

# 1 RCNY §3610-03

## CHAPTER 3600

### Appendices

#### Subchapter K

#### Modified Industry Standards for Elevators and Conveying Systems

**§3610-03 Emergency operation and signaling devices.** Pursuant to Section 28-103.19 of the New York City Administrative Code and Section BC 3008 of the New York City Building Code, Section 2.27 of American Society of Mechanical Engineers A17.1-2000, with supplements A17.1a-2002 and A17.1b-2003, as modified by Chapter K1 of Appendix K of the New York City Building Code, is hereby amended to read as follows:

#### SECTION 2.27

#### EMERGENCY OPERATION AND SIGNALING DEVICES

#### 2.27.5 Firefighters' emergency operation: automatic elevators with designated-attendant operation

**Delete and revise Section 2.27.5.1 to read as follows:**

**2.27.5.1** When designated-attendant operation is not in effect, elevators shall conform to 2.27.3 and when Occupant Evacuation Operation is provided shall also conform to 2.27.11.6.

**Delete and revise Section 2.27.5.2 to read as follows:**

**2.27.5.2** When operated by a designated attendant in the car,

(a) elevators parked at the recall level shall conform to 2.27.3 and when Occupant Evacuation Operation is provided shall also conform to 2.27.11.6 without delay; elevators parked at a floor other than the recall level shall conform to 2.27.3.1.6(h). At the completion of a time delay of not less than 10 seconds and not more than 30 seconds, elevators parked at a floor away from the recall level shall conform to 2.27.3 and when Occupant Evacuation Operation is provided shall also conform to 2.27.11.6.

(b) a moving car shall conform to 2.27.3 and when Occupant Evacuation Operation is provided shall also conform to 2.27.11.6.

**Exception.** The provisions of Section 2.27.5.2 do not apply to hospital service.

**Delete and revise Section 2.27.5.3 to read as follows:**

**2.27.5.3** When an elevator that is provided with Firefighters' Emergency Operation or Occupant Evacuation Operation is on hospital service, a visual signal as shown in Fig. 2.27.3.1.6(h) shall illuminate and a continuous audible signal, audible within the car, shall sound when a "FIRE RECALL" switch (see 2.27.3.1 and 2.27.11.1.2) is in the "FIREMEN SERVICE" position, or when a fire alarm initiating device (see 2.27.3.2) is activated to alert the operator of an emergency. There may be a means located in the car for manually silencing the audible signal, after the signal has been active for at least 5 seconds.

The signal shall be automatically reactivated when the doors open.

The car shall remain under control of the operator until removed from hospital service. An elevator on Firefighters' Emergency Operation or Occupant Evacuation Operation shall not be placed on hospital service.

**Delete and revise Section 2.27.6 to read as follows:**

## **2.27.6 Firefighters' emergency operation, occupant evacuation operation: inspection operation**

When an elevator that is provided with Firefighters' Emergency Operation or Occupant Evacuation Operation is on inspection operation (see 2.26.1.4 and 2.26.1.5) or when a hoistway access switch has been enabled (see 2.12.7.3.3(a)), a continuous audible signal, audible at the location where the inspection operation is activated, shall sound when a "FIRE RECALL" switch (see 2.27.3.1 and 2.27.11.1.2) is in the "ON" position or when the fire alarm initiating device (see 2.27.3.2 and 2.27.11.5) is activated to alert the operator of an emergency. The car shall remain under the control of the operator until removed from inspection operation or hoistway access operation. Inspection operation or hoistway access operation shall take precedence over Phase I Emergency Recall Operation, Phase II Emergency In-Car Operation, and Occupant Evacuation Operation.

**Add new Section 2.27.11 to read as follows:**

### **2.27.11 Occupant evacuation operation**

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighter's Emergency Operation and shall conform to 2.27.11.1 through 2.27.11.6.

Note: See also Nonmandatory Appendix V for additional information.

**2.27.11.1** The requirements of 2.27.3.1 are modified as follows.

**2.27.11.1.1** The two-position switch in the lobby (2.27.3.1.1) and two-position switch in the fire command center (2.27.3.1.2) shall be labeled "BANK FIRE RECALL" and indicate the elevator bank that they control.

**2.27.11.1.2** An additional two-position key operated individual "CAR FIRE RECALL" switch per elevator, that will not change position without a deliberate action by the user, shall be located in the lobby at the designated level adjacent to the elevator it controls. Each switch shall be labeled "CAR FIRE RECALL" (with the car identification, as specified in 2.29.1, inserted), and its positions marked "NORMAL" and "FIREMEN SERVICE" (in that order) in letters a minimum of 5 mm (0.25 in.) high. Text shall be black on a yellow background. Each switch shall control the associated elevator in conformance with 2.27.3.1.6, but shall not control the other elevators controlled by the "BANK FIRE RECALL" switch (see 2.27.11.1.1).

**2.27.11.1.3** Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "FIREMEN SERVICE" position. Each "BANK FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "FIREMEN SERVICE" position.

**2.27.11.1.4** Each individual "CAR FIRE RECALL" switch shall be provided with an illuminated visual signal to indicate when Phase I Emergency Recall Operation is in effect for that car (see 2.27.3.1.5).

**2.27.11.1.5** To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated to the "NORMAL" position, provided that

(a) the "BANK FIRE RECALL SWITCH" and the additional two-position "BANK FIRE RECALL" switch, where provided, are in the "NORMAL" position; and

(b) no fire alarm initiating device is activated (see 2.27.3.2).

**2.27.11.1.6** A car with its individual "CAR FIRE RECALL" switch in the "FIREMEN SERVICE" position shall not be removed from Phase I Emergency Recall Operation when the "BANK FIRE RECALL" switch is rotated to the "NORMAL" position.

**2.27.11.1.7** At the elevator designated level, only the door(s) serving the lobby where the "BANK FIRE RECALL" switch is located shall open.

**2.27.11.2** The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in ANSI/ICC A117.1, shall be installed for each elevator bank on each landing served. It shall be located not less than 2 130 mm (84 in.) and not more than 3 000 mm (120 in.) above the floor and in a central visible location within the elevator lobby. Message text shall be a minimum of 50 mm (2 in.) high and conform to ANSI/ICC A117.1. The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power.

When the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall not display other elevator system status messages.

**2.27.11.3** Where hoistway pressurization is provided, a car on Phase I Emergency Recall, after completing the requirements of 2.27.3.1.6, shall conform to the following:

(a) A car shall close its doors after 15 seconds.

(b) Door reopening devices, door force limiting devices, kinetic energy limiting devices, and the door open button shall remain active.

(c) At least one operating device normally used to call a car to the landing (e.g., hall call button, keypad) shall be located in the elevator lobby at the elevator designated level. Actuating this device shall cause all recalled cars to open their doors for 30 seconds to 45 seconds, then reclose.

**2.27.11.4** A position indicator shall be provided at the elevator designated level above or adjacent to the entrance for each car. The position indicator shall be powered by the same power supply as the elevator, including emergency or standby power.

#### **2.27.11.5 Fire alarm system interface**

**2.27.11.5.1** Upon activation of an automatic fire alarm initiating device in the building in any area that does not initiate Phase I recall in this bank, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72, as modified by Appendix Q of the New York City Building Code and any applicable rules, indicating the floors to be evacuated. The floors to be evacuated shall be a contiguous block of floors, consisting of at least the floor with an active alarm, one floor above and one floor below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.11.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this bank occurs on any additional floor at any time while Occupant Evacuation Operation in accordance with 2.27.11.6 is in effect, the evacuation zone shall be expanded to include all floors with an active alarm, all floors between the highest and lowest floor with an active alarm plus one floor above the highest floor with an active alarm and one floor below the lowest floor with an active alarm. If the active alarm is on the elevator designated level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.11.6 shall not be permitted. Initiation by authorized or emergency personnel shall be provided through manual operation of the fire alarm system.

For the purposes of this section, an active alarm refers to the condition caused by the activation of an automatic fire alarm initiating device.

**2.27.11.5.2** A means to initiate total building evacuation, labeled "ELEVATOR TOTAL BUILDING EVACUATION," shall be provided at the fire command center location and installed in accordance with NFPA 72, as modified by Appendix Q of the New York City Building Code and any applicable rules. When this means is actuated, the fire alarm system shall provide a signal to the elevator system indicating that all floors are to be evacuated. The means to initiate total building evacuation shall be keyed as New York City standard #2642 and FDNY standard key.

**2.27.11.6** When any of the signals provided in 2.27.11.5 actuate, the elevators shall conform to 2.27.11.6.1 through 2.27.11.6.10 in order to move occupants from the floors affected by the fire to the elevator designated level.

**2.27.11.6.1** The variable message signs required by 2.27.11.2 shall indicate one of the following messages:

(a) On all floors being evacuated, they shall indicate that the elevators are available for evacuation and the estimated time duration in minutes for the next elevator to arrive.

Text shall read: "Elevators and stairs available for evacuation. Next car in about "X" minutes."

(b) On all floors not being evacuated, they shall indicate that elevator service is not available.

Text shall read: "Elevators temporarily dedicated to other floors."

(c) On the elevator designated level, they shall indicate that the cars are in evacuation mode and that passengers should not use elevators.

Text shall read: "Elevators dedicated to evacuation. Do not enter elevator."

(d) If no elevators are available for Occupant Evacuation Operation (fire service, inspection, shut off, etc.), they shall indicate that elevator service is not available.

On all floors being evacuated they shall also indicate that occupants should use the stairs.

Text for floors being evacuated: "Elevators out of service. Use stairs to evacuate." Text for other floors: "Elevators out of service."

**2.27.11.6.2** Automatic visual signal or variable message sign, and voice notification in each car shall indicate that the car is being used to evacuate the building.

In the event that the car stops to pick up passengers at a floor other than the elevator designated level, the signals shall instruct the passengers to remain in the car.

Upon or prior to arrival at the elevator designated level, passengers shall be notified that they have arrived at the exit floor and to exit quickly. Message text shall be a minimum of 25 mm (1 in.) high and conform to ANSI/ICC A117.1. Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1 525 mm (60 in.) above the floor, at the center of the car.

**2.27.11.6.3** All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems that limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator or elevators to that landing. Landing calls entered at the floor with an active alarm shall be given higher priority than the calls at the floors above and below it. If a subsequent active alarm is received from a different floor, the evacuation priority shall be assigned in the sequence received. Once passengers have entered an elevator, it shall proceed only towards the elevator designated level. When total building evacuation is in effect and no calls are entered at an affected floor, priority shall be based on distance from the elevator designated level, with the furthest floor served getting highest priority.

**2.27.11.6.4** Car calls for all floors, except for the elevator designated level, shall be canceled and disabled.

A car call for the elevator designated level shall be automatically entered when any landing call is answered.

**2.27.11.6.5** Cars that are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor that is being evacuated, and park with their doors closed until a landing call is registered. If the car is in motion away from the floors being evacuated, it shall stop at or before the next available floor, without opening the doors, reverse direction, and move to a floor that is being evacuated.

**2.27.11.6.6** Cars that are occupied when Occupant Evacuation Operation is actuated shall proceed without delay to the elevator designated level. Any reversal of travel direction that is needed shall be done at or before the next available floor without opening the doors. After opening and closing the doors at the elevator designated level, the cars shall proceed without delay to a floor that is being evacuated and park with their doors closed until a landing call is registered.

**2.27.11.6.7** When a car answers a landing call at a floor being evacuated, a car call for the elevator discharge level shall be automatically registered. The system shall accept a new landing call as soon as the doors have opened to permit loading at that floor, or sooner. If a new landing call is registered at this floor, it shall be assigned to another car, and not canceled until that car arrives. Actuation of the landing call device shall not prevent a loaded car from closing its doors and leaving the floor.

**2.27.11.6.8** While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door reopening device(s) shall be disabled and the doors shall initiate closing at reduced kinetic energy in accordance with 2.13.4.2.1(c). If the doors stall while closing, they shall reopen fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity, the doors shall reopen and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

**2.27.11.6.9** Once the block of floors being evacuated has been evacuated, as indicated by a 60 second period in which no landing calls are registered, one car shall park with its doors closed at the lowest floor of the block of floors ready to answer subsequent landing calls within the block of floors; the rest shall park with doors closed at the elevator designated level. A car parked at the elevator designated level shall replace the car at the lowest floor of the block that has answered a landing call.

**2.27.11.6.10** Occupant Evacuation Operation shall be terminated when the fire alarm system is reset or the signals provided in 2.27.3.2 are actuated (see 2.27.11.1.3).

**Add new Section 2.27.12 to read as follows:**

## **2.27.12 Inspections and tests**

**2.27.12.1 Annual inspections and tests.** All elevators provided with Occupant Evacuation Operation shall be subjected, by authorized personnel, to a check of the operation in conjunction with the fire alarm system testing in accordance with the requirements of NFPA 72, as modified by Appendix Q of the New York City Building Code and any applicable rules. Deficiencies shall be corrected. A record of findings shall be available to elevator personnel and the authority having jurisdiction. These tests and inspections are not part of the Category 1 or Category 5 tests or inspections.

**2.27.12.2 Acceptance tests.** Acceptance tests shall be performed jointly by the fire alarm installer and the elevator system installer in conjunction with NFPA 72, as modified by Appendix Q of the New York City Building Code and any applicable rules. Acceptance tests shall also verify conformance with 2.27.11.