

## Code Technology Committee Report Review of NIST WTC Recommendations Group A changes

There are 11 areas of study currently listed under CTC.

1. Balanced Fire Protection
  - 1.1. Vertical Opening
  - 1.2. Roof Vents
2. Carbon Monoxide Detectors
3. Nursing Care Facilities
4. Child Window Safety
5. Climbable Guards
6. Elevator Lobby
7. Review of NIST WTC Recommendations
8. ADA/IBC Coordination
9. Fire rated glazing
10. Relocatable Modular Building
11. Unenclosed Exit Stairs

Following are code change proposals with related changes to the Review of NIST WTC Recommendations. There are no CTC proposals from the group this cycle.

### Review of NIST WTC Recommendations

Code Change #	Section	CTC (x) or Related (o)	Position					Comments
			Oppose & Testify	Oppose	No Position	Support	Support & Testify	
G52	403.5.2	O						
G53	403.6.1	O						
G170	3006.4	O						
G171	3006.4	O						
G172	3006.4	O						
G173	3007.2	O						
G174	3007.7	O						
G175	3007.7.1	O						
G176	3007.7.3	O						
G177	3007.7.4	O						
G179	3007.9	O						

G180	3008.2	O						
G181	3008.2.2	O						
G182	3008.7.3	O						
G183	3008.7.6	O						
G184	3008.7.7.1	O						Two-way communication
G185	3008.7.7.1	O						

## G52 – 12

### 403.5.2, 403.5.4

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE.**

**Proponent:** Philip Brazil, PE, Reid Middleton, Inc., representing Washington Association of Building Officials, Technical Code Development (pbrazil@reidmiddleton.com)

**Revise as follows:**

**403.5.2 Additional interior exit stairway.** For buildings other than Group R-2 that are more than 420 feet (128 000 mm) in *building height*, one additional *interior exit stairway* meeting the requirements of Sections 1009 and 1022 shall be provided in addition to the minimum number of *exits* required by Section 1021.1. The total width of any combination of remaining *interior exit stairways* with one *interior exit stairway* removed shall be not less than the total width required by Section 1005.1. *Scissor stairs* shall not be considered the additional *interior exit stairway* required by this section.

**Exception:** An additional *interior exit stairway* shall not be required to be installed in buildings having elevators used for occupant self-evacuation in accordance with Section 3008.

**403.5.4 Smokeproof enclosures.** Every required *interior exit stairway* serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be a *smokeproof enclosure* in accordance with Sections 909.20 and 1022.10.

**Reason:** “Interior” is added before “exit stairway” because “exit stairway” includes exterior exit stairways, which are not permitted in high-rise buildings by Section 1026.2. Based on our analysis of the 2012 IBC, all instances of “exit stairway” in provisions for or related to high-rise buildings, where a change to “interior exit stairways” is warranted, are included in this proposal.

**Cost Impact:** The code change proposal will not increase the cost of construction.

### G52-12

Public Hearing: Committee:

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Assembly:

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403.5.2-G-BRAZIL

## G53 – 12

### 403.6.1

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

**403.6.1 Fire service access elevator.** In buildings with an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access, no fewer than two fire service access elevators, or all elevators, whichever is less, shall be provided in accordance with Section 3007. Each fire service access elevator shall have a capacity of not less than 3500 pounds (1588 kg) and shall comply with Section 3002.4.

**Reason:** When Section 3002.4 was amended to require elevator cars that can accommodate an 84 inch (2134 mm) stretcher it increased the size of the elevator car to a 3500 pound minimum capacity. As Section 403.6.1 now requires all Fire Service Access elevators in a building to be this size, it makes sense to coordinate this requirement with the stretcher size requirement.

As firefighters use Fire Service Access elevators to stage to fight a fire, these elevators will often be occupied carrying equipment and personnel to the staging floor. If only one of these 3500 pound elevators can also accommodate a stretcher, there is no guarantee that it will be the one that is available to evacuate injured persons. Having all Fire Service Access elevators usable and available to serve both the staging and the evacuation functions is an efficient way of taking advantage of what may be the largest elevator cars in the building.

**Cost Impact:** This code change proposal will not increase the cost of construction.

### G53-12

Public Hearing: Committee:

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403.6.1-G-BLACK

## G170 – 12

### 3006.4

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

#### Revise as follows:

**3006.4 Machine rooms and machinery spaces.** Elevator machine rooms and machinery spaces shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway enclosure doors.

#### Exceptions:

1. Except for fire service access elevators, ~~Where~~ machine rooms and machinery spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire-resistance rating*.
2. In buildings four *stories* or less above *grade plane* where machine room and machinery spaces do not abut and have no openings to the hoistway enclosure they serve, the machine room and machinery spaces are not required to be fire-resistance rated.

**Reason:** It is critical to protect Fire Service Access Elevator systems by keeping heat from reaching the solid-state equipment and associated wiring/equipment located in machine rooms and machinery spaces. The reduction in Exception 1 to permit a 1-hour fire-resistance rating defeats this need.

**Cost Impact:** The code change proposal will increase the cost of construction.

### G170-12

Public Hearing: Committee:  
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Assembly:

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3006.4-G-BLACK

## G171 – 12

### 3006.4

**Proponent:** Al Godwin, CBO, CPM, Aon Fire Protection Engineering (al.godwin@aon.com)

#### Revise as follows:

**3006.4 Machine rooms and machinery spaces.** Elevator machine rooms and machinery spaces shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway enclosure doors.

#### Exceptions:

1. For other than fire service access elevators and occupant evacuation elevators, where machine rooms and machinery spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire-resistance rating*.
2. For other than fire service access elevators and occupant evacuation elevators, in buildings four *stories* or less above *grade plane* where machine room and machinery spaces do not abut and have no openings to the hoistway enclosure they serve, the machine room and machinery spaces are not required to be fire-resistance rated.

**Reason:** Section 903.3.1.1.1, items 5 and 6 prohibit sprinklers in machine rooms of fire service access elevators and occupant evacuation elevators. Thus, they are unprotected. As such, they should not be allowed a reduction in enclosure protection.

Alternate proposal:

In lieu of the change above, make the following change:

IBC Section 3006.4, delete the two exceptions.

And:

Group B cycle, IFC/IBC Section 903.3.1.1.1 amend item 5 and 6 as follows:

5. ~~Fire service access~~ elevator machine rooms and machinery spaces.
6. ~~Machine rooms and machinery spaces associated with occupant evacuation elevators designed in accordance with Section 3008.~~

**Reason:** Just treat all elevator machine rooms the same. No sprinklers. No reduction in construction.

**Cost Impact:** This code change proposal will increase the cost of construction in not allowing the reduction in the construction rating of elevator machine rooms.

## G171-12

Public Hearing: Committee:  
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Assembly:

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3006.4-G-GODWIN

# G172 – 12

## 3006.4, 3006.4.1 (NEW)

**Proponent:** Lynn W Manley, Illinois Department of Public Health – Health Care Facilities and Programs, representing self.

**Revise as follows:**

**3006.4 Machine rooms and machinery spaces.** Elevator machine rooms and machinery spaces shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway enclosure doors.

**Exceptions:**

- ~~1. Where machine rooms and machinery spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire resistance rating*.~~
- ~~2. In buildings four *stories* or less above *grade plane* where machine room and machinery spaces do not abut and have no openings to the hoistway enclosure they serve, the machine room and machinery spaces are not required to be fire-resistance rated.~~

**3006.4.1 Separated Elevator Machine Rooms.** Where more than one hoistway is required under Section 3002.2, the elevator machine room that is open to each hoistway shall be separated from other elevator machine rooms by fire rated barriers. The fire rated separation for the machine rooms shall match the requirements of the hoistways.

**Exceptions:**

1. Where machine rooms and machinery spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire resistance rating*.
2. In buildings four *stories* or less above *grade plane* where machine room and machinery spaces do not abut and have no openings to the hoistway enclosure they serve, the machine room and machinery spaces are not required to be fire-resistance rated.

**Reason:** Section 3002 limits the number of elevators in a shaft to four. Where more than four elevators are provided, separate shall enclosures are required. In many cases all elevator shafts are open to one common elevator machine room. These machine rooms are required to be sprinklered in new construction. ANSI/ASME A17.3, NFPA and ICC all require Phase I emergency recall and require smoke detection in the elevator machine room. Where sprinkler protection is provided, machine rooms are also required to have shunt trip relays and heat detection that is designed to shut down the elevators before any sprinkler head in the machine room activates.

This means that all elevators that are part of or open to the same machine room will recall to the designated floor from activation of any smoke detector in the machine room. This is not desirable in high rise buildings and it is not desirable in most hospitals.

Further, any activation of a heat detector in the elevator machine room will shut down every elevator served by that machine room. It is not desirable to lose every elevator in a building due a fire in a common machine rooms.

Recall and/or shut down should only occur if the elevator shaft and the machine room that serves that shaft have a fire. If the machine rooms are isolated by fire barriers, some elevator could remain in use because they are unaffected by the fire.

**Cost impact:** There will be no cost impact in many buildings where the change will not require anything new. There will be a slight cost increase in buildings with multiple elevator shafts. The cost of a fire barrier is negligible compared to the increased safety provided.

**G172-12**

Public Hearing: Committee:

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Assembly:

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3006.4.1 (NEW)-G-MANLEY.doc

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**G173 – 12**

**3007.2**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Delete without substitution:**

~~**3007.2 Phase I Emergency recall operation.** Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated “Fire Recall” switch or automatically initiated by the associated elevator lobby, hoistway or elevator machine room *smoke detectors*. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated “Fire Recall” switch conforming to the applicable requirements in ASME A17.1/CSA B44 shall be provided at the designated level for each fire service access elevator.~~

**Reason:** The first sentence makes no sense because ASME A17.1/CSA B44 requires Phase I emergency recall operation only when a fire alarm initiating device is activated in an elevator lobby, hoistway, or associated elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room. The activation of any alarm initiating device in a building activating Phase I on any elevator does not comply with ASME A17.1/CSA B44.

Just as important, this activation of Phase I in a building equipped with Occupant Evacuation Elevators complying with Section 3008 would unnecessarily compromise the evacuation capacity of the elevator system for no good reason. The firefighters responding to a building fire can capture the fire service access elevators when they get there if it is needed.

With the deletion of the first sentence, none of the rest of this section is necessary as these functions are already addressed in ASME A17.1/CSA B44 or the Occupant Evacuation Elevator requirements of Section 3008.

**Cost Impact:** The code change will not increase the cost of construction.

**G173-12**

Public Hearing: Committee:

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3007.2-G-BLACK

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**G174 – 12**

**PART 1 – IBC GENERAL**

**3007.7, 3007.7.1, 3007.7.5 (NEW), 3007.7.6 (NEW),**

**Part II – IBC GENERAL**

**3008.7, 3008.7.1, 3008.7.5 (NEW)**

**PART III – IBC FIRE SAFETY**

**713.14.1.2 (NEW)**

**Proponent:** Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

**THIS IS A 3 PART CODE CHANGE. PARTS I AND II WILL BE HEARD BY THE IBC GENERAL COMMITTEE AND PART III WILL BE HEARD BY THE IBC FIRE SAFETY COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEE.**

## **PART I - IBC GENERAL**

**Revise as follows:**

**3007.7 Fire service access elevator lobby.** The fire service access elevator shall open into a fire service access elevator lobby in accordance with Sections 3007.7.1 through ~~3007.7.5~~ 3007.7.7.

~~**Exception:** Where a fire service access elevator has two entrances onto a floor, the second entrance shall be permitted to open into an elevator lobby in accordance with Section 708.14.1.~~

The fire service access elevator lobby shall be permitted to be one of the following:

1. A private lobby from the fire service access elevator in which the elevator is dedicated to this use only.
2. A private lobby on the side or rear of a public or freight elevator which has two entrances onto a floor. The second entrance shall be permitted to open into an elevator lobby in accordance with Section 713.14.1.
3. The public or freight elevator lobby when constructed in accordance with this Section. The lobby exceptions of Section 713.14.1 shall not be applicable except as specified in Section 3007.7.2.

**3007.7.1 Access.** The fire service access elevator lobby shall have direct access to an enclosure for an *interior exit stairway*.

~~**Exception:** Direct access shall be permitted through an *exit passageway*, used only as an *exit* in accordance with Section 1023 that directly connects the lobby to the *interior stairway*, is not also used as a corridor, and has no other entry doors except those that are used as a *means of egress*.~~

**3007.7.5 Connections with corridors and other rooms.** Corridors shall be permitted to pass through the fire service access elevator lobby when the connecting walls and doors are constructed in accordance with this section.

~~**Exception:** In Group I-2 occupancies and ambulatory healthcare facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.~~

Other rooms or spaces, other than those associated with fire service uses, shall not have doors directly connected to the fire service access elevator lobby.

**3007.7.6 Storage and furniture.** Fire service access elevator lobbies shall be maintained free of storage and furniture.

*(Renumber subsequent sections)*

## **PART II – IBC GENERAL**

**3008.7 Occupant evacuation elevator lobby.** The occupant evacuation elevators shall open into an elevator lobby in accordance with Sections 3008.7.1 through ~~3008.7.7~~ 3008.7.8.

**3008.7.1 Access.** The occupant evacuation elevator lobby shall have direct access to an *interior exit stairway* or *ramp*.

**Exception:** Direct access shall be permitted to be through the use of an *exit passageway*, used only as an *exit* in accordance with Section 1023 that directly connects the lobby to the *interior stairway*, is not also used as a corridor, and has no other entry doors except those that are used as a *means of egress*

**3008.7.5 Connections with corridors and other rooms.** Corridors shall be permitted to pass through the occupant evacuation elevator lobby when the connecting walls and doors are constructed in accordance with this section.

**Exception:** In Group I-2 occupancies and ambulatory healthcare facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.

Other rooms or spaces, other than those associated with fire service uses, shall not have doors directly connected to the occupant evacuation elevator lobby.

*(Renumber subsequent sections)*

### PART III - IBC FIRE SAFETY

Revise as follows:

**713.14.1.2 Connections with corridors and other rooms.** When a lobby or smoke partitions of Exception 5 in Section 713,14,1, is constructed, corridors shall be permitted to pass through the elevator lobby when the connecting walls and doors are constructed in accordance with this section.

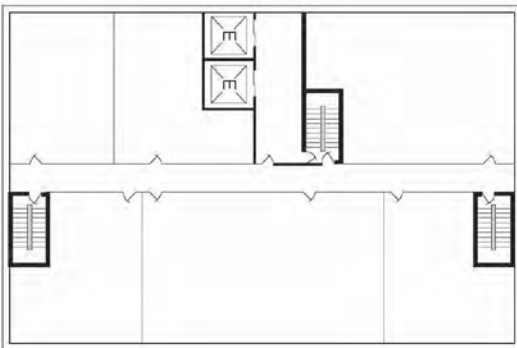
**Exception:** In Group I-2 occupancies and ambulatory health care facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.

Other rooms or spaces shall be permitted to have doors directly connected to the lobby.

**Reason:** Part I: During the last code cycle, code change FS45-09/10 was submitted to restrict exiting through a passenger elevator lobby. It was withdrawn after public comments were submitted against it claiming that it was an exiting issue and not a fire safety issue.

This proposal is being submitted as a fire safety issue for clarification as to the fire safety construction of fire service access elevator lobbies and occupant evacuation elevator lobbies. While passenger elevator lobbies may end up as part of the discussion, the first point of clarification is for fire service access elevator lobbies.

When originally submitted, the exception to Section 3007.7 gave the impression that the fire service access elevator lobby was a private dedicated elevator lobby. When G49-09/10 passed, requiring "two" fire service access elevators, it virtually guaranteed that the public lobby would be used as the fire service access lobby. This was further confirmed when G164-09/10 was passed using the following drawing:



With multiple lobby changes happening (fire service access elevator lobbies, occupant evacuation lobbies, which are now tied to passenger lobbies) it is time the sections were correlated. And, how does section 709.5, allowing the removal of hardware fit into all of this?



There are commentary notes about public elevator lobbies that may or may not be applicable when used as the fire service access lobby. Thus, this submittal is to generate discussion as to what is or is not applicable.

Specific sections are explained as follows:

Section 3007.7, options 1 thru 3. These now appears to be the design options available.

Section 3007.7.1. Now that two elevators are required, it is likely that the main elevator lobby in the center of the building will be the option of choice as shown in G164-09/10. As such, it may not be feasible to install an extra stair in the center of the building, or bring over one of the original stairs and still meet code for dead end corridors. Therefore, direct connection from the lobby to the stair with the use of an exit passageway seems to be an appropriate option.

Section 3007.7.5. The commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into an elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space."

If the above mentioned commentary notes are not deemed appropriate for passenger lobbies, then an amendment to Section 713.14.1 may be needed to correct the commentary.

However, as long as applicable, the following might also apply to the Fire Service Access lobby:

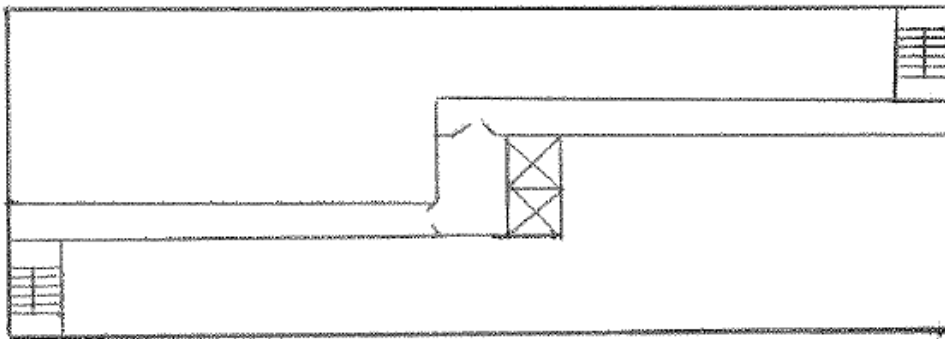
Allowing the corridor to pass through a fire service access lobby, when properly protected, would not seem to add any extra hazard than crossing across the front of a lobby as shown in G164 above. The exception for Group I-2's and ambulatory health care needs to be evaluated.

However, it does not seem appropriate to have extra rooms directly connected to the fire service access lobby, even if separated, that would exit through the lobby and perhaps into the directly connected interior stair.

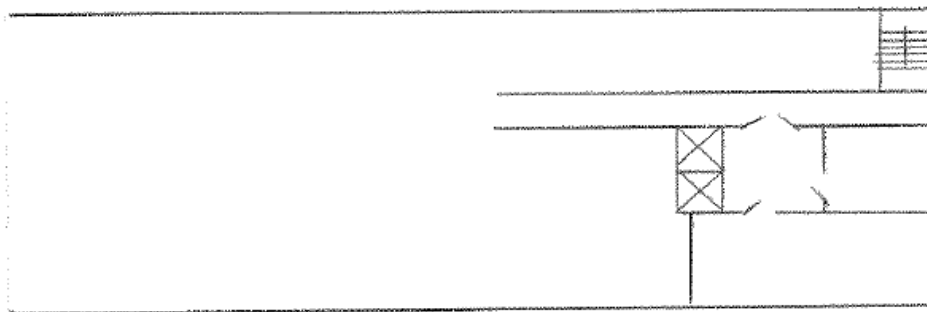
Section 3007.7.6. This is from IFC Section 607.3.

Some examples are as follows:

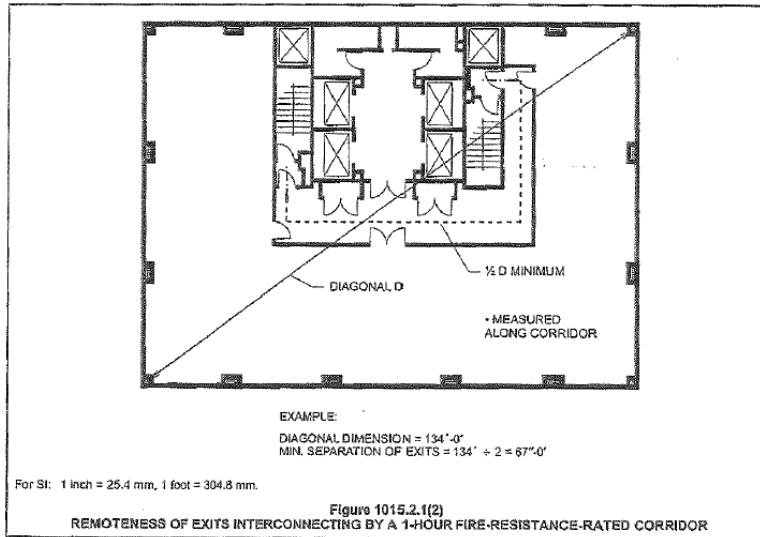
1. Corridor passes through passenger elevator lobby. If provided with access to a stair and proper construction, could this be a Fire Service Access Elevator Lobby and/or an Occupant Evacuation Elevator Lobby?



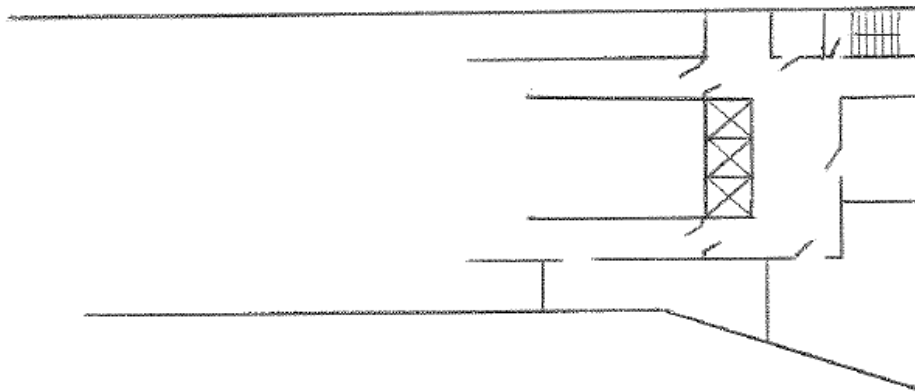
2. Rooms connect to and exit through elevator lobby. If provided with access to a stair and correct construction, could this be a Fire Service Access Elevator Lobby and/or an Occupant Evacuation Elevator Lobby?



Even the commentary has an example of what appear to be restrooms off an elevator lobby as follows:



3. The following is an example of corridors passing through a lobby, along with rooms with direct connection to lobby, serving as passenger elevator lobby Fire Service Access lobby and/or Occupant Evacuation Elevator lobby. This is an actual design submitted for review.



When this discussion concludes, there should be a clear definition of what is required for lobby protection.

#### Part II

Part II is actually a place holder. Depending on how the discussions proceed on Part I, amendments may be needed on Part II. By listing this section in the code change, it will allow them to be made.

My personal opinion is that the elevator lobby should be a separated alcove off of the side with only a corridor going across the entry way as shown in the drawing under Part I above. However, the commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into an elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space."

In order to specifically achieve the alcove as shown in the drawing above, it would seem that extra wording is required.

#### Part III

Part III is actually a place holder. Depending on how the discussions proceed on Part I, amendments may be needed on Part III. By listing this section in the code change, it will allow them to be made.

My personal opinion is that the elevator lobby should be a separated alcove off of the side with only a corridor going across the entry way as shown in the drawing under Part I below. However, the commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into an elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space." In order to specifically achieve the alcove as shown in the drawing above, it would seem that extra wording is required.

**Cost Impact:** This code change proposal will increase the cost of construction if the intent was to allow such penetrations of all lobbies and this restricts such penetrations.

**G174-12**

**PART I – IBC GENERAL**

Public Hearing: Committee:	AS	AM
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DF	Assembly: ASF	AMF

**PART II – IBC GENERAL**

Public Hearing: Committee:	AS	AM
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DF	Assembly: ASF	AMF

**PART III – IBC FIRE SAFETY**

Public Hearing: Committee:	AS	AM
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DF	Assembly: ASF	AMF

3007.7-G-GODWIN.doc

**G175 – 12**

**202, 1027.1, 3007.7.1, 3008.7.1**

**Proponent:** Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

**Revise as follows:**

**3007.7.1 Interior exit stairway access.** The fire service access elevator lobby shall have direct access from the enclosed elevator lobby to an enclosure for an *interior exit stairway*.

**Exception:** Access to an interior exit stairway shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.5.3.

**3008.7.1 Interior exit stairway access.** The occupant evacuation elevator lobby shall have direct access from the enclosed elevator lobby to an *interior exit stairway or ramp*.

**Exception:** Access to an interior exit stairway shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.5.3.

**1027.1 General.** Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct access path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and capacity of the required exits.

## Exceptions:

1., 2., and 3, (Portions of text not shown remain unchanged)

## Add new definition as follows:

**DIRECT ACCESS.** A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.

**Reason:** The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as “areas of study”. Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

This proposal is one of several proposals submitted by the CTC related to elevator lobby provisions. The ICC Executive Board directed the Code Technology Committee (CTC) to study the issue of elevator lobby separations in November 2010 due to the number of code change proposals submitted addressing this issue over a number of code change cycles. The Code Technology Committee formed a study group on the elevator lobby separation issue in December 2010. Note that this subject had been previously addressed by CABO/BCMC in 1986 with a similar conclusion. The code change proposals submitted are the result of the CTC’s study of the issue. Note that the scope of the activity was as follows:

### Scope

- Review the need for elevator lobbies, with emphasis on building use, building and hoistway height, active and passive fire protection features associated with the aforementioned.
- Review the differences and specific needs when dealing with elevator lobbies of traditional-use elevators, fire service elevators, and occupant evacuation elevators.
- Review related code provisions, such as egress from and through elevator lobbies.
- Review the appropriate use of alternatives including pressurization of hoistways, additional doors, roll-down style barriers, and gasketing systems.
- Review with members of elevator industry to scope the requirements of applicable elevator reference standards as it deals with elevator lobby design, use and construction.
- Review design and construction requirements for elevator lobbies, including but not limited to dimensions, location and separation.
- Review applicable code change history, technical studies and loss statistics as part of this review.

Based upon the extensive nature of this area of study, 5 Task Groups were formed during the process to provide in-depth review and to manage the number of issues. These task groups developed a number of proposals that were coordinated throughout the process.

More information on this CTC area of study can be found at the following link.

<http://www.iccsafe.org/cs/CTC/Pages/ElevatorLobbies.aspx>

The focus of this proposal is on how the direct access requirements of Section 3007.7.1 and 3008.7.1 are applied. Both FSAE and Occupant Evacuation elevators lobbies call for direct access to the stairway. The term direct access is not necessarily clear in its meaning and could if applied as intended place severe design limitations on some buildings. The intent of this proposal is to set out a viable option for the stairs to be more remotely located from the lobby. A package of requirements that provides fire resistance rated construction and smoke and draft protection is provided. A definition is also provided to clarify the use of the term. Section 1027.1 was revised slightly since the current use of the term “direct access” in that case has a different meaning.

Background sections for the separation requirements are as follows:

**708.1 General.** The following wall assemblies shall comply with this section.

1. Walls separating *dwelling units* in the same building as required by Section 420.2.
2. Walls separating *sleeping units* in the same building as required by Section 420.2.
3. Walls separating tenant spaces in *covered and open mall buildings* as required by Section 402.4.2.1.
4. Corridor walls as required by Section 1018.1.
5. Elevator lobby separation as required by Section 713.14.1.

**708.2 Materials.** The walls shall be of materials permitted by the building type of construction.

**708.3 Fire-resistance rating.** Fire partitions shall have a *fire resistance rating* of not less than 1 hour.

### Exceptions:

1. Corridor walls permitted to have a 1/2 hour *fire-resistance rating* by Table 1018.1.
2. *Dwelling unit* and *sleeping unit* separations in buildings of Type IIB, IIIB and VB construction shall have *fire-resistance ratings* of not less than 1/2 hour in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

**716.5.3 Door assemblies in corridors and smoke barriers.** *Fire door* assemblies required to have a minimum *fire protection rating* of 20 minutes where located in *corridor walls* or *smoke barrier walls* having a *fire-resistance rating* in accordance with Table 716.5 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test.

### Exceptions:

1. Viewports that require a hole not larger than inch (25 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. *Corridor* door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for *corridors* in multitheater complexes where each motion picture auditorium has at least one-half of its required *exit* or *exit access doorways* opening directly to the exterior or into an *exit* passageway.
4. Horizontal sliding doors in *smoke barriers* that comply with Sections 408.3 and 408.8.4 in occupancies in Group I-3.

**716.5.3.1 Smoke and draft control.** *Fire door* assemblies shall also meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot (0.01524 m<sup>3</sup>/s □□ m<sup>2</sup>) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.

**716.5.3.2 Glazing in door assemblies.** In a 20-minute *fire door assembly*, the glazing material in the door itself shall have a minimum fire-protection-rated glazing of 20 minutes and shall be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lights and sidelights, shall be tested in accordance with NFPA 257 or UL 9, including the hose stream test, in accordance with Section 716.6.

Background information on the term “direct access” is as follows:

**ANCHOR BUILDING.** An exterior perimeter building of a group other than H having direct access to a *covered or open mall building* but having required *means of egress* independent of the mall.

**405.4.3 Elevators.** Where elevators are provided, each compartment shall have direct access to an elevator. Where an elevator serves more than one compartment, an elevator lobby shall be provided and shall be separated from each compartment by a *smoke barrier* in accordance with Section 709. Doors shall be gasketed, have a drop sill and be automatic-closing by smoke detection in accordance with Section 716.5.9.3.

**407.4.1 Direct access to a corridor.** Habitable rooms in Group I-2 occupancies shall have an *exit access* door leading directly to a *corridor*.

**505.2.3 Openness.** A *mezzanine* shall be open and unobstructed to the room in which such *mezzanine* is located except for walls not more than 42 inches (1067 mm) in height, columns and posts.

**Exceptions:**

1. *Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the *occupant load* of the aggregate area of the enclosed space is not greater than 10.
2. A *mezzanine* having two or more *means of egress* is not required to be open to the room in which the *mezzanine* is located if at least one of the *means of egress* provides direct access to an *exit* from the *mezzanine* level.
3. ...

**1007.6 Areas of refuge.** Every required *area of refuge* shall be *accessible* from the space it serves by an *accessible means of egress*. The maximum travel distance from any *accessible* space to an *area of refuge* shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required *area of refuge* shall have direct access to a *stairway* complying with Sections 1007.3 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an *area of refuge*, the shaft and lobby shall comply with Section 1022.10 for smokeproof enclosures except where the elevators are in an *area of refuge* formed by a *horizontal exit* or smoke barrier.

**1007.7.2 Outdoor facilities.** Where *exit access* from the area serving outdoor facilities is essentially open to the outside, an exterior area of assisted rescue is permitted as an alternative to an *area of refuge*. Every required exterior area of assisted rescue shall have direct access to an *interior exit stairway*, exterior *stairway*, or elevator serving as an *accessible means of egress* component. The exterior area of assisted rescue shall comply with Sections 1007.7.3 through 1007.7.6 and shall be provided with a two-way communication system complying with Sections 1007.8.1 and 1007.8.2.

**1027.1 General.** *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide direct access to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and capacity of the required exits.

**1105.1.1 Parking garage entrances.** Where provided, direct access for pedestrians from parking structures to buildings or facility entrances shall be *accessible*.

**1105.1.2 Entrances from tunnels or elevated walkways.** Where direct access is provided for pedestrians from a pedestrian tunnel or elevated walkway to a building or facility, at least one entrance to the building or facility from each tunnel or walkway shall be *accessible*.

**TABLE 2902.1**

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient sleeping unit and with provisions for privacy.

**3007.7.1 Access.** The fire service access elevator lobby shall have direct access to an enclosure for an *interior exit stairway*.

**3008.7.1 Access.** The occupant evacuation elevator lobby shall have direct access to an *interior exit stairway* or *ramp*.

**3109.4.1.8 Dwelling wall as a barrier.** Where a wall of a *dwelling* serves as part of the barrier, one of the following shall apply:  
1. Doors with direct access to the pool through that wall shall be equipped with an alarm that produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be *listed* and labeled in accordance with UL 2017. In dwellings not required to be *Accessible units, Type A units* or *Type B units*, the deactivation switch shall be located 54 inches (1372 mm) or more above the threshold of the door. In dwellings required to be *Accessible units, Type A units* or *Type B units*, the deactivation switch shall be located not higher than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the threshold of the door.

This proposal does not have any particular correlation concerns. See discussion on CTC elevator lobby proposal coordination in code change Section 713.14.1.

**Cost Impact:** This proposal will not increase the cost of construction.

**G175-12**

Public Hearing: Committee: AS AM  
D  
Assembly: ASF AMF  
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3007.7.1-G-BALDASSARRA-CTC.doc

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**G176 – 12**

**3007.7.3**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

**3007.7.3 Lobby doorways.** Other than ~~the doors~~ to the hoistway, elevator control room, or elevator control space, each doorway to a fire service access elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control door assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

**Reason:** Machine Room Less (MRL) elevators permitted by ASME A17.1/CSA B44 typically have control rooms or control spaces that are accessed by a door immediately adjacent to a hoistway opening in an elevator lobby.

3007.7.3 is intended to maintain the integrity of the lobby enclosure smoke barrier and the lobby's separation from the remaining floor area on a building floor (see 3007.7.2). This ensures that smoke from another area on the floor will not reach the lobby smoke detectors and place the elevator(s) into Phase I, thus rendering them unusable for Fire Service Access.

Smoke and draft control is unnecessary on elevator control room or space doors because any smoke emanating from those spaces has already activated the smoke detector in the control room/space and placed the elevator(s) in Phase I operation. It is thus unnecessary to protect the lobby smoke detector from smoke originating in the control room/space (or the hoistway to which the room/space is connected).

The ASME A17 Firefighters and Occupant Egress Task Groups that performed the hazard analyses that resulted in Fire Service Access Elevators did not discuss MRL elevators in their initial analyses that led to the current IBC requirements, and thus did not anticipate the problem of control room and control space doors opening into a lobby enclosure.

**Cost Impact:** This code change proposal will not increase the cost of construction.

**G176-12**

Public Hearing: Committee: AS AM  
D  
Assembly: ASF AMF  
DF

3007.7.3-G-BLACK

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**G177 – 12**

**3007.7.4**

**Proponent:** Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

**Revise as follows:**

**3007.7.4 Lobby size.** ~~Each~~ Regardless of the number of fire service access elevators served by the same elevator lobby the enclosed fire service access elevator lobby shall be a not less than 150 square feet (14 m<sup>2</sup>) in an area with a minimum dimension of 8 feet (2440 mm).

**Reason:** The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as “areas of study”. Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

This proposal is one of several proposals submitted by the CTC related to elevator lobbies. The ICC Executive Board directed the Code Technology Committee (CTC) to study the issue of elevator lobby separations in November 2010 due to the number of code change proposals submitted addressing this issue over a number of code change cycles. The Code Technology Committee formed a study group on the elevator lobby separation issue in December 2010. Note that this subject had been previously addressed by CABO/BCMC in 1986 with a similar conclusion. The code change proposals submitted are the result of the CTC’s study of the issue. Note that the scope of the activity was as follows:

**Scope**

- Review the need for elevator lobbies, with emphasis on building use, building and hoistway height, active and passive fire protection features associated with the aforementioned.
- Review the differences and specific needs when dealing with elevator lobbies of traditional-use elevators, fire service elevators, and occupant evacuation elevators.
- Review related code provisions, such as egress from and through elevator lobbies.
- Review the appropriate use of alternatives including pressurization of hoistways, additional doors, roll-down style barriers, and gasketing systems.
- Review with members of elevator industry to scope the requirements of applicable elevator reference standards as it deals with elevator lobby design, use and construction.
- Review design and construction requirements for elevator lobbies, including but not limited to dimensions, location and separation.
- Review applicable code change history, technical studies and loss statistics as part of this review.

Based upon the extensive nature of this area of study, 5 Task Groups were formed during the process to provide in-depth review and to manage the number of issues. These task groups developed a number of proposals that were coordinated throughout the process.

More information on this CTC area of study can be found at the following link.  
<http://www.iccsafe.org/cs/CTC/Pages/ElevatorLobbies.aspx>

This proposal is to clarify that it was not the intent to require additional space for each additional fire service access elevator provided. The initial intent of the size requirement was merely to provide sufficient space to conduct fire fighting operations. The 2012 IBC has a new requirement for a second fire service access elevator which was not related to the section on lobby size. This second elevator was initially discussed as being needed for additional capacity but when discussed on the floor was noted as being more for redundancy.

The current size requirement is the result of a successful Public Comment to Code Change G197-07/08 submitted by the proponent representing the Los Angeles Fire Department. The proponent originally wanted 50 square feet for each additional elevator car served by the lobby but that was disapproved by the General Committee. The Public Comment deleted the 50 square feet and added the minimum dimension requirement of 8 feet. A detailed rationale for that approach can be found in the Commenter’s Reason submitted with the Public Comment. So this proposed code change implements and clarifies the intent of the Public Comment that was approved by the ICC governmental voting representatives.

This proposal will not need correlation with other CTC Elevator lobby proposals. See discussion on CTC elevator lobby proposal coordination in the FS code change to Section 713.14.1 that changes the criteria for when elevator lobbies would be required.

**Cost Impact:** There will be no increase in the cost of construction.

**G177-12**

Public Hearing: Committee:

AS

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Assembly:

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3007.7.4-G-BALDASSARRA-CTC.doc

**G179 – 12**

**3007.9**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

**3007.9 Electrical power.** The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. Elevator hoistway lighting.
3. ~~Elevator machine room~~ Ventilation and cooling equipment for elevator machine/control rooms, and machinery/control spaces.
4. ~~Elevator controller cooling equipment~~ car lighting.

**Reason:** Editorial changes in item 3 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 4 to ensure that firefighters are not trapped in a pitch-black elevator in case the building power is interrupted.

**Cost Impact:** The code change will not increase the cost of construction.

**G179-12**

Public Hearing: Committee:

AS

AM

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Assembly:

ASF

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**3007.9-G-BLACK**

**G180 – 12**

**3008.2, 3008.2.1**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

~~**3008.2 Phase I Emergency recall operation.** An independent, three-position, key-operated “Fire Recall” switch complying with ASME A17.1/CSA B44 shall be provided at the designated level for each occupant evacuation elevator.~~

~~**3008.2.1 3008.2 Operation.** The occupant evacuation elevators shall be used for occupant self-evacuation only in the normal elevator operating mode prior to Phase I Emergency Recall Operation in accordance with the occupant evacuation operation requirements in ASME A17.1/CSA B44 and the building’s fire safety and evacuation plan.~~

*(Renumber subsequent sections)*

**Reason:** Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily “parked” in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013CSA B44-13 will amend that code’s Firefighters’ Emergency Operations requirements to require a “GROUP FIRE RECALL” three-position switch in the designated level lobby with a corresponding two-position switch in the fire command center that can recall all of the elevators in that group. In addition, each elevator in that group will have a three-position key operated switch for CAR FIRE RECALL in the designated level elevator lobby. This configuration will allow firefighters to recall all of the elevators in a group if warranted, but only recall a few of the elevators for firefighter service as needed, allowing the remaining elevators to operate as occupant evacuation elevators. This was the purpose of the key operated switches required by Section 3008.2, thus making the IBC requirement unnecessary.

**DRAFT FOR ASME A17.1-2013/CSA B44-13i**

**2.27.10 Occupant Evacuation Operation**

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters’ Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.



**2.27.10.1** The requirements of 2.27.3.1 shall be modified as follows:

**2.27.10.1.1** The three-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 "GROUP FIRE RECALL" and indicate the elevator group that they control.

**2.27.10.1.2** An additional three-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 elevator discharge 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 "RESET", "OFF" and "ON" (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 "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

**2.27.10.1.3** Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

**2.27.10.1.4** 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).

**2.27.10.1.5** To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the "GROUP FIRE RECALL SWITCH" and the additional two-position "GROUP FIRE RECALL" switch, where provided, are in the "OFF" position

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

**2.27.10.1.6** A car with its individual "CAR FIRE RECALL" switch in the "ON" position shall not be removed from Phase I Emergency Recall Operation when the "GROUP FIRE RECALL" switch is rotated to the "RESET" position and then to the "OFF" position.

**2.27.10.1.7** The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the "GROUP FIRE RECALL" switch is located shall open.

**2.27.10.2** The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: "Elevators in normal operation".

**2.27.10.3** 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 discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

**2.27.10.4** A position indicator shall be provided at the elevator discharge 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.

#### **2.27.10.5 Fire Alarm System Interface**

**2.27.10.5.1** Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 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, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 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 two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the “activation of an automatic fire alarm initiating device” as used in this requirement.

**2.27.10.5.2** 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. 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.

**2.27.10.6** When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

**2.27.10.6.1** The variable message signs required by 2.27.10.2 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.

Note: Sample text: “Elevators and stairs available for evacuation. Next car in about 2 minutes”.

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

Note: Sample text: “Elevators temporarily dedicated to other floors”.

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

Note (2.27.10.6.1): Sample text: “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.

Note: Sample text for floors being evacuated: “Elevators out of service. Use stairs to evacuate”. Sample text for other floors: “Elevators out of service”.

**2.27.10.6.2** 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 discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.

**2.27.10.6.3** All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) 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 discharge 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 discharge level, with the furthest floor served getting highest priority.

**2.27.10.6.4** Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

**2.27.10.6.5** Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which 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 which is being evacuated.

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

**2.27.10.6.7** 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.

**2.27.10.6.8** While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening 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 re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

**2.27.10.6.9** 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 discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

**2.27.10.6.10** 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 2.27.10.1.3).

i Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

**Cost Impact:** This code change proposal will not increase the cost of construction.

## G180-12

Public Hearing: Committee:

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Assembly:

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3008.2-G-BLACK.doc

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# G181 – 12

## 3008.2.2

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

### Delete without substitution as follows:

~~**3008.2.2 Activation.** Occupant evacuation elevator systems shall be activated by any of the following:~~

- ~~1. The operation of an automatic sprinkler system complying with Section 3008.3;~~
- ~~2. Smoke detectors required by another provision of the code;~~
- ~~3. Approved manual controls.~~

**Reason:** Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily “parked” in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013/CSA B44-13 will include a section on Fire Alarm System Interface that requires that the activation of any building fire alarm initiating device not associated with Phase I elevator recall will provide signals to the elevator system controller(s) to indicate which building floors will be evacuated under the ASME Occupant Evacuation Operation criteria. These floors will be a contiguous block of floors consisting of the floor with the active alarm, two floors above, and two floors below. It will also accommodate enlarging the evacuation zone should other floors have an initiated fire alarm initiating device and will allow for full building evacuation when initiated by firefighters.

The ASME A17.1/CSA B44 requirements are more comprehensive than those in Section 3008.2.2 and the IBC requirements should be deleted in deference to the ASME provisions.

**DRAFT FOR ASME A17.1-2013/CSA B44-13i**

### 2.27.10 Occupant Evacuation Operation

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters’ Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.

**2.27.10.1** The requirements of 2.27.3.1 shall be modified as follows:

**2.27.10.1.1** The three-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 “GROUP FIRE RECALL” and indicate the elevator group that they control.

**2.27.10.1.2** An additional three-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 elevator discharge 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 “RESET”, “OFF” and “ON” (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 "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

**2.27.10.1.3** Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

**2.27.10.1.4** 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).

**2.27.10.1.5** To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the "GROUP FIRE RECALL SWITCH" and the additional two-position "GROUP FIRE RECALL" switch, where provided, are in the "OFF" position

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

**2.27.10.1.6** A car with its individual "CAR FIRE RECALL" switch in the "ON" position shall not be removed from Phase I Emergency Recall Operation when the "GROUP FIRE RECALL" switch is rotated to the "RESET" position and then to the "OFF" position.

**2.27.10.1.7** The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the "GROUP FIRE RECALL" switch is located shall open.

**2.27.10.2** The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: "Elevators in normal operation".

**2.27.10.3** 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 discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

**2.27.10.4** A position indicator shall be provided at the elevator discharge 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.

#### **2.27.10.5 Fire Alarm System Interface**

**2.27.10.5.1** Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 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, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 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 two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the "activation of an automatic fire alarm initiating device" as used in this requirement.

**2.27.10.5.2** 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. 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.

**2.27.10.6** When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

**2.27.10.6.1** The variable message signs required by 2.27.10.2 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.

Note: Sample text: "Elevators and stairs available for evacuation. Next car in about 2 minutes".

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

Note: Sample text: "Elevators temporarily dedicated to other floors".

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

Note (2.27.10.6.1): Sample text: "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.

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

**2.27.10.6.2** 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 discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.

**2.27.10.6.3** All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) 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 discharge 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 discharge level, with the furthest floor served getting highest priority.

**2.27.10.6.4** Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

**2.27.10.6.5** Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which 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 which is being evacuated.

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

**2.27.10.6.7** 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.

**2.27.10.6.8** While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening 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 re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

**2.27.10.6.9** 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 discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

**2.27.10.6.10** 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 2.27.10.1.3).

i Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

**Cost Impact:** This code change proposal will not increase the cost of construction.

**G181-12**

Public Hearing: Committee:

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Assembly:

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3008.2.2-G-BLACK

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**G182 – 12**

**3008.7.3**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

**3008.7.3 Lobby doorways.** Other than the doors to the hoistway, elevator control room, or elevator control space, each doorway to an occupant evacuation elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

**Reason:** Machine Room Less (MRL) elevators permitted by ASME A17.1/CSA B44 typically have control rooms or control spaces that are accessed by a door immediately adjacent to a hoistway opening in an elevator lobby.

3008.7.3 is intended to maintain the integrity of the lobby enclosure smoke barrier and the lobby's separation from the remaining floor area on a building floor (see 3008.7.2). This ensures that smoke from another area on the floor will not reach the lobby smoke detectors and place the elevator(s) into Phase I, thus rendering them unusable for Occupant Evacuation.

Smoke and draft control is unnecessary on elevator control room or space doors because any smoke emanating from those spaces has already activated the smoke detector in the control room/space and placed the elevator(s) in Phase I operation. It is thus unnecessary to protect the lobby smoke detector from smoke originating in the control room/space (or the hoistway to which the room/space is connected).

The ASME A17 Firefighters and Occupant Egress Task Groups that performed the hazard analyses that resulted in Occupant Evacuation Elevators did not discuss MRL elevators in their initial analyses that led to the current IBC requirements, and thus did not anticipate the problem of control room and control space doors opening into a lobby enclosure.

**Cost Impact:** This code change proposal will not increase the cost of construction.

**G182-12**

Public Hearing: Committee:

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Assembly:

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**G183 – 12**

**3008.7.6**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Delete without substitution as follows:**

~~**3008.7.6 Lobby status indicator.** Each occupant evacuation elevator lobby shall be equipped with a status indicator arranged to display all of the following information:~~

- ~~1. An illuminated green light and the message, "Elevators available for occupant evacuation" when the elevators are operating in normal service and the *fire alarm system* is indicating an alarm in the building.~~

- ~~2. An illuminated red light and the message, "Elevators out of service, use exit stairs" when the elevators are in Phase I emergency recall operation in accordance with the requirements in ASME A17.1/CSA B44.~~
- ~~3. No illuminated light or message when the elevators are operating in normal service.~~

**Reason:** Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013/CSA B44-13 will include all of the information specified in Section 3008.7.6, (1) and (2). In addition, it will require approximate waiting times for persons awaiting an evacuation elevator and an indication that exit stairs may also be used.

ASME A17.1-2013/CSA B44-13 will also provide indicators in the signs in lobbies on floors not being evacuated that elevator service is not available. This will ensure that persons who have heard of a fire in the building and who are aware that elevators may be available for evacuation will not waste time waiting for elevators that will not arrive at their floors.

ASME A17.1-2013/CSA B44-13 will require every sign in elevator lobbies where elevators have entered Phase I Firefighter service to indicate that the elevators are out of service and not available.

ASME A17.1-2013/CSA B44-13 differs from the IBC in that it will permit messages such as "Elevators in normal operation" on the lobby status indicator signs when no evacuation is occurring. The ASME A17 Elevators & Fire Task Group believes that this will accustom building occupants to reading the indicators and will also allow for monitoring to ensure that the signs are operable when needed.

Finally, ASME A17.1-2013/CSA B44-13 will specify that all indicator signs comply with the Variable Message Sign requirements of ICC/ANSI A117.1, thus ensuring they are accessible to persons with disabilities.

For these reasons, Section 3008.7.6 should be deleted in deference to the referenced standard.

## **DRAFT FOR ASME A17.1-2013/CSA B44-13i**

### **2.27.10 Occupant Evacuation Operation**

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters' Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.

**2.27.10.1** The requirements of 2.27.3.1 shall be modified as follows:

**2.27.10.1.1** The three-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 "GROUP FIRE RECALL" and indicate the elevator group that they control.

**2.27.10.1.2** An additional three-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 elevator discharge 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 "RESET", "OFF" and "ON" (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 "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

**2.27.10.1.3** Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

**2.27.10.1.4** 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).

**2.27.10.1.5** To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the "GROUP FIRE RECALL SWITCH" and the additional two-position "GROUP FIRE RECALL" switch, where provided, are in the "OFF" position

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

**2.27.10.1.6** A car with its individual "CAR FIRE RECALL" switch in the "ON" position shall not be removed from Phase I Emergency Recall Operation when the "GROUP FIRE RECALL" switch is rotated to the "RESET" position and then to the "OFF" position.

**2.27.10.1.7** The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the "GROUP FIRE RECALL" switch is located shall open.

**2.27.10.2** The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs

shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: "Elevators in normal operation".

**2.27.10.3** 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 discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

**2.27.10.4** A position indicator shall be provided at the elevator discharge 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.

#### **2.27.10.5 Fire Alarm System Interface**

**2.27.10.5.1** Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 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, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 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 two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the "activation of an automatic fire alarm initiating device" as used in this requirement.

**2.27.10.5.2** 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. 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.

**2.27.10.6** When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

**2.27.10.6.1** The variable message signs required by 2.27.10.2 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.

Note: Sample text: "Elevators and stairs available for evacuation. Next car in about 2 minutes".

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

Note: Sample text: "Elevators temporarily dedicated to other floors".

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

Note (2.27.10.6.1): Sample text: "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.

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

**2.27.10.6.2** 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 discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge 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 A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.



**2.27.10.6.3** All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) 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 discharge 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 discharge level, with the furthest floor served getting highest priority.

**2.27.10.6.4** Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

**2.27.10.6.5** Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which 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 which is being evacuated.

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

**2.27.10.6.7** 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.

**2.27.10.6.8** While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening 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 re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

**2.27.10.6.9** 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 discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

**2.27.10.6.10** 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 2.27.10.1.3).

i Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

**Cost Impact:** This code change proposal will not increase construction costs.

## G183-12

Public Hearing: Committee:

AS

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Assembly:

ASF

AMF

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3008.7.6-G-BLACK.doc

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## G184 – 12

3008.7.7.1, 3008.7.7.2

**Proponent:** Jerome Seville, Commonwealth of Pennsylvania representing self

**Revise as follows:**

**3008.7.7 Two-way communication system.** A two-way communication system shall be provided in each occupant evacuation elevator lobby for the purpose of initiating communication with the *fire command center* or an alternate location *approved* by the fire department.

**3008.7.7.1 Design and installation.** The two-way communication system shall be provided and installed in accordance with Section 1007.8 ~~include audible and visible signals and shall be designed and installed in accordance with the requirements in ICC A117.1.~~

**3008.7.7.2 Instructions.** ~~Instructions for the use of the two-way communication system along with the location of the station shall be permanently located adjacent to each station. Signage shall comply with the ICC A117.1 requirements for visual characters.~~

**Reason:** The revision will help make sure that the two way communication system requirements will remain consistent over time. The provisions currently in 1007.8 are more complete. The reference to ICC A117.1 will be picked up through the controls requirements in 1109.13 and the signage requirement currently in 1110.3.

**Cost Impact:** The proposed changes will not increase the cost of construction.

**G184-12**

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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**G185 – 12**

**3008.9**

**Proponent:** Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc. (bdbblack@neii.org)

**Revise as follows:**

**3008.9 Electrical power.** The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
3. ~~Elevator machine room~~ Ventilation and cooling equipment for elevator machine/control rooms, and machinery/control spaces.
4. ~~Elevator controller cooling equipment~~ car lighting.

**Reason:** Editorial changes in item 2 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 3 to ensure that occupants are not trapped in a pitch-black elevator in case the building power is interrupted.

**Cost Impact:** This code change proposal will not increase the cost of construction.

**G185-12**

Public Hearing:	Committee:	AS	AM
D			
	Assembly:	ASF	AMF
DF			

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