

APPENDIX Q

MODIFIED NATIONAL STANDARDS FOR AUTOMATIC SPRINKLER, STANDPIPE AND FIRE ALARM SYSTEMS

SECTION BC Q101 SCOPE

Q101.1 Scope. This appendix provides the modifications to the nationally recognized standards NFPA 13, NFPA 13D, NFPA 13R, NFPA 14, and NFPA 72, governing the installation and maintenance requirements of automatic sprinkler systems, standpipe and hose systems, and fire alarm systems. Where a referenced publication has been modified for the City of New York as by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications.

SECTION BC Q102 INSTALLATION OF SPRINKLER SYSTEMS

Q102.1 General. Sprinkler systems, where required by this code, shall be installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2002 edition, modified for New York City as follows. Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the *Administrative Code*.

Chapter 1 - Administration No changes.

Chapter 2 - Referenced Publications

2.1 Add at end the following: "Where a referenced publication has been modified for the City of New York by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications."

2.3.6 Delete.

Chapter 3 - Definitions

Chapter 4 - General Requirements No changes.

Chapter 5 - Classification of Occupancies and Commodities No changes

Chapter 6 - System Components

6.3.1.4 Delete the words "and polybutylene".

6.3.6.1 Delete the word "polybutylene"

The use of pipe or tube other than that described above must involve consideration of many factors, including but not limited to the following:

1. Pressure rating.
2. Beam strength (hangers).
3. Corrosion (chemical and electrolytic).
4. Resistance to failure when exposed to elevated temperatures.

5. Methods of joining (strength, permanence, fire hazard).
6. Availability of fittings (for sprinkler outlets and proper routings).
7. Physical characteristics relating to integrity during earthquakes.
8. Toxicity.
9. Combustibility.
10. Movement during sprinkler operation (water distribution).

Table 6.3.6.1 Delete the following: Specification for special listed polybutylene (PB) pipe ASTM D 3309.

Add Section **6.3.6.5** Non-metallic piping and fittings are permitted to be used only in Group R Occupancies 6 stories or less in height.

6.4.3 Delete the word "polybutelene,"

6.8.3 Delete.

Add Section **6.9.2.2.3** The alarm apparatus for a dry-pipe system shall also consist of approved low and high air pressure alarm attachments to the dry-pipe valve.

6.9.5 Change "8.15.2.6" to "8.16.1.10".

Chapter 7 - System Requirements

Add Section **7.2.6.2.4** High / Low air pressure in the system shall be monitored so that either condition sends a supervisory signal. Such signal shall trigger an audible alarm notification appliance, and shall report to a central station if the system is required otherwise to do so.

7.5.3.1 Delete.

Table 7.5.3.1 Delete.

7.5.3.2 Add the following sentence at the end of section 7.5.3.2: Backflow Prevention Device relief discharge shall be piped to a safe location.

7.6 Delete entire section including subsections.

7.9 Delete entire section including subsections.

Chapter 8 - Installation Requirements

8.2.1 Delete the first sentence and replace with the following: The maximum floor area on any one floor to be protected by a single riser from a control and alarm device shall be as follows:

8.14.4.4 Delete.

8.14.4.1 Delete the reference to section 8.14.4.4 and add at the end of this section the following: when required by other sections of this standard or the *New York City Building Code*.

8.14.4.5(2) Delete the words “NFPA 101, Life Safety Code” and add the words “provisions of the *New York City Building Code*.”

8.14.5 Delete.

8.14.8.1.2 Delete all words after and including “as defined”.

8.14.13 Delete entire section.

Add Section **8.14.19.3.5** In altering existing sprinkler systems which contain $\frac{3}{4}$ -inch (19 mm) pipe, the existing $\frac{3}{4}$ -inch (19 mm) pipe may be retained except that extension from such $\frac{3}{4}$ -inch (19 mm) pipe shall be made using pipe having a minimum diameter of one-inch (25 mm) except as provided for in sections 8.14.19.3.1, 8.14.19.3.2 and 8.14.19.3.3.

Add section **8.14.19.3.6** Where nipples used are less than 1 in. (25 mm) diameter, nipples shall be schedule 80 and no longer than shoulder.

Add Section **8.15.1.1.1.4** An approved indicating shutoff valve may be used in lieu of an O.S. &Y. gate valve wherever referred to in these modifications except such valve shall not be part of the pressure reducing valve. The indicator shall be readily visible from the floor.

Add Section **8.15.1.1.1.5** A connection from public water system shall not extend into or through a building unless such connection is under the control of an outside indicator post or O.S.&Y. gate or under the control of an inside O.S.&Y. gate valve located near the outside wall of the building.

Add Section **8.15.1.1.1.6** All gate valves controlling water supplied for sprinklers shall be located where readily accessible and when necessary, permanent ladders, clamped treads on risers, chains and wheels, or other accepted means shall be provided.

Add Section **8.15.1.1.1.7** Floor control valves shall be provided where required or in special cases where area or height or number of tenants is excessive, both in manufacturing and mercantile buildings, or where contents are more than ordinarily susceptible to damage. Floor valves shall be located where they are readily accessible. They are to be O.S.&Y. or indicating type located ahead of the inlet of any pressure reducing valve.

Add Section **8.15.1.1.1.8** Valves controlling sprinkler supplied from the standpipe system shall be listed for standpipe service in the pressure zone in which it is installed. They shall be O.S.&Y. or indicating valves and shall be located ahead of the inlet of any pressure reducing valve installed.

8.15.1.1.2.2 Revise to read as follows: Floor control valves in high-rise buildings shall comply with section 8.15.1.1.2.1(1) or 8.15.1.1.2.1 (2).

8.15.1.1.3.5 Delete and replace with the following: Where there is one water supply connection a check valve shall be installed. Such check valve may be a swing check, alarm check, an approved fire meter or an approved detector check.

8.15.1.2.4 Delete all words including and after the word “unless”.

8.15.1.2.5 Delete all words after and including the word “at”.

Add Section **8.15.1.1.3.6** Where a system having only one dry-pipe valve is supplied with city water and Fire Department

connection, it will be satisfactory to install the main check valve in the water supply connection in a vertical position immediately inside of the building after the main indicating valve.

Add Section **8.15.1.1.3.7** Check valves on tank or pump connections, when located underground, may be placed inside of buildings and at a safe distance from the tank riser or pump, except in cases where the building is entirely of one fire area, in which case the check valve may be located over-head in the lowest level.

Add Section **8.15.1.1.4.4** Where either a wet or dry pipe sprinkler system is supplied by city water and a Fire Department connection and has more than one riser with O.S.&Y. gate valve in each, and the whole system is controlled by one outside post indicator valve, the main check valve in the water supply connection may be installed immediately inside building. If the supply is controlled by an underground gate valve with a Department of Environmental Protection standard curb, roadway or sidewalk flush box, the main check valve in the water supply connection should be installed immediately after the O.S.&Y. gate valve inside the building.

Add Section **8.15.1.1.4.5** A gate valve should be installed on each side of each check valve under conditions other than described in sections 8.15.1.1.4.1, 8.15.1.1.4.2, 8.15.1.1.4.3 and 8.15.1.1.4.4. However, this shall not apply to Fire Department siamese check valves.

Add Section **8.15.1.1.4.6** In a city connection serving as one source of supply the city valve in the connection may serve as one of the required gate valves. An O.S.&Y. valve or an indicator post valve should be installed on the systems (water supply) side of the check valve.

8.15.1.1.5.1 Delete and replace with the following: Where a gravity tank is located on a tower in the yard, the gate valve on the tank side of the check valve shall be of O.S.&Y. type; the other shall be either an O.S.&Y. valve or other listed indicating valve. Where a gravity tank is located on a building, both gate valves shall be the O.S.&Y. type; and all fittings inside the buildings, except the drain tee fill line, and heater connections, shall be under the control of a gate valve.

Add Section **8.15.1.3.3** Where sprinklers are supplied from a yard main, a listed outside indicator post gate valve shall be placed in the connecting pipe at a safe distance from the building. Indicator post valves should be located not less than 40 feet (12 192 mm) from buildings; but where necessary to place a valve close to a building, it should be located at a blank part of the wall.

Add Section **8.15.1.3.4** When a building has no basement, and an outside post indicator control cannot be furnished, a short post indicator may be installed in a horizontal position in riser with handwheel projecting outside of wall.

Add Section **8.15.1.4.2.7** Pits for underground valves except those located at the base of a tank riser, are described in the Standard for Outside Protection (ANSI/NFPA No. 24-2002). For pits protecting valves located at the base of a tank riser, refer to section 8.15.1.4.2.6.

Table 8.15.2.4.2 Change the table to the following:

**TABLE 8.15.2.4.2
SECTIONAL OR FLOOR VALVE SIZE
MINIMUM SIZE OF DRAIN CONNECTION**

Up to 2 in.	1 in.
2½ in. to 4 in	1¼ in.
5 in. and larger	2 in.

Add Section **8.16.1.5.3** Identification signs shall be provided for outside alarm devices. The sign should be located near the device in a conspicuous position and shall be worded as follows: “SPRINKLER FIRE ALARM – WHEN BELL RINGS NOTIFY FIRE DEPARTMENT OR POLICE”.

8.16.1.6 Add at end a new item 4 as follows: (4) Refer to NFPA 72 for further requirements.

Add Section **8.16.1.9** as follows:

8.16.1.9 Dry Pipe System Alarms.

8.16.1.9.1 The alarm apparatus for a dry-pipe system shall consist of approved low and high air pressure alarm attachments as well as waterflow pressure type alarm attachments to the dry-pipe valve. When a dry-pipe valve is located on the system side of an alarm valve, the actuating device of the alarms for the dry-pipe valve may be connected to the alarms on the wet-pipe system.

Add Section **8.16.1.10** Drains for Alarm Devices.

8.16.1.10.1 Where vents are necessary for satisfactory electric alarm switch operations, such vents should be properly piped to a drain.

8.16.1.10.2 Drains from alarm devices shall be so arranged that there will be no danger of freezing, and so that there will be no overflowing at the alarm apparatus, at domestic connections or elsewhere with the sprinkler drains wide open and under pressure.

8.16.1.10.3 Drain from retarding chamber and electric alarm switch shall be permitted to discharge through an open cone and be run separate from main system drains to a safe and visible point of free discharge or to sewer or ground drain. Drain from water-motor-operated alarm device may run separately to sewer or ground drain or may be connected to drain from retarding chamber at a point between such sewer and a check valve on this drain, a union or plug being inserted in the drain from the alarm device to permit inspection. Where checks are used they shall be so located as to have the equivalent of at least a four-foot (1219 mm) head and shall not be installed in a vertical position.

8.16.1.10.4 Where drains are conveyed to a sewer, a proper trap shall be provided.

8.16.1.10.5 Where it is necessary to drain alarm valves outside the wall, an open discharge cone shall be provided inside to break the pipe line so that cold air will not conduct directly into the retarding chamber. Alternately, all drains shall have at least 4 feet (1219 mm) of pipe beyond the valves, in a warm area.

8.16.2.2 Delete items 1 – 3 and add the following:

- (1) Systems with sprinklered areas not exceeding 2000 square feet (186 m²).

- (2) Systems containing 36 or fewer sprinkler heads except as otherwise required by other sections of this referenced standard.

8.16.2.3 Delete items 1 – 4 and add the following:

- (1) Minimum size of Siamese connection is 5 in. (127 mm) except for Siamese connections supplying a single system with a riser smaller than 5 in. (127 mm) where a 4 in. (102 mm) Siamese connection may be used.

Add Section **8.16.4.2.1** This test pipe shall be not less than 1-inch in diameter, located in the upper story, and the connection shall be permitted to be piped from the end of the most remote branch line. The discharge shall be at a point where it can be readily observed. In locations where it is not practical to terminate the test pipe outside the building, the test pipe may terminate in a drain. In such case, the test connection shall be made using a sight test connection containing a smooth bore corrosion resistant orifice giving a flow equivalent to one sprinkler. The test valve shall be located at an accessible point, and not over seven feet above the floor. The control valve on the test connection shall be located at a point not exposed to freezing.

8.16.5.1.2 Add at the end “where a Standpipe System is not otherwise required by Section 905 of the *New York City Building Code*.”

8.16.5.1.3 Delete items (1), (3), (4) and (5). Modify Item (2) by adding at the end “, separately valved and connected to each sprinkler riser for hose stations located in the area covered by the sprinkler system that such riser serves upstream of all sprinkler control valves or in lieu thereof connected to the riser of an adjacent system with areas of coverage as stated above and connected upstream of all sprinkler control valves” and renumber as item (1).

8.16.5.1.4 Add at the beginning “Where a Standpipe System is not otherwise required by Section 905 of the NYC Building Code,” and delete item (2) and renumber items (3), (4) and (5) to (2), (3) and (4), respectively.

Chapter 9 - Hangers No changes.

Chapter 10 - Underground Piping

10.10.1 Delete and replace with the following: The installing contractor shall perform all required inspections and acceptance tests in accordance with this chapter prior to scheduling an inspection.

Figure 10.10.1 Delete.

Chapter 11 - Design Approaches

Add Section **11.2.2.10** Where the water supply to a system sized in accordance with the pipe sizing schedules is taken from a water storage tank, the adequacy of the tank capacity shall be verified with a hydraulic calculation.

11.2.3.1.1 Delete and replace with the following: The minimum water supply requirements for a hydraulically designed occupancy hazard fire control sprinkler system shall be determined in accordance with the requirements of section 11.2.3.1.5.

Add Section **11.2.3.1.1.1** In fully sprinklered buildings, where an Automatic Wet Standpipe System is not required by Section 905 of the *New York City Building Code*, the storage capacity of

the fire reserve in the tank supplying water to the sprinkler system shall be as required for the sprinkler demand, at a minimum.

Chapter 12 - Storage

Chapter 13 - Special Occupancy Requirements

Add section **13.1.1.3** The application of the requirements of this Chapter are subject to the approval of the Fire Commissioner.

13.15.2.1.1 Add the following at the end of the first paragraph: Sprinklers shall be provided in chute vestibules on all floors; if no vestibule exists, sprinklers shall be provided above chute doors and shall be located no more than 1-foot (25 mm) horizontally from face of chute door. All building service chute sprinkler systems shall be provided with a local water flow and valve supervisory alarm with central station annunciation. In high rise buildings where sprinklers in chutes are supplied by a chute riser(s), such riser(s) shall be zone to coincide with the zoning of the standpipe riser(s) that supplies them”.

Chapter 14 - Plans and Calculations

14.1.3 (35) Add the words “if required” at the end of this line item.

Chapter 15 - Water Supplies

15.1.1 Add the following:

- (a) Two automatic sources of water supply shall be provided for sprinklers in:
 - (1) Buildings classified in occupancy group H.
 - (2) Buildings classified in occupancy group M when the area on one floor exceeds 20,000 square feet (1858 m²).
 - (3) Buildings classified in occupancy group A-1 when open heads are required for stages of unlimited size.
- (b) The domestic water supply may be used to supply any sprinklers required by the *New York City Building Code* Section 903 when installed in buildings classified in occupancy groups B, E, I and R, and not classified as a high-rise building, provided that all the requirements stated in subdivision (d) of this section are met.
- (c) The domestic water supply may be used to supply water to sprinklers in cooling towers if provision is made to automatically stop the use of water through the domestic supply lines and provided that all of the requirements stated in subdivision (d) of this section are met.
- (d) When the domestic water is used to supply sprinklers as permitted in subdivisions (b) and (c) of this section, all of the following conditions shall be met:
 - (1) The domestic water supply line from the tank or street supply shall be at least the size of the sprinkler line and the capacity available shall be at least equal to the capacity required for the sprinklers.
 - (2) The domestic water supply line from the tank or street shall have the required pressure as provided in this referenced standard.
 - (3) The domestic water supply line shall be of non-ferrous material except when the domestic water supply is four inches (102 mm) or more.
 - (4) An O.S. & Y. valve or other listed valve having visual indication, and sealed open, shall be installed in the sprinkler supply branch, or such other valve arrangement as may be provided in this referenced standard and in referenced standards NFPA-13R or NFPA 13-D as modified for New York City, as applicable.
 - (5) The pipe connecting the domestic water supply and the sprinkler control valve shall be of nonferrous material and not less than twelve inches (305 mm) long.
 - (6) The number of heads in each fire section shall not exceed twenty, except that the number of heads in each fire section may exceed twenty in buildings classified in occupancy group R-2, or R-3 not exceeding six stories or 75 feet (22 860 mm) in height and in spaces classified in occupancy group R-2, or R-3 in buildings not exceeding six stories or 75 feet (22 860 mm) in height, provided that no more than 10 heads are supplied from any one domestic water riser.
 - (7) The connection shall be made at the supply or riser side of any domestic branch control valves.
 - (8) In connection with the above conditions, the number of fire sections having 20 or fewer heads may be unlimited; and the installation of alarms in branches supplying fire sections shall be at the option of the owner, except that such alarms shall be provided where required by referenced standards NFPA-13R and NFPA-13D as modified for New York City.
 - (9) A check valve shall be installed on the sprinkler supply branch.

15.1.3.2 (1) Delete the words “or Class II Standpipes”.

Pumps

15.2.2 Add the following new sections:

15.2.2.1 Combined Use. In light hazard occupancies with only limited ordinary hazard areas, an automatic fire pump serving the lower 300 feet (91 440 mm) of the standpipe system may be used as the primary supply to the sprinkler system, provided that an automatic switching secondary power supply is available to drive the pump, where secondary power is required by other provisions of this code, and that and that the pump is fully supervised as to pump running and power loss. The supervisory attachments shall be directly connected to an office where maintenance personnel are in attendance twenty-four hours a day; or, in lieu thereof, the supervisory attachment may be directly connected to the central station of an approved operating fire alarm company

15.2.2.2 In hydraulically designed sprinkler systems supplied from a gravity tank, the pressure may be increased by means of an automatic, special service fire pump. The pump shall be sized to satisfy the water supply requirements of this section and the *New York City Building Code* and shall be arranged with a bypass to permit the portion of the system so supplied to be served by the system's siamese connections.

If the pump is not supplied from the street side of the building service switch, the electrical service and pump operation shall be fully supervised and an automatic switching secondary power supply provided to drive the pumps, where secondary power is required by other provisions of this code.

15.2.2.3 Wiring for Fire Pumps. When the fire pump feeder conductors are routed through the building(s), they shall be enclosed by 2 in. (51 mm) of concrete or an assembly which has a minimum of 1-hour fire resistive rating. Wiring for all fire and sprinkler pumps shall be in accordance with the *New York City Electrical Code*.

15.2.2.4 Sprinkler Booster Pumps. Where the pressure from the city water main is insufficient to comply with the requirements of this referenced standard, but is sufficient to provide at least 5 PSI (34 kPa) at the highest level of sprinklers as determined by test, an automatic, electrically driven pump installed for the purpose of boosting or increasing the city water pressure in the sprinkler system may be used subject to the following requirements:

- (a) Pumps shall be of approved centrifugal type, capable of delivering at least 200 gpm (757 L/m), and shall be capable of supplying the calculated flow and pressure demand of the sprinkler system.
- (b) Pumps shall be maintained under approved automatic control with closed circuit supervisory attachment. The supervisory attachments shall be directly connected to an office where maintenance personnel are in attendance twenty-four hours a day; or, in lieu thereof, the supervisory attachment may be directly connected to the central station of an approved operating fire alarm company. The supervisory alarm services shall be arranged so as to provide positive indication at an approved central office or sprinkler alarm panel board that the pump has operated or that the source of electrical supply has failed.
- (c) Such pumps shall also comply with the applicable provisions of this Referenced Standard and the *New York City Building Code* pertaining to Fire Pumps, except that only one water supply and no enclosure shall be required.
- (d) Power to such pumps shall be supplied from the street side of the building service switch. Secondary power shall be provided where required by other provisions of this code.
- (e) If a secondary power supply is provided to drive the pump and such power supply is automatic switching, the 5 psi (34 kPa) requirement in section 15.2.2.4 and the requirements of paragraph (d), for power to be sup-

plied from the street side of the building service switch, may be waived.

Pressure Tanks

15.2.3.1 to 15.2.3.3.2 Delete and replace with the following:

15.2.3.1 A pressure tank providing water supply in accordance with Table 11.2.2.1 or 11.2.3 is an acceptable water supply source. The total available quantity of water in pressure tanks need not exceed 15,000 gallons (56 781 L) when there is a secondary source of water supply available from a gravity tank or a street connection. The maximum gross capacity of a single pressure tank shall be 9,000 gallons (34 069 L) and shall include the needed extra capacity to fill dry-pipe or preaction systems when installed.

15.2.3.1.1 Each tank shall be kept at a maximum of $\frac{2}{3}$ full of water and a minimum of $\frac{1}{3}$ full of air maintained under a minimum pressure of 75 psig (517 kPa). The water-to-air ratio shall be so proportioned and the tank so located that a minimum pressure of 15 psig (103 kPa) will be available on the highest line of sprinklers below the main roof when all the water has been discharged from the tank.

15.2.3.1.2 The tank supports shall be designed on the basis of a full tank. The tanks shall be supplied with water through a fixed pipe, independent of the sprinkler piping and at least 2 inch (51 mm) in size. The water supply shall be capable of supplying the tank at a rate of at least 65 gpm (4 L/s) without decreasing the pressure in the tank. The tank shall have a fixed water level plate on the end of the tank opposite the gage glass, or equivalent devices, to indicate the level of the water in the tank.

15.2.3.1.3 The air compressor shall be provided with automatic controls for maintaining the air pressure. The capacity of the compressor shall be sufficient to build up the tank pressure to 75 psig (517 kPa) within 3 hr. or less.

15.2.3.1.4 Pressure tanks shall be provided with closed circuit high and low water and high and low air pressure alarms.

15.2.3.1.5 Pressure tanks shall be located at or above the top level of sprinklers.

Gravity Tanks

15.2.4 Add at end the following: If any of the sprinkler heads are supplied from domestic water tanks, the combined water supply in the tank shall be at least 5,000 gallons (18 927 L). Further, the sprinkler water supply shall be taken from the lowest level of the tank.

Add Section **15.2.4.1** Combined Use. In A, B, E, I and R Occupancies, with only limited ordinary hazard areas, the sprinkler and standpipe reserve may be common to both. The Reserve shall be sized for the greater demand, in accordance with NFPA 14, section 7.10.1.3. For purposes of this section, limited shall be defined as less than 30 percent of the floor area on the given floor. Buildings whose occupancies are more than 85 percent light hazard may have a light hazard water supply, provided the ordinary hazard areas are designed for ordinary hazard requirements with respect to sprinkler spacing and pipe sizing.

Add Section **15.2.4.2** Combined standpipe and sprinkler systems may be used in Occupancies A, B, E, F, I, M, R and S. If an automatic fire pump is used as the primary supply, the requirements of section 15.2.2.1 shall apply.

Chapter 16 - Systems Acceptance

16.1 Delete and replace with the following: The installing contractor shall inspect and test the installation in accordance with the procedures of this chapter prior to scheduling an inspection.

16.3 Delete entire section.

16.3.1 Delete.

16.3.2 Delete.

16.3.3 Delete.

16.3.4 Delete.

Chapter 17 - Marine No changes.

Chapter 18 - System Inspection, Testing and Maintenance:

18.1 Delete and replace with the following: General. A sprinkler system installed in accordance with this standard shall be properly inspected, tested, and maintained in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems* and the *New York City Fire Code*, to provide at least the same level of performance and protection as designed.

ANNEXES

The annexes are not a part of the requirements of this Referenced Standard but are included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs. In the event of any conflict between the Annexes and the body of the Referenced Standard, particularly where modifications have been made for New York City, the body of the Referenced Standard will govern.

Annex A

A.5.2 Move Occupancy Classification of Theaters and Auditoriums from Light Hazard to Ordinary Hazard Group 1.

A.11.2.3.1.7 Delete.

SECTION BC Q103 INSTALLATION OF SPRINKLER SYSTEMS IN ONE- AND TWO-FAMILY DWELLINGS AND MANUFACTURED HOMES

Q103.1 General. Sprinkler systems, where required by this code, shall be installed in accordance with NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, 2002 edition, modified for New York City as follows. Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the *Administrative Code*.

Chapter 1 - Administration No changes.

Chapter 2 - Referenced Publications

2.2 Add at end the following: Where a referenced publication has been modified for the City of New York by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications.

Chapter 3 - Definitions

3.3.9.3 Delete.

3.3.9.6 Delete.

Chapter 4 - General Requirements

4.2.1 Add at end the following: The owner is responsible for the maintenance of the system.

4.3.1 Delete and replace with the following: Where a Fire Department pumper connection is not provided, the system shall be hydrostatically tested for leakage at 50 psi (344 kPa) above normal system operating pressure and checked visually for leakage at each joint or coupling.

Add new Section **4.3.3** Fire Department connections are not required for systems covered by this standard, but may be installed at the discretion of the owner. In these cases, hydrostatic tests in accordance with Reference Standard NFPA 13-2002, as modified for New York City, are necessary. Dry systems should also be tested by placing the system under 40 pounds (2.8 bar) air pressure. Any leak that results in a drop in system pressure greater than 2 psi (0.14 bar) in 24 hours should be corrected. Check for leaks using soapy water brushed on each joint or coupling. Leaks will be shown by the presence of bubbles. This test should be made prior to concealing of piping.

Chapter 5 - System Components

5.2.1 Add at end the following: Non-metallic pipe shall be used in wet systems only.

5.2.1.3 Delete.

5.2.2.2 Delete the words “and polybutylene (PB)”.

Table 5.2.2.2 Delete the line for “Specification for Polybutylene (PB) Pipe” and delete the reference to “ASTM D 3309”.

5.2.9.2 Delete the words “and polybutylene (PB)”.

5.3 Delete.

Chapter 6 - Water Supply

6.2 Add the following as item (5):

- (5) A common supply main to the building, serving both sprinklers and domestic uses, may be used if provision is made to prevent flow on the domestic water system upon operation of sprinklers, and closure of the main sprinkler control valve(the house control valve) will shut off the domestic water supply.

6.3 Delete.

Chapter 7 - Installation

7.1.1 Delete the remainder of the sentence starting with and including the word “unless”.

7.1.2 Delete and replace with the following: Except for the meter set controlling combined domestic water and fire sprinkler systems, sectional control valves and other valves if pro-

vided in supply pipes to sprinklers shall be locked open and supervised open by one of the following methods:

- (a) Central station, proprietary or remote station signaling service, or
- (b) Local signaling service that will cause the sounding of an audible signal.

Exception - Underground gate valves with roadway boxes need not be supervised.

7.1.3 Delete the remainder of the sentence starting with and including the word “other”.

7.6 Add at the end the following: as modified for New York City.

Chapter 8 - System Design

8.3.3.3.1.1 Delete and replace with the following: Arrangement of supply piping to an anti-freeze system shall be in accordance with NFPA-13-2002 as modified for New York City.

8.3.3.3.1.2 Delete.

8.3.3.3.1.3 Delete.

8.3.3.3.2 Delete.

8.3.3.3.2.1 Delete.

8.3.3.3.2.2 Delete.

8.3.3.3.2.3 Delete.

8.4.3.2 Delete the remainder of the section starting with and including the word “unless”.

8.4.3.3 Delete.

8.6.4 Add the following after the word “garages”: provided that at least one sprinkler head is located within 3 feet (914mm) of any communicating opening between the garage and the dwelling.

8.6.5 Add after the word “attics”, the words “without floors”.

ANNEXES

The annexes are not a part of the requirements of this Referenced Standard but are included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs. In the event of any conflict between the Annexes and the body of the Referenced Standard, particularly where modifications have been made for New York City, the body of the Referenced Standard will govern.

A.5.2.2.2 Delete.

A.5.2.9.2 Delete.

Figure A.6.2 (c) Delete the sprinkler control valve shown.

A.6.3 Delete.

Figure A.6.3 (a) Delete.

Figure A.6.3 (b) Delete.

Figure A.6.3 (c) Delete.

A.8.4.3.3 (i) Delete.

SECTION BC Q104 INSTALLATION OF SPRINKLER SYSTEMS IN RESIDENTIAL OCCUPANCIES UP TO AND INCLUDING SIX STORIES IN HEIGHT

Q104.1 General. Sprinkler systems, where required by this code, shall be installed in accordance with NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*, 2002 edition, modified for New York City as follows. Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the *Administrative Code*.

Chapter 1 - Administration

1.1 Delete the word “four” and replace with “six”.

Chapter 2 - Referenced Publications

2.2 Add at end the following: Where a referenced publication has been modified for the City of New York by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications.

Chapter 3 - Definitions

3.3.5 Delete.

3.3.6 Delete (Use definitions contained in NYC BC).

Chapter 4 - General Requirements No changes.

Chapter 5 - System Components

5.2.1 Add at the end the following: Non-metallic pipe shall be used in wet systems only.

5.2.2.2 Delete the words “and polybutylene (PB)”.

Table 5.2.2.2 Delete “Specification for Polybutylene (PB) Pipe ASTM D 3309”.

5.2.10.2 Delete the words “and polybutylene (PB)”.

5.3.2 (1) Delete and replace with the following: Antifreeze systems – Only glycerin type anti-freeze is permitted for use in systems containing non-metallic pipe or fittings.

Chapter 6 - Working Plans, Design, Installation, Acceptance Tests and Maintenance

6.2.2 Delete.

Figure 6.2.2 Delete.

6.5.3 Add the following as item (5):

- (5) A common supply main to the building, serving both sprinklers and domestic uses, may be used if provision is made to prevent flow on the domestic water system upon operation of sprinklers, and closure of the main sprinkler control valve (the house control valve) will shut off the domestic water supply.

6.5.5 Delete.

6.5.6 Delete.

6.6.1.2 Delete and replace with the following:

Except for the meter set controlling combined domestic water and fire sprinkler systems, sectional control valves and other

valves if provided in supply pipes to sprinklers shall be locked open and supervised open by one of the following methods:

- (a) Central station, proprietary or remote station signaling service, or
- (b) Local signaling service that will cause the sounding of an audible signal at a constantly attended point.

Exception- Underground gate valves with roadway boxes need not be supervised.

6.6.4 Delete and replace with the following:

Fire Department Connection. Except in buildings classified in occupancy group R-1, at least one 3 in. (76 mm) single inlet Fire Department connection shall be provided and located in accordance with the *New York City Building Code*. Buildings classified in occupancy group R-1 shall be provided with siamese connections in accordance with the referenced standard NFPA-13-2002 as modified for New York City.

6.6.4.1 Delete.

6.6.4.2 Delete.

6.8.5 After the word “attics” add the words: “without floors”.

Add Section **6.8.7** Location of sprinklers installed in buildings classified in occupancy group R-1 shall be in accordance with the requirements of the *New York City Building Code* and NFPA -13-2002 as modified for New York City.

6.9.2 Delete and replace with the following: Sprinkler systems shall be inspected, tested, and maintained in accordance with the *New York City Fire Code* and with the rules of the Fire Department.

ANNEXES

The annexes are not a part of the requirements of this Referenced Standard but are included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs. In the event of any conflict between the Annexes and the body of the Referenced Standard, particularly where modifications have been made for New York City, the body of the Referenced Standard will govern.

A.1.1 Delete the words “four stories” and replace with the words: “six stories”.

A.5.2.2.2 Delete.

A.5.2.10.2 Delete.

A.6.3.2 Delete the words “, or flexible piping such as listed polybutylene,” and delete the sentence that reads “Testing with air pressure is permitted for polybutylene piping where conducted in accordance with the testing procedures of section 16.2.2.1 of NFPA 13, *Standard for the Installation of Sprinkler Systems*.”

A.6.5.5 Delete.

Table A.6.5.5(a) Delete.

Table A.6.5.5(b) Delete.

SECTION BC Q105 INSTALLATION OF STANDPIPE AND HOSE SYSTEMS

Q105.1 General. Standpipe and hose systems, where required by this code, shall be installed in accordance with NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2003 edition, modified for New York City as follows. Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the *Administrative Code*.

Chapter 1 – General Information No changes.

Chapter 2 – Referenced Publications

2.1 Add at end the following: Where a referenced publication has been modified for the City of New York by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications.

Chapter 3 - Definitions

3.3.9 Add at end the following: For the purposes of this section, a penthouse of any area with an occupant load greater than 10 shall be considered a story.

3.3.27.2 Add at end the following: Class II standpipe systems are permitted for high pile and rack storage occupancies only.

Chapter 4 – System Components and Hardware

4.2.2 Delete and replace with the following: Pipe for buried portions of the standpipe system, whether inside or outside of the building, shall be red brass, ductile iron, hard tempered type “K” copper tubing, galvanized steel or other approved corrosion resistant material. All such pipe, other than ductile iron, shall be adequately wrapped or otherwise protected against corrosion.

Add Section **4.2.2.1** Where ductile iron pipe is installed in accordance with Table 4.2.1, it shall be lined in accordance with AWWA C104, *Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water*.

4.2.3 Add at end the following: Piping conforming to the specifications contained in this section may only be used in buildings with floor heights not exceeding 300 feet (91 440 mm) above grade plane or in the highest 300-foot (91 440 mm) portion of other buildings. Otherwise piping conforming to the wall thicknesses specified in section 4.2.4 shall be used.

4.5.1 Add at end the following: 6 inch (152 mm) and larger sectional and riser control valves shall have a minimum $\frac{3}{4}$ inch (197 mm) valved bypass.

4.6.2.1 Change “30.5 m (100 ft)” to “38.1 m (125 ft)”.

4.6.2.2 Delete.

4.6.3.2 Delete.

4.6.5 Delete and replace with the following: **Label.** Each rack or storage facility for 40-mm (1½-in.) hose shall be provided with a label that shall include operating instructions.

4.7.2 Delete and replace with the following: Hose connections shall have nominal 2½ inch (64 mm) threads conforming to FDNY standards.

4.8.2 Delete and replace with the following: Each Fire Department connection shall have at least two 3 inch (76 mm) internally threaded swivel fittings having threads conforming to FDNY standards and be of a minimum size of 5 inches (127 mm) except where supplying a single 4 inch (102 mm) standpipe riser, in which case the minimum size shall be 4 inches (102 mm).

4.8.2.1 Add at end the following: Caps shall be painted red, except that the caps for combination standpipe and sprinkler systems shall be painted yellow, and caps for sprinkler systems only shall be painted green.

4.8.2.2 Delete and replace with the following:

Siamese connections shall be provided as follows:

- (a) One siamese connection shall be provided for each 300 feet (91 140 mm) of exterior building wall or fraction thereof facing upon each street or public space.
- (b) Where buildings face upon two parallel streets or public spaces without an intersecting street or public space, one siamese shall be provided for each 300 feet (91 140 mm) of exterior building wall or fraction thereof facing upon each such parallel street or public space.
- (c) Where a building faces upon two intersecting streets or public spaces and the total length of the exterior building walls facing upon such streets or public spaces does not exceed 300 feet (91 140 mm) only one Siamese connection need be installed provided the siamese connection is located within 15 feet (4572 mm) of the corner and on the street with the longest building frontage.
- (d) Where a building faces on three streets or public spaces, one siamese connection shall be provided for each 300 feet (91 140 mm) of building wall or fraction thereof facing upon such streets or public spaces provided that at least one siamese connection is installed on each of the parallel streets or public spaces, and further provided that the siamese connections shall be located so that the distance between them does not exceed 300 feet (91 140 mm).
- (e) Where a building faces upon four streets or public spaces, at least one Siamese connection shall be provided on each street front or public space; however, only one siamese connection need be provided at the corner of two intersecting streets or public spaces if the siamese connection is located within 15 feet (4572 mm) of the corner and on the street with the longest building frontage or public space, and if the distances between siamese connections, in all cases, do not exceed 300 feet (91 140 mm).
- (f) In any case where the exterior building walls of a building facing a street or public space are obstructed in part by another building, one siamese connection shall be provided for each clear three hundred feet of exterior building wall or fraction thereof facing upon such street or public space.

(g) Location.

- (1) Siamese connections shall be placed between 18 inches (457 mm) and 36 inches (914 mm) above the sidewalk level.
 - (2) Siamese connections shall be of the flush or free standing type, and with the exception of the swivel caps, shall not project beyond the street property line. The riser pipe to a free standing siamese connection shall be red brass. When siamese connections are installed in wall recesses, the recesses shall be of ample size to permit convenient hose attachment.
- (h) Check valve. Each siamese connection shall be provided with a swing-type check valve inside of the building or in a valve pit outside of the building. In addition, each high zone siamese zone shall be provided with a swing-type check valve located at each connection between the high zone siamese express riser and the high zone standpipe system and located at the level of such connection.
- (i) Drip valve. A ¾ inch (19mm) automatic ball drip valve shall be placed between the siamese connection and the check valve, except that on a fireboat siamese connection, a ½ inch (13 mm) open drip without a shutoff may be used. Automatic ball drips shall be placed in the horizontal position.
- (j) Fire Department siamese connections shall be provided in maximum siamese zone heights of 600 feet (15 240 mm), supplying no more than two standpipe zones. A normally closed valved interconnect shall be provided between each siamese zone.
- (1) Express piping to high zone Siamese connections shall not be installed in stairway enclosures but may be installed in any other protected shaft.
 - (2) Isolation valves shall be provided in all standpipe risers at 100 foot (30 480 mm) vertical intervals.

4.10 Add at end the following: All interior signage shall have a red background with minimum 1 inch high white letters. All exterior signage shall have a white background with minimum 1 inch (25 mm) high red letters.

Chapter 5 – System Requirements

5.1.3 Add at end the following: and Section 905 of the *New York City Building Code*.

5.1.4 Delete.

5.3.2.1 Delete.

5.3.3.1 Delete.

5.3.3.2 Delete all after the word “required” and add the following: except where specifically required by Section 905 of the *New York City Building Code*.

5.4.1.1 Delete the words “manual, automatic, or semiautomatic” and replace with the words: manual-wet or automatic-wet.

5.4.1.2 Delete the words “automatic or semi-automatic” and replace with the words: automatic-wet.

5.4.3 Delete “or semi-automatic wet”.

Chapter 6 – Installation requirements

6.1.2.1 Add at end the following: in accordance with the requirements of section 905 of the *New York City Building Code*.

6.1.2.2 Add at end the following: in accordance with the requirements of section 905 of the *New York City Building Code*.

6.1.2.3 Add at beginning the following: **Protection of standpipe system**

6.1.2.3.1 Add at end the following:

All parts of the standpipe systems that may be exposed to frost shall be protected from freezing by any one of the following methods:

- (1) The piping shall be frostproofed with insulation having a thermal conductance of 0.1 Btu/hr. per square foot of surface per degree F at a mean temperature of 70 to 75 degrees F (21 °C to 24 °C). Insulation shall be protected to prevent water infiltration, and when exposed to the weather the insulation shall be covered with a 45 pound (20 kg) roofing felt jacket or equivalent.
- (2) Steam or electric tracers may be used in conjunction with the insulation.
- (3) Tanks subject to freezing temperatures shall be protected.

6.2.1 Add at end the following: Check valves other than those in siamese and fire pump line shall be provided with an O. S. & Y. or indicating shutoff valve (with indicator readily visible from the floor) that is flanged, mechanically coupled or wafer type and connected to the inlet and outlet of such check valves. The valves on the suction and discharge of the fire pump shall be deemed to comply with this requirement when the discharge valve is placed on the discharge side of the check valve. One of the shutoff valves placed on each side of the tank check valve may be of the remote control type, and when used, shall be on the downstream side of such check valve.

6.2.2 Add at end the following:

- (1) Riser control valves, shall where practical, be located within a required stair enclosure serving the entrance floor. Where the stair enclosure extends to the basement or cellar, the riser control valve may be located within the stair enclosure at or in the basement or cellar ceiling, providing that a sign indicating the valve location is installed within the stair enclosure at the entrance floor. The hose outlet valve for the entrance floor shall be located on the riser side of the riser control valve. Sectional control valves shall be provided at maximum 100 foot (30 480 mm) increments in all standpipe risers. Riser control valves or sectional valves shall not be required on a vertical line supplying one or two hose outlet valves.
- (2) Where riser control or section valves are located outside of a required stair enclosure, the valves shall be of such type and so installed so as to be remotely operated by either electric motors or hydraulic means. The

remote control shall be from either the entrance floor or from a fire pump room. Operating devices shall be grouped, suitably housed, and kept locked with a Fire Department lock and key. The door of the housing shall be embossed to indicate the purpose of the device. Instructions for operating the remote valves by the control device shall be legible, detailed, and complete, and shall be permanently secured to the inner face of the door.

- (3) Each valve shall be so designed and installed as to permit its manual operation at the valve location. Pressure ratings and the name of the manufacturer shall be cast raised or depressed on each valve used in the system.
- (4) The position of each remotely controlled valve, whether opened or closed, shall be indicated at its remote control point and also at the valve.
- (5) Valves shall be readily accessible for inspection, repair, and use. If the valve is placed so that its operating mechanism is more than 7 feet (2133 mm) above a floor or stair landing, a 12 inch (3658 mm) wide wrought iron, steel or equivalent ladder securely fastened shall be provided for access to the valve. In lieu of a ladder, chain operated mechanisms are permissible and shall be padlocked securely in place.
- (6) Each control valve shall be conspicuously marked with the number assigned to it on the riser diagram for the standpipe system. Metal numbered tags at least 2 inch (51 mm) in diameter shall be securely attached to the valve. Each valve shall have a metal sign stating “STANDPIPE CONTROL VALVE” securely hung from the valve.
- (7) Each control valve not remotely controlled shall be electrically supervised in its normal position. If the normal position is the closed position, a metal placard stating such fact shall be conspicuously attached to the valve.

6.2.4 Add at the end the following: Wafer type control valves may not be used in pump suction piping.

6.2.7 Add at end of item (3) the following: Only permissible when no fire alarm system is present and delete item (4).

6.2.8.3 Add at the end the following: Such sprinkler system piping supply shall only be permitted where approved by the commissioner.

6.3.2 Add at end the following: In addition, each high zone siamese zone shall be provided with a swing-type check valve located at each connection between the high zone siamese express riser and the high zone standpipe system and located at the level of such connection.

6.3.5.2 Delete and replace with the following: **Marking.** Each siamese connection shall be provided with caps painted red, and shall have the word “STANDPIPE” in letters 1 inch (25 mm) high and 1/8 inch deep cast in the body or on a nonferrous metal plate secured to the connection or mounted on the wall in a visible location, except that caps of each siamese connection used for combination standpipe and sprinkler systems shall be painted yellow and the words shall read “COMBINATION

STANDPIPE AND SPRINKLER SYSTEMS”. Where Siamese connections serve other than the entire building, the connections shall be marked in accordance with the specifications of this section “LOW ZONE” or “HIGH ZONE” and indicate the floors served.

6.3.5.2.1 Delete.

6.3.6 Delete “1219 mm (48 in.)” and replace with the following: 914 mm (36 in.).

Chapter 7 – Design

7.1.1 Delete.

7.2 Delete and replace with the following: The maximum pressure at any point in the system at any time shall not exceed 24.1 bar (350 psi), except for piping to high zone Siamese connections, and shall not, in any case, be greater than the pressure rating of the system components in accordance with section 4.2 of this referenced standard. Maximum height per zone is limited to 300 feet (91 140 mm).

7.2.1.1 Change the word “regulating” to “restricting”.

7.2.1.2 Delete.

7.3.2 Delete all after the word “connections” and replace with the following: in accordance with the requirements of Section 905 of the *New York City Building Code*.

7.3.2.1 Delete.

7.3.2.2 Delete and replace with the following: At the top of the highest riser there shall be provided, above the main roof level, a three way manifold equipped with three 2 ½ inch (63.5 mm) hose valves with hose valve caps. The lowest valve shall be located with the hose end at least 18 inch (457 mm) above the roof and the highest valve with the hose end not more than 60 inch (1524 mm) above the roof. The manifold may be set in a horizontal or vertical position, provided the hose outlets are set back between 18 inch (457 mm) and 60 inch (1524 mm) above the roof level. Where the manifold is located other than within a heated stair enclosure, the control valve shall be located in a horizontal run of piping below the roof, with a long stem extending through the roof and equipped with a wheel handle at its upper end at least 12 inch (304.8 mm) above the roof. Between the control valve and the manifold there shall be provided within the heated space a ½ inch (12.7 mm) open drip or a ¾ inch (19 mm) automatic ball drip, with the drip pipe extended to spill over a plumbing fixture or drain.

7.3.2.3 Delete.

7.3.4.1 Delete all after the word “required”.

7.3.4.1.1 Delete.

7.4 Add at end the following: and shall be provided in accordance with the requirements of Section 905 of the *New York City Building Code*.

7.5 Delete all and replace with the following:

Interconnection of Standpipes

- (1) Standpipe systems that include more than one riser shall have all risers cross-connected at, or below, the street entrance floor level, except as otherwise provided in this section.

- (2) Standpipe systems in buildings required by the provisions of Section 905 of this code to have one or more zones shall be so designed and installed that the risers supplied from each zone will be cross-connected below, or in, the story of the lowest hose outlets from the water source in each zone. Horizontal intermediate check valves shall be installed in the run of each riser continuing into a higher zone in such manner as to permit all upper zones of the system within each Siamese zone provided in accordance with section 4.8.2.2 to be fed through one riser from the zone below and to prevent any lower zone of the system from being supplied from a zone above, except as otherwise required by this referenced standard. Siamese zones shall be interconnected as in accordance with section 4.8.2.2(j).
- (3) Risers supplied by an upper level cross connection shall be provided with manual control valves or remote control valves, so arranged that risers supplied by the upper level cross connections may independently be shut off from the tank supplies.
- (4) Cross connections shall be at least as large as the largest riser supplied by the cross connection. However, when supplying two, but not more than four 4 inch (102 mm) risers, the cross connection shall not be less than 5 inches (123 mm). The cross connection shall not be less than 6 inches (152 mm) for all other riser combinations.
- (5) Where there is no cellar, cross connections may be hung from the ceiling of the lowest story.
- (6) Each siamese connection shall be connected to a riser or to a cross connection connecting other Siamese hose connections or risers within each Siamese zone provided in accordance with section 4.8.2.2. The pipe from the siamese connection to the riser or cross connection shall be five inch (123 mm) I.P.S., except that a 4 inch (102 mm) pipe shall be sufficient when such pipe supplies a single four inch (102 mm) riser system. The pipe from the siamese connection shall be run as directly as practicable to the riser or cross connection.
- (7) When tanks are used for the primary water supply, the standpipe systems may use separate riser systems serving, respectively, low and high parts of the building. Separate gravity tanks or pressure tanks may supply each zone, but in every case the standpipe system shall be so designed that every hose outlet of the entire system can be supplied through the required cross connections from every siamese connection within each Siamese zone provided in accordance with section 4.8.2.2.

7.5.1 Delete.

7.5.2 Delete.

7.5.2.1 Delete.

7.6.1 Delete and replace with the following: Class I and Class III standpipes in buildings with floor heights less than 150 feet (45 720 mm) above grade plane shall be at least 4 inches (100 mm) in size. Standpipes in buildings with floor heights greater than 150 (45 720 mm) feet above grade plane shall be no less than 6 inches (150 mm) in diameter.

7.6.3 Delete and replace with the following: In fully sprinklered buildings having a combined standpipe system that is hydraulically calculated, the minimum standpipe size in buildings with floor heights less than 150 feet (45 720 mm) above the lowest level of fire department vehicle access shall be 4 inches (102 mm).

7.7.4 Delete the words, “or semiautomatic”.

7.7.4 Delete.

7.8.1.1 Delete “100 psi (6.9 bar) and replace with “65 psi (4.5 bar).

7.8.2 Delete.

7.8.2.1 Delete.

Table 7.8.2.1 Delete.

7.8.2.2 Delete.

7.8.3.1 Change the word “regulating” to “restricting”.

7.8.3.2 Change the word “regulating” to “restricting”.

7.8.3.3 Change the word “regulating” to “restricting”.

7.9.1 Add after the word “pumps” the words “or tanks”. Add after the word “pump” the words “or tank”.

7.9.1.1 Delete and replace with the following: The maximum standpipe system zone height for any building is 91 440 mm (300 feet). In the lowest zone in a building, such height shall be measured from grade plane. Floors below grade plane may be included in the lowest zone, provided that the maximum siamese zone height for the siamese zone that includes the lowest zone, in accordance with section 4.8.2.2 (j), is not exceeded.

7.9.3 Delete.

7.9.3.1 Delete.

7.9.3.1.1 Delete.

7.9.4.1 Delete and replace with the following: In buildings with occupied floors less than 91.4 m (300 feet) in height above the lowest level of Fire Department vehicle access, water supplies may be provided by a public waterworks system in accordance with 9.1.4(1), by automatic fire pumps in accordance with 9.1.4(2), or by gravity tanks in accordance with section 9.1.4(4).

Add Section **7.9.4.2** All zones servicing occupied floors located higher than 91.4 m (300 feet) above the lowest level of fire department vehicle access shall be equipped with a primary and auxiliary water supply provided by gravity tanks supplemented by pumps where necessary in accordance with section 9.1.4.

Add Section **7.9.4.2.1** All zones servicing occupied floors located higher than 91.4 m (300 feet) above the lowest level of fire department vehicle access but not more than 152.4 m (500 feet) above grade plane, shall be equipped with a special service fire pump, in accordance with section 9.1.4(4)(l), to boost supply to pressures as required by section 7.8.1.1 and 7.8.3.1. A Pressure Reducing Valve (PRV) bypass shall be provided, where necessary, and arranged to provide water supply from the upper zone to the lower zone at the required pressures. Where a PRV is not necessary to provide required pressures, a normally open bypass shall be provided.

Add Section **7.9.4.3** Where portions of a standpipe system service floors located 152.4 m (500 feet) or more above the lowest level of fire department vehicle access, all portions of the system shall be provided with a primary and auxiliary means of water supply in accordance with section 9.1.4 and the following:

- (1) Primary water supplies shall serve one zone only as the primary supply. However, the primary water supply for one zone may be used as the auxiliary supply for no more than one other zone.
- (2) Intermediate tanks, which serve as the suction source for the pumps providing primary water supply for zones located higher than 91.4 m (300 feet) above grade plane, shall be located so as to provide the auxiliary water supply for the next lowest zone at the required pressures by gravity only, and such pressures shall not exceed the minimum pressures required in such next lowest zone by more than 15 percent.
- (3) The auxiliary water supply for the topmost section of the system zone shall be provided by a gravity tank in accordance with section 9.1.4(4) and shall be equipped with a special service fire pump, in accordance with 9.1.4(4)(l), to boost supply to pressures as required by sections 7.8.1.1 and 7.8.3.1.
- (4) Zone heights shall be selected such that the topmost zone has a minimum height of 45.7 m (150 feet) so as to provide an auxiliary water supply from the intermediate or roof tank(s) to the next lowest zone at pressures as required by section 7.8.1.1 and 7.8.3.1 by gravity only, and such pressures shall not exceed the minimum pressures required in such next lowest zone by more than 15 percent.

7.12.1 Delete the words “76 mm (3-in.)”. Add after the word “riser” the following: of adequate size. Add after the word “standpipe” the following: or attached sprinkler system.

7.12.1.1 Delete and replace with the following: The riser shall be equipped with a plug and be located on every floor.

7.12.1.2 Delete.

7.13.1.1 Delete.

7.13.2 Add at end the following: and be located in accordance with Section 4.8.2.2 of this referenced standard.

7.13.2.1 Delete.

Chapter 8 – Plans and Calculations No changes.

Chapter 9 – Water Supplies

9.1.1 Delete the words “and semi-automatic”.

9.1.2 Add at the end the following: Where manual combination standpipe systems are provided in accordance with the provisions of section 5.4.1.1 of this referenced standard an automatic water supply sufficient to provide the required sprinkler system demand shall be provided. Where such supply is provided by an automatic fire pump, the minimum pump capacity shall be as required by the sprinkler system demand in accordance with Section 903 of the *New York City Building Code* and NFPA 13. Where such water supply is provided by pressure or

gravity tanks the minimum water supply shall also be as required in accordance with the above.

9.1.3 Delete the words “and semi-automatic”. Delete the words “a secondary” and replace with “an auxiliary”.

9.1.4 Delete and replace with the following:

Water supplies from the following sources shall be permitted:

- (1) A public waterworks system where pressure and flow rate are adequate as confirmed by a statement by the Bureau of Water Supply of the Department of Environmental Protection.
 - (a) Each service directly supplying a standpipe system or a fire pump shall be equipped with a control valve located under the sidewalk in a flush sidewalk box located within two feet (610 mm) of the street line, or in such other locations as may be approved by the Department of Environmental Protection. The purpose of each such control valve shall be clearly indicated by the words, “Standpipe Supply Control,” cast in the cover of such flush sidewalk, box or, in lieu thereof, a metal sign with 1 inch lettering shall be located on the exterior building wall indicating the use and location of the valve.
 - (2) Automatic fire pumps connected to an approved water source in accordance with NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection* and the following:
 - (a) Any required automatic fire pump shall draw from two independent street water mains in different streets, except that: (1) any automatic fire pump serving a building classified in occupancy group R-2 that is fully protected by a system of automatic sprinklers may draw from a single water main; and (2) an automatic fire pump may draw from a single water main if augmented by a suction tank or tanks, and if the valves at the meter and pump are provided with tamper switches that are wired to an approved central station of an operating fire alarm company. Where two services are installed, one service from the street water main shall be run directly to the pump, and the other service may be used for domestic water supply. The connection from water to the mains to the pumps shall be at least six inch pipe size and shall be flushed before connection is made to the system. Connections shall be in accordance with the provisions of the *New York City Plumbing Code* and applicable referenced standards.
 - (b) In the event that two separate and distinct water mains are not available as a supply or the street mains cannot produce the required supply, there shall be provided a suction tank, or tanks suitably located and of sufficient capacity to furnish the fire pump with at least a one-half hour supply at the rated capacity of such pump. Suction tanks shall be filled by a six inch (152 mm) connection to the water main, controlled by an automatic ball float valve in the suction tank. A six inch (152 mm) bypass shall be provided so that pumps may be fed directly from the street water main.
- (c) When a water service supplies both the domestic service and the fire pump, a remote control valve shall be placed on the domestic service connection at the point where such connection is taken from the city supply or service main. Such remote control valve shall be controlled from a point near the pump control panel. In lieu of a remote control valve, a manually operated valve may be installed to shut off the entire domestic water supply to the building, provided such valve is located in the fire pump room and is properly tagged for identification.
 - (d) Power supply for standpipe fire pumps. The type of fire pump and prime mover used in a standpipe system shall be suitable for the required service in a standpipe system provided for Fire Department use. If the prime mover employs any form of power other than an electric current supplied by a public utility, the use thereof shall be subject to the approval of the commissioner. Electrical power to the motor shall be taken from the street side of the house service switch. Where an emergency secondary power source is required, fire pumps shall be supplied from such source and power supply shall be automatic switching.
 - (e) When the fire pump feeder conductors are routed through the building(s), they shall be enclosed by 2 in. (51 mm) of concrete or an approved assembly which has a minimum of 1-hour fire resistive rating.
 - (f) Fire pumps shall be placed on concrete pads at least 12 in. (305 mm) above the pump room floor with a clearance of at least 3 ft. (914 mm) maintained on all sides from walls or from other equipment in the pump room. In the event of the use of a vertical shaft centrifugal fire pump, the 12 in. (305 mm) high concrete pad may be omitted, provided the bottom of the electric driving motor and all electrical appurtenances are raised at least 12 in. (305 mm) above the pump room floor.
 - (g) Each automatic fire pump shall be equipped with a 3 in. (76 mm) National Pipe Thread pressure relief valve installed in the pump discharge. Such relief valve shall be set to relieve below the shut-off head of the pump, but above the pressure required to maintain the operating pressure at the highest hose valve. The discharge from the relief valve may be piped back into the suction side of the pump on the pump side of the suction valve provided a visual sight glass is installed in the discharge of the relief valve. Automatic fire pumps may be provided with a time delay switch to ensure a minimum running time for the pump.

- (h) The check valves in the pump discharge line shall be either swing type or spring loaded.
 - (i) Where a group of two or more buildings, whether connected or separated, are operated under a single ownership, one fire pump may be accepted as the water supply for the group. The pump shall be installed in the building where the maintenance personnel are located, and a metal sign with 1 inch (25 mm) lettering shall be installed in each building at all of the hose outlets on the entrance floor indicating the location of the fire pump.
- (3) Pressure tanks installed in accordance with NFPA 22, *Standard for Water Tanks for Private Fire Protection* and the following:
- (a) The water storage quantities required for the tanks are met with an additional volume equivalent to one-half of the required water storage space provided for the required air.
 - (b) An air compressor is provided with suitable automatic control and of sufficient capacity to build up air pressure of at least 75 psig (517 kPa) in the tank within three hours and to maintain thereafter an air pressure between 70 and 80 psig (482 to 552 kPa). The automatic control shall also maintain the proper air-to-water ratio in the pressure tank.
 - (c) Pressure tanks shall be supplied with water through a fixed pipe, independent of the standpipe riser and at least two inches (51 mm) in size. The water supply and connection shall be capable of supplying the tank at a rate of at least 75 gpm (5 L/s) without reducing the pressure in the tank. The tank shall have a fixed water level plate on the end opposite the gauge glass, or other equivalent indicating device.
 - (d) All pressure tanks used to provide the required primary water supply of a standpipe system shall be equipped with a high and low air pressure and a high and low water level electrical alarm system. Air-to-water ratio shall be 1 to 2 by volume and may be maintained by automatic electrical controls.
- (4) Gravity tanks installed in accordance with NFPA 22, *Standard for Water Tanks for Private Fire Protection* and the following:
- (a) Construction and support of tanks. Tanks for the standpipe system supply shall be constructed and supported in accordance with the provisions of Referenced Standard NFPA 22 and applicable provisions of the *New York City Building Code* for loads and structural work. Tanks with a total capacity of 15,000 gallons (56 775 L) or greater shall be multi-compartment type such that no compartment is larger than one half of the required standpipe water supply reserve plus the domestic water reserve in combination tanks. In the alternative, multiple tanks may be provided, provided that the above criteria are met.
 - (b) Combination tanks. Gravity tanks may be used to provide the required primary water supply to the standpipe system and may also be used to supply automatic sprinkler and/or domestic water in a building provided all the following conditions are met:
 - (1) The connections to the tank are made in such a manner as to provide the required sprinkler and/or fire standpipe reserve. The domestic supply is above the sprinkler and/or standpipe reserve. Where a standpipe riser is used to supply water to a combination sprinkler and standpipe system as permitted, the connection to the tank shall be made in such a manner as to provide the required sprinkler or standpipe reserve, whichever is greater.
 - (2) The connections to the system are made outside of the tank. When connections or piping are installed inside the tank, the piping shall be assembled without couplings and shall be of red brass or approved equivalent material in accordance with the *New York City Plumbing Code* and applicable referenced standards.
 - (3) The tank is filled by means of an automatic pump at a rate of not less than 65 gpm (4 L/s).
 - (c) Filling of tanks.
 - (1) Pressure or gravity tanks shall be filled at the rate of at least 65 gpm (4 L/s). Pipes used to fill the tanks shall not be used for any other purpose; nor shall required fire pumps be used for filling purposes.
 - (2) Where there is sufficient pressure in the city water main to fill tanks at the required rate during all hours of each day, and a filling pump is not provided, the connection to the city water supply shall be made near the point where the city water service enters the building.
 - (3) A combined fire standpipe reserve and domestic water tank shall only be filled by direct public water connection or separate fill pumps, or direct connection to equipment, or pumps used to supply domestic water systems in accordance with the *New York City Plumbing Code* and applicable referenced standards.
 - (d) Emergency drains on standpipe tanks. Each standpipe tank shall be provided with a drain of at least 4 in (102 mm) National Pipe Thread. Each drain pipe shall be controlled by a manually operated gate valve located so as to be readily accessible. The drain shall be installed in accordance

with the *New York City Plumbing Code* and applicable referenced standards.

- (e) Heating of standpipe tanks.
 - (1) Where the water in the tank is subject to freezing, the tank shall be equipped with a tank heater in accordance with the provisions of NFPA 22.
 - (2) Where the standpipe supply and domestic water supply are combined in a single tank, heating of such tank shall not be required in hotels, multiple dwellings, hospitals, or other occupancies where the domestic supply is drawn upon during all hours of every day of the week.
- (f) Strainer.
 - (1) Every standpipe gravity or suction tank shall be provided with a brass or bronze strainer at the discharge to risers or to pump supply lines.
 - (2) Each strainer shall have clear openings with an aggregate area equal to, or more than, the required area of the pipe into which the tank discharges. Openings shall be not more than 1 in. (25 mm) nor less than 1/2 in. (13 mm) in diameter.
- (g) Overflow pipe for standpipe tanks. Each gravity standpipe tank shall be provided with an overflow in accordance with the *New York City Plumbing Code* and applicable referenced standards.
- (h) Access to standpipe tanks. Access to the top of each gravity tank shall be by means of a steel, wrought iron or approved equivalent material gooseneck ladder, constructed of flat side bars at least 2 in. by 3/8 in. (51 by 10 mm), or equivalent, spaced at least 14 in. (7620 mm) apart, with round or square rungs at least 5/8 in. (16 mm) thick spaced not more than 12 in. (305 mm) on centers. The ladder shall be rigidly braced and shall not tip outward from the vertical at any point. When ladders exceed 25 ft. (610 mm) in height, body irons spaced not more than 2 ft. (610 mm) on center and a metal platform at least 14 in. (355 mm) square, rigidly secured to the stringers of the ladder or other type of enclosed safe access, shall be provided near the top of the tank.
- (i) Gravity tanks shall be equipped with a high and low water level electrical alarm system.
- (j) Where a group of two or more buildings, connected or separated, is operated under a single control, a single gravity tank may be accepted as the primary water supply for the several standpipe systems of such group, provided a dead riser is carried from the bottom of the tank to an underground header or cross connection system and provided each building unit has a post

indicator type control valve outside or an O.S. & Y. control valve inside the building at a readily accessible location. The underground cross connection may not cross any public street without the approval of the city departments having jurisdiction.

- (k) The bottom of the topmost zone gravity tanks shall be located above the highest hose outlet in the zone that such tank supplies, excepting the roof manifold and those hose outlets in a penthouse enclosing mechanical equipment. Pressures may be boosted by use of automatic special service or other fire pump(s) to provide the hose outlet pressures required by section 7.8.1.1 of this referenced standard. Tanks in intermediate zones may be sufficiently elevated to provide the pressures required by section 7.8.1.1 provided that they are also installed in accordance with sections 7.9.4.2 and 7.9.4.3.
 - (1) The special service pump, as required by this standard, may be located anywhere in the zone served, provided that an express piped suction supply is installed from the gravity tank(s) that supply such pump, and such pump is located at a lower elevation than the gravity tank. Special service pumps are to be installed in accordance with the requirements of sections 9.1.4 (2) - (d), (e), (f) and (h).

9.2 Add at end the following: except where manual standpipe systems are permitted in accordance with section 5.4.1.2, water supplies shall be provided in accordance with section 9.1.3 of this referenced standard.

Add Section **9.4 Minimum Supply for Group R-2 Occupancies**. The water supply servicing standpipe systems in Group R-2 occupancies shall not be less than 500 gpm (32 L/s), and the minimum stored water supply in any gravity tank or intermediate tank shall not be less than 15,000 gallons (56 775 L) per zone.

Chapter 10 – Water Supply Testing No changes.

Chapter 11 – System Acceptance

11.5.6 Delete.

11.5.6.1 Delete.

11.5.6.2 Delete.

Chapter 12 – Buildings Under Construction

12.1 Delete the words “Where required by the authority having jurisdiction”. Add at the end “or demolition. Provision shall be made for the use of such standpipe by the Fire Department when the height of building construction or demolition exceeds 75 feet.”

12.2 Delete and replace with the following: The standpipe shall be provided with a readily accessible siamese Fire Department connection at street level. The location of the siamese hose connection shall be placarded, kept free from obstruction, and identified by a red light.

12.3 Add the following:

Temporary risers shall be at least 4 inches in (102 mm) diameter for structures less than 450 feet high (137 160 mm) and at least 6 inches (152 mm) in diameter for structures 450 feet (137 160 mm) high or more. There shall be as many risers as will be, or were, required for the permanent system. Each such riser shall be connected to a cross connection that is supplied through siamese hose connections at the street level, and shall be equipped on each floor with a 2½ inch (64 mm) hose outlet valve. The installations shall be made so that each riser, cross connection, and branch line can be plugged or capped when work is not being done on the system.

12.8 Delete.

12.8.1 Delete.

12.8.2 Delete.

ANNEXES

The annexes are not a part of the requirements of this Referenced Standard but are included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs. In the event of any conflict between the Annexes and the body of the Referenced Standard, particularly where modifications have been made for New York City, the body of the Referenced Standard will govern.

Annex A - Explanatory Material

Delete Figures A.7.1(b) and A7.1(c).

A.7.3.2 Delete.

A.7.3.2.1 Delete.

A.7.3.2.2 Delete.

A.7.3.2.3 Delete.

Delete Figures A.7.3.2(a), (b) and (c).

Annex B - Informational References No changes.

SECTION BC Q106 INSTALLATION AND MAINTENANCE OF FIRE ALARM SYSTEMS

Q106.1 General. Fire alarm system installation, testing, and maintenance, where required by this code, shall be conducted and documented in accordance with NFPA 72, *National Fire Alarm Code*, 2002 edition, modified for New York City as follows. Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the *Administrative Code*.

2.1 Add at the end the following: Where a referenced publication has been modified for the City of New York by the *New York City Building Code* and the *New York City Fire Code*, every reference to such publication shall be deemed to include all such modifications.

4.3.2.1 Add after the words “who are” the following: “New York State registered Professional Engineers and”.

4.3.3 Add: “Fire alarm installations shall be performed by a New York City licensed electrical contractor.” to the beginning of the first sentence.

4.4.1.2 Delete “NFPA 70, *National Electrical Code*” and replace with the following: *New York City Electrical Code*.

4.4.1.3 Delete and replace with the following: **Power Supply Sources.** Refer to the *New York City Electrical Code* for requirements.

4.4.1.3.1 Delete.

4.4.1.3.2 Delete.

4.4.1.4.1 Delete and replace with the following: See *New York City Electrical Code* for requirements.

4.4.1.4.2.2 Delete the words “FIRE ALARM CIRCUIT” and replace with the following: “FIRE ALARM DISCONNECT” followed by lettering indicating specific fire alarm system served by floor, zone, or other acceptable nomenclature.”

4.4.1.5.1 Delete and replace with the following: See *New York City Electrical Code* for requirements.

4.4.1.5.3 Delete and replace with the following: See *New York City Electrical Code* for requirements.

4.4.1.6.3 Delete (A) and (B).

4.4.4.4 Delete and replace with the following: See *New York City Electrical Code* for requirements.

5.5.2.2 Delete the word “tenantless”.

5.6 Delete the words “other NFPA codes and standards or by the authority having jurisdictions” and replace with the following: the *New York City Building Code* and the *New York City Fire Code*.

5.12.4 Replace: “1.37 m (4½ feet)” with “1.22 m (4 feet)”.

5.14.4.2.1 Delete the words “other NFPA standards” and replace with the following: the *New York City Building Code*.

6.2.3.2 Delete the words “agency having jurisdiction” and replace with the following: *New York City Building Code* and the *New York City Fire Code*.

6.8.5.1.2 Delete Exception.

6.9.4.6 Delete Exception.

6.9.5.1 Replace: “agency having jurisdiction” with “Fire Commissioner”. Delete Exceptions 1 and 2.

6.9.5.2 Delete the words: “If required by the agency having jurisdiction”.

6.9.5.3 Delete.

6.9.5.4 Delete.

6.9.5.5 Delete.

6.9.5.6 Delete.

6.9.5.7 Delete the words: “If provided”.

6.9.5.8 Delete.

6.9.6.1 Delete the words “a building entrance” and replace with the following: the building entrance lobby. Delete the words “authority having jurisdiction” and replace with the following: Fire Department.

6.9.7.3 Delete the words “Where required”.

6.9.9.9 Delete the words “or jack” in both places used.

6.9.9.10 Delete “or jack”.

6.9.9.12 Delete “or jacks” in each use thereof. Delete the words: “if approved by the authority having jurisdiction,”.

6.9.9.13 Delete “or telephone jack”.

6.9.9.14 Delete.

6.13 Delete.

6.13.1 Delete.

6.13.2 Delete.

6.13.3 Delete.

6.13.4 Delete.

6.13.5 Delete.

6.15.2.6 Delete the words “NFPA 70, *National Electrical Code*, Article 760” and replace with the following: *New York City Electrical Code*.

6.15.3.3 Delete the words “authority having jurisdiction” and replace with the following: Fire Department and add the words “, sprinkler water-flow devices” following “detectors”.

6.15.3.4 Add the words “, sprinkler water-flow device” following “detectors”.

6.15.3.9 Delete the last sentence and replace with the following: Actuation of these detectors shall be required to actuate the system notification appliances. Delete the exception.

6.15.3.10 Delete and replace with the following: For each group of elevators within a building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within the group’s elevator machine room(s). The operation of the elevators shall be in accordance with the *New York City Building Code*. The smoke detectors or other automatic fire detection as permitted by section 6.15.3.7 shall actuate the elevator control circuits.

6.15.4.2 Add new text after the first sentence and before “Alternatively,” to read as follows: Upon activation of the heat detector used for elevator power shutdown, there shall be a delay in the activation of power shunt trip. This delay shall be the time it takes the elevator cab to travel from the top of the hoist-way to the lowest recall level.

6.15.4.3 Delete and replace with the following: Pressure or water-flow switches shall not be used to shut down elevator power.

6.15.5.3 Delete and reserve.

Add new Section **6.15.5.3.1** to read as follows:

Connections between fire alarm systems and the HVAC systems for the purpose of monitoring and control shall be arranged such that primary control (the control that all other controls are secondary or subservient to) capability rests with the fire alarm control unit(s) under all circumstances and in

addition shall operate and be monitored in accordance with the *New York City Building Code*.

Exception: Primary control of HVAC systems may rest with approved smoke control systems.

Add new Section **6.15.5.3.2** to read as follows:

Those HVAC fans or fan systems which have been automatically shut down by the activation of any fire alarm control unit or device shall be arranged and equipped not to automatically restart when the fire alarm control unit or device is resent. At least two manual means of restarting the fans or fan systems shall be required, such as manually resetting the fire alarm control unit or device and subsequently manually resetting the fan or fan system controls.

Add new Section **6.15.5.3.3** to read as follows:

Fans or fan systems that were automatically shut down by the fire alarm control unit or device in high rise fire alarm systems shall be manually enabled to start by means of overriding the fan shut down through the use of a city wide standard key switch (#2642) located at the Fire Command Center and/or Fire Fighters’ Smoke Control Station. The actual start of the fans shall be accomplished manually through HVAC controls at the Fire Command Center, Fire Fighters’ Smoke Control Station and locally at the fan rooms.

Add new Section **6.15.5.3.4** to read as follows:

Smoke Exhaust control means shall be enabled through the use of a city wide standard key (#2642) located at the Fire Command Center, Fire Fighters’ Smoke Control Station, fire alarm control unit or, in the entrance lobby of the building adjacent to the fire alarm remote annunciator, when provided.

6.15.6.2 Delete the Exception.

6.15.7.2 In the Exception, delete the words “authority having jurisdiction or other codes” and replace with the following: *New York City Building Code*.

Chapter 10 Delete all of Chapter 10, except 10.1.1 with modifications.

10.1.1 Delete “,their initiating devices, and notification, appliances shall comply with the requirements of this chapter” and add at the end of the sentence “shall comply with the *New York City Fire Code*”.

11.1.2 Delete.

11.1.5 Delete.

11.5 Delete and replace with the following: **Detection and Notification.** Smoke Alarm detection and notification requirements shall be in accordance with Section 907 of the *New York City Building Code*.

11.5.1 through **11.5.12:** Delete all sections and subsections.

11.8.5 Delete the words: “NFPA 70, *National Electrical Code*, Article 760” and replace with the following: *New York City Building Code* and the *New York City Electrical Code*.

