to 907.2.11.5 and 907.2.11.3 is now 'Installation near cooking appliances').</b></p>	<p><b>907.2.11.3 Installation near cooking appliances.</b> 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 907.2.11.1:</p> <ol style="list-style-type: none"> <li>1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.</li> <li>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.</li> <li>3. Photoelectric smoke alarms shall not be installed less than 6 feet (1828.8 mm) horizontally from a permanently installed cooking appliance.</li> </ol>	<p><b>New code compliance provided. Smoke detector location limitations</b></p>
<p><b>907.2.11.4 Group R-2 occupancy. (Changed to 'Installation near bathrooms').</b></p>	<p><b>907.2.11.4 Installation near bathrooms.</b> Smoke alarms shall be installed not less than 3 feet (914.4 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section 907.2.11.1.</p>	<p><b>New code compliance provided. Requirement for smoke detectors near bathrooms in Multiple dwellings</b></p>
<p><b>907.2.11.3 Interconnection. (Now labeled as 907.2.11.5).</b> Where more than one smoke alarm or detector is required to be installed within an individual dwelling unit in Group I-1, R-2, R-3, or within an individual dwelling unit or sleeping unit in Group R-1, the smoke alarms or detectors shall be interconnected in such a manner that the activation of one alarm or detector will activate all of the alarms or detectors in the individual unit. The alarm or detector shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.</p>	<p><b>907.2.11.5 Interconnection.</b> Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R-2 and R-3 occupancies, 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. <u>Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.</u> The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.</p>	<p><b>Code compliance updated. R-1 &amp; I-1 occupancies no longer covered by this section. Certain wireless systems are now permitted for R-2 &amp; R-3 occupancies</b></p>

<p><b>907.2.11.7 Smoke detection system. (Not in 2014 Code).</b></p>	<p><b>907.2.11.7 Smoke detection system.</b> <u>Smoke detectors listed in accordance with UL 268 and provided as part of the building fire alarm system shall be an acceptable alternative to single and multiple station smoke alarms and shall comply with the following:</u></p> <ol style="list-style-type: none"> <li><u>1. The fire alarm system shall comply with all applicable requirements in Section 907 of this code.</u></li> <li><u>2. Activation of a smoke detector in a dwelling unit or sleeping unit shall initiate alarm notification in the dwelling unit or sleeping unit in accordance with Section 907.5.2 of this code.</u></li> <li><u>3. Activation of a smoke detector in a dwelling unit or sleeping unit shall not activate alarm notification appliances outside of the dwelling unit or sleeping unit, provided that a supervisory signal is generated and monitored in accordance with Section 907.6.5 of this code.</u></li> </ol>	<p><b>New code compliance provided. Smoke detectors are not required to be separate from Fire Alarm system</b></p>
<p><b>907.2.12.1 Alarm.</b> 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 907.2.12.2.</p>	<p><b>907.2.12.1 Alarm.</b> <u>Actuation of a single smoke detector, automatic sprinkler system or other automatic fire detection system shall initiate a pre-signal system in accordance with NFPA 72 at a constantly attended location from which the Fire Department shall be notified and live voice evacuation instructions shall be initiated using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.</u></p>	<p><b>Code compliance updated. Sequence of operation and notification for fire detections systems revised.</b></p>



<p><b>907.2.12.2 System response.</b>  The following minimum system actuations and responses shall be required upon approval by the department and the Fire Department. 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:</p> <ol style="list-style-type: none"> <li>1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level;</li> <li>2. Stop any conflicting or confusing sounds and visual distractions; and</li> <li>3. Activate an approved directional exit marking that will become apparent in an emergency; and</li> <li>4. Activate a prerecorded message, clearly audible throughout the special amusement building, instructing patrons to proceed to the nearest exit. Alarm signals used in conjunction with the prerecorded message shall produce a sound that is distinctive from other sounds used during normal operation.</li> <li>5.</li> </ol>	<p><b>907.2.12.2 System response.</b>  The following minimum system actuations and responses shall be required upon approval by the department and the Fire Department. 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:</p> <ol style="list-style-type: none"> <li>1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level;</li> <li>2. Stop any conflicting or confusing sounds and visual distractions; and</li> <li>3. Activate an approved directional exit marking that will become apparent in an emergency.</li> </ol>	<p><b>Code compliance updated. Requirements reduced.</b></p>
<p><b>907.2.13.2 Fire Department communication system.</b> A Fire Department Auxiliary Radio Communication System (ARCS), which shall be in accordance with Section 917, shall be required in all high-rise buildings. <b>Exception:</b> Where it is determined by the Fire Department that a radio communication system is not required.</p>	<p><b>907.2.13.2 Fire Department communication system (Exception removed).</b> The Fire Department Auxiliary Radio Communication System (ARCS) shall be in accordance with Section <u>916</u>.</p>	<p><b>Code compliance updated. Section 916 does include exception and new “where required” sub-section.</b></p>

<p><b>907.2.13.3 Two-Way Communication System.</b>  A two-way voice communication system (warden) phone that complies with the requirements of NFPA 72 shall be provided in the following locations and shall comply with the following requirements. Such phones shall communicate with the fire command center.</p> <ol style="list-style-type: none"> <li>1. In Group B high-rise and large area office buildings, there shall be a minimum of two phones located on every floor accessible to all occupants, with each phone located within 5feet(1524 mm)of a different exit stair.</li> <li>2. Where elevator lobbies are permitted to be locked, the phones provided are permitted to be connected to the fire alarm system.</li> <li>3. If phones are provided in areas of rescue assistance and refuge areas, the phones are permitted to be connected to the fire alarm system.</li> <li>4. Where phones are provided to meet the requirements for stairway communication systems in Section 403.5.3.1, the phones are permitted to be connected to the fire alarm system. Exception: Group R-2 occupancies.</li> </ol>	<p><b>907.2.13.3 Two-Way Communication System</b>  A two-way voice communication system (warden) phone that complies with the requirements of NFPA 72 shall be provided in the following locations and shall comply with the following requirements. Such phones shall communicate with the fire command center.</p> <ol style="list-style-type: none"> <li>1. In Group B high-rise and large area office buildings, there shall be a minimum of two phones located on every floor accessible to all occupants, with each phone located within 5feet(1524 mm)of a different exit stair.</li> <li>2. Where elevator lobbies are permitted to be locked, the phones provided are permitted to be connected to the fire alarm system.</li> <li>3. If phones are provided in areas of rescue assistance and refuge areas, the phones are permitted to be connected to the fire alarm system.</li> <li>4. Where phones are provided to meet the requirements for stairway communication systems in Section 403.5.3.1, the phones are permitted to be connected to the fire alarm system. Exception: Group R-2 occupancies.</li> <li>5. <u>In all Group I-2 buildings, there shall be a phone located at staff attended locations, such as nurses' stations or similar locations accessible to all staff members, on every patient floor per fire/smoke zone. Phones shall also be located in areas of the building where the fire alarm does not sound.</u></li> </ol>	<p><b>Code compliance added. Warden phones to be located in additional areas in I-2.</b></p>
<p><b>907.2.22.1 Airport traffic control towers with multiple exits and automatic sprinklers. (not in 2014 Code)</b></p>	<p><b>907.2.22.1 Airport traffic control towers with multiple exits and automatic sprinklers.</b> <u>Airport traffic control towers with multiple exits and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be provided with smoke detectors in all of the following locations:</u></p> <ol style="list-style-type: none"> <li><u>1. Airport traffic control cab.</u></li> <li><u>2. Electrical and mechanical equipment rooms.</u></li> <li><u>3. Airport terminal radar and electronics rooms.</u></li> <li><u>4. Outside each opening into interior exit stairways.</u></li> <li><u>5. Along the single means of egress permitted from observation levels.</u></li> <li><u>6. Outside each opening into the single means of egress permitted from observation levels.</u></li> </ol>	<p><b>New code compliance provided.</b></p>

<p><b>907.2.22.2 Other airport traffic control towers. (not in 2014 Code)</b></p>	<p><b>907.2.22.2 Other airport traffic control towers.</b> Airport traffic control towers with a single exit or where sprinklers are not installed throughout shall be provided with smoke detectors in all of the following locations:</p> <ol style="list-style-type: none"> <li><u>1. Airport traffic control cab.</u></li> <li><u>2. Electrical and mechanical equipment rooms.</u></li> <li><u>3. Airport terminal radar and electronics rooms.</u></li> <li><u>4. Office spaces incidental to the tower operation.</u></li> <li><u>5. Lounges for employees, including sanitary facilities.</u></li> <li><u>6. Means of egress.</u></li> <li><u>7. Accessible utility shafts.</u></li> </ol>	<p><b>New code compliance provided.</b></p>
<p><b>907.4.2.6 Unobstructed and unobscured. (not in 2014 Code)</b></p>	<p><b>907.4.2.6 Unobstructed and unobscured.</b> Manual fire alarm boxes shall be readily accessible, unobstructed, unobscured and visible at all times.</p>	<p><b>New code compliance provided that align with departmental practices.</b></p>
<p><b>907.5.2.1 Audible alarms.</b> 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. <b>Exception:</b> Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies.</p>	<p><b>907.5.2.1 Audible alarms.</b> <b>Exceptions:</b> 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. <b>Exceptions:</b> 1. Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies. <u>2. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.10.1 shall be connected to a separate notification zone for manual paging only.</u></p>	<p><b>Code compliance updated. That gives alternative compliance for appliance installed within evacuation lobbies.</b></p>

<p><b>907.5.2.1.1 Average sound pressure.</b> The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. The minimum sound pressure levels shall be: 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms and 60 dBA in other occupancies.</p>	<p><b>907.5.2.1.1 Average sound pressure.</b> The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of not less than 60 seconds, whichever is greater, in every occupiable space within the building. The minimum sound pressure levels shall be: 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms and 60 dBA in other occupancies. <u>For one-way voice communication system in Group R-2 occupancies, the minimum sound pressure level of the alert tone shall be 75 dBA throughout the dwelling unit.</u></p>	<p><b>Code compliance updated. Compliance required for R-2 occupancies.</b></p>
<p><b>907.5.2.2 Emergency voice/alarm communication systems.</b> <b>Exceptions:</b> <b>2. Group R-2 occupancies 125 feet or less in height.</b> Emergency voice/alarm communication systems shall not be required in Group R-2 occupancies in buildings 125 feet (33 100mm) or less in height. <b>3. Group R-2 occupancies greater than 125 feet in height.</b> In Group R-2 occupied buildings greater than 125 feet (33 100 mm) in height above the lowest level of Fire Department vehicle access, activation of any smoke detector or sprinkler water flow device shall initiate a signal at a central supervising station or constantly attended location and shall not initiate a signal to an alarm notification appliance. An emergency voice/alarm communication system shall not be required. However, a one-way voice communication shall be provided between the fire command center for use by Fire Department personnel and the following terminal areas:</p>	<p><b>907.5.2.2 Emergency voice/alarm communication systems. (exception reduced from 3 to 2, and amendments)</b> <b>Exceptions:</b> <b>2. Group R-2 occupancies greater than 75 feet (22 860 mm) in height.</b> In Group R-2 occupied buildings greater than 75 feet (22 860 mm) in height above the lowest level of Fire Department vehicle access, activation of any smoke detector or sprinkler water flow device shall initiate a signal at a central supervising station or constantly attended location and shall not initiate a signal to an alarm notification appliance. An emergency voice/alarm communication system shall not be required. However, a one-way voice communication shall be provided between the fire command center for use by Fire Department personnel and the following terminal areas:</p>	<p><b>Code compliance updated. Exception removed. Compliance required for R-2 occupancies 75ft or taller.</b></p>
<p><b>907.5.2.2.4 Emergency power. (Moved to 907.5.2.2.5 and 907.5.2.2.4 changed to 'Emergency voice/alarm communication captions')</b></p>	<p><b>907.5.2.2.4 Emergency voice/alarm communication captions.</b> <u>Where stadiums, arenas and grandstands provide audible public announcements, the emergency/voice alarm communication system shall be captioned.</u> <u>Emergency captions shall be approved by the Fire Department.</u></p>	<p><b>New code compliance provided. Additional communication technology required.</b></p>

<p><b>907.5.2.3.2 Employee work areas. (Moved to 'Exception' for 907.5.2.3.1)</b> Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with a minimum of 20-percent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing impaired employee(s).</p>	<p><b>907.5.2.3.1 Public and common areas.</b> Visible alarm notification appliances shall be provided in public use areas and common use areas, as defined in Chapter 2. <b>Exception:</b> Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with not less than 20-percent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing impaired employee(s).</p>	<p><b>Code compliance updated. Amended for clarification.</b></p>
<p><b>907.6 Installation and monitoring.</b> A fire alarm system shall be installed and monitored in accordance with this section and NFPA 72 as modified by Appendix Q.</p>	<p><b>907.6 Installation and monitoring. (Reference change)</b> A fire alarm system shall be installed and monitored in accordance with <u>Sections 907.6.1 through 907.6.5.2 of this code</u> and NFPA 72</p>	<p><b>Code compliance updated. New references added.</b></p>
<p><b>907.6.5.2 Termination of monitoring service. (Not in 2014 Code)</b></p>	<p><b>907.6.5.2 Termination of monitoring service.</b> Termination of fire alarm monitoring services shall be in accordance with the <i>New York City Fire Code</i>.</p>	<p><b>New code compliance provided.</b></p>
<p><b>BC 908 – EMERGENCY ALARM SYSTEMS</b></p>		
<p><b>908.7 Carbon monoxide alarms and detectors. (Removed and 908.7 changed to 'Carbon Dioxide (CO2) systems').</b></p>	<p><b>908.7 Carbon dioxide (CO2) systems.</b> The emergency alarm system for a carbon dioxide system, including detection, pre-discharge and discharge alarms, shall be provided in accordance with the <i>New York City Fire Code</i>.</p>	<p><b>Code compliance updated. Amended for clarification and compliance captured in the Fire Code.</b></p>
<p><b>908.8 Medical Gas (Moved to 908.9 and 908.8 changed to 'Gas Detection Systems')</b></p>	<p><b>908.8 Gas detection systems.</b> Gas detection systems shall be provided in accordance with <u>Section 918</u>.</p>	<p><b>Code compliance updated. Citation changes.</b></p>
<p><b>BC 909 – SMOKE CONTROL SYSTEMS</b></p>		
<p><b>909.4.7 Smoke control system interaction. (Not in 2014 code)</b></p>	<p><b>909.4.7 Smoke control system interaction.</b> The design shall consider the interaction effects of the operation of multiple smoke control systems for all design scenarios.</p>	<p><b>New code compliance provided.</b></p>

<p><b>909.5.1 Leakage area.</b> The total leakage area of the barrier is the product of the smoke barrier gross area multiplied by the allowable leakage area ratio, plus the area of other openings such as gaps and operable windows. Compliance shall be determined by achieving the minimum air pressure difference across the barrier with the system in the smoke control mode for mechanical smoke control systems. Passive smoke control systems tested using other approved means such as door fan testing shall be approved by the department and the fire commissioner.</p>	<p><b>909.5.1 Total leakage area.</b> Total leakage area of the barrier is the product of the smoke barrier gross area multiplied by the allowable leakage area ratio, plus the area of other openings such as gaps around doors and operable windows.</p>	<p><b>Code compliance updated. Amended for clarification.</b></p>
<p><b>909.5.2 Opening protection</b> (<i>Moved to 909.5.3 and 909.5.2 changed to 'Testing of leakage area'</i>)</p>	<p><b>909.5.2 Testing of leakage area.</b> <u>Compliance with the maximum allowable leakage area shall be determined by achieving the minimum air pressure difference across the barrier with the system in the smoke control mode for mechanical smoke control systems utilizing the pressurization method. Compliance with the maximum allowable leakage area of passive smoke control systems shall be verified through methods such as door fan testing or other methods, as approved by the commissioner and the Fire Commissioner.</u></p>	<p><b>New code compliance provided. Methodology for determining max allowable leakage area clarified.</b></p>

<p><b>909.5.3. (Not in 2014 Code, formally 909.5.2)</b></p> <p><b>Expectations:</b> Openings in smoke barriers shall be protected by automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by door assemblies complying with Section 715.4.3.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Passive smoke control systems with automatic-closing devices actuated by spot-type smoke detectors listed for releasing service installed in accordance with Section 907.3.</li> <li>2. Fixed openings between smoke zones that are protected utilizing the airflow method.</li> <li>3. In Group I-2, where such doors are installed across corridors, a pair of opposite-swinging doors without a center mullion shall be installed having vision panels with approved fire-protection-rated glazing materials in approved fire-protection-rated frames, the area of which shall not exceed that tested. The doors shall be close fitting within operational tolerances and shall not have undercuts, louvers or grilles. The doors shall have head and jamb stops, astragals or rabbets at meeting edges, and shall be automatic-closing by smoke detection in accordance with Section 715.4.8.3. Positive-latching devices are not required.</li> <li>4. Group I-3.</li> <li>5. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.</li> </ol>	<p><b>909.5.3 Opening protection.</b> Openings in smoke barriers shall be protected by automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 716.5.3.</p> <p><b>Expectations:</b></p> <ol style="list-style-type: none"> <li>1. Passive smoke control systems with automatic-closing devices actuated by spot-type smoke detectors listed for releasing service installed in accordance with Section 907.3.</li> <li>2. Fixed openings between smoke zones that are protected utilizing the airflow method.</li> <li>3. <u>In Group I-1, Group I-2, and Group B ambulatory care facilities, where a pair of opposite-swinging doors] are installed across a corridor in accordance with Section 909.5.3.1, the doors shall not be required to be protected in accordance with Section 716.</u> The doors shall be close-fitting within operational tolerances and shall not have a center mullion, louvers, grilles, or door undercuts in excess of ¾ inch (19.1 mm). The doors shall have head and jamb stops and astragals or rabbets at meeting edges. <u>If allowed by the door manufacturer’s listing, positive-latching devices are not required.</u></li> <li>4. <u>In Group I-1, Group I-2 and Group B ambulatory care facilities, where such doors are special-purpose horizontal sliding, accordion or folding door assemblies installed in accordance with Section 1010.1.4.3 and are automatic closing by smoke detection in accordance with Section 716.5.9.3.</u></li> <li>5. Group I-3.</li> <li>6. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.</li> </ol>	<p><b>Code compliance updated.</b></p> <p><b>Exceptions increased from 5 to 6. Exception #3 amended to include other occupancies, exception #4 added. New compliance provided for horizontal closing openings/doors for stated occupancies.</b></p>
<p><b>909.5.3.1 Group I-2 and Group B ambulatory care facilities. (Not in 2014 Code).</b></p>	<p><b>909.5.3.1 Group I-2 and Group B ambulatory care facilities.</b> <u>In Group I-2 and Group B ambulatory care facilities, where doors are installed across a corridor, the doors shall be automatic closing by smoke detection in accordance with Section 716.5.9.3 and shall have a vision panel with fire protection-rated glazing materials in fire protection-rated frames, the area of which shall not exceed that tested.</u></p>	<p><b>New code compliance added.</b></p> <p><b>Vision panels new required in doors for stated occupancies.</b></p>

**909.6.1 Minimum pressure difference.** The minimum pressure difference across a smoke barrier shall be 0.05-inch water gage (0.0124 kPa) in fully sprinklered buildings. In buildings permitted to be other than fully sprinklered, the smoke control system shall be designed to achieve pressure differences at least two times the maximum calculated pressure difference produced by the design fire, but in no case less than the values indicated in Table 909.6.1:

**TABLE 909.6.1  
MINIMUM PRESSURE DIFFERENCES  
ACROSS SMOKE BARRIERS**

CEILING HEIGHT	MINIMUM DESIGN PRESSURE DIFFERENCE
Less than 15 feet (4572 mm)	0.10-inch water gage (0.0259 kPa)
Equal to or greater than 15 feet (4572 mm), but less than 21 feet (6401 mm)	0.14-inch water gage (0.0349 kPa)
Equal to or greater than 21 feet (6401 mm)	0.18-inch water gage (0.0448 kPa)

**909.6.3 Pressurized stairways and elevator hoistways. (Not in 2014 Code)**

**909.6.1 Minimum pressure difference.** The minimum pressure difference across a smoke barrier shall be 0.05-inch water gauge (0.0124 kPa) in fully sprinklered buildings. In buildings permitted to be other than fully sprinklered, the smoke control system shall be designed to achieve pressure not less than two times the maximum calculated pressure difference produced by the design fire.

**TABLE 909.6.1 MINIMUM PRESSURE DIFFERENCES ACROSS SMOKE BARRIERS (removed from 2022 code)**

**909.6.3 Pressurized stairways and elevator hoistways.** Where stairways or elevator hoistways are pressurized, such pressurization systems shall comply with Section 909 of this code as smoke control systems, in addition to the requirements of Sections 909.20 and 909.21 of this code and the *New York City Fire Code*.

**Code compliance updated. Compliance path removed. Smoke control system design is more restrictive.**

**New code compliance provided.**



<p><b>909.7.1 Velocity (Removed from 2022 Code and 909.7.1 is changed to 'Prohibited conditions')</b>  The minimum average velocity through a fixed opening shall not be less than:  <math>v=217.2[h(T_f - T_o)/(T_f+460)]^{1/2}</math> (Equation 9-2)  For SI: <math>v=119.9[h(T_f - T_o)/T_f]^{1/2}</math>  where:  h = Height of opening, feet (m).  T<sub>f</sub> = Temperature of smoke, °F (°K).  T<sub>o</sub> = Temperature of ambient air, °F (°K).  v = Air velocity, feet per minute (m/minute).</p>	<p><b>909.7.1 Prohibited conditions.</b> This method shall not be employed where either the quantity of air or the velocity of the airflow will adversely affect other portions of the smoke control system, unduly intensify the fire, disrupt plume dynamics or interfere with exiting. In no case shall airflow toward the fire exceed 200 feet per minute (1.02 m/s). Where the calculated airflow exceeds this limit, the airflow method shall not be used.</p>	<p>Code compliance updated.  Compliance path removed. Air flow design is more restrictive.</p>
<p><b>909.10.1 Exhaust fans</b>  Components of exhaust fans shall be rated and certified by the manufacturer for the probable temperature rise to which the components will be exposed. This temperature rise shall be computed by:  <b>Exception:</b>  Reduced T<sub>s</sub> as calculated based on the assurance of adequate dilution air.  <math>T_s = (Q_c/mc) + (T_a)</math> (Equation 9-3)  where:  c = Specific heat of smoke at smoke layer temperature, Btu/lb°F (kJ/kg • K).  m = Exhaust rate, pounds per second (kg/s).  Q<sub>c</sub> = Convective heat output of fire, Btu/s (kW).  T<sub>a</sub> = Ambient temperature, °F (°K).  T<sub>s</sub> = Smoke temperature, °F (°K).</p>	<p><b>909.10.1 Exhaust fans (Exception removed from 2022 Code)</b>  Components of exhaust fans shall be rated and certified by the manufacturer for the probable temperature rise to which the components will be exposed. This temperature rise shall be computed <del>by:</del> <u>in accordance with NFPA 92.</u></p>	<p>Code compliance updated.  Exception removed, compliance path more restrictive.</p>
<p><b>909.11.1 Power sources and power surges. (Moved to 909.11.2 and 909.11.1 is changed to 'Equipment room')</b></p>	<p><b>909.11.1 Equipment room.</b> <u>The standby power source shall be located in a room separate from the normal power transformers and switch gears, and ventilated directly to and from the exterior. The room shall be enclosed with not less than 2-hour fire barriers constructed in accordance with Section 707, or with not less than 2-hour fire-resistance-rated horizontal assemblies constructed in accordance with Section 711, or both.</u></p>	<p>New code compliance provided.  Equipment rooms design and location are to be reviewed early in the design phase to comply with requirements.</p>

<p><b>909.12.1 Wiring (Moved to 909.12.2 and 909.12.1 is changed to 'Verification')</b></p>	<p><b>909.12.1 Verification.</b> Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence shall report, abnormal conditions audibly, visually and by printed report. <u>The preprogrammed weekly test shall operate all devices, equipment and components used for smoke control.</u></p> <p><b>Exception:</b> <u>Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the preprogrammed weekly testing, where approved by the Fire Department and in accordance with both of the following:</u></p> <ol style="list-style-type: none"> <li><u>1. Where the operation of components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.</u></li> <li><u>2. Testing of all components bypassed from the preprogrammed weekly test shall be tested semi-annually, and be tested under standby power conditions in accordance with Section 909 of the New York City Fire Code.</u></li> </ol>	<p><b>Code compliance updated. Requiring weekly testing. Exception added with new testing requirements.</b></p>
<p><b>909.12.3.1 Building Management System. (moved to 909.12.4.1 and requirement #2 revised)</b> Automatic and manual operation of the smoke control system may alternately be done through a Building Management System (BMS) that meets the following requirements and is approved by the Fire Department:</p> <p>2. The BMS Control Center shall be staffed 24 hours a day by operators trained in the building's smoke control systems and their operation. In buildings where Fire Safety Directors are required, they shall operate the smoke control system.</p>	<p><b>909.12.4.1 Building Management System.</b> Automatic and manual operation of the smoke control system may alternately be done through a Building Management System (BMS) that is approved by the Fire Department and meets the following requirements:</p> <p>2. The BMS Control Center shall be staffed 24 hours a day by operators trained in the building's smoke control systems and their operation. <u>The smoke control system shall be operated by a certificate of fitness holder where required by the New York City Fire Code.</u></p>	<p><b>Code compliance updated. Certification required for BMS operator.</b></p>

<p><b>909.13.1 Materials. (exception #1 revised)</b></p> <p><b>Exception:</b></p> <p>Control air tubing shall be hard drawn copper, Type L, ACR in accordance with ASTM B 42, ASTM B 43, ASTM B 68, ASTM B 88, ASTM B 251 and ASTM B 280. Fittings shall be wrought copper or brass, solder type, in accordance with ASME B 16.18 or ASME B 16.22. Changes in direction shall be made with appropriate tool bends. Brass compression-type fittings shall be used at final connection to devices; other joints shall be brazed using a BCuP5 brazing alloy with solidus above 1,100°F (593°C) and liquids below 1,500°F (816°C). Brazing flux shall be used on copper-to-brass joints only.</p> <p>Exception: Nonmetallic tubing used within control panels and at the final connection to devices, providing all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. Tubing shall be listed by an approved agency for flame and smoke characteristics.</li> <li>2. Tubing and connected devices shall be completely enclosed within galvanized or paint-grade steel enclosure having a minimum thickness of 0.0296 inch (0.7534mm) (No. 22 gage). Entry to the enclosure shall be by copper tubing with a protective grommet of neoprene or teflon or by suitable brass compression to male-barbed adapter.</li> <li>3. Tubing shall be identified by appropriately documented coding.</li> <li>4. Tubing shall be neatly tied and supported within enclosure. Tubing bridging cabinet and door or moveable device shall be of sufficient length to avoid tension and excessive stress. Tubing shall be protected against abrasion. Tubing serving devices on doors shall be fastened along hinges.</li> </ol>	<p><b>909.13.1 Materials.</b></p> <p><b>Exception:</b></p> <p>Control air tubing shall be hard drawn copper, Type L, ACR in accordance with ASTM B 42, ASTM B 43, ASTM B 68, ASTM B 88, ASTM B 251 and ASTM B 280. Fittings shall be wrought copper or brass, solder type, in accordance with ASME B 16.18 or ASME B 16.22. Changes in direction shall be made with appropriate tool bends. Brass compression-type fittings shall be used at final connection to devices; other joints shall be brazed using a BCuP5 brazing alloy with solidus above 1,100°F (593°C) and liquids below 1,500°F (816°C). Brazing flux shall be used on copper-to-brass joints only.</p> <p>Exception: Nonmetallic tubing used within control panels and at the final connection to devices, providing all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. Tubing shall <u>comply with the optical density, flame spread, and the listing &amp; labeling requirements of Section 602.2.1.3 of the <i>New York City Mechanical Code</i>.</u></li> <li>2. Tubing and connected devices shall be completely enclosed within galvanized or paint-grade steel enclosure having a minimum thickness of 0.0296 inch (0.7534mm) (No. 22 gage). Entry to the enclosure shall be by copper tubing with a protective grommet of neoprene or teflon or by suitable brass compression to male-barbed adapter.</li> <li>3. Tubing shall be identified by appropriately documented coding.</li> <li>4. Tubing shall be neatly tied and supported within enclosure. Tubing bridging cabinet and door or moveable device shall be of sufficient length to avoid tension and excessive stress. Tubing shall be protected against abrasion. Tubing serving devices on doors shall be fastened along hinges.</li> </ol>	<p><b>Code compliance updated.</b></p>
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<p><b>909.16.1 Panel indicators.</b> Indicators as follows:</p> <ol style="list-style-type: none"> <li>1. Fans, dampers and other operating equipment in their normal status—WHITE.</li> <li>2. Fans, dampers and other operating equipment in their off or closed status—RED.</li> <li>3. Fans, dampers and other operating equipment in their on or open status—GREEN.</li> <li>4. Fans, dampers and other operating equipment in a fault status—YELLOW/AMBER</li> </ol>	<p><b>909.16.1 Panel indicators.</b> Indicators as follows:</p> <ol style="list-style-type: none"> <li>1. Fans, dampers and other operating equipment in their normal status—WHITE.</li> <li>2. Fans, dampers and other operating equipment in their on or open status <u>GREEN</u>.</li> <li>3. Fans, dampers and other operating equipment in-a fault status <u>YELLOW/AMBER</u>.</li> <li>4. Fans, dampers and other operating equipment in status— <u>RED</u>.</li> </ol> <p>The indicators shall be provided in the following order: <u>WHITE, GREEN, YELLOW/AMBER then RED</u>.</p>	<p><b>Code compliance revised. New color coordination means devices will have to be new or calibrated to these standards.</b></p>
<p><b>909.18.10 Reacceptance testing.</b> The smoke control system shall require a reacceptance test after any modifications to the system or physical changes to the building that may affect system performance.</p>	<p><b>909.18.10 Reacceptance testing.</b> The smoke control system shall require a reacceptance test after any modifications to the system or physical changes to the building that may affect system performance. <u>Reacceptance testing shall be a retest of the entire system in accordance with Sections 909.18.1 through 909.18.9.</u></p>	<p><b>Code compliance updated. More restrictive testing requirements.</b></p>
<p><b>909.19 System acceptance.</b> Buildings, or portions thereof, required by this code to comply with this section shall not be issued a certificate of occupancy until such time that the department determines that the provisions of this section have been fully satisfied.</p>	<p><b>909.19 System acceptance.</b> Buildings, or portions thereof, required by this code to comply with this section shall not be issued a certificate of occupancy until such time that the department determines that the provisions of this section have been fully satisfied <u>and a written maintenance program is approved by the New York City Fire Department.</u></p>	<p><b>Code compliance updated. Compliance requires additional documentation.</b></p>

<p><b>909.20.6.1 Ventilation systems.</b> Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:</p> <ol style="list-style-type: none"> <li>1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> <li>2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> <li>3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> </ol> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system in accordance with UL 2196.</li> <li>2. Where encased with not less than 2 inches (51 mm) of concrete.</li> </ol>	<p><b>909.20.6.1 Ventilation systems.</b> <b>Exception:</b> Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:</p> <ol style="list-style-type: none"> <li>1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> <li>2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> <li>3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.</li> </ol> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system in accordance with UL 2196.</li> <li>2. Where encased with not less than 2 inches (51 mm) of concrete.</li> <li>3. <u>Control wiring and power wiring protected by a listed electrical circuit protective system with a fire-resistance rating of not less than 2 hours.</u></li> </ol>	<p><b>Code compliance updated. New exception added with rating requirements.</b></p>
<p><b>909.21 Elevator hoistway pressurization alternative (Not in 2014 Code)</b></p>	<p><b>909.21 Elevator hoistway pressurization alternative. Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with Sections 909.21.1 through 909.21.11.</b></p>	<p><b>New code compliance provided. Will affect all buildings without an enclosed elevator lobby.</b></p>

**909.21.1 Pressurization requirements. (Not in 2014 Code)**

**909.21.1 Pressurization requirements.** Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.10 inch of water (24.9 Pa) and a maximum positive pressure of 0.25 inch of water (62.2 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all elevator cars at the floor of recall and all hoistway doors on the floor of recall open and all other hoistway doors closed. The pressure differentials shall be measured between the hoistway and the adjacent elevator landing. The opening and closing of hoistway doors at each level must be demonstrated during this test. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet (6096 mm) from any air exhaust system or outlet.

**Exceptions:**

1. On floors containing only Group R occupancies, the pressure differential is permitted to be measured between the hoistway and a dwelling unit or sleeping unit.
2. Where an elevator opens into a lobby enclosed in accordance with Section 3007.6 or 3008.7, the pressure differential is permitted to be measured between the hoistway and the floor space immediately outside of the door(s) to the enclosed lobby.
3. The pressure differential is permitted to be measured relative to the outdoor atmosphere on floors other than the following:
  - 3.1. The fire floor.
  - 3.2. The two floors immediately below the fire floor.
  - 3.3. The floor immediately above the fire floor.
4. The minimum positive pressure of 0.10 inch of water (24.9 Pa) and a maximum positive pressure of 0.25 inch of water (62.2 Pa) with respect to occupied floors are not required at the floors of recall with the doors open.

**New code compliance provided.  
Will affect all buildings without an enclosed elevator lobby.**

<p><b>909.21.1.1 Use of ventilation systems. (Not in 2014 Code)</b></p>	<p><b>909.21.1.1 Use of ventilation systems.</b> Ventilation systems, other than hoistway supply air systems, are permitted to be used to exhaust air from adjacent spaces on the fire floor, two floors immediately below and one floor immediately above the fire floor to the building's exterior where necessary to maintain positive pressure relationships as required in Section 909.21.1 during operation of the elevator shaft pressurization system. Where ventilation systems are being used as a component of the elevator hoistway pressurization system, they shall comply with Section 909.21.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.2 Rational analysis. (Not in 2014 Code)</b></p>	<p><b>909.21.2 Rational analysis.</b> A rational analysis complying with Section 909.4 shall be submitted with the construction documents.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.3 Ducts for system. (Not in 2014 Code)</b></p>	<p><b>909.21.3 Ducts for system.</b> Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.4 Fan system. (Not in 2014 Code)</b></p>	<p><b>909.21.4 Fan system.</b> The fan system provided for the pressurization system shall be as required by Sections 909.21.4.1 through 909.21.4.4.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.4.1 Fire resistance. (Not in 2014 Code)</b></p>	<p><b>909.21.4.1 Fire resistance.</b> Where located within the building, the fan system that provides the pressurization shall be protected with the same fire-resistance rating required for the elevator shaft enclosure.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.4.2 Smoke detection. (Not in 2014 Code)</b></p>	<p><b>909.21.4.2 Smoke detection.</b> The supply fan system shall be equipped with a smoke detector that will automatically shut down the supply fan system when smoke is detected within the system.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>
<p><b>909.21.4.3 Separate systems. (Not in 2014 Code)</b></p>	<p><b>909.21.4.3 Separate systems.</b> A separate fan system shall be used for each elevator hoistway.</p>	<p><b>New code compliance provided.</b> <b>Will affect all buildings without an enclosed elevator lobby.</b></p>

<p><b>909.21.4.4 Fan capacity. (Not in 2014 Code)</b></p>	<p><b>909.21.4.4 Fan capacity.</b> The supply fan capacity shall be specified by a registered design professional to meet the requirements of a designed pressurization system in accordance with the rational analysis required by Section 909.21.2.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.5 Standby power. (Not in 2014 Code)</b></p>	<p><b>909.21.5 Standby power.</b> The pressurization system, including ventilation systems used per Section 909.21.1.1, shall be provided with standby power in accordance with Section 2702.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.6 Activation of pressurization system. (Not in 2014 Code)</b></p>	<p><b>909.21.6 Activation of pressurization system.</b> The elevator pressurization system shall be activated upon activation of either the building fire alarm system or the elevator landing smoke detectors. Where both a building fire alarm system and elevator landing smoke detectors are present, each shall be independently capable of activating the pressurization system.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.7 Testing and special inspections. (Not in 2014 Code)</b></p>	<p><b>909.21.7 Testing and special inspections.</b> Special inspections for performance shall be required in accordance with Section 909.18.8. System acceptance testing shall be in accordance with Section 909.19.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.8 Marking and identification. (Not in 2014 Code)</b></p>	<p><b>909.21.8 Marking and identification.</b> Detection and control systems shall be marked in accordance with Section 909.14.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.9 Control diagrams. (Not in 2014 Code)</b></p>	<p><b>909.21.9 Control diagrams.</b> Control diagrams shall be provided in accordance with Section 909.15.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.10 Firefighter's smoke control panel. (Not in 2014 Code)</b></p>	<p><b>909.21.10 Firefighter's smoke control panel.</b> A control panel complying with Section 909.16 shall be provided.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>
<p><b>909.21.11 System response time. (Not in 2014 Code)</b></p>	<p><b>909.21.11 System response time.</b> Hoistway pressurization systems shall comply with the requirements for smoke control system response time in Section 909.17.</p>	<p><b>New code compliance provided.</b> Will affect all buildings without an enclosed elevator lobby.</p>



BC 910 – SMOKE AND HEAT REMOVAL		
<p><b>910.2 Where required.</b> Smoke and heat vents shall be installed in the roofs of buildings or portions thereof occupied for the uses set forth in Sections 910.2.1 and 910.2.2. Vents shall be installed at the top of a closed shaft in accordance with Section 708.12.1.</p>	<p><b>910.2 Where required.</b> Smoke and heat vents <u>or a mechanical smoke removal system shall be installed as required by Sections 910.2.1 and 910.2.2.</u></p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. <u>Frozen-food warehouses used solely for storage of Class I and II commodities where protected by an automatic sprinkler system in accordance with Section 903.3.1.1.</u></li> <li>2. <u>Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.</u></li> <li>3. <u>Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50 (m · s)<sup>1/2</sup> or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.</u></li> </ol>	<p><b>Code compliance updated. More restrictions provided.</b></p>
<p><b>910.2.1 Group F-1 or S-1.</b> Buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m<sup>2</sup>) in undivided area.</p>	<p><b>910.2.1 Group F-1 or S-1.</b> <u>Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645.2 m<sup>2</sup>) of undivided area. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.</u></p>	<p><b>Code compliance updated. More restrictions provided.</b></p>

<p><b>910.2.2 High-piled combustible storage.</b> Buildings and portions thereof containing high-piled combustible stock or rack storage in any occupancy group in accordance with Section 413 of this code and the New York City Fire Code.</p>	<p><b>910.2.2 High-piled combustible storage.</b> <u>Smoke and heat removal for buildings and portions thereof containing high-piled combustible storage shall be installed in accordance with the <i>New York City Fire Code</i> and Section 413 of this code. Installation shall also be in conformance with Section 910.3 in unsprinklered buildings and portions thereof.</u></p> <p><u>In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.</u></p>	<p><b>Code compliance updated. More restrictions provided.</b></p>
<p><b>910.3 Design and installation.</b> The design and installation of smoke and heat vents and draft curtains shall be as specified in Sections 910.3.1 and Table 910.3.</p> <p><b>Table 910.3</b></p>	<p><b>910.3 Smoke and heat vents.</b> The design and installation of smoke and heat vents shall be in <u>accordance with</u> Sections 910.3.1 <u>through 910.3.3.</u> <b>Table 910.3 (Removed from 2022 Code)</b></p>	<p><b>Code compliance removed. Draft curtains are no longer allowed.</b></p>
<p><b>910.3.2 Vent operations.</b> Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.</p>	<p><b>910.3.2 Vent operations (Removed from 2022 Code and new code compliance added)</b></p> <p><b>910.3.2 Smoke and heat vent locations.</b> Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers. Vents shall be uniformly located within the roof in the areas of the building where the vents are required to be installed by Section 910.2[, ] with consideration given to roof pitch sprinkler location and structural members.</p>	<p><b>Code compliance removed.</b></p>

<p><b>910.3.3 Vent dimensions.</b> The effective venting area shall not be less than 16 square feet (1.5 m<sup>2</sup>) with no dimension less than 4 feet (1219 mm), excluding ribs or gutters having a total width not exceeding 6 inches (152 mm).</p>	<p><b>910.3.3 Vent dimensions (Removed from 2022 Code and new code compliance added)</b>  <b>910.3.3 Smoke and heat vents area.</b> The required aggregate area of smoke and heat vents shall be calculated as follows:  <u>For buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1:</u>  <b>AVR= V/9000 (Equation 9-2)</b>  <u>where:</u>  AVR= The required aggregate vent area (ft<sup>2</sup>).  V = Volume (ft<sup>3</sup>) of the area that requires smoke removal.  <u>For unsprinklered buildings:</u>  <b>AVR= AFA/50 (Equation 9-3)</b>  <u>where:</u>  AVR= The required aggregate vent area (ft<sup>2</sup>).  AFA = The area of the floor in the area that requires smoke removal.</p>	<p><b>New code compliance provided. Calculations provided to determine required vent area in buildings.</b></p>
<p><b>910.3.5 Draft curtains.</b> Where required by Table 910.3, draft curtains shall be installed on the underside of the roof in accordance with this section.  <b>Exception:</b> Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the conventional non-ESFR sprinklers.</p>	<p><b>910.3.5 Draft curtains (Removed from 2022 Code)</b></p>	<p><b>Code compliance removed.</b></p>
<p><b>910.4 Mechanical smoke exhaust.</b> Where approved by the department, engineered mechanical smoke exhaust shall be an acceptable alternate to smoke and heat vents.</p>	<p><b>910.4 Mechanical smoke removal systems.</b> Mechanical smoke removal systems shall be designed and installed in accordance with Sections <u>910.4.1 through 910.4.7.</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.1 Location.</b> Exhaust fans shall be uniformly spaced within each draft-curtained area and the maximum distance between fans shall not be greater than 100 feet (30 480mm)</p>	<p><b>910.4.1 Location (Removed from 2022 Code and new code compliance added)</b> <b>910.4.1 Automatic sprinklers required.</b> The building shall be equipped throughout with an approved automatic sprinkler system in accordance with Section <u>903.3.1.1.</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>

<p><b>910.4.2 Size.</b> Fans shall have a maximum individual capacity of 30,000 cfm (14.2 m<sup>3</sup>/s). The aggregate capacity of smoke exhaust fans shall be determined by the equation:  <math>C=A \times 300</math> <b>(Equation 9-4)</b>  where:  C = Capacity of mechanical ventilation required, in cubic feet per minute (m<sup>3</sup>/s).  A = Area of roof vents provided in square feet (m<sup>2</sup>) in accordance with <b>Table 910.3.</b></p>	<p><b>910.4.2 Size (Removed from 2022 Code and new code compliance added)</b>  <b>910.4.2 Exhaust fan construction.</b> Exhaust fans that are part of a <u>mechanical smoke removal system shall be rated for operation at 221°F (105°C). Exhaust fan motors shall be located outside of the exhaust fan air stream.</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.3 Operation.</b> Mechanical smoke exhaust fans shall be automatically activated by the automatic sprinkler system or by heat detectors having operating characteristics equivalent to those described in Section 910.3.2. Individual manual controls of each fan unit shall also be provided.</p>	<p><b>910.4.3 Operation (Removed from 2022 Code and new code compliance added)</b>  <b>910.4.3 System design criteria.</b> <u>The mechanical smoke removal system shall be sized to exhaust the building at a minimum rate of two air changes per hour based upon the volume of the building or portion thereof without contents. The capacity of each exhaust fan shall not exceed 30,000 cubic feet per minute (14.2 m<sup>3</sup>/sec).</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.3.1 Makeup air. (Not in 2014 Code)</b></p>	<p><b>910.4.3.1 Makeup air.</b> No portion of the makeup air openings shall be <u>higher than 6 feet (1828.8 mm) above the floor level. Operation of makeup air openings shall be manual or, if properly coordinated with the smoke removal system, automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m<sup>2</sup> per 0.4719 m<sup>3</sup>/s) of smoke exhaust.</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.4 Wiring and control.</b> Wiring for operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protected against exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes. Controls shall be located so as to be immediately accessible to the fire service from the exterior of the building and protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. The location of manual controls is subject to the approval of the Fire Commissioner.</p>	<p><b>910.4.4 Wiring and control (Removed from 2022 Code and new code compliance added)</b>  <b>910.4.4 Activation.</b> <u>The mechanical smoke removal system shall be started by manual controls.</u></p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>

<p><b>910.4.5 Supply air.</b> Supply air for exhaust fans shall be provided at or near the floor level and shall be sized to provide a minimum of 50 percent of required exhaust. Openings for supply air shall be uniformly distributed around the periphery of the area served</p>	<p><b>910.4.5 Supply air</b> <i>(Removed from 2022 Code and new code compliance added)</i>  <b>910.4.5 Manual control location.</b> Manual controls shall be located so as to be accessible to the Fire Department from an exterior door of the building and protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. The location of manual controls is subject to the approval of the Fire Commissioner.</p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.6 Interlocks.</b> In combination comfort air-handling/smoke removal systems or independent comfort air-handling systems, fans shall be controlled to shut down in accordance with the approved smoke control sequence.</p>	<p><b>910.4.5 Interlocks</b> <i>(Removed from 2022 Code and new code compliance added)</i>  <b>910.4.6 Control wiring.</b> Wiring for operation and control of mechanical smoke removal systems shall be connected ahead of the main disconnect in accordance with the New York City Electrical Code and be protected against interior fire exposure to temperatures in excess of 1,000°F (537.8°C) for a period of not less than 15 minutes.</p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.4.7 Controls (Not in 2014 Code)</b></p>	<p><b>910.4.7 Controls.</b> Where building air-handling and mechanical smoke removal systems are combined or where independent building air-handling systems are provided, fans shall automatically shut down in accordance with the New York City Mechanical Code. The manual controls provided for the smoke removal system shall have the capability to override the automatic shutdown of fans that are part of the smoke removal system.</p>	<p><b>New code compliance provided. In addition to required smoke and heat vents.</b></p>
<p><b>910.5 Maintenance (Not in 2014 Code)</b></p>	<p><b>910.5 Maintenance.</b> Smoke and heat vents and mechanical smoke removal systems shall be maintained in accordance with the <i>New York City Fire Code</i>.</p>	<p><b>New code compliance provided. Annual inspections required.</b></p>

<b>BC 911 – FIRE COMMAND CENTER</b>		
<b>911.1.5 Required features. (Moved to 911.1.6 and 911.1.5 is changed to 'Storage')</b>	<b>911.1.5 Storage.</b> <u>Storage unrelated to operation of the fire command center shall be prohibited.</u>	<b>New code compliance provided.</b>
<b>911.2 Secondary fire command center (Not in 2014 Code)</b>	<b>911.2 Secondary fire command center.</b> <u>Where required in locations described in Appendix G of this code, a secondary fire command center shall be provided subject to the approval of the Fire Department. Design and installation requirements shall be in accordance with NFPA 72.</u>	<b>New code compliance provided.</b> <b>Addressing buildings within a flood zone.</b>
<b>BC 912 – FIRE DEPARTMENT CONNECTIONS</b>		
<b>912.3 Access. (Moved to 912.4 and 912.3 is changed to 'Fire hose threads')</b>	<b>912.3 Fire hose threads.</b> <u>Fire hose threads used in connection with standpipe, sprinkler and combination standpipe-sprinkler systems shall be approved and shall be compatible with New York City Fire Department hose threads.</u>	<b>New code compliance provided.</b>
<b>912.4.1 Locking Fire Department connection caps (Not in 2014 Code)</b>	<b>912.4.1 Locking Fire Department connection caps.</b> <u>The Fire Department may require locking caps on Fire Department connections in accordance with the New York City Fire Code.</u>	<b>New code compliance provided.</b>
<b>912.4.2 Clear space around connections (Not in 2014 Code)</b>	<b>912.4.2 Clear space around connections.</b> <u>A working space of not less than 36 inches (914.4 mm) in width, 36 inches (914.4 mm) in depth and 78 inches (1981.2 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted Fire Department connections and around the circumference of free-standing Fire Department connections, except as otherwise required or approved by the Fire Commissioner.</u>	<b>New code compliance provided.</b> <b>May affect building design/ access requirements.</b>
<b>912.4.3 Physical protection (Not in 2014 Code)</b>	<b>912.4.3 Physical protection.</b> <u>Where Fire Department connections are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with the New York City Fire Code.</u>	<b>New code compliance provided.</b>

<b>BC 913 – FIRE PUMPS</b>		
<p><b>913.2.1 Protection of fire pump rooms. (Additional compliance added to Exception #3)</b></p> <p><b>Exceptions:</b></p> <p>3. Separation is not required for a fire pump, other than an automatic standpipe fire pump, where such fire pump is located in a mechanical equipment room, enclosed by 2-hour fire barriers constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 712, or both.</p>	<p><b>913.2.1 Protection of fire pump rooms.</b></p> <p><b>Exceptions:</b></p> <p>3. Separation is not required for a fire pump, other than an automatic standpipe fire pump, where such fire pump is located in a mechanical equipment room, <u>as defined by the <i>New York City Mechanical Code</i></u>, enclosed by 2-hour fire barriers constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section <u>711</u>, or both. <u>Refrigerants, gas piping, gas consumption devices, gas meters or any other gas equipment and fuel storage or fuel consuming appliances shall not be installed in any space housing a fire pump.</u></p>	<p>Compliance has been updated. Additional restrictions added.</p>
<p><b>913.2.2 Circuits supplying fire pumps (Not in 2014 Code)</b></p>	<p><b>913.2.2 Circuits supplying fire pumps.</b> Cables used for survivability of <u>circuits supplying fire pumps shall be in accordance with the New York City Electrical Code. Electrical circuit protective systems shall be installed in accordance with their listing requirements, and the New York City Electrical Code.</u></p>	<p>New compliance provided.</p>
<b>BC 915 – CARBON MONOXIDE DETECTION</b>		
<p><b>Section 915 Reserved (<i>Added in new section labeled 'Carbon Monoxide Detection'</i>)</b></p>	<p><b>Section BC 915 Carbon Monoxide Detection (<i>contains chapters 915.1, 915.2, 915.3, 915.4, 915.5, 915.6, 915.7 and respective subsections</i>).</b></p>	<p>New compliance provided. Will substantially affect design/location of devices.</p>
<b>BC 916 – FIRE DEPARTMENT IN-BUILDING AUXILIARY RADIO COMMUNICATION SYSTEMS (ARCS)</b>		
<p><b>Section 916 Post-fire Smoke Purge Systems (<i>Moved to Section 917 and Section BC 916 is changed to 'Fire Department In-Building Auxiliary Radio Communication System (ARCS)'</i>)</b></p>	<p><b>Section BC 916 Fire Department In-Building Auxiliary Radio Communication System (ARCS) (<i>contains chapters 916.1, 916.2, 916.3, and respective subsections</i>).</b></p>	<p>New compliance provided.</p>

BC 917 – POST-FIRE SMOKE PURGE SYSTEMS		
<p>917.2.4 Interior exit stairways or ramps or exit passageways in occupancies other than Group R-2. <i>(Not in 2014 Code)</i></p>	<p><b>917.2.4 Interior exit stairways or ramps or exit passageways in occupancies other than Group R-2.</b> Interior exit stairways or ramps or exit passageways shall not be used as a portion of the post-fire smoke purge system in occupancies other than Group R-2. Doors in interior exit stairways or ramps or exit passageways shall not be permitted to be used as a portion of the post-fire smoke purge system. Air transfer and duct openings associated with the post-fire smoke purge system shall not be permitted in the interior exit stairway or ramp or exit passageway.</p>	<p>New compliance provided. Will affect design and location of mechanical duct work for smoke purge systems in stated occupancies.</p>
BC 918 – GAS DETECTION SYSTEMS		
<p>Section 918 Gas Detection Systems <i>(Not in 2014 Code)</i></p>	<p>Section BC 918 Gas Detection System <i>(contains chapters 918.1, 918.2, 918.3, 918.4, 918.5, 918.6, 918.7, 918.8, 918.9, 918.10 and respective subsections).</i></p>	<p>New compliance provided. Will substantially affect design and location of equipment/devices.</p>