## SUBCHAPTER 17
## FIRE ALARM, DETECTION AND EXTINGUISHING EQUIPMENT

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## ARTICLE 1 GENERAL

**§[1700.1] 27-923 Scope**.-The provisions of this subchapter shall establish and control the minimum requirements for the design and installation of standpipe, sprinkler, fire alarm, and fire detection systems except for fire alarm systems in factory and mercantile buildings and where specific exemption is made in this code. Alterations or additions to existing systems shall comply with the requirements of this subchapter regardless of magnitude or cost.

**§[1700.2] 27-924 Standards**.-The provisions of reference standard RS-17 shall be part of this subchapter.

**§[1700.3] 27-925 Definitions**.-For definitions to be used in the interpretation of this subchapter, see subchapter two of this chapter.

**§[1700.4] 27-926 Plans**.-For the requirements governing the filing of plans and the work to be shown on plans, see subchapter one of this chapter.

**§[1700.5] 27-927 Permits**.- For the requirements governing equipment work permits, equipment use permits, see subchapter one of this chapter.

**§[1700.6] 27-928 General requirements**.-All systems of standpipes, sprinklers, fire alarms, and fire detectors and all component devices thereof, as required by this subchapter specifically and by subchapters four, five, seven and eight of this chapter shall be installed in accordance with the provisions of this subchapter.

**§[1700.7] *27-929 Retroactive requirements**.-The provisions of this subchapter shall apply retroactively for the specific occupancies indicated in subdivisions (j) and (s) of section 27-954 and paragraph ten of subdivision (a) of section 27-968 of this subchapter. An application noting compliance shall be required to be filed on or before April thirteenth, nineteen hundred seventy-nine; and installation shall be required on or before January thirteenth, nineteen hundred eighty, except as otherwise provided in this code.
***Local Law 16-1987.***

(a) The provisions of this article shall apply retroactively for the specific occupancies and spaces indicated in subdivisions (v), (w), and (y) of section 27-954 and subdivision (j) of section 27-972. Installation of all systems required by these sections shall be completed on or before April first, nineteen hundred eighty-seven.

*(b) Notwithstanding the provisions in subdivision a of this section, an application for a permit and approval of plans for the installation of fire alarm and signal systems as required under the provisions of article five of this subchapter in buildings classified in occupancy group J-1 shall be filed with the department on or before June thirtieth, nineteen hundred eighty-seven and such installation shall be completed on or before December thirty-first, nineteen hundred eighty-seven.

*(c) Notwithstanding any other provision of this subchapter, the requirement to install a system of automatic sprinklers shall apply retroactively to any space in a basement, cellar or other location below grade subject to the provisions of subdivision aa of section 27-954 of this code. Installation of such system of automatic spriklers shall be completed on or before April thirtienth, two thousand four.
***Local Law 16-1987.***

****§27-929.1 Retroactive requirements for office buildings one hundred feet or more in height.- (a) General requirements.- (1) Notwithstanding any other provision of this subchapter,** all office buildings one hundred feet or more in height and buildings classified in occupancy group E one hundred feet or more in height in existence on the effective date of this subdivision shall have a full system of automatic sprinklers installed in accordance with this subchapter. Reports relating to the installation of such sprinkler systems shall be filed in accordance with subdivision (b) of section 27-228.5 of this code and installation of such sprinkler systems shall be completed on or before July 1, 2019 or, if applicable, on or before a date specified by the commissioner pursuant to paragraph (2) of subdivision (b) of section 27-228.5 of this code.
**(2) Exception.-** Where an owner of a building or portion thereof subject to such retroactive requirement demonstrates to the satisfaction of the commissioner that the installation of sprinklers in a particular, limited portion of such building is not practicable, either due to structural conditions or because of designation as an interior landmark by the New York city landmarks preservation commission, the commissioner may waive such limited portions from the requirements of this section but may require additional fire safety measures to protect the health, safety and welfare of the public.
**(3) Application to buildings with a full system of automatic sprinklers.-** The provisions of this subdivision shall not apply to buildings in existence on the October 22, 2004 in which a full system of automatic sprinklers was installed or required to be installed pursuant to any other provision of law. Nothing in this subdivision shall be construed to limit the applicability of any other provision of this code requiring sprinklers in the buildings referred to herein.

**(b) Converted buildings.-** Notwithstanding the foregoing provisions, on and after October 22, 2004, no building

one hundred feet or more in height shall be converted to an office building or to a building classified in occupancy group E, whether or not application for such conversion is required to be filed with the department, unless a full system of automatic sprinklers is installed in such building in accordance with this subchapter prior to such conversion.

****Local Law 26-2004.***

## ARTICLE 2 EXISTING BUILDINGS-FIRE EXTINGUISHING EQUIPMENT

**§[1701.1] 27-930 Existing standpipes**.-Standpipe systems existing on December sixth, nineteen hundred sixty-eight, shall not be required to be altered to conform to the provisions of this subchapter, except as follows:

**(a) The existing installation shall meet the following minimum requirements:**

(1) WATER SUPPLIES.-There shall be a reserve of at least two thousand five hundred gallons of water in a gravity or pressure tank for exclusive use of the standpipe; or there shall be a direct connection to a city main meeting the requirements of section 27-945 of article three of this subchapter.

(2) GRAVITY TANKS.-The gravity tank or tanks shall be filled by direct city water connection or by an automatic fill pump at a rate of at least forty-five gpm; and the bottom of the tank shall be located at least eleven feet six inches above the highest hose outlet under the main roof.

(3) HOSE AND HOSE VALVES.-Hose and hose valves shall be in good serviceable condition. Hose valve wheel handles shall be within six feet six inches of the floors or stair landings or the wheel handle may be within two feet horizontally from a stair tread and no more than six feet six inches vertically above the tread. Such hose may be omitted from hose racks in existing buildings in occupancy group J-2 provided that the provisions of paragraph five of subdivision (c) of section 27-942 of article three of this subchapter are complied with.

(4) FIRE DEPARTMENT CONNECTIONS.-
There shall be a three inch by three inch siamese hose connection with approved caps, painted red. The word "Standpipe" shall be cast in the body of the siamese connection or on metal plates that are secured to the riser or to the face of the building behind the siamese connection.

(5) NOZZLES.-A five-eighths inch smooth bore nozzle with two and one-half inch hose shall be provided where the hydrostatic pressure at the hose valve is less than ten psig.

(6) PROTECTION FROM FREEZING.-All parts

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of the standpipe system that are exposed to freezing shall be protected in accordance with the requirements of subdivision (a) of section 27-949 of article three of this subchapter.

(7) PRESSURE REDUCING VALVES.-Pressure reducing valves shall be provided as required by section 27-944 of article three of this subchapter.

(8) DRIP VALVES.-Drip valves shall be provided between the siamese connection and the check valve.

(b) When the building requires additional standpipe protection because of extension in height or in area, or the occupancy is changed to a use requiring additional protection, the new or altered part of the system shall comply with this subchapter.

**§[1701.2] 27-931 Existing Sprinklers**.-

**(a) Required sprinklers**.-Sprinkler systems and devices existing on December sixth, nineteen hundred sixty-eight shall not be required to be altered to conform to the provisions of this subchapter, except that when additional protection is required for a change in occupancy or for a building addition, the new or altered part of the system shall comply with this subchapter. Sprinklers in any extension or alteration shall be connected to, or extended from, the existing system or a separate water supply as provided in section 27-962 of article four of this subchapter. Additional heads shall not be connected to existing undersized piping.

**(b) Voluntary sprinklers**.-Sprinkler systems and devices existing on December sixth, nineteen hundred sixty-eight, but which are not required by this code, need not conform to the provisions of this subchapter, except that when a siamese hose connection is installed in the system, the siamese connection shall be installed and the entire system pressure tested as required by this subchapter.

## ARTICLE 3 STANDPIPE REQUIREMENTS

**§[1702.1] 27-932 When required**.-

(a) Wet standpipe systems shall be installed:

(1) In all buildings or portions thereof exceeding six stories or seventy-five feet in height, except that open parking structures shall not require installation of a wet standpipe system unless they exceed ten parking levels or seventy-five feet in height.

(2) In all portions of buildings two or more stories in height that have a floor area of ten thousand square feet or more on any floor.

(b) Where standpipes are required by the height and area limitations of (a) of this section, a non-automatic or automatic dry standpipe system may be installed in lieu of the wet standpipe in all buildings classified in occupancy group G not over six stories or seventy-five feet in height. A dry standpipe system shall be installed in all open parking structures which exceed three parking levels and contain not more than ten parking levels.

(c) A standpipe system shall be installed in all buildings exceeding three stories in height that have an area exceeding seven thousand five hundred square feet on any floor and where a standpipe system is not otherwise required by the provisions of this subchapter. A non-automatic or automatic dry system may be used in lieu of the wet standpipe.

(d) The following buildings shall be exempt from the provisions of subdivisions (a), (b) and (c) of this section:

(1) Buildings classified in occupancy groups F, G, H, and J that do not exceed two stories or thirty feet in height and an area of twenty thousand square feet on any floor and are provided with hand or portable fire extinguishers as required by the fire department.

(2) Buildings classified in occupancy groups E, F, G, H, and J that require a wet standpipe as provided in paragraph two of subdivision (a) and subdivision (c) of this section but not exceeding six stories or seventy-five feet in height and that are equipped throughout with an automatic wet or dry sprinkler system connected to a central supervisory station, and such system complies with the provision of this subchapter.

**§[1702.2] 27-933 Yard hydrant systems required**.-Outdoor amusement and exhibition places, oil storage plants, lumber yards, trailer camps, industrial parks, and similar occupancies shall have yard hydrants installed so that the entire area may be reached by two hundred fifty feet of hose from a yard hydrant or a street hydrant. Single hydrant connection shall be at least in six inch I.P.S. Such hydrants shall be directly connected with city water main or private water main, or supplied from gravity tanks or pressure tanks, as provided in this subchapter.

(a) Where the area of such enclosure is more than forty thousand square feet and where the available city water service is less than that specified in paragraph one of subdivision (b) of section 27-945 of this article, the yard hydrant system shall be supplied as follows:

(1) A gravity tank of at least fifty thousand gallon capacity shall be provided and elevated so that the bottom of the tank is at least seventy-five feet above the highest grade elevation and at least twenty-five feet above the highest building in the area supplied by this tank.

(2) In lieu of paragraph one of this subdivision, there shall be provided a manual fire pump with a capacity of at least one thousand gpm, and a suction tank of at least fifty thousand gallon capacity. The suction tank shall be supplied through a six inch connection to the city water main controlled by an automatic ball float valve in the suction tank. A bypass shall be provided so that the pump may be fed directly from the city water main.

(3) The pump shall be located in a pump house at the street main side of the area or enclosure.

(4) Suction from a river or well may be permitted by the commissioner if the required quantity of reasonably clean fresh water may be obtained thereby, subject to the approvals of such other authorities as may have jurisdiction over the primary source of supply.

(b) The maximum distance between hydrants shall be two hundred fifty feet. At each yard hydrant, two hundred fifty feet of rubber lined hose, with a smooth bore of one and one-eighth inch approved play-pipe, shall be placed in a hose house painted red, and the words "Fire Hose" in six inch white letters shall be painted on the door.

(c) The approval of the fire department shall be obtained for location of any monitor nozzles that may be required in addition to yard hydrants. Not more than one monitor nozzle with remote control will be required for each forty thousand square feet of area or fraction thereof unless, in the fire department's opinion, an unusual hazard exists.

(d) Standpipes and sprinkler systems may be connected to a yard hydrant system in accordance with the requirements of this subchapter.

(e) Yard hydrant systems connected to city water mains shall be provided with post indicator valves located in an accessible position. Post indicator valves shall be locked open and be painted red.

(f) Fire extinguishing equipment, in addition to that prescribed by this section, shall be provided in accordance with requirements of chapter four of this title for oil storage plants, oil refineries, and other plants deemed by the fire commissioner to present unusual fire hazards, and also in rooms or spaces housing electrical equipment when such fire extinguishing equipment is deemed necessary.

**§[1702.3] 27-934 Standpipe systems in structures being erected or demolished**.-

(a) During construction or demolition of any structure for which a standpipe system is required, provision shall be made for the use of such standpipe by the fire department in accordance with the provisions of section 27-1014 of article one of subchapter nineteen and this subchapter.

(b) Temporary risers shall be at least four inches in diameter for structures less than four hundred fifty feet high and at least six inches in diameter for structures four hundred fifty feet 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 two and one-half inch 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. The location of the siamese hose connection shall be placarded, kept free from obstruction, and identified by a red light.

**§[1702.4] 27-935 Number of standpipe risers required**.- The number of standpipe risers shall be such that every point of every floor can be reached by a twenty foot stream from a nozzle attached to not more than one hundred twenty-five feet of hose connected to a riser outlet valve.

**§[1702.5] 27-936 Location of standpipe risers**.-

(a) Standpipe risers and two and one-half inch angle hose valves shall be located within stairway enclosures. For additional requirements see section 27-343 of article five of subchapter five and subdivision (j) of section 27-375 of article five of subchapter six of this chapter. When stairway enclosures are not available within the distance limitations of section 27-935 of this article, the standpipe risers and two and one-half inch angle hose valves shall be located as near to the enclosure as practicable, subject to the approval of the commissioner. A metal sign with one inch lettering indicating the location of the outlet shall be provided in the stair enclosure on each floor where the riser is not located in the enclosure.

(b) No standpipe riser shall be placed in any shaft containing a gas or fuel pipeline.

**§[1702.6] 27-937 Omission of standpipe service**.-

(a) Standpipe outlets may be omitted in portions of first floors or basements that are completely separated from the entrance hall or enclosed stairways leading to the upper floors, provided portable fire extinguishers are installed, subject to the approval of the commissioner.

(b) Standpipe protection shall be omitted from transformer vaults, high-tension switchboard rooms, and other locations where the use of hose streams would be hazardous. Any space or room that houses equipment of such nature that the use of water would be ineffective in fighting the fire, or would be hazardous, shall have a conspicuous metal sign on each door opening on such space or room stating the nature of the use and the warning: "Use Npo Water."

**§[1702.7] 27-938 Size of standpipe risers**.-The size of standpipe risers shall be in accordance with Table 17-1.

**TABLE 17-1 SIZE OF STANDPIPE RISERS**

| Height[1] | Minimum Riser Size Required (I.P.S.) |
|---|---|
| 150 ft. or less…….. | 4 in. |
| Greater than 150 ft…….. | 6 in. |

**Note for Table 17-1:**

[1] The height shall be that of the individual riser to the highest hose outlet (not including manifold outlets) from the level of the entrance floor at street level at which the riser begins.

**§[1702.8] 27-939 Devices used in system**.-No device, valve, pipe, or fitting may be used in a standpipe system unless such device, valve, pipe, or fitting has been accepted or approved in accordance with the provisions of section 27-135 of article eight of subchapter one of this chapter.

**§[1702.9] 27-940 Siamese connections required**.-Siamese connections shall be provided as follows:

(a) One siamese connection shall be provided for each three hundred feet 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 three hundred feet 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 three hundred feet only one siamese connection need be installed provided the siamese connection is located within fifteen feet of the corner and on the longer street.

(d) Where a building faces on three streets or public spaces, one siamese connection shall be provided for each three hundred feet 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 three hundred feet.

(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 fifteen feet of the corner and on the longer street or public space, and if the distances between siamese connections, in all cases, does not exceed three hundred feet.

(f) In any case where the exterior building walls of a building facing a street or public space is 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.

**§[1702.10] 27-941 Cross connections**.-

(a) 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.

(b) Standpipe systems in buildings required by the provisions of section 27-943 of this article 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 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.

(c) 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.

(d) 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 four inch risers, the cross connection shall not be less than five inches. The cross connection shall not be less than six inches for all other riser combinations.

(e) Where there is no cellar, cross connections may be hung from the ceiling of the lowest story.

(f) Each siamese connection shall be connected to a riser or to a cross connection connecting other siamese hose connections or risers. The pipe from the siamese connection to the riser or cross connection shall be five inch I.P.S., except that a four inch pipe shall be sufficient when such pipe supplies a single four inch riser system. The pipe from the siamese connection shall be run as directly as practicable to the riser or cross connection.

**§[1702.11] 27-942 Hose stations**.-

**(a) Hose outlet valves**.-

(1) At the riser on each floor served by the riser and on the entrance floor above the riser control valve, a two and one-half inch hose outlet valve shall be provided for fire department use. Such hose outlet valve shall be readily accessible from a stairway landing or from a floor, and shall be located between five feet and six feet above the landing or floor.

(2) At the top of the highest riser, there shall be provided above the main roof level, a three-way manifold equipped with three two and one-half inch hose valves with hose valve caps. Where the manifold is located other than within a heated stair enclosure or bulkhead, the control valve shall be located in a horizontal run of piping below the roof.

**(b) Location**.-Hose stations shall be located at the standpipe risers located either within a stair enclosure or adjacent to the entrance to such enclosure as provided in section 27-936 of this article. When the

hose station is located outside the stair enclosure and the riser is within the stair enclosure, it shall be known as and referred to as "Auxiliary Hose Station."

(1) Hose stations shall be located so that every point in the floor area served by the hose station is within twenty feet of the end of the hose nozzle with the hose in its extended position. The maximum length of hose that shall be permitted at any hose station is one hundred twenty-five feet.

**(c) Size, type and quality of hose**.-Hose shall be provided on hose racks at each hose station as follows:

(1) Hose shall be one and one-half inch "flax-line" unlined linen hose or equivalent, factory coupled, in occupancy groups C, E, F, G, H, and J.

(2) Hose shall be two and one-half inch cotton rubber-line, or rubber hose or equivalent, factory coupled, in occupancy group A.

(3) Hose shall be two and one-half inch "flax-line" unlined linen hose or equivalent, factory coupled, for occupancy groups other than those in paragraphs one and two of this subdivision.

(4) Hose for auxiliary hose stations shall be one and one-half inch "flax-line" unlined hose or equivalent.

(5) Hose lines shall be made up of fifty foot factory coupled hose except that required hose lengths of less than fifty feet shall be in one section of the required length. Only one length less than fifty feet will be permitted where hose length is not of equal fifty foot increments, and no length shall be less than twenty-five feet.

(6) Hose may be omitted from hose racks in occupancy groups J-1 and J-2 whenever at least three open nozzles, two one and one-half inch, and two two and one-half inch spanner wrenches, two two and one-half by one and one-half inch non-swivel reducing couplings and three hundred seventy-five feet of one and one-half inch hose are stored and maintained in a locked cabinet located on the main entrance floor in a location near the standpipe riser enclosure subject to the approval of the commissioner, and hose valves are capped with a hose valve cap fastened to the valve with a chain. The person responsible for the maintenance of the standpipe system shall maintain on the premises a key for unlocking the storage cabinet. The key shall be kept in a location where it is readily available to authorized persons, but not available to the general public. A sign shall be placed on the storage cabinet indicating the location of the key. An additional labelled key shall be kept in a locked receptacle near the storage cabinet openable by a fire department standard key. Such receptacle shall be marked "For Fire Department Use Only." A metal sign shall be placed in each stair enclosure on the main entrance floor stating clearly where the storage cabinet is located.

(7) Hose may be omitted from hose racks for non-automatic dry standpipe systems provided that the hose outlet valves are capped with hose valve caps which are chained to the valves.

**(d) Auxiliary hose stations**.-

(1) Auxiliary hose stations may be installed in those occupancies where one and one-half inch hose is permitted as specified in subdivision (c) of this section.

(2) When auxiliary hose stations are installed, the required two and one-half inch hose valve at the riser shall be installed and the valve shall be equipped with a cap fastened to the valve with a chain.

**§[1702.12] 27-943 Maximum pressures**.-The standpipe system shall be zoned by the use of gravity tanks, automatic fire pumps, pressure tanks, and street pressure so that the maximum pressure at the inlet of any hose valve in the zone does not exceed one hundred sixty psig.

**§[1702.13] 27-944 Pressure reducing valves**.-

(a) When the normal hydrostatic pressure at a two and one-half inch hose outlet valve exceeds fifty-five psig, each valve shall be equipped with an adjustable type pressure reducer so that the pressure on the down-stream side will not exceed fifty psig when the discharge is at the rate of two hundred gpm from a one inch orifice nozzle attached to one hundred feet of two and one-half inch unlined hose.

(b) At one and one-half inch hose stations, an adjustable type of pressure reducer shall be provided on each hose outlet valve where the hydrostatic pressure exceeds eighty-five psig and shall be so adjusted that the pressure on the downstream side will not exceed eighty psig when seventy gpm is discharged from a one-half inch orifice nozzle attached to the length of hose to be provided at the hose station.

(c) The pressure reducing valve shall be permanently marked with the address of the premises in which it is installed and with the floor location and the setting for the location at which it is to be used.

**§[1702.14] 27-945 Water supply for standpipe systems**.-

**(a) Primary water supply for standpipe systems**.-Every standpipe system except nonautomatic dry standpipe systems shall have a primary water supply available at all times at every hose outlet, or made available automatically when the hose valve at any outlet is opened. Such primary water supply may be from one or more gravity tanks, from a pressure tank or tanks, from a direct connection to a city water main, from a connection to a private water main, or from an automatic fire pump.

**(b) Method of providing water supply for standpipe systems**.-Combinations of two or more of the following methods shall be used; in using such

combinations, the siamese connections shall be considered as a source of supply.

(1) Direct connections of standpipes to the city water system provided one of the following conditions is met:

a. A statement furnished by the bureau of water supply of the department of environmental protection indicates a pressure in the street main that is capable of maintaining a static pressure of at least fifteen psig. at the highest hose outlet between the hours of eight a.m. and five p.m. on a normal working day when a street level fire hydrant within two hundred fifty feet of the building is supplied from the same street main and is discharging at least five hundred gpm through a two and one-half inch hydrant butt.

b. For buildings forty feet or less in height with an area of not more than twenty thousand square feet per floor, there is a four inch direct connection to the street main that is fed two ways or there is a four inch direct connection to each of two street mains on two street fronts so installed that shutting off one service will not interfere with the supply of the other, and there is sufficient pressure in the street main to maintain a minimum static pressure of twenty-five psig. at the highest required hose outlet and the department of environmental protection states that the required street pressure is available.

(2) A private yard main when meeting the conditions of a direct water connection to the city water system.

(3) Gravity tanks provided:

a. The minimum quantity of water reserved for standpipe service is thirty-five hundred gallons in each standpipe zone.

b. The bottom of the tank shall be at least twenty-five feet above the highest hose outlet that such tank supplies, (except the roof manifold) and those hose outlets in a penthouse enclosing mechanical equipment, except as otherwise provided in subparagraph e of this paragraph.

c. Each zone of the standpipe system having three risers or more shall have a total fire reserve capacity of five thousand gallons or more from one or more gravity tanks for each zone.

d. Where a group of two or more buildings, connected or separated, is operated under a single control, a single gravity tank having a fire reserve capacity of at least five thousand gallons 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. and 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.

e. Usable [*sic*] storage or office space on penthouse floors shall be provided with a riser outlet valve within the distances stated in section 27-935 of this article. In lieu of elevating the bottom of the gravity tank twenty-five feet above these outlets, an automatic fire pump with local supervisory alarms may be installed. The pump shall be capable of delivering two hundred fifty gpm. at a pressure of twenty-five psig. above the normal static pressure at the highest outlet supplied by the pump. The pump shall take suction from the gravity tank and be so arranged as to permit the siamese connection and any required manual fire pump to supply these outlets. No more than three stories of any penthouse or of penthouse and building stories combined, may be supplied by this method.

(4) Pressure tanks shall be acceptable as the primary supply to the system provided all of the following conditions are met:

a. A pressure tank, or tanks, so proportioned and located that a pressure of at least fifteen psig will be available at the nozzle of the highest required hose station, exclusive of roof outlets, when all the water has been discharged from the pressure tank.

b. The storage quantities stated for gravity tanks in subparagraphs a, c, and d of paragraph three of this subdivision are met and an additional volume equivalent to one-half of the required water storage space is provided for the required air.

c. An air compressor is provided with suitable automatic control and of sufficient capacity to build up air pressure of at least seventy-five psig. in the tank within three hours and to maintain thereafter an air pressure between seventy and eighty psig. The automatic control shall also maintain the proper air-to-water ratio in the pressure tank.

d. Pressure tanks shall be supplied with water through a fixed pipe, independent of the standpipe riser and at least two inches in size. The water supply and connection shall be capable of supplying the tank at a rate of at least sixty-five gpm 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.

(5) An automatic fire pump shall be acceptable as the primary supply to the system provided:

a. The building is three hundred feet high or less, or if the building is higher than three hundred feet, the automatic fire pump is used only for the lower three hundred feet. The zones above three hundred feet shall be supplied by either a gravity tank conforming to paragraph three of subdivision (b) of this section or a pressure tank conforming to paragraph four of

subdivision (b) of this section and in addition shall be supplied by the manual fire pump required by section 27-946 of this article.

b. The automatic fire pump supplying the system or section has a capacity of at least five hundred gpm with a discharge pressure of at least twenty-five but not exceeding seventy psig (above the normal) static pressure at the highest hose outlet within the zone supplied by the pump plus the frictional resistance from the pump to the outlet at a flow of five hundred gpm.

c. The electrical power to the pump is connected to the street side of the building service switch.

**(c) High and low risers and cross connections in standpipe systems.-**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 and from every manually operated fire pump located at or below the street level.

**(d) Use of standpipe riser for sprinkler system water supply.-**Standpipe risers may be used to supply water to sprinklers in buildings classified in occupancy group E, one hundred feet or more in height, and in existing office buildings, one hundred feet or more in height, in accordance with applicable provisions of this subchapter and reference standards RS 17-1 and RS 17-2.

**§[1702.15] 27-946 Fire pumps**.-

**(a) Additional water supply.-**Additional water supply shall be provided for standpipes in buildings over three hundred feet high. The primary water supply to the standpipe system shall be supplemented by one or more manually operated fire pumps as follows:

(1) Standpipe systems in buildings more than three hundred feet high shall have at least one seven hundred fifty gpm pump or two five hundred gpm pumps. Pumps shall be capable of delivering their rated capacity at a pressure of fifty psig above the normal static pressure determined from the highest hose outlet (except the roof manifold) in the building plus the frictional resistance through the pipe from the pump to the outlet.

(2) Where a group of two or more buildings, whether connected or separated, are operated under a single ownership and one or more buildings exceed three hundred feet in height, one fire pump shall be accepted as the supplemental supply for the group. The pump shall be installed in the building where the maintenance personnel are located, and a metal sign with one inch lettering shall be installed in each building at all of the hose outlets on the entrance floor indicating the location of the fire pump.

**(b) Standpipe pump rooms and location**.-

(1) Fire pumps shall be installed at the entrance floor level or below, in rooms enclosed by noncombustible construction having a two hour fire-resistance rating and that are adequately heated, ventilated, lighted, and drained. The pump room shall have access to the street level by a direct opening to a street or a court, or by a passageway or stairway having a fire-resistance rating of at least two hours.

(2) No person shall install other machinery or mechanical equipment in a fire pump room, unless the building is of construction class IA, IB, or IC.

**(3) No person shall place or install any equipment containing a refrigerant classified in groups A1, A2, A3, B1, B2 or B3 in subchapter thirteen of this chapter, or place or install gas piping or gas consuming devices or any other equipment within any space housing a fire pump that would create a hazardous condition.

(c) 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.

(d) Combined use of fire pumps for standpipe and automatic sprinkler systems.-A fire pump that furnishes the required auxiliary water supply either to a standpipe system or to an automatic sprinkler system shall be accepted as furnishing the corresponding water supply to the other system if such pump is in the same premises, provided that in every such case of combined use, suitable relief and shutoff valves shall be installed so as to prevent the water pressure on the automatic sprinkler system resulting from any required operation of the pump for the standpipe system from becoming greater than one hundred seventy-five psig.

****Local Law 32-2004.***

**§[1702.16] *27-947 Direct connections of standpipes to the public water system**.-

**(a) Control valve.-**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 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 one inch lettering shall be located on the exterior building wall indicating the use and location of the valve.

**(b) Water supply to standpipe fire pumps**.-

(1) Any required manual or automatic fire pump shall draw from two independent street water mains in different streets, except that: (i) any manual or automatic fire pump serving a building classified in occupancy group J-2 that is fully protected by a system of automatic sprinklers may draw from a single water main; and (ii) 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 subchapter sixteen of this chapter.

(2) 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 connection to the water main, controlled by an automatic ball float valve in the suction tank. A six inch bypass shall be provided so that pumps may be fed directly from the street water main.

(3) When a water service supplies both the domestic service and the manual 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.

**Local Law 10-1999.*

**§[1702.17] 27-948 Installation of private fire hydrants**.-

(a) When buildings are not required to be provided with a standpipe system, at least one entrance to the building shall be located within two hundred fifty feet of a street hydrant; or, a private hydrant of the same type as the city hydrant connected to the street water main shall be provided within two hundred fifty feet of entrance. The private hydrant shall be supplied by at least an eight inch pipe, and the domestic water supply may be connected to this private supply provided a shut-off valve is installed in a curb box in the domestic supply within six feet of the hydrant shutoff valve.

**§[1702.18] 27-949 Protection of standpipe system**.-

(a) 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 seventy to seventy-five degrees F. Insulation shall be protected to prevent water infiltration, and when exposed to the weather the insulation shall be covered with a forty-five pound roofing felt jacket or equivalent.

(2) Steam or electric tracers may be used in conjunction with the insulation.

(b) Tanks subject to freezing temperatures shall be protected.

**§[1702.19] 27-950 Standards for installation**.- Details for installation, components, sizing valves, fittings, protection against freezing, etc., for standpipe systems and related equipment shall be in accordance with reference standard RS 17-1.

**§[1702.20] 27-951 Inspections and tests**.-

**(a) Inspections**.-Every new system and every part of an existing system that is altered, extended, renovated, or repaired, except for ordinary repairs, shall comply with the applicable requirements of this subchapter.

**(b) Notification**.-Advance notification of tests and inspections required by this section shall be given to the commissioner.

**(c) Representation at test**.-Tests required by this section shall be conducted in the presence of the commissioner or his or her authorized representative, or in lieu thereof, the commissioner may accept a signed statement of an architect or engineer, whose name is submitted with the notification in subdivision (b) of this section, declaring that he or she has witnessed the tests and that the standpipe system meets the requirements of this code. If a representative of the commissioner does not appear within two days after receipt of such report by the commissioner, the report shall be deemed to be accepted by the commissioner.

**(d) Testing equipment required**.-All equipment, material, and labor required for testing a system or part thereof shall be furnished by, and at the expense of, the person responsible for installing the work.

**(e) Testing of system**.-Systems may be tested in sections, or parts, in accordance with the requirements of this subchapter.

**(f) Acceptance**.-Before the acceptance of such system, each system shall be subjected to the tests required by this section.

**(g) Standpipe system tests**.-

(1) PRESSURE TESTS.-

a. The test shall demonstrate that the system will sustain a hydrostatic pressure of at least one hundred psig, and at least three hundred psig at the siamese connection, for a period of at least one hour at the topmost hose outlet and at the lowest fire pump supply connection to the system. In buildings not exceeding three stories or forty feet in height, the test pressures need not be more than fifty psig. in excess of the normal hydrostatic pressures at the topmost hose outlet, and this pressure must be maintained for a period of at least one hour.

b. Pressure tanks shall be tested to demonstrate that they will sustain a hydrostatic pressure of at least one hundred fifty percent of the normal maximum required operating pressure for a period of at least one hour.

(2) FLOW TEST.-The system shall be flow tested to determine that water is available at the top outlet of each riser, the lowest outlet in each riser, and through each siamese connection. The system shall be flushed to remove all foreign matter from the system. Flow shall be through at least a two and one-half inch hose without nozzle at each one of the above mentioned locations at separate times.

(3) ALTERATION TESTS.-When alterations, additions, or repairs are made to a standpipe system, the entire system shall be subjected to a hydrostatic test pressure of at least fifty psig at the highest hose outlet, and in addition, a flow test shall be made as stated in paragraph two of this subdivision through the new or altered portion of the system.

**(h) Pump tests**.-

(1) Fire pumps shall be tested at the factory, and a certified test curve shall be furnished with each pump.

(2) Pumps shall be tested after installation to ascertain that the pump is supplying its rated capacity at the highest required hose outlet or through the roof manifold. The test shall be performed as follows:

a. At least fifty feet of approved two and one-half inch rubber lined hose equipped with a one and one-eighth inch nozzle shall be connected to the highest two and one-half inch hose outlet valve. One of these assemblies shall be connected in parallel for each two hundred fifty gpm of rated pump capacity.

b. The nozzle or nozzles of the hose assembly shall discharge at, or above, the highest required hose outlet or through a manifold.

c. Pilot tube gauge readings shall be taken at each nozzle to determine that the required pump capacity is being discharged.

d. For manually operated fire pumps, the suction and discharge pressures shall be recorded for each step or pump speed. The pump rpm electrical current, and voltage readings shall be recorded with the specific discharge pressure for each supply condition.

e. Automatic fire pumps shall be tested to ascertain that all of the automatic controls are in good working order.

f. All of the above readings shall be noted on the required standpipe diagram or a framed chart, which shall be mounted in a visible location near the pump control panel.

g. When pumps are supplied by two independent services, the test shall be conducted from each service independent of the other and, in addition, with both services supplying the pump.

**(i) Test equipment for fire pumps**.-

(1) For every fire pump installation, there shall be provided for test purposes at least three fifty foot lengths of approved two and one-half inch rubber lined fire hose. Hose shall be hung in the pump room or other convenient location.

(2) Three two and one-half inch by one and one-eighth inch nozzles, three spanner wrenches, and twelve washers shall be stored with the required hose.

**§[1702.21] 27-952 Standpipe signal systems**.-
Standpipe signal systems shall be provided in accordance with section 27-974 of article five of this subchapter.

**§[1702.22] 27-953 Elevators for fire department use**.-
Elevators for fire department use shall be provided as required by section 27-989 of article one of subchapter eighteen.

## ARTICLE 4 AUTOMATIC SPRINKLER REQUIREMENTS

**§[1703.1] * 27-954 Required sprinklers**.-A system of automatic sprinklers shall be provided in the areas listed in this section and as required in subchapters four through eight of this chapter. A summary of sprinkler requirements is given in Table 17-2.

(a) Buildings classified in high hazard occupancy group A.

(b) Spaces classified in high hazard occupancy group A.

(c) Buildings classified in storage occupancy group B-1 exceeding one thousand square feet in floor area or seventy-five feet or more in height, except as modified under subdivisions a, b, and c of section 27-455 of article ten of subchapter seven of this code.

(d) Spaces classified in storage occupancy group B-1 exceeding five hundred square feet in floor area, except as modified under subdivisions a, b, and c of section 27-455 of article ten of subchapter seven of this code.

(1) Such storage spaces less than five hundred square feet in area shall install a system of automatic sprinklers, when required by the commissioner or the fire commissioner.

(e) Buildings and spaces classified in storage occupancy group B-2 exceeding five thousand square feet in floor area, or seventy-five feet or more in height, except as modified under subdivisions a, b, and c of section 27-455 of article ten of subchapter seven of this code.

(f) Spaces in high rise buildings classified in mercantile occupancy group C, spaces classified in mercantile occupancy group C exceeding seventy-five hundred square feet in floor area or with an unenclosed stair or escalator between any two or more floors.

(g) Buildings classified in industrial occupancy group D when required by section two hundred eighty of the labor law or when seventy-five feet or more in height.

(h) Spaces classified in industrial occupancy group D-1 exceeding seventy-five hundred square feet, in floor area excluding heliports.

(i) Buildings classified in occupancy group E, one hundred feet or more in height having air-conditioning and/or mechanical ventilation systems that serve more than the floor in which the equipment is located, and on or before January eighteenth, nineteen hundred seventy-six, in existing office buildings one hundred feet or more in height having such systems, showroom spaces exceeding seventy-five hundred square feet in area located more than forty feet above curb level. The sprinkler system may be connected to the domestic water supply and/or the standpipe risers. Where connected to a standpipe riser, provision shall be made to prevent excessive pressure on the sprinkler heads. If such work is not completed within on or before July eighteenth, nineteen hundred seventy-four, the owner shall submit a statement to the commissioner, with a copy to the fire commissioner, setting forth a plan and time schedule for the performance of the work and completion within the prescribed time. Such plan and schedule shall be subject to the approval of the commissioner. Failure to comply with the provisions of this subdivision, or to perform the work in accordance with the time schedule, as approved by the commissioner, shall constitute a violation.

(j) Dressing rooms and property rooms used in conjunction with all places of assembly, except for F-1B places of assembly not providing live entertainment.

(k) Corridors and exit passageways of buildings classified in institutional occupancy group H where the building or building section is not otherwise required to be fully sprinklered as provided in subchapter four. Patient rooms in H-2 occupancies shall be protected with smoke detectors complying with provisions of section 27-955 of this article when not required to be sprinklered by the provisions of subchapters four through seven.

(l) Regardless of occupancy group classification, any story above grade that cannot be ventilated by at least twenty square feet of free openable area and the first story below grade when it cannot be ventilated by at least thirty-five square feet of openable area per ten thousand cubic feet of volume. Such ventilation shall be provided by operable* windows or other natural ventilation sources complying with section 27-749 of article six of subchapter twelve of this chapter. All other stories below grade shall be sprinklered. Sprinklers may be omitted in toilets, shower rooms, stairs, and mechanical and electrical equipment rooms.

***As enacted but "openable" probably intended.***

For purposes of this subdivision fixed windows may be considered as "openable" (may be broken inward) if they are not more than one hundred feet above grade, or fifteen feet below grade; or if they are located within six feet of an accessible roof or setback; or if they are located within six feet of an operable window having at least three foot by three foot openings.

(1) Buildings classified in occupancy group J-2 with not more than three dwelling units and buildings classified in occupancy group J-3 shall be exempt from this provision provided all spaces classified in storage occupancy group B-2 exceeding one thousand square feet have been sprinklered in accordance with the requirements of this subchapter.

*(m) Rubbish chutes, laundry chutes, and chutes for similar uses. Sprinklers, protected from damage, shall be provided in accordance with reference standard RS 17-2, RS 17-2A, or RS 17-2B, as applicable.

***Local Law 10-1999.***

(n) Soiled linen collection and sorting areas.

(o) Workshops exceeding one hundred square feet except in one-and two-family dwellings.

(p) Refuse collection and disposal areas.

(q) Drying area of laundries or similar spaces in which two or more clothes drying machines are installed. Sprinklers to be spaced to cover area five feet in front, rear, and sides of machines.

(r) Sprinklers for cooling towers, where required by subchapter five of this chapter, shall be either a dry pipe or deluge system designed in accordance with the provisions of reference standard RS 17-4.

(s) (1) F-4 places of assembly used as cabarets.

(2) Stages within F-1a, F-1b, F-3 or F-4 occupancies providing live entertainment at anytime as set forth in subchapter eight of this chapter.

*(t) Buildings classified in occupancy group J-1, buildings classified in occupancy group J-2 with four or more dwelling units, spaces classified in occupancy group J-1, and spaces classified in occupancy group J-2 with four or more dwelling units.

(u) Places of assembly located within a building classified in occupancy group J-1.

## *TABLE 17-2 SUMMARY OF SPRINKLER REQUIREMENTS

| | Automatic Sources Required | Partial System Permit-ted | Connection to Domestic Permitted | Alternate Permitted (§27-955) | Siamese Required (§27-959) | Central[a] Station Required (§27-955) (§27-967) | Water[b] Flow Alarm Required (§27-957) | Automatic Dry Sprinkler Permitted (§5212 of RS-17) | Dry Non-automatic Sprinkler Permitted[c] |
|---|---|---|---|---|---|---|---|---|---|
| High Hazard Bldg. — Group A (§27-954(a)) | 2 | No | No §27-961(c) | No | Yes | None[a] | Yes | Yes | No |
| High Hazard Spaces — Group A (§27-954(b))[b] | 1 | Yes | No §27-961(c) | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes If over 36 heads in a fire section | Yes | No |
| Storage Occupancy Bldg. — Group B1 (§27-954(c)) | 1 | No | No §27-961(c) | No | Yes | None[a] | Yes | Yes | No |
| **Storage Occupancy Spaces — Group B1 (§27-954(d)) And Permitted Below Grade Flammable/Combustible Storage Spaces in Mercantile Establishments (§27-954(aa) | 1 | Yes | Yes [§27-961(c)] §27-962(c) | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes[b] If over 36 heads in a fire section | Yes | No |
| Storage Occupancy Spaces — Group B2 (§27-954(e)) | 1 | Yes | No | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes[b], If over 36 heads in a fire section | Yes | No |
| Mercantile Occupancy Spaces — Groups C Exceeding 7,500 sq. ft. (§27-954(f)) | 2 sources if exceeding 20,000 sq. ft. 1 source if not more than 20,000 sq. ft. | No | No | No | Yes | None[a] | Yes | Yes | No |
| Industrial Occupancy Bldg.— Group D-1, When required by Labor Law (§27-954(g)) | 1 source if not hazardous occupancy | No | No | No | Yes | None[a] | Yes | Yes | No |
| Industrial Occupancy Spaces—Group D-1, exceeding 7,500 sq. ft. (§27-954(h)) | 1 | No | No | No | Yes | None[a] | Yes | Yes | No |
| Business Occupancy Spaces— Group E Showrooms when Required by (§27-954(i)) | 1 | Yes | Yes and/ or Stand-pipe Riser | No | Yes | None[a] | Yes | Yes | No |
| Assembly Occupancy Spaces— Group F-1[a] (§27-954(j)) | 1 | Yes | Yes | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes[b] | No | No |

**Table 17-2 SUMMARY OF SPRINKLER REQUIREMENTS** (continued)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Institutional Occupancy Group H — Corridors and Exit Passageway (§27-954(k)) | 1 | Yes | Yes | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes | No | No |
| Unventilated Areas Above or Below Grade (§27-954(l))[d] | 1 | Yes | Yes | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | §27-962(e)(8) | Yes | No |
| Rubbish—Laundry and Similar Chutes (§27-954(m))[d,e] | 1 | Yes | Yes | No | No | Yes[a] | None | Yes | No |
| Soiled Linen—Collection and Sorting Area (§27-954(n)) | 1 | Yes | Yes | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes §27-962(e)(8) | Yes | No |
| Workshops (§27-954(o))[d] | 1 | Yes | Yes | Yes | §27-959 (a)(3) If over 36 heads in a fire section | Yes If smoke detector [*sic*] is used in lieu of sprinkler | Yes §27-962(e)(8) | Yes | No |
| Refuse Collection and Disposal Areas (§27-954(p)) | 1 | Yes | Yes in Occupancy Groups E, G, J | No | §27-959 (a)(3) If over 36 heads in a fire section | None[a] | Yes §27-962(e)(8) | Yes | No |
| Drying Areas—Laundries or Similar Spaces (§27-954(q))[d] | 1 | Yes | Yes in Occupancy Groups E,G, J | Yes | §27-959 (a)(3) If over 36 heads in a fire section | Yes If smoke detector [*sic*] is used in lieu of sprinkler | Yes §27-962(e)(8) | No | No |
| Cooling Towers (§27-954(r)) | 1 | No | Yes | No | No | None[a] | Yes | Yes | No |
| Building and Spaces in Residential Occupancy Group J-1 (§27-954(t)) | 1 | No | No[f] | No | Yes, exept as provided in §27-959(a)(3) | No | Yes | No | No |
| Buildings and Spaces in Residential Occupancy Group J-2 with 4 or more Dwelling Units and not exceeding Six Stories or 75 Feet in Height (§27-954(t)) | 1 | No | Yes[g] | No | Yes, exept as provided in §27-959(a)(1) and §27-959(a)(5) | No | Yes | No | No |
| Buildings and Spaces in Residential Occupancy Group J-2 with 4 or more Dwelling Units and Exceeding Six Stories or 75 Feet in Height (§27-954(t)) | 1 | No | No[h] | No | Yes, exept as provided in §27-959(a)(3) | No | Yes if over 36 heads | No | No |

**Notes for Table 17-2:**

a. Central Station Supervision required only when booster pump is provided under §27-964 or when non automatic sprinkler [*sic*] is permitted by the commissioner.

b. Water flow alarms required when more than 36 heads are installed in a fire section or fire area.

c. Only when permitted by the commissioner (§27-967(c)).

d. See §27-954(w) for requirements pertaining to these spaces located in a building classified in occupancy group J-1.

e. See section 4-4.8 of reference standard RS 17-2.

f. Except as provided in reference standard RS 17-2A.

g. Notwithstanding section 27-962(i) of this chapter.

h. Except as provided in section 27-962(i) of this chapter.

***Amended by Local Law 10-1999.***

****Amended by Local Law 26-2002***

(v) Catering establishments and banquet halls with an occupant load of three hundred or more persons.

*(w) In all existing buildings classified in occupancy group J-1 (except for "residential hotels," as such term is defined by the commissioner pursuant to rules,) all spaces listed in subdivisions (c), (d), (l), (m), (n), (o), (p) and (q) of this section, except that an approved smoke detection alarm system may be installed in those locations described under subdivisions (o) and (q) in lieu of sprinklers other than in those locations where sprinklers are required pursuant to section 27-123.2 of this chapter. Such smoke detection system shall be of the supervisory type connected to an approved central station.

(x) High rise buildings classified in occupancy group F-1, F-3, F-4, or G, or any spaces classified in such occupancy groups located within a high rise building or building section more than seventy-five feet above curb level.

(y) Spaces in existing high rise buildings classified in occupancy group C and any space in an existing building classified in occupancy group C with an unenclosed stair or escalator between any two or more floors.

(z) Notwithstanding the provisions of subdivision i of this section, high rise buildings classified in occupancy group E and low rise buildings classified in occupancy group E with a total gross floor area of one hundred thousand square feet or more.

**(aa) Regardless of occupancy group classification, in each basement, cellar or other location below grade, regardless of the floor area of such space, in a ny mercantile establishment in which the fire commissioner permits the storage of flammable or combustible mixtures pursuant to sections 27-4066, 27-4070 or 27-4094 of this code, except that, where such flammable or combustible mixtures are stored in such basement, cellar or other location below grade, in a room or other area that is segregated, vertically and horizontally, from surrounding spaces by a fire separation of not less than a two-hour fire-resistance rating, such system of automatic sprinklers shall be required only within such room or other area. Such system of automatic sprinklers shall conform only within such room or other area. Such system of automatic sprinklers shall conform to the requirements for automatic sprinklers for spaces classified in storage occupancy group B-1 pursuant to subdivision d of this section.

***Local Law 10-1999.***

****Local Law 16-1987***

**§[1703.2] *27-955 Smoke detector alternate**.-An approved smoke detection alarm system may be used in lieu of sprinklers in those locations described under in subdivisions (o) and (q) of section 27-954 of this article, except in buildings or spaces classified in occupancy group J-1 or J-2. Such smoke detection system shall be of the supervisory type connected to an approved central station.

***Local Law 10-1999.***

**§[1703.3] *27-956 Standard for installation of sprinklers**. (a) Except as herein provided in subdivision (b) of this section, the installation, components, sizing, spacing, location, clearances, position, and type of systems shall be in accordance with reference standard RS 17-2, except that sprinkler systems in one and two family dwellings may in the alternative be in accordance with reference standard RS 17-2B, and sprinkler systems in other residential buildings not exceeding six stories or seventy-five feet in height and in other residential spaces in buildings not exceeding six stories or seventy-five feet in height may in the alternative be in accordance with reference standard RS 17-2A.

(b) Notwithstanding any provision to the contrary contained in reference standards RS 17-2, RS 17-2A or RS 17-2B sprinklers may be omitted from clothes closets, linen closets, pantries, water closets, water closet compartments, bathrooms, general toilet rooms and shower rooms in buildings and spaces classified in occupancy group J-2 and J-3.

***Local Law 10-1999.***

**§[1703. 4] 27-957 Sprinkler alarm system**.-

*(a) A sprinkler alarm system shall be provided in accordance with the applicable provisions of reference standards RS 17-2, RS 17-2A, RS 17-2B and RS 17-3. Where the building is provided with a class E or modified class E fire alarm signal system, compliance with the applicable provisions of reference standard RS 17-3A or

RS 17-3B shall be acceptable in lieu of compliance with the provisions of reference standard RS 17-3.

(b) A sprinkler alarm system shall be required when more than thirty-six heads are installed in any fire area or section. See table 17-2 for general requirements. ***Local Law 10-1999.***

**§[1703.5] 27-958 Approved devices**.-
No device, valve, pipe, or fitting may be used in a sprinkler system unless such device, valve, pipe, or fitting is of a type approved for such use.

**§[1703.6] 27-959 Siamese connections required**.-

**(a) Where required**.-

(1) Siamese connections shall be provided in accordance with section 27-940 of article three of this subchapter, except as modified hereinafter.

(2) In below grade sprinkler systems for garage occupancies involving the storage or repair of motor vehicles, a siamese connection shall be provided within fifty feet of every exit or entrance used by motor vehicles.

(3) Where partial sprinkler protection is required for storage spaces, one siamese connection shall be provided when more than thirty-six heads are installed in one fire section. Areas subdivided, when the subdivisions are totally enclosed by noncombustible construction having at least a two hour fire-resistance rating, shall be considered separate fire sections and the number of heads in the largest section shall determine the necessity for siamese connections.

When partial sprinkler systems are installed to protect entire floor areas, siamese connections shall be provided in accordance with section 27-940 of article three of this subchapter.

In all cases where partial sprinkler protection is provided and siamese connections installed, metal signs shall be securely fastened to, or above, the siamese connection indicating the area protected. Where the building has two or more frontages, additional metal signs shall be installed indicating the location of the siamese connection.

(4) When a sprinkler system supplies a group of buildings, siamese connections shall be provided for each building as required by paragraphs one, two and three of this subdivision.

(5) A single three-inch (seventy-six millimeter) inlet fire department connection acceptable to the fire commissioner may be provided for the sprinkler system in lieu of each required siamese connection in buildings classified in occupancy group J-2 not exceeding six stories or seventy-five feet in height and in spaces classified in occupancy group J-2 in buildings not exceeding six stories or seventy-five feet in height.

**(b) Installation and construction**.-The installation and construction of siamese connections shall be the same as required for fire standpipe systems, except that the caps of each automatic sprinkler siamese connection shall be painted green and the entire siamese connection of a nonautomatic sprinkler system shall be painted with aluminum paint, and except that caps of each siamese connection used for combination standpipe and sprinkler systems shall be painted yellow and signs provided as required in subdivision (b) of section two of reference standard RS 17-1.

***(c)** A siamese connection need not be provided for a sprinkler system in one and two family dwellings. ***Local Law 10-1999.***

**§[1703.7] 27-960 Piping from siamese connection**.-
Piping from the siamese connection shall be the same size as the riser or trunk main to which it is connected, except that it need not be more than five inches in diameter when supplying larger riser or feed mains. When more than one siamese connection is required, the piping from each siamese connection need not exceed four inches in diameter.

**§[1703.8] 27-961 Classification of water supplies**.-

**(a) Automatic sources of water supply for sprinkler systems**.-Automatic sources of water supply for sprinkler systems shall include a gravity tank, pressure tank, automatic fire pump, or direct connection to the public water systems. Automatic fire pumps where used for sprinkler supply shall comply with the applicable provisions of sections 27-946 and 27-947 except that no enclosures shall be required, and provided that when an emergency power system is provided, the electric power to the motor shall be connected to the emergency power source.

**(b) Auxiliary sources of water supply for sprinkler systems**.-Auxiliary sources of water supply for sprinkler systems shall include a manually actuated fire pump or siamese connection.

**(c) Combination sprinkler and standpipe tank sources of water supply**.-Tanks used to provide the required primary water supply to a standpipe system may also be used as a supply for an automatic sprinkler system.

**(d) Nonautomatic sources of water supply for sprinkler systems**.-Nonautomatic sources of supply for sprinkler systems shall include siamese connections.

**§[1703.9] 27-962 Sources of water supply for sprinkler systems**.-Sprinkler systems shall be provided with water from the following sources:

(a) Two automatic sources of water supply shall be provided for sprinklers in:

(1) Buildings classified in occupancy group A.

(2) Buildings classified in occupancy group C when the area on one floor exceeds twenty thousand square feet.

(3) Buildings classified in occupancy group F-1a when open heads are required for stages of unlimited size.

(b) At least one automatic source of water supply shall be provided for sprinklers installed in all occupancy groups, except those listed in subdivision (a) and except as provided in subdivision (c) of this section.

**(c) The domestic water supply may be used to supply any sprinklers required under section 27-954 of this article when installed in buildings classified in occupancy groups E, G, H and J, or to supply any

sprinklers required under subdivision (aa) of said section, regardless of occupancy group classification, provided that all the requirements stated in subdivision e of section 27-962 of this article are met.

(d) 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 (e) of this section are met.

(e) When the domestic water is used to supply sprinklers as permitted in subdivisions (c) and (d) of this section, all of the following conditions shall be met:

(1) The domestic water supply line from the tank or street supply is at least the size of the sprinkler line and that the capacity available is at least equal to the capacity required for the sprinklers.

(2) The domestic water supply line from the tank or street has the required pressure as provided in section 27-963 of this article.

(3) The domestic water supply line is of nonferrous material except when the domestic water supply is four inches or over.

*(4) An o.s. and y. valve or an approved valve having visual indication, sealed open, is installed in the sprinkler supply branch, or such other valve arrangement as may be provided for in reference standard RS 17-2A or RS 17-2B, as applicable.

(5) The pipe connecting the domestic water supply and the sprinkler control valve is of nonferrous material and not less than twelve inches long.

*(6) The number of heads in each fire section does not exceed twenty, except that the number of heads in each fire section may exceed twenty in buildings classified in occupancy group J-2 or J-3 not exceeding six stories or seventy-five feet in height and in spaces classified in occupancy group J-2 or J-3 in buildings not exceeding six stories or seventy-five feet in height, and no more than ten heads are supplied from any one domestic water riser.

(7) The connection is 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 twenty or less 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 reference standard RS 17-2A or RS 17-2B.

*(9) A check valve is installed on the sprinkler supply branch.

(f) Nonautomatic sprinkler systems shall be provided with:

(1) Siamese connections in accordance with section 27-940 of article three of this subchapter.

(2) Malleable iron fittings approved for sprinkler installations.

(3) An approved automatic fire alarm with direct connection to a central station of an approved operating fire alarm company shall be installed in the area protected by the sprinkler system.

*(g) There shall be no more than ten sprinkler heads connected to a plumbing riser supplying anything other than sprinkler heads, and no more than twenty sprinkler heads connected to a riser supplying only sprinkler heads in any fire section separated by two hour enclosures from adjoining fire sections.The number of sprinkler heads connected to a riser supplying only sprinkler heads may exceed twenty in buildings classified in occupancy group J-2 or J-3 that do not exceed six stories or seventy-five feet in height and in residential spaces classified in occupancy group J-2 or J-3 in buildings not exceeding six stories or seventy-five feet in height.

(h) Standpipe risers may be used to supply water to sprinklers in high rise buildings classified in occupancy groups E, G, H and J and in existing office buildings one hundred feet or more in height, in accordance with applicable provisions of this subchapter and reference standards RS 17-1 and RS 17-2.

(i) The domestic water supply in buildings classified in occupancy group J-1 or J-2 may be used for sprinklers in corridors, in refuse chutes and in other similar areas, as approved by the commissioner. The domestic water may be supplied by direct public water connection or equipment and pumps approved for water supply in accordance with reference standard RS-16.

***Local Law 10-1999.*

****Local Law 26-2002*

**§[1703.10] * 27-963 Direct connection of sprinklers to the public water system**.-Direct connection of sprinklers to a city water main shall be acceptable as an automatic water supply, provided the main is capable of maintaining a pressure of at least fifteen psig at the top of the highest sprinkler riser, with five hundred gpm of water flowing from a two and one-half inch hydrant outlet located at the street level within two hundred fifty feet of the building. The hydrant test shall be made between the hours of eight a.m. and five p.m. on a working day. If the pressure found in this test is insufficient to comply with the above requirement, a minimum of twelve psig at the top of the highest sprinkler riser shall be acceptable, provided that all piping in the affected area and supply piping thereto that is four inches and under is increased one pipe size above those sizes required by reference standard RS 17-2, RS 17-2A or RS 17-2B, as applicable. In addition to the fifteen psig or twelve psig requirements, the following requirements shall be met:

(a) The size of each connection shall be as large as that of the main riser and, except in sprinkler systems in multiple dwellings, shall be at least three inches and shall be controlled by an accessible shutoff valve.

(b) The service pipe shall be flushed out thoroughly before connecting to the sprinkler system. A flow sufficient to produce a water velocity of at least five fps shall be used.

(c) Each service shall be equipped, under the sidewalk, with a control valve in a flush sidewalk box located within two feet of the front wall of the building

or street line as required by the department of environmental protection. The location of the control valve shall be indicated by a sign placed on the structure directly opposite the sidewalk flush box, and such sign shall have a white background with one inch red letters reading: "Automatic Sprinkler Shutoff Valve ...Feet Opposite this Sign." Alternatively, brass, bronze, or other metal sign with one inch letters, raised or countersunk one-eighth of an inch may be used.

(d) The plans submitted in connection with the permit application shall be accompanied by a statement from the bureau of water supply of the department of environmental protection, stating the size of street main or mains, distance to and size of mains from which it or they are fed, the location of control valves, the static pressure on the hydrant nearest the premises, and the residual pressure in the street main taken on a hydrant near the premises when the flow from the nearest hydrant is equal to the flow required to meet the requirements of this section. A letter from the bureau of water supply of the department of environmental protection estimating available flow and residual pressure shall be acceptable to the borough superintendent when a hydrant test cannot be conducted.
***Local Law 10-1999.***

**§[1703.11] 27-964 Sprinkler booster pumps.-**Where the pressure from the city water main is insufficient to comply with the requirements of section 27-963 of this article but is sufficient to give at least five psig at the highest line 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 accepted subject to the following requirements:

(a) Pumps shall be of approved centrifugal type, capable of delivering at least two hundred gpm, and shall be capable of supplying twenty-five percent of the heads, in the largest area supplied, at twenty gpm, at a pressure of at least twenty-five psig at the top of the highest sprinkler riser.

(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 sections 27-946 and 27-947 of article three of this subchapter, except that only one supply shall be required and no enclosure shall be required.

**§[1703.12] *27-965 Gravity and pressure tanks.-** When the requirements of sections 27-963 and 27-964 of this article are not met, a pressure or gravity tank or other device shall be used, complying with the provisions of subchapter sixteen of this chapter and reference standard RS 17-2, RS 17-2A or RS 17-2B.
***Local Law 10-1999.***

**§[1703.13] 27-966 Protection of sprinkler system.-**

(a) All parts of an automatic sprinkler system exposed to freezing temperatures shall be protected from freezing in accordance with the provisions of section 27-949 of article three of this subchapter, or in lieu thereof, an automatic drypipe system or a system filled with a nonfreezing, noncombustible solution shall be used, and when a system filled with nonfreezing solution is used and the system is connected to a potable water supply, it shall be subject to the requirements of the health department and the bureau of water supply of the department of environmental protection.

*(b) Sprinkler heads subject to damage shall be protected in accordance with the applicable provisions of reference standard RS 17-2, RS 17-2A or RS 17-2B.
***Local Law 10-1999.***

**§[1703.14] 27-967 Inspection and tests.-**

All inspections and tests of sprinkler systems shall be conducted in accordance with the provisions of subdivisions a through f of section 27-951 of article three of this subchapter and the requirements of this article.

**(a) Automatic wet and dry systems.-**Automatic wet and dry sprinkler systems shall be subjected to a hydrostatic pressure test for a period of one hour at a pressure of at least one hundred psig at the topmost sprinkler head and at least two hundred psig at the lowest cross connection to the siamese connections.

**(b) Automatic dry pipe systems.-**In addition to the hydrostatic test in subdivision (a) of this section, the automatic dry pipe systems shall also be tested to forty psig air pressure for a twenty-four hour period with the pressure loss not to exceed one and one-half psig.

**(c) Nonautomatic sprinkler systems.-**Nonautomatic sprinkler systems shall be subjected to a hydrostatic pressure test of fifty psig at the topmost sprinkler head, with the test pressure maintained for a period of at least one hour.

**(d) Pressure tanks.-**Pressure tanks shall be hydrostatically tested to a pressure of at least one and one-half times the working pressure for a period of one hour.

**(e) Sprinkler branches and heads supplied from domestic water.-**Sprinkler branches and heads shall be tested at the pressure required by this section or at the pressure of the domestic water supply as required by subchapter sixteen of this chapter, whichever is greater.

**(f) System performance.-**A performance or operation test shall be made on each completed system to determine that all alarms, valves, indicators, pumps, deluge valves, dry pipe valves, and other appurtenances are in good working order.

**(g) Supervisory service.-**All components connected to a central station of an approved operating fire alarm company shall be tested to determine that they are in good working order. The test report shall be accompanied by a statement from the central supervisory agency stating that the agency has been retained to provide the required supervision; and when the services of the agency have been terminated it shall notify the commissioner in writing.

**(h) Altered systems.-**When additions, alterations, or repairs are made to a sprinkler system, the entire system shall be tested as stated in subdivisions (a), (b), (c), (e), and (g) of this section, except that the pressure at the top of the system need not exceed one hundred psig. In addition, a flow test of at least twenty gpm shall be made from a test connection at the end of the sprinkler header or the section altered or repaired.

**(i) Pump test.-**Pumps shall be tested in accordance with the applicable provisions of subdivisions (h) and (i) of section 27-951 of article three of this subchapter.

## ARTICLE 5 INTERIOR FIRE ALARM AND SIGNAL SYSTEM

**§[1704.1] 27-968 Where required**.-

(a) A closed circuit electrically supervised fire alarm signal system shall be installed in the following types of buildings:

(1) Hotels, motels, lodging houses, dormitories, and single room occupancies having more than fifteen sleeping rooms or accommodating more than fifteen lodgers above the first or ground story.

(2) Buildings classified in occupancy group H-1 or H-2. Systems installed in buildings where persons are restrained under the jurisdiction of an agency of the city or the state of New York may be modified to comply with the regulations of such agency, when such modification is approved by the commissioner.

(3) Day care agencies having a board of health permit for the accommodation of more than thirty children. If such day care agency is located at the grade level of the building, the fire alarm system is required only in the premises of the day care agency. If the day care agency is located at other than grade level of the building, an approved fire alarm system shall be provided throughout the building.

(4) Health clubs and turkish or other special treatment bath houses where there are sleeping accommodations for more than fifteen persons on the premises.

(5) Department stores or retail sales establishments having one or more floors above the street floor to which the public is admitted or with a total floor area of twenty thousand or more gross square feet.

(6) All public schools; also all private schools and university teaching buildings more than one story in height. If a school premise is located at other than a grade level of a building, an approved fire alarm system shall be provided throughout the building.

(7) Single and multi-tenant factory buildings more than two stories in height in which more than twenty-five persons are employed above the ground floor, as provided by section two hundred seventy-nine of the labor law. In buildings where more than ten percent of the building occupancy is engaged in manufacturing, the building shall have an approved fire alarm system throughout.

(8) Buildings housing a motion picture studio.

(9) Buildings classified in occupancy group E, seventy-five feet or more in height and buildings classified in such occupancy group occupied or arranged to be occupied by an occupant load of more than one hundred persons above or below the street level or more than a total of five hundred persons in the building.

(10) a. Stages, dressing rooms and property rooms used in conjunction with all places of assembly used as cabarets.

b. Places of assembly used as a cabaret.

(b) Areas containing gas distribution piping operating at levels above fifteen psig shall have a combustible gas detection-alarm system, and a suitable fire protection system as approved by the commissioner with the concurrence of the fire commissioner.

**§[1704.2] 27-969 Approvals**.-

(a) Equipment and systems shall be made of approved materials, and shall be free from defective workmanship. The requirements of reference standard RS 17-5 shall apply except as specifically qualified herein.

(b) Before any fire alarm system is installed or extended, approval shall be obtained from the commissioner.

(c) All devices and equipment that have been approved shall have securely fastened thereon a manufacturer's label indicating compliance with the requirements of section 27-135 of article eight of subchapter one of this chapter.

**§[1704.3] 27-970 Existing installations**.-Except as provided in subdivisions (g) and (j) of section 27-972 of this article, fire alarm systems heretofore installed in buildings in accordance with rules then in force shall be accepted for use as long as they are maintained in good working order.

**§[1704.4] 27-971 Classification and general requirements of fire alarm systems**.-Fire alarms shall be classified as follows and shall meet the following general requirements:

**(a) Uncoded closed circuit fire alarm system.-**Consisting of manually operated [pull-lever type]* sending stations and audible signaling devices, so arranged that the operation of any station will automatically sound continuously the signaling devices throughout all portions of the building.

***Copy in brackets not enacted but probably intended.***

**(b) Master coded closed circuit fire alarm systems.-**Consisting of manually operated pull-lever type sending stations and audible signaling devices, so

arranged that the operation of any station will automatically sound the signaling devices giving a common code of signals throughout all portions of the building. The code shall consist of four rounds of a series of single strokes of the signaling devices, each round consisting of "3-3-3-3".

**(c) Individually coded closed circuit general fire alarm systems**.-Consisting of manually operated pull-level type sending stations and audible signaling devices, so arranged that the operation of any station will automatically sound the signaling devices, throughout all portions of the building, for a minimum of four rounds of a distinctive code of signals particular to the station at which the signal has been initiated. The code numbers that are used shall be subject to the approval of the fire commissioner.

**(d) Individually coded closed circuit presignal fire alarm systems**.-Consisting of manually operated pull-lever type sending stations and signal devices so arranged that the operation of any station will cause the sound of only the signal devices located in the engine room and basement and other places in the building where the members of a fire brigade work or assemble. The signaling device shall give four rounds of the particular code signal of the station at which the signal has been initiated. Approved equipment shall be provided at each station so that the operation of any station performed with the aid of a key or plug will sound all of the signal devices located in the building with four rounds of the particular coded signal of the station initiated. The code numbers used shall be subject to the approval of the fire commissioner. The presignal key or plug shall be so designed that it can be readily identified. Presignal type systems will not generally be approved; however, approval may be obtained from the fire commissioner where special type occupancies may warrant such a system.

**(e) Combination unit or zone, and general alarm coded closed circuit fire alarm systems**.-Consisting of manually operated pull-lever type sending stations and signal devices so arranged that the operation of any station will cause all of the signaling devices in that unit or zone to sound four rounds of the particular coded signal of the station initiated, and simultaneously will cause all of the signaling devices on the general alarm circuit to sound four rounds of the coded signal designating the unit or zone in which the station is located. An approved register and time stamp may be used in connection with this system when approved by the fire commissioner. The register, if of the closed circuit type, shall be operated from a separate closed circuit control board or panel isolated by a barrier from the main control panel in the main fire alarm control cabinet. An approved closed circuit unit annunciator with trouble alarm circuit shall be installed as part of this system when required by the fire commissioner.

**(f) Special systems**.-Consisting of the above systems as required, supplemented by special circuits for the operation of other fire alarm or detection devices in the systems, or electric control systems for stopping machinery, closing doors or ventilators, or shutting down fans as may be required by the commissioner or the code, or to call the central station of a private operating company of the fire department. Automatic fire detecting systems may be connected to operate an interior fire alarm system when connected thereto by an approved coded transmitter. In no case shall the transmitter be considered to replace the standard approved interior fire alarm station, except where a transmitter has been approved for both purposes. The special control circuits and devices shall be separate and distinct from the fire alarm system but shall be brought into action whenever the fire alarm system is set in operation.

***(g) Class E system**.-Consisting of a class E fire alarm signal system as described in subdivision (f) of section 27-972 of article five of this subchapter and reference standard RS 17-3A. Such systems shall be exempt from the provisions of section 27-973 of article five of this subchapter, except that compliance with paragraph two of subdivision (a) and subdivision (e) of such section shall be required.

***(h) Modified class E system.-**Consisting of a modified class E fire alarm signal system as described in subdivision (g) of section 27-972 of article five of this subchapter and reference standard RS 17-3B. Such systems shall be exempt from the provisions of section 27-973 of article five of this subchapter, except that compliance with paragraph two of subdivision (a) and subdivision (e) of such section shall be required.

***(i) Class C system.-**Consisting of a class C fire alarm signal system as described in subdivision (k) of section 27-972 and reference standard RS 17-3A. Such systems shall be exempt from the provisions of section 27-973 of article five of this subchapter, except that compliance with paragraph two of subdivision (a) and subdivision (e) of such section shall be required**.**

***(j) Class J system**.-Consisting of a class J fire alarm signal system as described in subdivision (l) of section 27-972 of article five of this subchapter and reference standard RS 17-3A. Such systems shall be exempt from the provisions of section 27-973 of article five of this subchapter, except that compliance with paragraph two of subdivision (a) and subdivision (e) of such section shall be required.

***(k) Modified class J system**.-Consisting of a modified class J fire alarm signal system as described in subdivision (m) of section 27-972 of article five of this subchapter and reference standard RS 17-3B. Such systems shall be exempt from the provisions of section 27-973 of article five of this subchapter, except that compliance with paragraph two of subdivision (a) and subdivision (e) of such section shall be required.

***(l) Modified class J-1 system**.- Consisting of a modified class J-1 fire alarm signal system as described in paragraph two of subdivision (j) of section 27-972 of

article five of this subchapter.
**Local Law 16-1987.*

**§[1704.5] 27-972 Systems required for specific occupancies**.-

(a) In any type of one-story building where a fire alarm system is required and where the floor area is not more than twenty-five hundred square feet, an uncoded closed circuit fire alarm system may be used.

**(b) Private and public schools**.-Master coded systems shall be used in all schools, except that schools having more than fifteen hundred students shall have an individually coded system.

(**c) Single and multi-tenant factory buildings**.-

(1) In factory buildings, an individually coded closed circuit fire alarm system shall be installed except as hereinafter provided. An uncoded circuit fire alarm system may be used in buildings not exceeding two stories in height, having not more than twenty-five hundred square feet in area in any one story, and having not more than one hundred persons in a single factory nor more than fifty persons in a multiple tenant factory above the first or ground floor.

(2) Special fire alarm signal systems may be designed for use in buildings subject to the approval of the commissioner.

(d) **A common coded closed circuit system may be used in a motion picture studio**, and in addition, an approved rate-of-rise or other approved thermostatic fire alarm system, with direct connections to a central office of an approved operating fire alarm company or the fire alarm telegraph central station, shall be provided for protecting the open studio door. Also there shall be one or more manual fire alarm boxes, which shall be located so as to be readily accessible from the open studio door.

**(e) Hospitals, asylums, and nursing homes**.-Buildings classified in occupancy group H-2 shall meet the following requirements:

(1) An individually coded closed circuit fire alarm system shall be provided in accordance with subdivision (c) of section 27-971 except where the fire commissioner shall have approved an individually coded closed circuit presignal fire alarm system as described in subdivision (d) of section 27-971. All fire alarm systems shall be activated by sprinkler waterflow and by all other fire detection devices installed in the building.

(2) Alarm systems shall be installed in zones of a maximum size of twenty thousand square feet.

(3) Manual fire alarm sending stations shall be at staff locations only.

(4) Where two or more buildings are served by one fire brigade, a combination unit or zone and a general alarm coded closed circuit fire alarm system shall be provided and an approved indicating annunciator installed in each building. Upon initiation of a station signal, general alarm signaling devices shall sound in engine rooms and subgrade areas of each building, and unit or zoned alarm signaling devices shall sound throughout all areas in only the building wherein the station signal was initiated. In the building where the station signal has been initiated, an approved annunciator shall indicate the station at which the signal is initiated.

**(f) Buildings classified in occupancy group E**- One hundred feet or more in height, and existing office buildings one hundred feet or more in height except as provided in subdivision (g) of this section shall be provided with a class E fire alarm signal system as follows:

(1) It shall be special electrically supervised approved direct wire, radio or combination thereof fire alarm signal system consisting of an interior fire alarm and voice communicating system so arranged that the operation of any station will identify its location at the fire command station as required by section 27-975 of this article, at the mechanical control center and at the regularly assigned location of the fire safety director. This identification signal shall be accomplished by means of an information display system which shall be manually resettable from the fire command station only.

(2) The nomenclature used for the location identification system shall be subject to the approval of the fire commissioner.

(3) In addition to the visual devices required above, audible signal devices indicating operation of the fire alarm signal system shall be provided at the fire command station, mechanical control center and the regularly assigned location of the fire safety director. Provisions shall be made for silencing the audible signal and transferring this signal to lamp indication.

(4) Operation of a manual station shall automatically transmit a fire alarm signal to the fire department via a central office of an operating company franchised by the board of estimate, and cause the fire alarm signal system to sound continuously throughout the floor where activated and the floor above.

(5) The fire alarm signal may be sounded over loudspeakers [*sic*]as provided in reference standard RS 17-3A so located that their operation will be heard clearly above any ambient noise, and shall be controlled from the fire command station in such a manner that the fire alarm signal can be sounded on the individual floors or throughout the building.

(6) Provision shall be made whereby the fire command station may permit the floor station to make announcements over the loudspeaker [*sic*] system.

(7) The loudspeaker [*sic*] amplifier system shall be so designed and installed that approximately fifty (50) percent of the system shall remain operable for the transmission and audibility of signals and intelligibility of voice communication over the loudspeaker [*sic*] system throughout the building, in the event the other fifty (50) percent become inoperable. The electrical supply for this fire alarm system, including the amplifiers, shall be in accordance with applicable laws, rules and regulations.

(8) An approved product of combustion ionization detecting device or a combination of an approved smoke detecting device and an approved fixed temperature thermostatic device shall be installed at each elevator landing. The device shall be located in the ceiling immediately above a call button. The activation of this device shall have the same effect as specified in subparagraphs a through e of paragraph nine of this subdivision and in addition cause the overriding of the programming for car stops of all automatic elevators serving the floor where activated and bring them non-stop to the floor levels designated by section 210.13C of reference standard RS 18-1.

(9) In buildings which are approved with air-conditioning and/or mechanical ventilation systems that serve more than the floor on which the equipment is located, the activation of any of the detectors installed in such air-conditioning and/or mechanical ventilation systems in accordance with the provisions of RS 13-1 of the reference standards shall:

a. cause the fire alarm signal system to sound continuously throughout the floor where activated and the floor above.

b. cause a fire alarm signal to be transmitted to the fire department via a central station of a franchised operating company.

c. cause the fire alarm signal system to sound at the fire command station required by section 27-975 of this article and to sound an alarm in the mechanical control center and at the regularly assigned location of the fire safety director, and to operate an information display system as provided in paragraph one of this subdivision.

d. stop the air supply into and the air return from the floor where activated by actuation of approved remote control reversible fire shutters or by automatically shutting down the air supply fans and the air return fans of the floor where activated, notwithstanding the provisions of sections 1001 through 1005 of RS 13-1 of the reference standards relating to air supply and air return controls in case of fire.

e. cause the activation of the air exhaust fans and dampers in smoke shafts and/or the pressurizing fans in stair enclosures.

(10) A building equipped throughout with an automatic sprinkler system including a water flow alarm shall be exempt from the installation of any detectors pursuant to paragraph eight of this subdivision and section 1006 of reference standard RS 13-1 provided the activation of the sprinkler water flow alarm shall have the same effect as specified in subparagraphs a through e of paragraph nine of this subdivision and in addition cause the overriding of the programming for car stops of all automatic elevators serving the floor where activated and bring them non-stop to the floor levels designated by section 210.13C of reference standard RS 18-1.

(11) In existing office buildings one hundred feet or more in height where compliance would cause practical difficulty or undue hardship, the commissioner may waive or modify the requirements of paragraphs one through nine of this subdivision (f) and accept alternatives fulfilling the intent of these requirements.

(12) Existing office buildings one hundred feet or more in height shall comply with the requirements of this subdivision on or before September thirteenth, nineteen hundred eighty-one. Complete plans of the installation shall be filed with the commissioner on or before June thirteenth, nineteen hundred eighty. A permit shall be secured from the commissioner on or before September thirteenth, nineteen hundred eighty. Where compliance with the time requirements of this paragraph would cause undue hardship, the commissioner, with the approval of the fire commissioner, may extend the time for compliance, in accordance with rules and regulations to be promulgated. Before such application for a time extension shall be considered all required applications and plans must be filed and approved permits obtained and a good faith effort towards completion of the work shall have been made.

**(g) Fire alarm or communication systems** installed prior to December thirteenth, nineteen hundred eighty in existing office buildings one hundred feet or more in height, may be incorporated or installed in a modified class E fire alarm signal system provided they comply with the following:

(1) It shall be a special electrically supervised approved direct wire, radio or combination thereof fire alarm signal system consisting of an interior fire alarm and voice communicating system so arranged that the operation of any station will identify its location at the fire command station as required by section 27-975 of this article, at the mechanical control center and at the regularly assigned location of the fire safety director. This identification signal shall be accomplished by means of an information display system which shall be manually resettable from the fire command station only.

(2) The nomenclature used for the location identification system shall be subject to the approval of the fire commissioner.

(3) In addition to the visual devices required above, audible signal devices indicating operation of the fire alarm signal system shall be provided in the fire command station, mechanical control center and the regularly assigned location of the fire safety director. Provisions shall be made for silencing the audible signal and transferring this signal to lamp indication.

(4) Operation of a manual station shall automatically transmit a fire alarm signal to the fire department via a central office of an operating company franchised by the board of estimate, and cause the fire alarm signal system to sound continuously throughout the floor where activated and the floor above.

(5) The fire alarm signal may be sounded over loudspeakers [*sic*]as provided in reference standard RS 17-3B so located that their operation will be heard clearly above any ambient noise, and shall be controlled

from the fire command station in such a manner that the fire alarm signal can be sounded on the individual floors or throughout the building.

(6) The electrical supply for this modified fire alarm system, including the amplifiers, shall be in accordance with applicable laws, rules and regulations.

(7) An approved product of combustion ionization detecting device or a combination of an approved smoke detecting device and an approved fixed temperature thermostatic device shall be installed at each elevator landing. The device shall be located in the ceiling immediately above a call button. The activation of this device shall have the same effect as specified in subparagraphs a through e of paragraph eight of this subdivision and in addition cause the overriding of the programming for car stops of all automatic elevators serving the floor where activated and bring them non-stop to the floor levels designated by section 210.13C of reference standard RS 18-1.

(8) In buildings which are provided with air-conditioning and/or mechanical ventilation systems that serve more than the floor on which the equipment is located, the activation of any of the detectors installed in such air-conditioning and/or mechanical ventilation systems in accordance with the provisions of RS 13-1 of the reference standards shall:

a. cause the fire alarm signal system to sound continuously throughout the floor where activated and the floor above.

b. cause a fire alarm signal to be transmitted to the fire department via a central station of a franchised operating company.

c. cause the fire alarm signal system to sound at the fire command station required by section 27-975 of this article and to sound an alarm in the mechanical control center and at the regularly assigned location of the fire safety director, and to operate an information display system as provided in paragraph one of this subdivision.

d. stop the air supply into and the air return from the floor where activated by actuation of approved remote control reversible fire shutters or by automatically shutting down the air supply fans and the air return fans of the floor where activated, notwithstanding the provisions of sections 1001 through 1005 of RS 13-1 of the reference standards relating to air supply and air return controls in case of fire.

e. cause the activation of the air exhaust fans and dampers in smoke shafts and/or the pressurizing fans in stair enclosures.

(9) A building equipped throughout with an automatic sprinkler system including a water flow alarm shall be exempt from the installation of any detectors pursuant to paragraph seven of this subdivision and section 1006 of reference standard RS 13-1 provided the activation of the sprinkler water flow alarm shall have the same effect as specified in subparagraphs a through e of paragraph eight of this subdivision and in addition cause the overriding of the programming for car stops of all automatic elevators serving the floor where activated and bring them non-stop to the floor levels designated by section 210.13C of reference standard RS 18-1.

(10) Existing office buildings one hundred feet or more in height shall comply with the requirements of this subdivision on or before September thirteenth, nineteen hundred eighty-one. Complete plans of the installation shall be filed with the commissioner on or before June thirteenth, nineteen hundred eighty. A permit shall be secured from the commissioner on or before September thirteenth, nineteen hundred eighty. Where compliance with the time requirements of this paragraph would cause undue hardship, the commissioner, with the approval of the fire commissioner may extend the time for compliance, in accordance with rules and regulations to be promulgated. Before such application for a time extension shall be considered all required applications and plans must be filed and approved, permits obtained and a good faith effort towards completion of the work shall have been made.

(11) In existing office buildings one hundred feet or more in height where compliance would cause practical difficulty or undue hardship, the commissioner may waive or modify the requirements of paragraphs one through nine of this subdivision (g) and accept alternatives fulfilling the intent of these requirements.

**(h) Buildings classified in occupancy group E**, less than one hundred feet in height occupied or arranged to be occupied for an occupant load of more than one hundred persons above or below the street level or more than a total of five hundred persons in the entire building, and on or before January eighteenth, nineteen hundred seventy-five, existing office buildings less than one hundred feet in height, occupied or arranged to be occupied, as hereinabove specified, shall be provided with a system acceptable to the commissioner, which shall:

(1) consist of equipment which shall have the capability of two-way voice communication from a fire command station to the warden on each floor of the building and the mechanical control center, to be used for fire emergencies and fire drills.

(2) have the capability of transmitting a fire alarm signal from the fire command station to the fire department via a central station of a franchised operating company.

***(i) (1) High rise buildings classified in occupancy group C** shall be provided with a fire alarm and communication system meeting the requirements of subdivision (k) of this section and reference standard RS 17-3A.

2. Buildings classifed in occupancy group J-1, either seventy-five feet or more in height or containing thirty or more sleeping rooms (except "residential hotels" as such term is defined by the commissioner pursuant to rules and regulations) shall be provided

with a fire alarm and communication system meeting the requirements of subdivision (l) of this section and reference standard RS 17-3A. In lieu of fire warden stations, either of the following are acceptable as a two-way voice communications system:

***Local Law 16-1987.***

1. A closed circuit supervised fire department telephone system meeting the following conditions in complying with requirements of RS 17-3 as applicable to standpipe fireline telephone and signaling system:

a. Means on every floor to communicate by telephone with the fire command station. A permanent telephone shall be located at the fire command station. All other floors near the main riser shall be provided with telephones or telephone jacks. Telephones or jacks shall be installed in locked cabinets capable of being opened with a fire department standard key.

b. At least six portable telephones with jack connections shall be provided unless permanent telephones are installed at every required location. The portable telephones shall be kept in a cabinet located near the fire command station and shall be provided with a lock capable of being opened with a fire department standard key. Such cabinet shall be locked at all times and marked portable telephones for fire department use.

c. A pilot light shall be provided at the fire command station to indicate that the telephone is in use or that its receiver is off the hook; or

2. A fire communication slotted coaxial cable radio system installed to provide adequate communication capability throughout the building. Adequate communication is defined as the capability for clear two-way communication between a fire department portable radio at the lobby command post and another fire department portable radio at any other point in the building.

Such system shall be acceptable to the fire department.

***(j) (1) Existing buildings** seventy-five feet or more in height, classified in occupancy group J-1 (except "residential hotels" as such term is defined by the commissioner pursuant to rules and regulations) shall be provided with a fire alarm and communication system meeting all the applicable requirements of subdivision (m) of this section and reference standard RS 17-3B. In lieu of fire warden stations, either of the following is acceptable as a two-way voice communication system:

1. A closed circuit supervised fire department telephone system meeting the following conditions in complying with requirements of RS 17-3 as applicable to standpipe fireline telephone and signaling system:

a. Means on every floor to communicate by telephone with the fire command station. A permanent telephone shall be located at the fire command station. All other floors near the main riser shall be provided with telephones or telephone jacks. Telephones or jacks shall be installed in locked cabinets capable of being opened with a fire department standard key.

b. At least six portable telephones with jack connections shall be provided unless permanent telephones are installed at every required location. The portable telephones shall be kept in a cabinet located near the fire command station and shall be provided with a lock capable of being opened with a fire department standard key. Such cabinet shall be locked at all times and marked portable telephones for fire department use.

c. A pilot light shall be provided at the fire command station to indicate that the telephone is in use or that its receiver is off the hook; or

2. A fire communication slotted coaxial cable radio system installed to provide adequate communication capability throughout the building. Adequate communication is defined as the capability for clear two-way communication between a fire department portable radio at the lobby command post and another fire department portable radio at any other point in the building.

Such system shall be acceptable to the fire department.

(2) Existing buildings less than seventy-five feet in height and containing thirty or more sleeping rooms, classified in occupancy group J-1, shall be provided with a modified Class J-1 fire alarm and communications system as follows:

(a) A fire command station shall be provided at the entry floor level in accordance with the requirements of the fire commissioner.

(b) A public address system shall be provided acceptable to the fire commissioner capable of being easily heard (80 dbs at sixty feet) in all existing corridors, hallways, passageways and stairs.

(c) The approved existing interior fire alarm system shall be acceptable provided that it shall automatically transmit a fire alarm signal (when activated) to the fire department via a central station connection of an operating company which is franchised where applicable and which is acceptable to the fire department.

***(k) Buildings classified in occupancy group C**, seventy-five feet or more in height, shall be provided with a class C fire alarm and communications system which shall meet the criteria contained in paragraphs one through ten of subdivision (f) of this section and the criteria contained in subdivisions (a) and (b) of section 27-975 of this article.

***(l) Buildings classified in occupancy group J-1**, seventy-five feet or more in height or containing thirty or more sleeping rooms, shall be provided with a class J fire alarm and communication system which shall meet the criteria contained in paragraphs one through ten of subdivision (f) of this section and the criteria contained in subdivisions (a) and (b) of section 27-975 of this article**.**

***(m) Existing buildings classified in occupancy group J-1**, seventy-five feet or more in height, shall be provided with a modified class J fire alarm and communication system which shall meet the criteria contained in paragraphs one through nine of subdivision (g) of this section and the criteria contained in subdivisions

(a) and (b) of section 27-975 of this article.

***(n) All other occupancies** shall be provided with an individually coded closed circuit general fire alarm system when a fire alarm system is required.

***Local Law 16-1987.***

**§[1704.6] 27-973 Location and identification of sending stations and sounding devices**.-

**(a) Location of sending stations**.-

(1) There shall be at least one fire alarm sending station in each story of any building at all natural paths of egress to the street. The station shall be installed at a readily accessible location meeting the approval of the fire commissioner. The sending station shall be kept unobstructed at all times. Additional sending stations shall be installed so that no point on any floor is more than one hundred fifty feet from the nearest sending station in buildings of Group I construction and one hundred feet in buildings of Group II construction.

(2) All fire alarm stations installed or relocated after April first, nineteen hundred eighty-four, shall be installed so that the handle is approximately four feet from the floor.

**(b) Location of sounding devices**.-

(1) Sounding devices shall be of sufficient number so that the alarm shall be clearly audible to all the occupants of the building.

(2) The centerline of all gongs and signaling devices shall be located at least eight feet above the floor except that in locations where ceilings prevent the installation at this height, the centerline of the device shall be located six inches below the ceiling.

(3) Approved gongs shall be provided as the sounding devices. Where gongs are not audible, approved horns, chimes, or whistles may be installed subject to the approval of the fire commissioner.

**(c) Location of instructions**.-An approved instruction card, properly marked and framed under glass, shall be installed at each fire alarm station. Instruction cards for individually coded systems shall indicate the code designation and location of each sending station in the building.

**(d) Fastening for devices**.-All materials and devices used in fire alarm signal systems shall be securely fastened in position. The locations shall be selected by an architect or engineer, subject to the approval of the commissioner.

**(e) Identification of equipment**.-Fire alarm sending stations for all systems shall be painted red. A diagonal white stripe one inch wide from the upper left hand corner to lower right hand corner shall be painted or applied to sending stations which transmit a fire alarm signal to the fire department via a central station of a franchised operating company. The stripe shall not render any lettering illegible or obliterate the station number.

**(f) Mixed occupancy buildings**.-Where a building is subdivided by fire divisions, each building section may be treated as a separate building for the purpose of fire alarm signal system installations. One control board may be used, if so arranged as to operate the signaling devices in each building section independently.

**(g) Subdivided occupancy**.-In buildings requiring fire alarm signal systems, and in which parts are occupied by other than factory tenants and in which the fire department has approved the use of a local fire brigade, the commissioner may accept dual operation systems.

**§[1704.7] 27-974 Standpipe fireline telephone and signaling systems**.-

(a) In every building more than three hundred feet high, a telephone and signaling system shall be provided for fire department use in operating the standpipe system.

(b) Such system shall permit communication by permanent telephones in the pump rooms, on the entrance floor, and in gravity tank rooms communicating with floors, and by means of permanent or portable telephones on each floor near the main standpipe riser. The system shall be a selective ringing, common talking system supplied by a twenty-four volt direct current power source.

(c) Permanent wall telephones shall be provided with six inch gongs at each instrument. The telephones in the pump room shall be equipped with a loudspeaking receiver so that a voice can be distinctly heard at a distance of at least fifteen feet from the receiver. All other floors shall be provided with jacks protected by break-glass boxes, or with permanent telephones.

(d) At least three portable telephones with jack connections shall be provided for each standpipe installation, unless permanent telephones are installed at every required location. The portable telephones shall be kept in a cabinet located in the main hall of the entrance floor and shall be provided with a lock capable of being opened with a fire department standard key. Such cabinet shall be locked at all times. The panel of the cabinet door shall be conspicuously marked "portable telephone for fire department use."

(e) A pilot light shall be provided over the standpipe telephone cabinet in the entrance floor to indicate if the telephone is in use or a receiver is off the hook.

(f) Standpipe signaling devices.-

(1) Manual type individually coded sending stations shall be located in the main corridor of the building or other location meeting the approval of the commissioner. This system shall be so arranged that a coded signal will be transmitted to the alarm sounding devices. An eight inch gong shall be provided in the pump rooms, in elevator shafts at intervals not exceeding ten floors, and at such other locations selected by the architect or engineer, subject to the approval of the commissioner. All apparatus used in connection with the signaling system shall be of an approved type and installed as required by the provisions of reference standard RS 17-3 governing the installation of interior fire alarm

systems.

(2) Adjacent to each telephone station and near the main standpipe riser, there shall be provided an approved closed circuit strap key enclosed in a sheet metal box equipped with a paracentric fire department lock and approved hinges. The strap key shall be connected in series with the box circuit of the signal sending station.

(3) A card of instructions shall be placed in the pump room giving code numbers of signaling stations, the pressure obtainable at various speeds of the fire pumping motor, and such other information as the commissioner may direct.

(g) Where the building is subject to the provisions of subdivision (f) or (g) of section 27-972 of this article with respect to the requirement for a modified class E fire alarm signal system, the standpipe fireline telephone and signaling system may be combined with such fire alarm system provided:

(1) the alarms and two-way voice communication with the fire command station include the pump room and gravity tank or pressure tank room, and

(2) a designated floor station of the modified class E fire alarm signal system is located at or near the main standpipe riser on every floor.

**§[1704.8] 27-975 Communication system and fire command station**.-Buildings classified in occupancy group E, seventy-five feet or more in height, or, if less than seventy-five feet in height, with a total gross area of two hundred thousand square feet or more and existing office buildings one hundred feet or more in height, shall be provided with the following:

(a) a communication system acceptable to the commissioner consisting of:

(1) loud speakers on each floor of the building, in each elevator and each stair enclosure, which shall be capable of being operated from the fire command station.

(2) a two-way voice communication capability between the fire command station and the following locations:

a. a designated floor warden station on each floor
b. mechanical control center
c. elevators
d. air-handling control rooms
e. elevator machine rooms

(b) The fire command station shall be located in the lobby of the building on the entrance floor as part of the elevator control panel or immediately adjacent thereto. Such command station shall be adequately illuminated and shall contain the following:

(1) the loud speaker and communication capability described in subdivision (a) of this section.

(2) the audible alarm signal required in subdivision (f) and (g) of section 27-972 of this article.

(3) manually reset information display system to indicate the floor where the alarm was activated.

(4) means to control the sounding devices on any floor or throughout the building.

(5) means to manually transmit a fire alarm signal to the fire department via a central station of a franchised operating company.

(6) means for silencing the audible alarm signals when the loud speakers are in use and for activating the audible alarm systems automatically when use of the loud speakers are terminated. Switches used for this purpose shall be of the self-restoring type.

(7) display lamps to include on/off condition of air-handling systems unless such lamps are provided in the mechanical control center.

(8) means for testing the display lamps, local alarms and the connection to the central station of franchised operating company.

(c) Existing office buildings one hundred feet or more in height shall comply with the requirements of this section on or before September thirteenth, nineteen hundred eighty-one. Complete plans of the installation shall be filed with the commissioner on or before June thirteenth, nineteen hundred eighty. A permit shall be secured from the commissioner on or before September thirteenth, nineteen hundred eighty. Where compliance with the time requirements of this subdivision would cause undue hardship, the commissioner, with the approval of the fire commissioner, may extend the time for compliance, in accordance with rules and regulations to be promulgated. Before such application for a time extension shall be considered all required applications and plans must be filed and approved, permits obtained and a good faith effort towards completion of the work shall have been made.

**§[1704.9] 27-976 Installation**.-Installation, source of energy, wiring, and other requirements shall comply with reference standard RS 17-3, RS 17-3A or RS 17-3B as applicable.

**§[1704.10] 27-977 Fire systems electrical tests**.-Upon completion of a fire alarm system, and other electrical systems, the installation shall be subject to a test to demonstrate the efficiency of operation of all the components in the system and to an acceptance test by the fire department.

## ARTICLE 6
## SMOKE DETECTING DEVICES

***§[1705.1] 27-978 Definitions.-For the purposes of this article:**

a. an existing building is one which is within occupancy group J-1, occupancy group J-2 or occupancy group J-3 and for which plans have been approved by the department on or prior to December thirty-first, nineteen hundred eighty-one.

b. an improvement or alteration is a physical change in an existing structure other than painting, repairs and normal replacement of maintenance items.

c. a building shall be deemed to have been substantially improved or altered if:

1. the cost of improvement or alteration exceeds the sum of one hundred fifty thousand dollars, or

2. in either occupancy group J-1 or occupancy group J-2, fifty percent or more of the dwelling units or square feet of the structure are improved or altered and the cost of such improvement or alteration exceeds the sum of fifteen thousand dollars per dwelling unit, or

3. there has been a change in the occupancy or use of the structure.

***Local Law 81-1989.***

***§[1705.2] 27-979 Smoke detecting devices; where required.-**

(a) On and after January first, nineteen hundred eighty-two, all dwelling units within occupancy group J-1 and occupancy group J-2, except such units which contain operational automatic wet sprinkler systems pursuant to article four of this subchapter, and dwelling units in buildings within occupancy group J-3 shall be equipped with approved and operational smoke detecting devices as hereinafter provided. Buildings within occupancy group J-1 may, in the alternative, be equipped with a line-operated zoned smoke detecting system with central annunciation and central office tie-in for all public corridors and public spaces, pursuant to rules and regulations promulgated by the commissioner. The commissioner may, upon good cause shown, extend the period of compliance for occupancy groups J-1 and J-2 to June thirtieth, nineteen hundred eighty-two.

(b) Approved and operational smoke detecting devices shall be installed in mechanical rooms, electrical switch gear rooms and electric and telephone closets over seventy-five square feet in gross floor area in all buildings in all occupancy groups.

***Local Law 81-1989.***

**§[1705.3] 27-980 Power sources of smoke detecting devices**.-Dwelling units shall be equipped with smoke detecting devices receiving their primary power from the building wiring and there shall be no switches in the circuit other than the over-current device protecting the branch circuit; provided, however, that dwelling units in existing buildings may, in the alternative, be equipped with battery-operated smoke detecting devices except where such buildings are substantially improved or altered on or after January first, nineteen hundred eighty-two.

****§[1705.4] 27-981 General requirements for smoke detecting devices.-**

a. All smoke detecting devices required to be provided and installed pursuant to this article shall either be accepted pursuant to rules and regulations promulgated by the commissioner or be listed by a nationally recognized independent laboratory that maintains periodic inspections of production of listed equipment and whose listing states that the equipment meets nationally recognized standards. To meet the requirements of this article, such laboratory shall be one which maintains a periodic follow-up service of the devices to ensure compliance with the original listing.

b. No device shall be deemed to be in compliance with the provisions of this article unless it is of either the ionization chamber or photo-electric type. Such devices shall be in compliance with the requirements of reference standard RS 17-11 and shall be installed in a manner consistent with the requirements of reference standard RS 17-12 except that device within occupancy group J-1 shall be installed pursuant to rules and regulations promulgated by the commissioner.

****Local Law 49-1991.***

## ***ARTICLE 7
## CARBON MONOXIDE DETECTING DEVICES

*****§27-981.1 Definitions.-** For the purpose of this article: a. "Fossil fuel" shall mean coal, kerosene, oil, wood, fuel gases and other petroleum products.

b. "Fuel gases" shall include, but not be limited to, methane, natural gas, liquefied natural gas and manufactured fuel gases.

*****§27-981.2 Carbon monoxide detecting devices; where required.-** a. Every dwelling unit in a building within occupancy groups J-1, J-2 or J-3 where a fossil fuel-burning furnace or boiler is located, and every dwelling unit in a building that is in close proximity to a source of carbon monoxide, as such proximity is established by the rules promulgated by the commissioner in consultation with the fire department and the department of health and mental hygiene, shall be equipped with an operational carbon monoxide detecting device approved in accordance with the rules promulgated by the commissioner in consultation with the fire department and the department of health and mental hygiene, provided that there shall be installed at least one approved and operational carbon monoxide detecting device within fifteen feet of each room lawfully used for sleeping purposes. Such carbon monoxide detecting device may be combined with a smoke detecting device that complies with the provisions of this title and any applicable rules promulgated thereunder.

b. In every building classified in occupancy group G or occupancy group H-2, at least one approved and operational carbon monoxide detecting device shall be installed in accordance with rules promulgated by the commissioner in consultation with the fire department and the department of health and mental hygiene.

c. The provisions of this article shall apply retroactively to every building, in accordance with the provisions of subdivision a or subdivision b of this section, irrespective of when such building was constructed or a certificate of occupancy for such building was issued.

d. The provisions of this article may be enforced by the department, the fire department, the department of health and mental hygiene and the department of housing preservation and development.

*****§27-981.3 General requirements for carbon monoxide detecting devices.-** All carbon monoxide detecting devices required to be provided and installed pursuant to this article shall be of a type authorized by rules promulgated by the commissioner.

******Local Law 7-2004.***