

2006/2007 PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE – MEANS OF EGRESS

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TENTATIVE ORDER OF DISCUSSION

2006-2007 PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE MEANS OF EGRESS

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation **does not** necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some "IBC-E" code change proposals are not included on this list, as they are being heard by other committees. Please consult the Cross Index of Proposed Changes.

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E39-06/07	E134-06/07	E136-06/07	E183-06/07
E40-06/07	E87-06/07	E137-06/07	E184-06/07
E41-06/07	E88-06/07	E138-06/07	E185-06/07
E42-06/07	E89-06/07	E139-06/07	E186-06/07
E43-06/07	E90-06/07	E140-06/07	E187-06/07
E44-06/07	E91-06/07	E141-06/07	E188-06/07
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E1-06/07

1001.1; IFC [B] 1001.1

Proponent: Bill Conner, Bill Conner Associates LLC, representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Revise as follows:

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. The provisions of this chapter shall not control the design, construction and arrangement of means of egress components in excess of those required.

PART II – IFC

Revise as follows:

IFC 1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. The provisions of this chapter shall not control the design, construction and arrangement of means of egress components in excess of those required. Sections 1003 through 1026 shall apply to new construction. Section 1027 and 1028 shall apply to existing buildings.

Exception: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the *International Residential Code*.

Reason: The purpose is to clarify if non-required building components are required to comply with the requirements in this chapter. Based on my experiences, there is broad disagreement among building officials on this. The Code currently is moot on the issue and interpretations vary significantly. The reason to include it is to give clear guidance to officials and designers on whether or not a non-required component has to meet the same design requirements and have the same features as if the component were required. Either a change as proposed above or amending this proposal to the opposite, "The provisions of this chapter shall control the design, construction and arrangement of all means of egress components required to provide an approved means of egress from structures and portions thereof." solves the problem.

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

PART I – IBC

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

PART II – IFC

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

E2-06/07

1001.4 (New)

Proponent: Dave Frable, U.S. General Services Administration

Add new text as follows:

1001.4 Emergency planning. Emergency planning and preparedness provisions shall be provided for all occupancies and buildings as required by Chapter 4 of the *International Fire Code*.

Reason: The purpose of this code change proposal is to provide consistent requirements for jurisdictions regarding emergency planning and preparedness. Many jurisdictions across the country currently have adopted the IBC, however many of these same jurisdictions have not adopted the IFC. Hence, this proposed code change will provide consistent requirements for emergency planning and preparedness in all jurisdictions that adopt the IBC. Effectively, the IBC will adopt all of the emergency planning and preparedness provisions in the IFC.

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

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

E3-06/07

1002.1 (IFC [B] 1002.1)

Proponent: Ed Roether, HOK SVE

Revise definition as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of accessible vertical and horizontal egress travel from any accessible point in a building or facility to a public way. An accessible means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

Reason: The purpose of this proposed change in coordination with other proposed changes is to comprehensively approach the accessible means of egress contiguously with the building exit system. Chapter 11 is effective in addressing how facilities provide for the needs of persons with disabilities. However, life safety provided those same persons are less comprehensively addressed as compared to basic life safety features within the building code. Therefore, this is the first in a series of proposals aimed at addressing potential inconsistencies with accessible means of egress in comparison to other provisions in Chapter 10.

There are subtle but significant gaps within the accessible means of egress provisions that might be easily recognized when considered similarly to "means of egress". Consideration should given progressively through exit access to the exit and then from the exit through exit discharge to the public way. Addressing each of these distinct parts is even more crucial to persons with disabilities.

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

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

E4-06/07

1002.1 (IFC [B] 1002.1)

Proponent: Tom Wandrie, ICC 300 Development Committee

Revise definitions as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

BLEACHERS. Tiered seating ~~facilities~~ supported on a dedicated structural system and two or more rows high (see Grandstands).

GRANDSTANDS. Tiered seating ~~facilities~~ supported on a dedicated structural system and two or more rows high (see Bleachers).

FOLDING AND TELESCOPIC SEATING. Tiered seating facilities ~~having an overall shape and size that is capable of being retracted or reduced in overall size and shape~~ for purposes of moving or storing.

Reason: Bleachers, Grandstands and Folding and Telescopic Seating are addressed in ICC 300. The definitions should be coordinated in both documents so that it is clear when the standard is applicable. The definitions in the current IBC were submitted by the ICC 300 Development Committee in E68-02.

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

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

E5-06/07

1002.1 (IFC [B] 1002.1)

Proponent: Marshall A. Klein, P.E., Marshall A. Klein & Associates, Inc.

Revise definition as follows:

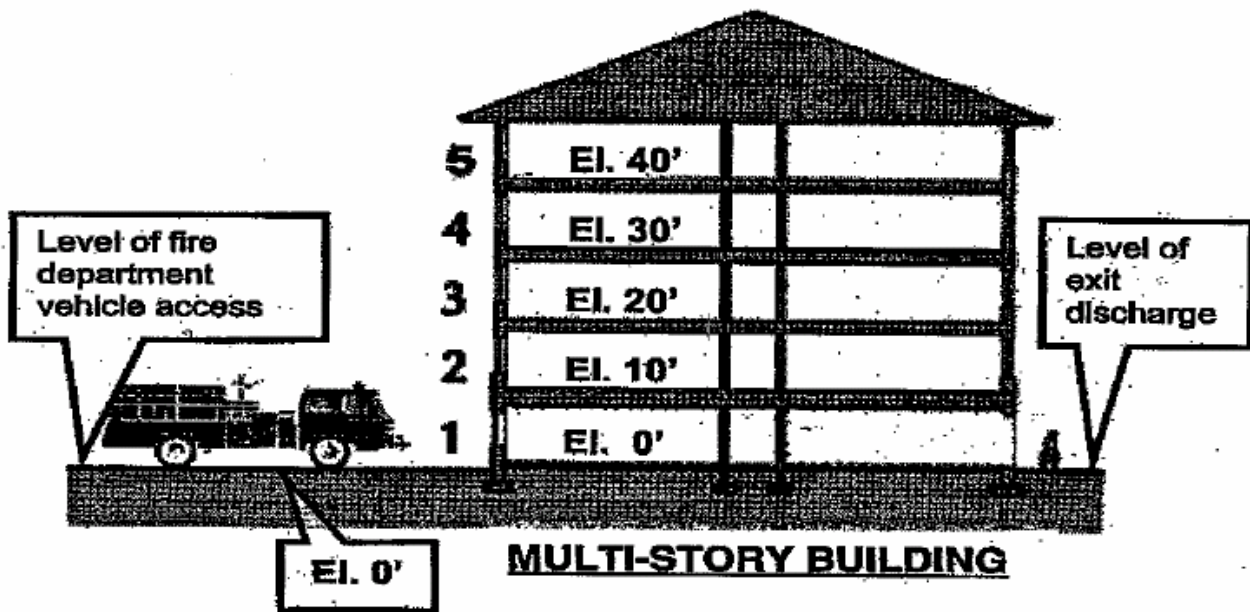
1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXIT DISCHARGE, LEVEL OF. The ~~horizontal plane located~~ lowest story at the point at which an exit terminates and an exit discharge begins.

Reason: IFC Formal Interpretations 44-03, 26-03, & 25-03, all issued on 5/11/04, stated the following:

“When determining stories above the lowest level of exit discharge, a level, or floor level, is not a story. A “level” is the horizontal plane that is part of a story, not the entire story height. A “story” is the vertical space between the upper surface of one floor level and the upper surface of the floor level next above or below.”

The level of exit discharge as shown in the attached drawing of a Multi-Story Building is at elevation 0.0', the first floor level of the building is also at elevation 0.0'; therefore, the level of exit discharge and the first floor level of the building are at the same elevation. The first story of the building begins at elevation 0.0' (first floor) and extends to the elevation 10.0' (second floor). The first story of the building is the first story above the level of exit discharge.”



The intent of the “level of exit discharge” definitions in the previous three legacy codes, and in the ICC Codes was to use a similar definition for “level of exit discharge” as was being used in the NFPA 101, “Life Safety Code”, which originally defined this term. Such similar definitions for “level of exit discharged” correlated between model codes and the NFPA Standards for user friendliness. For reference, 2006 NFPA 101 (LSC) defines “level of exit discharge”:

“3.3.72.1 Level of Exit Discharge. (1) The lowest story from which not less than 50 percent of the required number of exits and not less than 50 percent of the required egress capacity from such a story discharge directly outside at grade; (2) the story with the smallest elevation change needed to reach grade where no story has 50 percent or more of the required number of exits and 50 percent or more of the required egress capacity from such a story discharge directly outside at grade.”

The major difference between the IFC formal interpretations and the NFPA 101 definition is that NFPA 101 defines the “level of exit discharge” as a volume (story), not as a “horizontal plane”. Therefore, in the diagram of the multistory building above, the “first story above the level of exit discharge” under NFPA 101 (and for that matter, as used under the legacy codes) was always considered the second story (El. 10'). However, under the IFC Formal Interpretations, it is now the first story (El. 0').

These formal IFC interpretations have been a rude awakening for many experienced users of the Codes, in particular to some ICC Staff members. Since a different ICC Committee, other than the ICC Means of Egress Code Development Committee, made these interpretations, this code proposal is providing the Means of Egress Code Development Committee its opportunity to “weigh in” on the intent of the Code when it comes to application of this definition.

This code proposal is only attempting to correlate the definition for “level of exit discharge” with the definition in NFPA 101, where the “level of exit discharge” concept came from. I believe that the NFPA 101 definition is a little too wordy for the ICC Codes. My proposed wording appears more than adequate to work for the ICC Codes, and to correlate between the ICC and NFPA Codes.

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

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

E6-06/07

1002 (New) [IFC [B] 1002 (New)]; IRC R202

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Add new definition as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FLIGHT. A continuous run of rectangular treads (fliers) or winders or combination thereof from one landing to another.

PART II – IRC

Add new definition to Section R202 as follows:

FLIGHT. A continuous run of rectangular treads (fliers) or winders or combination thereof from one landing to another.

Reason: The purpose of the change is to clarify the code. This proposal will foster a better understanding of what distinguishes a flight from a stairway. This definition is needed because the word "Flight" is used specifically to reference that part of a stairway that is between landings no less than 8 times in IBC 1009 and no less than 9 times in IRC 311.5. Often this word is misinterpreted to be stairs between *floors* causing the extending of handrails across landings, varying determinations of handrail continuity, dimensional uniformity, riser height, and tread depth. Furthermore this will help to clarify a major difference between winders and landings i.e., Landings separate flights within a stairway, winders are treads within a flight and are often combined with fliers in the same flight. Winders do not separate flights.

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

PART I – IBC

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

PART II – IRC

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

E7-06/07

1002.1 (IFC [B] 1002.1)

Proponent: Thomas B. Zuzik, Jr., Artistic Railings, Inc., representing himself

Add new definition as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

WALKING SURFACE. A walking surface is the area most commonly used for walking and common travel. Interior walking surface are floors and stairs and are fabricated from common products such as wood, carpet, tile and concrete. Exterior walking surfaces are paths, stairs and driveways leading to and from the building unit of common travel and are fabricated from common products such as wood, pavers, asphalt, concrete, tile, wood chips and gravel. Grass like vegetation and landscape planting bed areas are not considered a walking surface.

Reason: The purpose of the code change is to define the words "walking surface" when used one after the other in conjunction. The current code uses the term walking surface repeatedly in chapter 10 but does not define it in any manner thus leaving it open to wide interpretation. By defining the term we establish a clearer area of enforcement.

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

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

E8-06/07

1003.2 (IFC [B] 1003.2)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.

Reason: For consistency Section 1003.2 should include ramps in headroom height exceptions. The change is also for coordination with ICC A117.1 Section 307.

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

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

E9-06/07

1003.2 (IFC [B] 1003.2)

Proponent: Michael Lodespoto, AIA, MTA, NY City Transit, representing State of New York

Delete without substitution:

~~**1003.2 Ceiling height.** The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).~~

~~**Exceptions:**~~

- ~~1. Sloped ceilings in accordance with Section 1208.2.~~
- ~~2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.~~
- ~~3. Allowable projections in accordance with Section 1003.3.~~
- ~~4. Stair headroom in accordance with Section 1009.2.~~
- ~~5. Door height in accordance with Section 1008.1.1.~~

Reason: Section 1003.2 conflicts with Section 1208.2. It is also redundant.

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

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

E10-06/07

1003.3.1 (IFC [B] 1003.3.1)

Proponent: Michael Lodespoto, AIA, MTA, NY City Transit, representing State of New York

Revise as follows:

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Aisles in electrical and mechanical rooms shall be marked on the floor where the minimum headroom of 80 inches is not maintained in the room. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.

Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm). A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor

Reason: The purpose is for clarification and to inform designers that electrical and mechanical rooms are not exempt from complying with the requirements of this section.

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

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

E11–06/07

1003.3.2, 1003.3.3, 1003.3.4 (IFC [B] 1003.3.2, [B] 1003.3.3, [B] 1003.3.4)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1003.3.2 ~~Free-standing~~ Post mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finished floor or ground.

Exception: ~~This~~ These requirements shall not apply to sloping portions of handrails ~~servicing~~ between the top and bottom riser of stairs and above the ramps run.

1003.3.3 Horizontal projections. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

Exception: Handrails ~~servicing stairs and ramps~~ are permitted to protrude 4.5 inches (114 mm) from the wall.

1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes ~~as required in Section 1104.~~

Reason: The concern is to two fold: 1) Not to apply the provisions of Section 1003.3.2 to the portions of the handrails along the stair or ramp run, but to apply those provisions to the handrail extensions. (Ex: A handrail on posts on a grand stairway.) 2) To allow handrails to protrude from the wall but never get less than the 36" wide ramp or route required for accessibility. The change is also for coordination with ICC A117.1 Sections 405 and 307.3. The change to Section 1003.3.4 would cover accessible routes for the way in as well as the way out.

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

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

E12–06/07

1003.8 (New) [IFC [B] 1003.8 (New)]

Proponent: John Berry, representing Cole + Russell Architects, Inc.

Add new text as follows:

1003.8 Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope).

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have a rung spacing not to exceed 14 inches (365 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (475 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2kg/m2) per square foot.
7. Ladders shall be protected against corrosion by approved means.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

Reason: The proposed new section is an exact duplication of Section 306.5, *International Mechanical Code*. These requirements should be included in the IBC where they are more likely to be followed by the architects that are typically responsible for detailing such work. Mechanical Engineers are typically focused on the design and sizing of the equipment, not the access to it. As a result the proper access to the mechanical equipment is often overlooked. It is not uncommon for these requirements to be missed on a project since they are presently only included in the IMC.

The placement of this new section in Section 1003 is appropriate since the title of the section is General Means of Egress. This section contains requirements that do not reasonably fit in other sections and/or apply to all other sections.

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

Analysis: Means of egress for specific limited access spaces are also found in Sections 1015.3 through 1015.6. The proposed language is from the IMC, Section 306, Access and service spaces.

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

E13–06/07

1004.1 (IFC [B] 1004.1)

Proponent: Daniel E. Nichols, New York State Department of State

Revise as follows:

1004.1 Design occupant load. ~~In determining means of egress requirements,~~ The number of occupants for whom means of egress facilities shall be provided ~~for~~ shall be determined in accordance with this section. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

Reason: The purpose of this code change proposal is to clearly allow the use this Section by other Chapters of the IBC that send the code user here for occupant load-based requirements.

Currently, Section 1004.1 makes it very clear that the occupant load methodology found therein is for calculating components for means of egress components only. However, other IBC chapters dealing with topics such as plumbing fixtures and fire protection systems rely on occupant load calculations; with Section 1004 being the only section within the IBC addressing the topic.

As an example, IBC Section 903.2.1.2 states that one of the three triggers for a sprinkler system is when the occupant load within the fire area reaches 100 people. The assumed occupant load calculation method to determine whether or not the assembly occupancy requires sprinklers is based on Section 1004, but the scope says you can't use it for determining sprinkler requirements. There outcome is that, as currently written, no finite location exists to determine occupant load for other than means of egress components and allows the code user to arbitrarily state that the assembly occupancy will not have more than 100 people in it even though the occupant load posting would be based on Section 1004.

An actual example discovered by our office was a restaurant where the designer proposed a single water closet for each sex even though the occupant load calculated per Section 1004 was over 200 people. The designer stated that it was inappropriate to utilize Section 1004 since it is scope exclusively for means of egress components. Since no other direction is given in the code, he could utilize any method necessary.

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

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

E14–06/07

1004.3 (IFC [B] 1004.3)

Proponent: Michael G. Kraft, Division of State Fire Marshal, State of Ohio

Revise as follows:

1004.3 Posting of occupant load. Every room or space that is an assembly or educational occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the

room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

Reason: A long standing provision within the codes has been to post the occupant load for educational and assembly occupancies. It is important to note that most educational occupancies include spaces (gyms, auditoriums, classrooms, etc.) where this is a useful tool. Moreover, as Section 303 of the building code specifically indicates such spaces are not considered assembly, then it is appropriate to pick up this requirement in this fashion.

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

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

E15-06/07
1005.1 (IFC [B] 1005.1)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1005.1 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1005.1 and not less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available width capacity to less than 50 percent of the required width capacity. The maximum required width capacity from any story of a building shall be maintained to the termination of the means of egress.

Exception: Means of egress complying with Section 1025.

Reason: Section 1005.1 prescribes the fundamental provisions for the proper determination of means of egress width. It includes minimum width determination procedures as well as apportionment and maintenance of width requirements. The term "width" should be consistently applied throughout the section. Currently, the more general term "capacity" is inappropriately used in three locations. The specific nature of Section 1005.1 necessitates consistency in terminology. By way of example, the last sentence in Section 1005.1 should specifically address required width because the last sentence of Section 1003.6 already covers the general capacity issue in stating "The required capacity of a means of egress system shall not be diminished along the path of egress travel." Approval of this proposal will clarify means of egress code provisions and assist in the uniform interpretation of these fundamental provisions.

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

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

E16-06/07
Table 1005.1 (IFC [B] Table 1005.1)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise table as follows:

TABLE 1005.1
EGRESS WIDTH PER OCCUPANT SERVED

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM ^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	0.7 Not Permitted	0.4 Not Permitted	0.3	0.2
Institutional: I-2	NA Not Permitted	NA Not Permitted	0.3	0.2

For SI: 1 inch = 25.4 mm. NA = Not applicable.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: Table 1005.1 is somewhat misleading in that Group H-1, H-2, H-3 and H-4 occupancies are not permitted in buildings without a sprinkler system according to Section 903.2.4.1. The format of the Institutional occupancy cells has been changed to be consistent with other similar tables in Chapter 10 such as Tables 1016.1 and 1017.1. It should be noted that this proposal was disapproved by the Means of Egress Code Committee during the previous code development cycle. Their rationale for that action was that there are existing, unsprinklered Group H occupancies and those data need to be retained for existing building purposes. If this logic is valid, there are numerous tables and other IBC provisions that need to reflect former requirements. The primary purpose of the International Building Code is to govern the design and construction of new buildings and structures. Its requirements should reflect that purpose. The code in effect at the time an existing building was constructed would be a better reference for prior code requirements, should they be needed. Approval of this proposal would result in technical consistency of International Building Code provisions.

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

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

E17-06/07

1005.2 (IFC [B] 1005.2)

Proponent: Ralph Vasami, The Kellen Company, representing The Door Safety Council

Revise as follows:

1005.2 Door encroachment. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. ~~When fully open,~~ Excluding hardware, the door shall not project more than 7 inches (178 mm) into the required width when fully opened.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

Reason: This proposal modifies text regarding door encroachment. The existing code language fails to address the issue of hardware that is required as part of the door assembly to satisfy egress and security requirements. The proposed language seeks to clarify the manner in which the *Door Encroachment* language is enforced. Hardware projections should not be part of the measurement as they do not materially reduce the corridor width or impede egress flow.

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

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

E18-06/07

1005.2, 1014.4, 1017.2, 1021.2, 1024.5.1 (IFC [B] 1005.2, [B] 1014.4, [B] 1017.2, [B] 1021.2, [B] 1024.5.1)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1005.2 Door Encroachment. Doors, when fully opened, and handrails, shall not reduce the required means of egress width by more than 7 inches (178 mm). Such door measurements shall include the thickness of the door and any hardware between the door and the adjacent wall surface. Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side. ~~Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. When fully open, the door shall not project more than 7 inches (178 mm) into the required width.~~

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

1014.4 Aisles. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, other than seating at tables, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025. The required width of aisles shall be unobstructed.

Exception: ~~Doors complying with Section 1005.2, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.~~

1017.2 Corridor width. The minimum corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with a corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In corridors serving surgical Group I, health care centers for ambulatory patients receiving outpatient medical care, which causes the patient to be not capable of self-preservation.
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement.

The required width of corridors shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1021.2 Width. The width of exit passageways shall be determined as specified in Section 1005.1 but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

~~Exception: Doors complying with Section 1005.2, when fully opened, and handrails, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side.~~

1024.5.1 Width. The width of egress courts shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall not be less than 36 inches (914 mm) in width. The required width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

~~Exception: Doors complying with Section 1005.2, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.~~

Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. In no case shall the width of the egress court be less than the required minimum.

Reason: Currently, there are no obstruction provisions for corridors in Section 1017. Section 1014.4 provides such criteria for aisles. Section 1021.2 provides such criteria for exit passageways. Section 1024.5.1 provides such criteria for egress courts. During the previous code development cycle, a similar proposal was disapproved by the means of egress code development committee. Their rationale was that the issue was already sufficiently addressed in the general provisions of Section 1005.2. Unfortunately, those general provisions are not as detailed as those encroachment provisions currently contained in the aforementioned means of egress component sections. Therefore, it is also proposed that Section 1005.2 be modified to be consistent with those component sections. Inasmuch as the required width encroachment provisions apply to more than doors, the section heading has been altered to reflect the more general nature of the provision. Additionally, the specific language currently contained in Sections 1014.4, 1021.2 and 1024.5 has been modified with an applicable cross-reference to Section 1005.2 as preferred by the previous code development committee. Lastly, the code is unclear as to how the seven inch door encroachment is measured (i.e. is door hardware included in the measurement). The proposal provides appropriate clarification. The approval of this proposal would result in the continuity of application of means of egress width encroachment requirements.

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

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

E19-06/07
1007.1 (IFC [B]1007.1)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.1 Accessible means of egress required. Accessible means of egress shall comply with other sections in this chapter and this section. Accessible spaces shall be provided with not less than one accessible means of egress.

Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly spaces with sloped floors, one accessible means of egress is required from a space where the common path of travel of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

Reason: The purpose of this proposed change in coordination with other proposed changes is to comprehensively approach the accessible means of egress contiguously with the building exit system. This proposed change clarifies that other requirements of "means of egress" would also apply to an "accessible means of egress". For example, would the accessible means of egress require exit discharge? Does the extent of accessibility or life safety end at the exit? What about exit illumination, doors or door hardware? Essentially, the accessible means of egress needs to be contiguous with the means of egress.

There are subtle but significant gaps within the accessible means of egress provisions unless it is considered in tandem with the means of egress. Consideration should given progressively through exit access to the exit and then from the exit through exit discharge to the public way. Addressing each of these distinct parts is even more crucial to persons with disabilities. This proposal coordinates with other life safety provisions of the means of egress chapter rather than developing independent and potentially segregated exit systems.

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

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

E20-06/07

1007.1 (IFC [B]1007.1)

Proponent: Janet Reed, Development Services Department, City of Phoenix, AZ

Revise as follows:

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible portion of the space shall be served by not less than two accessible means of egress, that are separated in accordance with Section 1015.2.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly spaces with sloped floors, one accessible means of egress is required from a space where the common path of travel of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

Reason: The purpose of this proposal is to make sure that the two accessible means of egress, when two exits are required, are so located that it complies with the minimum exit separation. Without this change, the two accessible exits might be located close together and therefore not meet the intent.

This proposed text was recommended by City of Phoenix Development Services Department Accessibility Committee.

Cost Impact: The code change proposal will increase the cost of construction, at times.

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

E21-06/07

1007.1 (IFC [B] 1007.1)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly spaces areas with sloped floors or stepped aisles, one accessible means of egress is required from a space permitted where the common path of travel is accessible and of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

Reason: The purpose of this proposed change is threefold, first coordination with other sections of the building code, ICC A117.1, and ADAAG by the use of the term "assembly areas", and second for the common path of travel to be the same for sloped or tiered seating arrangements, and then third to clarify the language of this exception.

"Assembly area" is a term that is used for seating elsewhere in the code and is coordinated with ICC A117.1 and ADAAG, therefore it should be the appropriate term used here for consistency. An accessible route to and from wheelchair spaces is required for safe ingress and egress. The same concern for the accessible route is applicable in both ramped or tiered seating arrangements, therefore, the exception should be applicable to both situations.

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

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

E22-06/07

1007.2 (IFC [B] 1007.2)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Exit stairways within vertical exit enclosures complying with Sections 1007.3 and ~~4020~~ 1018.
3. Exterior exit stairways complying with Sections 1007.3 and ~~4023~~ 1018.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1022.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.

Reason: The purpose of this proposed change is to clarify that an accessible means of egress would require a stairway within a vertical exit enclosure to be an exit stair and not an enclosed exit access stair hidden within the interior of the building and that the exit stair discharges in accordance with the building code. Without this proposed change, an enclosed exit access stair independent from exits might be permitted as a component of an accessible means of egress. Referencing only Section 1020 would limit the applicable requirements to the vertical enclosure itself. Other exit requirements might not apply, thereby undermining the continuity of components in the greater context of the exit system.

The referenced Section 1007.3 requires the stairway to be an exit stairway, therefore adding exit here clarifies what is already required to minimize confusion. However, the reference to Section 1020 would not bring in the other requirements of an exit, thereby raising question regarding the need for the stair to be an exit stair. Referencing Section 1018 confirms that it is an exit stair and by this reference Sections 1018 through 1023 along with the applicable requirements of Sections 1003 through 1013 are also required.

The change to Item 3 is providing the same logic for exterior exit stairways the same as interior exit stairways.

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

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

E23-06/07

1007.2, 1007.3, 1007.6, 1007.6.2 (IFC [B] 1007.2, [B] 1007.3, [B] 1007.6, [B] 1007.6.2)

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

Revise as follows:

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. ~~Interior exit stairways within vertical exit enclosures~~ complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1022.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.
2. ~~Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.~~

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. ~~Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.~~
- 1.2. The area of refuge is not required at unenclosed interior exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- 2.3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- 3.4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
- 4.5. Areas of refuge are not required at exit stairways serving open parking garages.
5. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8

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 ~~an enclosed a~~ a stairway within an exit enclosure complying with Sections 1007.3 and ~~4020.4~~ 1020 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 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within ~~a vertical~~ an exit enclosure.

Reason: The purpose of this proposal is to reorganize the requirements for accessible means of egress and eliminate extraneous provisions. Section 1007.1 specifies the minimum number of accessible means of egress. Section 1007.2 requires each one to be continuous to a public way by means of one or more components. Exception #1 is appropriately located but Exception #2 is better located in Section 1007.3.

The items in Section 1007.2 include stairways within vertical exit enclosures and exterior exit stairways. Unenclosed interior exit stairways are excluded, but Exception #1 to Section 1007.3 effectively includes them. The proposal simplifies the provisions by modifying Item #2 of Section 1007.2 to specify interior exit stairways complying with Sections 1007.3 and 1020. This has the effect of including unenclosed exit stairways as permitted by Section 1020.1. Exception #1 to Section 1007.3 is deleted in coordination with this change. The current Exception #2 (proposed Exception #1) to Section 1007.3 is also modified for consistency with the changes.

Section 1007.6 is changed for consistency with the current language in Item #2 of Section 1007.2, which is appropriate in this case. The reference to Section 1020.1 is changed to Section 1020 for the same reason.

In the exception to Section 1007.6.2, the change from "vertical exit enclosure" to "exit enclosure" is made for consistency with other provisions in the IBC, which consistently use the term "exit enclosure." This consistency was established by code change proposal E1-03/04 (AS).

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

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

E24-06/07

1007.3 (IFC [B] 1007.3)

Proponent: Kevin Kelly, National Fire Sprinkler Association

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.

Reason: Section 1020.1 has criteria that apply to both enclosed and unenclosed exit stairs. When an area of refuge is required section 1007.4 will ensure that they are accessible from the elevator and section 1007.6.2 will ensure that they are properly separated and section 1020.1 will ensure that the exit enclosure is properly constructed.

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

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

E25-06/07

1007.3, 1007.4 (IFC [B] 1007.3, [B] 1007.4)

Proponent: Dave Frable, U.S. General Services Administration

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. Areas of refuge are not required at exit stairways in buildings or facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. 5. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
- ~~5.~~ 6. Areas of refuge are not required at exit stairways serving open parking garages.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: The purpose of this Code change is to reinstate into the Code the subject exceptions regarding not requiring areas of refuge (AOR) in buildings or facilities protected throughout by an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 or 903.3.1.2. The subject exceptions had been in all previous editions of the IBC; including each of the legacy Codes, which recognized any floor of a building protected throughout by an approved, operational automatic sprinkler system as an AOR. This recognition is based on sound technical research and acknowledges the ability of a properly designed and operational automatic sprinkler system to control a fire at its point of origin and to limit production of toxic products to a level that is not life threatening.

However, at the Final Action Hearings of the ICC in September 2005, the ICC membership voted to delete the subject two exceptions. However, no technical research data was provided to support any of the proponent's substantiation or rationale for deleting the exceptions for installing AOR in buildings protected throughout by an operational automatic fire sprinkler system.

Below, I have provided the technical research data that substantiated the rationale for not installing AOR in buildings that are protected throughout by an operational automatic fire sprinkler system in the previous editions of the IBC.

In 1989, at the request of Congress, the U.S. General Services Administration (GSA) undertook a project to construct AOR for persons with mobility limitations. In 1991, GSA funded the National Institute of Standards and Technology (NIST) to evaluate the concept of AOR as a means of providing fire protection for persons with disabilities in office buildings.

The NIST evaluation consisted of field tests, threat analysis, and a human behavior study of AOR in six office buildings. The threat analysis included hazards inside the AOR as well as hazards traveling to these areas for both sprinklered and unsprinklered office buildings.

In 1992, NIST issued their findings and recommendations in a report titled "Staging Areas for Persons with Mobility Impairments" – NISTIR 4770. The NIST report resulted in a number of conclusions regarding fire protection strategies for persons with disabilities that are believed to be applicable to many other buildings. The primary conclusion of the report was that the operation of a properly designed sprinkler system eliminates the life threat to all occupants regardless of their individual abilities and can provide superior protection for persons with disabilities as compared to staging areas.

To the best of our knowledge, no physical tests or scientifically based fire safety analysis of AOR's has occurred since the printing of this 1992 report. In addition, sprinkler technology has also improved since 1992. Quick response sprinklers are now required to be used where in 1992, standard response sprinklers were utilized.

Regarding some of the opinions expressed at the Final Action Hearings of the ICC in September 2005 regarding automatic sprinkler reliability. A recent comprehensive analysis in 2005 of high-rise fires by NFPA identified that no fatalities had occurred for more than a decade in any U.S. high-rise occupancy (> 10 story) other than the 6 fatalities in the unsprinklered Cook County Office Building (2003); the 1 fatality in the unsprinklered First Interstate Bank Building (1991); and 3 firefighter fatalities in the partially sprinklered (unsprinklered on floor of fire origin and several floors above) Meridan Plaza Building (1991). The Murrah Federal Building (1995) and the World Trade Center (1993 & 2001) bombings were excluded from this analysis.

The recently issued NFPA 2005 report on sprinkler reliability also indicated that automatic fire sprinklers successfully operating in reported structural fires was an exemplary 93%. In addition, NFPA also reported that 2/3rds of the reported automatic fire sprinkler system failures were because the automatic fire sprinkler systems were shut off. Since the IBC requires the supervision of the automatic fire sprinkler system, one can conclude that the successful operation of an automatic fire sprinkler system designed and installed in compliance with the IBC requirements could be reasonably estimated at 98%. NFPA also reported that the percentage of successfully operating automatic fire sprinkler systems is probably higher since a large percentage of small fire extinguished by fire sprinklers are not reported. Therefore, for an automatic fire sprinkler system designed and installed in accordance with the IBC requirements, the successful operation of an automatic fire sprinkler system could be reasonably estimated at 98% or more.

Based on all these points stated above, we strongly believe that it unreasonable not to recognize that any floor of a building protected throughout by an approved, operational automatic fire sprinkler system serve as an AOR. We believe the rationale is sound and based on technical research that acknowledges the ability of a properly designed and operational automatic sprinkler system to control a fire at its point of origin and to limit production of toxic products to a level that is not life threatening to all occupants of the building, including persons with disabilities. In addition, we believe the cost to construct AOR's will significantly increase building construction and maintenance costs without increasing the overall safety to the building occupants.

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

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

E26-06/07

1007.3 (IFC [B] 1007.3)

Proponent: Lawrence G. Perry, AIA, representing BOMA

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge or horizontal exits are not required where all portions of the means of egress are essentially open to the outside.

Reason: The proposed new exception attempts to coordinate the accessible means of egress/area of refuge requirements, which were significantly modified by floor action at the Final Hearings of the '04/'05 Cycle, with other code provisions for means of egress in exterior locations.

Proposed exception 6 allows omission of the area of refuge and horizontal exit at stairs where the means of egress is open to the exterior, such as transit station platforms and A-5 assembly occupancies. The purpose of the area of refuge or horizontal exit is to provide separation from the products of combustion during a fire. If the area is open to the outside, smoke will not accumulate.

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

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

E27-06/07

1007.4 (IFC [B] 1007.4)

Proponent: Lawrence G. Perry, AIA, representing BOMA

Revise as follows:

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to be accessed from an area of refuge or horizontal exit.
3. Elevators are not required to be accessed from an area of refuge or a horizontal exit where all portions of the means of egress are essentially open to the outside.

Reason: The proposed two new exceptions attempt to coordinate the accessible means of egress/area of refuge requirements, which were significantly modified by floor action at the Final Hearings of the '04/'05 Cycle, with the requirements for enclosed elevator lobbies (707.14.1).

Proposed exception 2 allows omission of the area of refuge at elevators that are not required to be located within a shaft enclosure. A common example is elevators located within an atrium. The code specifically exempts such elevators from lobby enclosure requirements; it makes no sense to mandate a small enclosed box around the elevator when the elevator is otherwise permitted to be totally open to the atrium.

Proposed exception 3 addresses outdoor locations where elevators may be provided, such as transit station platforms and A-5 assembly occupancies. The purpose of the area of refuge or horizontal exit is to provide separation from the products of combustion during a fire. If the area is open to the outside, smoke will not accumulate.

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

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

E28–06/07

1007.3, 1007.4, 1007.7 (IFC [B] 1007.3, [B]1007.4, [B] 1007.7)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1025.6.2.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with Section 1025.6.2.

1007.7 Signage. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress. At refuge areas created by horizontal exits or where areas of refuge are not required, provide signage indicating areas to wait for rescue assistance.

Reason: The purpose of this proposed change is to rectify a potentially unintended result of a recent code change. The purpose of a smoke barrier is to minimize the intrusion of smoke. In environments where the entire area has protection against the accumulation of smoke, requiring an additional smoke barrier is not only redundant but potentially hazardous. For example, enclosing a room in an exterior stadium concourse does not enhance safety, if anything it would diminish it.

Smoke-protected seating is performance based design providing an environment where smoke is maintained away from occupants from the seat to exit discharge with design criterion established in Section 909. Therefore, smoke-protected seating already provides an environment meeting the intent of the protection offered by areas of refuge. For seating to be considered smoke-protected it is required to maintain the level of smoke at least 6 feet above the floor of the means of egress (please refer to Section 1025.6.2.1). In addition, a life safety evaluation, complying with NFPA 101, is required for smoke-protected assembly seating (please refer to Section 1025.6.2).

Even when areas of refuge are not provided, signage indicating where people can wait for assisted rescue should be provided. This would happen at horizontal exits, an open exit stairway or in smoke free environments such as open parking garages or smoke protected seating areas.

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

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

E29-06/07

1007.3 (IFC [B] 1007.3)

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. The areas of refuge are not required in Group R-2 occupancies.

Reason: To allow an exception to not require an area of refuge in apartment buildings and individual dwellings because the individual sprinklered apartment provide a much superior area to protect the apartment occupant than would be provided by the area of refuge. In addition to each individual unit being surrounded by partitions and horizontal assemblies in accordance with Section 419, the unit also has the special items necessary for the individual occupant.

NFPA fire data from *U.S. Experience with Sprinklers* by Kimberly Rohr and John R. Hall, Jr., December 2005 (copy attached) supports the safety of the individual apartment. According to the report 95% (Table 12, page 46) of the fires in sprinklered apartment buildings are confined within the room of origin (object of origin – 69%, area of origin – 20%, and room of origin – 6%). More important the report goes on to address the effectiveness of sprinklers in saving lives by stating “NFPA has no record of a fire killing more than two people in a completely sprinklered public assembly, educational, institutional, or residential building where the system was properly operating” (Page 32). NFPA also reports that residential sprinkler system reliability of 98% (2% failure, Table 4, page 17) is the highest for all occupancies. The Operation Life Safety reported on the safety of residential systems also shows that the systems save lives. An evaluation of the report *Residential Sprinkler Activations* (copy attached) shows no deaths in buildings protected with the NFPA 13D and 13R sprinkler systems?

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

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

E30-06/07

1007.3 (IFC [B] 1007.3)

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.1.1.2.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.

Reason: To allow the exceptions for not requiring an area of refuge at unenclosed exit stairways permitted for buildings with NFPA 13 sprinkler systems to also be allowed with NFPA 13R sprinkler systems. The design requirements and thus the protection provided with NFPA 13R system in the area being protected are the same as that provided with a NFPA 13 system.

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

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

E31–06/07

1007.6 (IFC [B] 1007.6)

Proponent: Lawrence G. Perry, AIA, representing BOMA

Revise as follows:

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 an enclosed stairway complying with Sections 1007.3 and 1020.1 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 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Reason: The provision that requires areas of refuge to be located within the travel distance limitations has never been coordinated with the accessible means of egress in buildings. With the change last cycle that removed the sprinkler exception, many more buildings will be subject to requirements for areas of refuge.

The code requires that in buildings of 5 stories or more in height, an elevator provide one of the two required accessible means of egress. This travel distance provision, buried within the technical provisions for the area of refuge, will end up applying separation distance between elevators and stair enclosures, something the code does not address anywhere else.

Additionally, since the code requires only two accessible means of egress, but may require more exits, the area of refuge travel distance provision can end up driving the design, either by forcing the relocation of exits, or by the addition of additional areas of refuge solely to satisfy the travel distance limitations.

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

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

E32–06/07

1007.6, 1007.6.2 (IFC [B] 1007.6, [B] 1007.6.2)

Proponent: Lawrence G. Perry, AIA, representing BOMA

Revise as follows:

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 an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the lobby shall be separated in accordance with Section 707.14.1. ~~the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.~~

1007.6.2 Separation. Each area of refuge servicing an enclosed exit stairway shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1022. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within a vertical exit enclosure.

Reason: This proposal removes the inconsistency between the current area of refuge (elevator) provisions and the separate elevator lobby requirements of Section 707.14.1.

The elevator lobby provisions in Section 707.14.1 provide incremental enclosure requirements, depending on whether the building is sprinklered and the height of the building.

The current provisions of Section 1007.6 conflict with the elevator lobby provisions; both sections are the result of successful floor actions at Final Hearings, and have not been coordinated.

The proposed revisions will utilize Section 707.14 elevator lobby provisions to establish the enclosure requirements for elevator lobbies serving as areas of refuge, while maintaining the separate requirement (of Section 1007.6.3) for a two-way communication system.

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

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

E33-06/07

1007.6 (IFC [B] 1007.6)

Proponent: Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing Building Performance and Research Institute

Revise as follows:

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 an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the lobby shall be separated in accordance with Section 707.14.1. ~~the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.~~

Exception: Where elevators are in a refuge area formed by a horizontal exit.

Reason: To more correctly define the construction of elevator lobbies consistent with Section 707.14.1 versus the 1020.1.7 reference, which is specific to pressurized stairs. The current exception for areas of refuge formed by a smoke barrier is in conflict with the requirement for a smoke barrier in 1007.6.2.

Section 1020.1.7 is not the correct reference for the construction of lobby protection for areas of refuge.

Section 707.14.1 achieves the level of protection for areas of refuge similar to pressurized stairs now referenced. Section 1007.6.2 requires lobby construction as a smoke barrier and to limit smoke transfer as does 707.14.1 and its exceptions.

The intent of 1007.6 is to provide a protected space to hold occupants incapable of egress through the fire event or until rescued. The lobby construction requirements found in 707.14.1 achieve the desired level of protection without the need to interpret the stair pressurization requirements and then apply them to a lobby.

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

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

E34-06/07

1007.6 (IFC [B] 1007.6)

Proponent: Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing Building Performance and Research Institute

Revise as follows:

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 an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the lobby shall be separated in accordance with Section 707.14.1. ~~the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.~~

Exception: Where elevators are in a refuge area formed by a horizontal exit.

Reason: As currently written the lobby and the elevator shaft can be common to one another. The exception for areas of refuge in smoke barriers is in conflict with the requirements of 1007.6.2.

The vertical shaft as an avenue of smoke spread is well established and should not be common to an area of refuge where occupants are held in place through a fire event. Other provisions of the code allow access to a horizontal exit or ramp that could be applied on some, but not all floors resulting in the exposure of lobby areas of refuge to smoke intrusion from the elevator hoistway.

This proposal establishes a barrier between the vertical shaft and the area of refuge while also referencing the lobby construction requirements found in 707.14.1. Occupants held in place through a fire event in an area of refuge should be protected for the effects of fire on all sides of the barrier.

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

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

E35–06/07

1007.6 (IFC [B] 1007.6)

Proponent: Ed Roether, HOK SVE

Revise as follows:

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 an enclosed exit stairway complying with Sections 1007.3 and 1020.1 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 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Exceptions:

1. A stairway serving an area of refuge is not required to be enclosed where permitted in Section 1020.1.
2. Smokeproof enclosure is not required for an elevator lobby used as an area of refuge not required to be enclosed.

Reason: The purpose of this proposed change is to clarify two things: first that an exit stair that is not required to be enclosed by Section 1020.1 is not otherwise required to be enclosed in order to serve an area of refuge, and then second that elevator shaft and lobby is not required to be smokeproof where the area of refuge would not need to be separated from the remaining space. Without this proposed change, it may be interpreted that the limited conditions where an exit stair is not required to be enclosed would need to be enclosed when it serves an area of refuge. In addition, it may be interpreted providing smokeproof enclosure for elevator lobbies and shafts would be required even when the area of refuge is not required to be separated.

An exterior stair in A5 occupancy is not required to be enclosed per Section 1020.1. However, without this proposed change that same exterior stair might be required to be enclosed when it serves an area of refuge. As stated in another proposed change, separating an area of refuge from an open air exterior concourse is counter-productive when the concourse is already protected from smoke. Enclosing an exterior exit stair does not seem to offer any greater protection from smoke, but potentially reduces its protection. Similarly, enclosing an exterior elevator shaft and lobby might offer more potential for smoke collection compared to an open air exterior space.

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

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

E36–06/07

1007.6.2 (IFC [B] 1007.6.2)

Proponent: Ed Donoghue, Edward A. Donoghue Associates, Inc., representing National Elevator Industry, Inc.

Revise as follows:

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1022. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exceptions:

1. Areas of refuge located within a vertical exit enclosure.
2. The area of refuge that also serves as the elevator lobby is permitted to be separated from the remainder of the story by a smoke partition in accordance with Section 707.14.1, Exception 5.

Reason: Allows a smoke partition instead of smoke barrier for separation of the area of refuge in buildings sprinklered in accordance with Section 903.3.1.1.

This correlates this section with Exception 5 to Section 707.14.1. Exception 5 in Section 707.14.1 allows smoke partitions in place of fire partitions in fully sprinklered buildings for enclosure of the elevator lobby. This exception does not eliminate the separation requirements but instead allows a reduction in separation requirements when a NFPA 13 system is installed throughout the buildings.

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

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

E37-06/07

1007.6.2, 1007.6.5 (IFC [B] 1007.6.2, [B] 1007.6.5)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exceptions:

1. Smoke barriers are not required at areas of refuge located within a vertical exit enclosure.
2. Smoke barriers are not required around areas of refuge in smoke-protected seating in compliance with Section 1025.6.2.

1007.6.5 Identification. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign complying with ICC A117.1, stating: AREA OF REFUGE, and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the area of refuge sign shall be illuminated.

Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge. At refuge areas created by horizontal exits or where smoke barriers are not required around areas of refuge, provide signage indicating areas to wait for rescue assistance.

Reason: The purpose of this proposed change is to rectify a potentially unintended result of a recent code change. The purpose of a smoke barrier is to minimize the intrusion of smoke. In environments where the entire area has protection against the accumulation of smoke, requiring an additional smoke barrier is not only redundant but potentially hazardous. For example, enclosing a room in an exterior stadium concourse does not enhance safety, if anything it would diminish it.

Smoke-protected seating is performance based design providing an environment where smoke is maintained away from occupants from the seat to exit discharge with design criterion established in Section 909. Therefore, smoke-protected seating already provides an environment meeting the intent of Section 1007.6.2. For seating to be considered smoke-protected it is required to maintain the level of smoke at least 6 feet above the floor of the means of egress (please refer to Section 1025.6.2.1). In addition, a life safety evaluation, complying with NFPA 101, is required for smoke-protected assembly seating (please refer to Section 1025.6.2).

Even when small rooms for areas of refuge are not provided, signage indicating where people can wait for assisted rescue should be provided. This would happen at horizontal exits (Section 1007.3 or 1007.4), an open exit stairway (Section 1007.3 Exception 2) or in smoke free environments (Section 1007.3 Exception 5, Section 1007.4 Exception or proposed Section 1007.6.2 Exception 2).

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

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

E38-06/07

1007.8.4 (New), [IFC [B] 1007.8.4 (New)]; IFC 404.3.1, 404.3.2

Proponent: Linda Volpe, United Spinal Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Add new text as follows:

1007.8.4 Instructions. For an exterior area for assisted rescue, instruction on the use of the area under emergency conditions shall be posted adjacent to the exit door on the exterior of the building. The instructions shall include all of the following:

1. Directions to find other accessible means of egress.
2. Persons able to use the exit discharge should do so as soon as possible, unless they are assisting others.
3. Information on planned availability of assistance.

PART II – IFC

404.3 Contents. Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.

404.3.1 Fire evacuation plans. Fire evacuation plans shall include the following:

1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.
2. Procedures for employees who must remain to operate critical equipment before evacuating.
3. Procedures for assisted rescue for persons unable to use the general means of egress unassisted.
- ~~3.~~ 4. Procedures for accounting for employees and occupants after evacuation has been completed.
4. ~~5.~~ Identification and assignment of personnel responsible for rescue or emergency medical aid.
- ~~5.~~ ~~6.~~ The preferred and any alternative means of notifying occupants of a fire or emergency.
- ~~6.~~ ~~7.~~ The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
- ~~7.~~ ~~8.~~ Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
- ~~8.~~ ~~9.~~ A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6. Exterior areas for assisted rescue
 - ~~4.6.~~ ~~4.7.~~ Manual fire alarm boxes.
 - ~~4.7.~~ ~~4.8.~~ Portable fire extinguishers.
 - ~~4.8.~~ ~~4.9.~~ Occupant-use hose stations.
 - ~~4.9.~~ ~~4.10.~~ Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

Reason: Exterior areas for assisted rescue meet the requirements for an Accessible Means of Egress and provide a necessary alternative to an accessible route to a public way. Information on the procedures for use must be available.

It is important that there be adequate information and procedures established so that assistance can be offered to anyone who needs help using the general means of egress as quickly as possible. The additional criteria for the fire evacuation and fire safety plans would be a good step towards making sure that this information is available to staff and fire fighters.

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

PART I – IBC

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

PART II – IFC

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

E39-06/07

1008.1.1, 1008.1.4, 1008.1.5, 1008.1.5.1(New), 1008.1.6, 1008.1.7, 1008.1.8, 1003.5 (IFC [B]1008.1.1, [B]1008.1.4, [B]1008.1.5, [B]1008.1.5.1(New), [B]1008.1.6, [B]1008.1.7, [B]1008.1.8, [B]1003.5)

Proponent: Bill Conner, Bill Conner Associates LLC, representing himself

1. Revise as follows:

1008.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear width of ~~not less than~~ 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a minimum clear width of not less than 41.5 inches (1054 mm). The height of doors shall not be less than 80 inches (2032 mm).

Exceptions: Other than along accessible routes required by Section 1007 and Chapter 11, the following exceptions are permitted:

- ~~1. In Group R-2 and R-3 occupancies, at the minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies, the width of door leaves shall not be limited.~~
- ~~2. In Group I-3 occupancies, door openings to resident sleeping units in Group I-3 occupancies shall have a minimum clear width of not less than 28 inches (711 mm).~~
- ~~3. At storage closets less than 10 square feet (0.93 m²) in area, door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.~~
- ~~4. At revolving doors that comply with Section 1008.1.3.1, the width of door leaves in revolving doors that comply with Section 1008.1.3.4 shall not be limited.~~
- ~~5. Within a dwelling unit or sleeping unit, door openings within a dwelling unit or sleeping unit shall not be less than 78 inches (1981 mm) in height.~~
- ~~6. At dwelling unit or sleeping unit, the exterior door openings in dwelling units and sleeping units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.~~
- ~~7. In Groups I-1, and R-2 and R-3 occupancies, In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be an Accessible unit, Type A unit or Type B unit. shall not be limited by the minimum width.~~
- ~~8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806 mm).~~

The size of doors within dwelling units or sleeping units required by Section 1107 to be Accessible, Type A and Type B units shall comply with ICC A117.1, Chapter 10.

1008.1.4 Floor elevation. There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions: Other than at doors that are along an accessible route required by Section 1007 and Chapter 11:

- Doors serving individual dwelling units in Groups R-2 and R-3 where the following apply:
 - 1.1. A door is permitted to open at the top step of an interior flight of stairs, provided the door does not swing over the top step.
 - 1.2. Screen doors and storm doors are permitted to swing over stairs or landings.
- Exterior doors as provided for in Section 1003.5, Exception 1, and Section 1018.2, ~~which are not on an accessible route.~~
- In Group R-3 occupancies ~~not required to be Accessible units, Type A units or Type B units~~, the landing at an exterior doorway shall not be more than 7.75 inches (197 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door, does not swing over the landing.
- Variations in elevation due to differences in finish materials, but not more than 0.5 inch (12.7 mm).
- ~~Exterior decks, patios or balconies that are part of Type B dwelling units, have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.~~

The floor elevation or landings at doors within dwelling units or sleeping units required by Section 1107 to be Accessible, Type A and Type B units shall comply with ICC A117.1, Chapter 10.

1008.1.5 Landings at doors. Landings shall have a width not less than the width of the stairway or the door, whichever is greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing to less than one-half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm).

Exception: Other than at dwelling units and sleeping units required by Section 1107 to be Accessible, Type A or Type B units landing length in the direction of travel in Groups R-3 and U and within individual units of Group R-2 need not exceed 36 inches (914 mm).

2. Add new text as follows:

1008.1.5.1 Doors along accessible routes. For doors along an accessible route required by Section 1007 and Chapter 11, the minimum landing size shall comply with the maneuvering clearances in ICC A117.1, Chapter 4. Within dwelling units or sleeping units required by Section 1107 to be Accessible, Type A or Type B units, the landings at doors shall comply with ICC A117.1, Chapter 10.

3. Revise as follows:

1008.1.6 Thresholds. Thresholds at doorways shall not exceed 0.75 inch (19.1 mm) in height for sliding doors serving dwelling or sleeping units or 0.5 inch (12.7 mm) for other doors. Raised thresholds and floor level changes greater than 0.25 inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exception: ~~The threshold height shall be limited to 7.75 inches (197 mm) where the occupancy is Group R-2 or R-3; the door is an exterior door that is not a component of the required means of egress; and the door, other than an exterior storm or screen door does not swing over the landing or step; and the doorway is not on an accessible route as required by Chapter 11 and is not part of an Accessible unit, Type A unit or Type B unit.~~

1008.1.7 Door arrangement. Space between two doors in a series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors.

Exceptions:

1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).
2. In Group R, storm and screen doors serving individual dwelling or sleeping units in Groups R-2 and R-3 need not be spaced 48 inches (1219 mm) from the other door.
3. In Groups R-2 and R-3, doors within individual dwelling or sleeping units need not be spaced 48 inches (1219 mm) from the other door in Groups R-2 and R-3 other than within Type A dwelling units.

In Group R occupancies, at doors serving and doors within Accessible and Type A dwelling and sleeping units required by Section 1107, door arrangement shall comply with ICC A117.1 Chapter 10.

Exception: Storm and screen doors serving individual dwelling or sleeping units need not be spaced 48 inches (1219 mm) from the other door.

4. Delete without substitution:

~~**1008.1.8 Hardware.** Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 shall not require tight grasping, tight pinching or twisting of the wrist to operate.~~

5. Revise as follows:

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions: Other than along accessible routes required by Section 1007 and Chapter 11, the following exceptions are permitted:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted at exterior doors for buildings with occupancies in Groups F, H, R-2, R-3, S and U ~~at exterior doors not required to be accessible by Chapter 11.~~

2. A stair with a single riser or with two risers and a tread is permitted ~~at locations not required to be accessible by Chapter 11~~, provided that the risers and treads comply with Section 1009.3, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with Section 1012 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) ~~at locations not required to be accessible by Chapter 11~~, provided that the risers and treads comply with Section 1025.11 and the aisle is provided with a handrail complying with Section 1025.13.

Any change in elevation in a corridor serving nonambulatory persons in a Group I-2 occupancy shall be by means of a ramp or sloped walkway. The elevation change in the means of egress within dwelling units or sleeping units required by Section 1107 to be Accessible, Type A and Type B units shall comply with ICC A117.1, Chapter 10.

Reason: The intent of this proposal is to required doors along accessible routes required for ingress (Chapter 11) or egress (Section 1007) to meet the provisions for accessible doorways in ICC A117.1. A general reference to ICC A117.1 for doorways would not be sufficient, since there are safety concerns for means of egress doors that may or may not be consistent with the accessibility provisions in ICC A117.1 (e.g. direction of door swing is a means of egress issue that is not addressed in the ICC A117.1). When the requirements are consistent (e.g. thresholds) a reference is not required. The exception in Section 1008.1.6 is deleted because it is already in Section 1008.1.4, as well as not being permitted in Accessible, Type A and Type B units. Section 1008.1.8 is deleted since it is already covered in ICC A117.1 for doors that are part of an accessible route and is therefore redundant text. If Section 1008.1.8 should be applicable to all doors, "required to be accessible by Chapter 11" should be struck.

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

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

E40-06/07

1008.1.1.1 (IFC [B]1008.1.1.1)

Proponent: Bill Conner, Bill Conner Associates LLC, representing himself

Revise as follows:

1008.1.1.1 Projections into clear width. There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

Reason: The purpose of this proposal is to allow for door closers and stops to protrude into the 80" minimum height. This is coordinated with ICC A117.1, Section 404.2.2.

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

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

E41-06/07

1008.1.2 (IFC [B] 1008.1.2)

Proponent: John Neff, Washington State Building Code Council

Revise as follows:

1008.1.2 Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.

8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H Occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Reason: The purpose of the code change is to add an exception to the code to allow a specific type of door for egress from areas of low occupancy. This exception is needed to allow space efficient design while maintaining a proven level of safety. Use of manual horizontal sliding doors for egress from low occupancy spaces was allowed under legacy codes with no impact on the health and safety of the occupants. Examples of where these doors have been used for egress include hotel balconies and in teacher break rooms in school facilities.

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

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

E42-06/07

1008.1.2 (IFC [B] 1008.1.2)

Proponent: Robert B. Bush, Code Source P.C.

Revise as follows:

1008.1.2 Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

Where a door leaf is required to swing in the direction of egress travel due to occupant load and where egress is through a pair of doors where each leaf swings in opposite directions of each other, the leaf on the right side approach shall swing in the direction of egress travel.

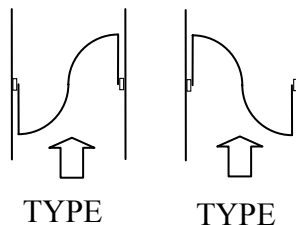
The opening force for interior side-swinging doors without closers shall not exceed a 5-pound (22 N) force. For other side-swinging, sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force. Forces shall be applied to the latch side.

Reason: To clarify the Code provisions for the direction of door swings in a pair of double egress swing doors.

The code requires exit and exit access doors for occupant loads of 50 or more to swing in the direction of egress travel. For pairs of "double egress" doors in which each leaf swings out opposite of each other, the architect can design the swings in one of two ways:

Type 1 Swing: When approaching a pair of double egress doors, the leaf on the right side swings in the direction of egress.

Type 2 Swing: When approaching a pair of double egress doors, the leaf on the left side swings in the direction of egress.



In most cases, architects will design for a Type 1 double egress door swing when double egress doors are used and when occupant loads are over 50 persons through these doors. Although rare, an architect may use a mix of Type 1 and Type 2 double egress swinging doors on a project. In that scenario an occupant could travel through most doors having a Type 1 swing on the right hand side and then encounter a door having a Type 2 swing on the left hand side. Such a situation is a problem because people in America tend to approach a pair of cross corridor doors on the right side. That means they could approach a Type 2 double egress swing door on the right side during a fire alarm and will need to pull the door towards

them. In a smoke filled corridor they may not see a door well enough to know that the leaf on the right side will need to swing towards them. This is not the intent of the code. Also, if these doors are closed for whatever reason, a safety hazard will exist. In that case, a person could push on the wrong side of the door and when there is a high occupant load, others could be exiting from the other side of the door and potentially slamming the door into the person. Keep in mind, traffic could be egressing in both directions through these doors due to activation of a fire alarm system if the occupants do not sense a fire and not knowing which way to exit. But, in no emergency situations, many facilities may have some double egress doors that are normally closed (rather than on hold open devices which is self-closing upon smoke detection, like in most hospitals and nursing homes). Again, a hazard exists because the potential is great for persons approaching a Type 2 double egress door on the right hand side, and then having other people on the other side of the door using the same door and potentially slamming into the person.

As mentioned, people in America (and many countries) tend to pass oncoming people on the right hand side of travel. A "Google" search on the internet using the search for "images" and the keywords of "Times Square New York" revealed by observing these pictures of pedestrians that people indeed do pass oncoming people on the right hand side (see photograph included herewith).

The code must be changed to **set a standard** and not allow a mix of Type 1 double egress swing doors and Type 2 double egress swing doors on the same project. But, if a project does not have a mix of these types, then all double egress doors on a project shall require the Type 1 swing. That is because we are "creatures of habit," and in America we tend to walk on the right hand side, and if a standard is set, it should be that all double egress doors shall have the Type 1 swing.

Substantiation: Without this code change, code inspectors can have a difficult time trying to convince an architect and owner to tear out a Type 2 double egress swing door and correct it for a Type 1 double egress swing door. This statement is based on an actual project where the architect and owner were convinced they were correct in using a Type 2 double egress swing when another door in that very same corridor system was a Type 1 double egress swing. Despite two construction board of appeals, one at the local level, and one at the State level, the owner prevailed in keeping such construction. See copy of this appeal as a substantiation that the current code is to vague in giving the proper requirement to enforce standardizing a Type 1 double egress swing door on a project. Both the local and state jurisdictions strongly felt a code change was desperately needed.

Evidence that people in America tend to travel and pass oncoming people on the right hand side is shown on the attached photograph taken from a Google search as previously stated.

Brian Lucas has published on the internet at www.brianlucas.ca/roadside/ a document called *Which side of the road do they drive on?* This document is an extensive 34 page summary of his studies relating to which side of the road people drive on within the world and some reasons why. I have copied pages one and two of the report since these pages list his resources of information, one being a 239 page book by Peter Kincaid called *The Rule of the Road: An International Guide to History and Practice*, a book the author says is the most authoritative reference that he is aware of. What is important to note in relationship of this study to this code change is that the side of the road (and other forms of travel) in which people are accustomed to, does relate to the side of a walkway that people pass oncoming people on. His summary on "*What about pedestrians?*" is only two pages and I have also attached those pages for reference.

The following is a brief summary of Mr. Lucas' findings in relationship to pedestrian travel:

1. 164 countries drive on the right hand side and 74 countries drive on the left hand side.
2. In the world, 20,929,635 drivers drive on the right hand side and 7,969,529 drivers drive on the left hand side. This equates to 72.42% drivers in the world drive on the right hand side, or roughly three-quarters of the world.
3. The countries that drive on the left hand side are primarily the countries that are or were related to the British Empire (United Kingdom, India, southern parts of Africa, and Australia), whereas, all countries within the northern hemisphere, the drivers drive on the right side.
4. The people who live in the countries that drive on the right side also walk on the right side when passing people who approach them.

Mr. Lucas states: "that pedestrians form a "standard practice" which many people are not even consciously aware of until they travel to a country with a different standard practice and end up bumping into the locals." This is an interesting observation as relative to an occupant approaching a Type 2 double egress swing. Reason: If people tend to bump into each other when one person is accustomed to walking on say the right side and the other person is accustomed to walking on say the left side, then people approaching a Type 2 double egress swing door could result in confusion and potentially the right side door leaf could slam into the face of a person when two or more persons are simultaneously reaching the same door leaf on opposite sides of the door. He states "keeping right is the normal practice in the USA and Canada." This practice is not relative to people walking along side a road, since we have laws (and parental instructions) that state pedestrians must walk on the left side of the road when walking on the edge of the road (i.e., when there is no separate footpath such as a sidewalk) into the direction of traffic. This rule is issued for greatest safety in order that people can see an oncoming car, and does not relate to their normal habit of walking on the right side in particular to other pedestrians on sidewalks, in hallway, and in pedestrian-only areas.

Bibliography:

New York Times Square: Photograph of typical pedestrian travel.

Which Side of the Road Do They Drive On? by Brian Lucas, www.brianlucas.ca/roadside/, August 2005.

Appeal Conclusions from the Michigan Construction Code Commission.

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

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

E43-06/07

1008.1.2, 1008.1.3 (New), 1008.1.3.1 (New) [IFC 1008.1.2, [B] 1008.1.3 (New), [B] 1008.1.3.1 (New)]

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

Revise as follows:

1008.1.2 (IFC 1008.1.2) Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.

3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3 as applicable in Section 101.2.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

1008.1.3 Door opening force. The opening force for pushing or pulling open interior side-swinging egress doors without closers other than fire doors, shall not exceed ~~a 5-pound~~ 5 pounds (22 N) force. For other side-swinging doors, and sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

1008.1.3.1 Location of applied forces. Forces shall be applied to the latch side of the door.

Reason: The purpose of this proposal is to make the provisions for door opening forces more technically sound and more consistent with similar provisions in ICC A117.1. IBC Section 1008.1.2 requires egress doors to be side-hinged swinging except for several cases noted in Exceptions #1 through #8. In paragraph #3, the opening force is limited to 5 pounds for interior side-swinging doors without closers. The charging language in paragraph #1, however, is limited to side-hinged swinging doors, which does not include side-swinging doors other than side-hinged swinging (i.e., pivoted). Paragraph #3 specifies limits on opening forces for sliding and folding doors, which is also beyond the scope of the same charging language. Because of this, a new code section is proposed so that the requirements for door opening force are not limited to the charging language in Section 1008.1.2.

Scoping issues aside, the current provisions in paragraph #3 are limited to side-swinging doors, sliding doors and folding doors. Excluded are swinging doors other than side-swinging (i.e., pivoted), which is not the intent. It is also not consistent Section 404.2.8 of ICC A117.1-03 on door-opening force, which applies to all interior hinged doors other than fire doors, not just side-swinging (hinged) doors. The change from "side-swinging" to "swinging" doors will make the necessary correction.

The current language in paragraph #3 of Section 1008.1.2 specifies "opening force." This is changed to "force for pushing and pulling open," also for consistency with Section 404.2.8 of ICC A117.1-03. The substitution of "fire doors" for "without closers" is being done for the same reason. The change from "5-pound force" to "5 pounds" is being done to eliminate redundancy. Note that "force" is specified at the beginning of the sentence.

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

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

E44-06/07

1008.1.3.1 (IFC [B] 1008.1.3.1)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1008.1.3.1 Revolving doors. Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.3.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an accessible route required by Section 1007 and Chapter 11.

Reason: Revolving doors cannot be used on an accessible route.

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

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

E45-06/07

1008.1.3.4, 1008.1.8 (IFC [B] 1008.1.3.4, [B] 1008.1.8)

Proponent: Ralph Vasami, The Kellen Company, representing The Door Safety Council

1. Delete without substitution:

~~**1008.1.3.4 Access-controlled egress doors.** The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system which shall be installed in accordance with all of the following criteria:~~

- ~~1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.~~
- ~~2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.~~
- ~~3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock independent of the access control system electronics and the doors shall remain unlocked for a minimum of 30 seconds.~~
- ~~4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.~~
- ~~5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.~~
- ~~6. Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.~~

2. Revise as follows:

1008.1.8 Door operations. Except as specifically permitted by this section, egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. Electrically locked egress doors not requiring panic hardware are permitted to use door hardware that requires only one action to exit and contains a switch or relay that is listed, tested, and designed to immediately and directly release any locking device when exit is attempted and where loss of power to the device unlocks the door.

Reason: This proposal will remove Section 1008.1.3.4, and modify requirements for door operations. The current language in 1008.1.3.4 is confusing and outdated. As long as the electric locking device allows free egress, it should not be required to unlock from the outside when the fire alarm or sprinkler activate. In fact, this is a security flaw. Mechanical locks do not have that stipulation. Motion detectors with sensors should be permitted where appropriate, but not required as they may also present a security issue. A "manual unlocking device" button should be permitted where appropriate but not required; integral switches in the device are generally more appropriate.

For some time there has been much confusion over the wording and original intent of this section. We propose to replace it with clearer language that states the intent of the code, several ways to satisfy it, and still provide for personal safety and facility security.

- "Access Controlled Egress Doors" is not the correct wording.
- User must retain control of the door—lost when a motion detector is used.
- Security of a facility must be controlled—again lost when a motion detector is used near any foot traffic.
- Releasing all locks in a building when anyone pulls a pull station defeats the entire purpose of having locked doors.
- Current interpretations do not acknowledge the original purpose of this section, which is clearly stated in the NFPA 1994 Handbook Section 5-2.1.6.2 (see excerpts below).

Excerpts from 5-2.1.6.2 – NFPA 1994 Handbook

The access-controlled egress doors addressed by 5-2.1.6.2 are intended to be locked from the outside of the building and require a magnetic card or similar instrument for authorized entry, but are to be arranged to be usable for egress purposed at all times the building is occupied. The reason the Code addresses these doors under the subject of special locking arrangements is that such doors generally do not have the door-mounted manual lock release typically installed on a door. The absence of the door-mounted manual lock release is to prevent a person on the outside from inserting a wire hanger or other tool between the gaps at the door edges to reach the lock release.

Subparagraph (a) provides for the door to unlock when a sensor detects an occupant approaching the door. This is the normal primary means of releasing the lock to permit occupants to leave the building. Should the sensor and release system fail, the requirements of subparagraph (c) provide a redundant back-up system consisting of a manual lock-release mounted at a usable height in the immediate vicinity of the door opening. The Code permits the manual release to be installed as much as 5 ft (1.5 m) from the secured door, recognizing that the glass side lights featured on many of these doors are an impractical place to install a manual release device. Additionally, subparagraph (b) requires a fail-safe feature to unlock the door immediately upon loss of electrical power controlling the lock.

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

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

E46-06/07

1008.1.3.5 (New) [IFC [B] 1008.1.3.5 (New)]

Proponent: Edward A. Hite, Electric Locksmith Company, representing himself

Add new text as follows:

1008.1.3.5 Electromagnetically locked doors. In buildings with Group B, M, R-1, or R-2 occupancies, means of egress doors that are electromagnetically locked and not required to have panic hardware are permitted to use door hardware that requires only one action to exit and contains a switch or relay that is listed, tested, and designed to immediately and directly break power to the electromagnetic lock when exit is attempted. Loss of power to either device shall unlock the door.

(Renumber subsequent section)

Reason: Small office buildings, apartment buildings, gas stations, check cashing places, and strip center shops need the flexibility of being able to lock their front and back doors (entrance side) while screening customers or visitors. Often, being open late hours, being remotely located, or being in a high crime area is common and being able to approach a door without unlocking it is essential during that screening process.

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

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

E47-06/07

1008.1.8.3 (IFC [B] 1008.1.8.3)

Proponent: Ralph Vasami, The Kellen Company, representing The Door Safety Council

Revise as follows:

1008.1.8.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint. 2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background, 2.3. The use of the key-operated locking device is revokable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Fire rated doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures

Reason: This proposal will revise Section 1008 to clarify conditions under which latching devices shall be permitted to prevent door operation. The current code contains a contradiction in that the listed procedures for a fire door include the disabling of the mechanism. Without this added text, the code does not allow the listed feature.

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

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

Proponent: Kathy All, South Carolina Health Care Association, representing Nursing Home Facilities

Revise as follows:

1008.1.8.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint.
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, Mand S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background,
 - 2.3. The use of the key-operated locking device is revokable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Door Locking arrangements without delayed egress shall be permitted in I-2 health care occupancies or portions of I-2 health care occupancies where the clinical needs of the patients require specialized security provisions for their safety provided all staff can readily unlock such doors at all times.

Reason: The purpose and subsequent reasons for the proposed code change is the immediate need to clarify the current code. Clarification can be obtained by the addition of the above stated text. Currently International Building Code 1008.1.8.3 (Exception 1) indicates locks and latches shall be permitted to prevent operation of doors where any of the following exists: Places of detention or restraint. The code does not specify the groups that may be affected by exception 1. The code clearly does not indicate the exclusion of Group I-2 (Section 308.3) which includes nursing homes. The absence of a definitive clarification has over years required nursing homes across the country to seek state specific amendments to the code or to rely on the interpretations of the state specific Authority Having Jurisdiction . In all circumstances there is a lack of continuity as to the intent of the code. As a result in many instances the quality of care and the quality of life of seniors throughout the country has a great potential of being compromised. With the national movement for seniors to have the opportunity to age in place, and the increasing utilization of residential and assisted living facilities these individuals are entering the long term care nursing environment at a higher level of acuity. Frequently admission is required based on moderate to extensive cognitive impairment as a result of Alzheimer's disease or other related dementias. Residents with dementia will wander and seek exits and are at high risk for elopement. Although (Exception #1) of section 1008.1.8.3 (Places of Detention and Restraint) may be most common in Group I-3 facilities (Section 308.4) there are clearly areas in Group I-2 where the clinical needs of these patients present legitimate security concerns which require areas of restraint for their safety and wellbeing. Magnetic locks have been historically installed on doors in the means of egress in nursing homes to prevent resident elopement and to provide a safe environment. These locks are now equipped with delayed egress. The locking mechanism however has a code key touch pad that requires a series of numbers to be entered in order for the door to open. The code is also printed and placed beside the door and all staff and visitors have access to the code. This means the staff can readily unlock the doors at all times. These doors also automatically unlock when the automatic fire detection system or the automatic sprinkler system is triggered. Currently Fire and Life safety inspectors interpret 1008.1.8.3 (exception #1) to require delayed egress on magnetic locks. This delayed egress mechanism allows a door to be open when pressed upon for 15 seconds or with permission of the Authority Having Jurisdiction an opening delay of 30 seconds. In effect this requirement of a delayed egress annuls the reason why the doors are secured in the first place. Although the staff are aware of the delayed egress function and all efforts are made to assess and provide diversional activity to keep residents away from the doors it is impossible to monitor all who are cognitively impaired on a one to one around the clock basis. The patient pushes on these delayed egress doors, the alarm sounds causing the patient to become more confused and often frightened. This cycle is repeated over and over because the cognitively impaired patient cannot discern the alarm as an indication of danger. The staff are at intervals so busy attending to the delayed egress doors precious quality time that could be spent with the residents is lost. To a large degree a significant part of the quality of life for Alzheimer's and other dementia patients is to allow them to freely move about in a safe environment. Where the clinical needs of the resident require it this safe environment can be defined as an area of restraint thereby including Group I-2 under Code 1008.1.8.3 (Exception #1) . The addition of the proposed new text will clarify Area of Restraint and bring consistency to the intent and interpretation of the current code. By including the additional text the International Building Code 1008.1.8.3 will also be consistent with NFPA 101-2000 section 19.2.2.2.4 (exception #1) and 19.2.2.2.5. which indicates delayed egress is not required in facilities where the clinical needs of the patients require specialized security measures for their safety provided that staff can readily unlock the doors at any time.

This proposed code change only clarifies the intent of the existing code. Several technical authorities and regulations support and substantiate the benefits of locking egress doors without time delays, in health care occupancies where the patients have Alzheimer's type dementia and exit seeking predisposition.

The Center for Medicare and Medicaid services has adopted the National Fire Protection Association 101 2000 as it's authoritative text when evaluating a nursing home's compliance with Medicare/Medicaid regulations. The NFPA 101 2000, section 19.2. 2. 2. 4 , exception 1 allows for door locking arrangements, without delayed egress, in health care occupancies where the clinical needs of the patients require security measures. The International Building Code 20003, section 100 19.2.2.2.4, exception 1 allows for door locking arrangements , without delayed egress, in healthcare occupancies where the clinical needs of the patients require special security measures.

The HealthCare Interpretations Task Force (H.I.T.F) also substantiates this same benefit. The H.I.T.F. is a coalition of the major organizations that impact the health care community. It was formed in July of 1998 and it's membership includes: American Health Care Association, American Society of Health Care Engineers, Center for Medicare/Medicaid Services, Department of Defense, National Fire Protection Association, and Joint Commission on Accreditation of Hospitals. This coalition meets annually and as part of their duties, interprets questions asked by providers and non-professionals and attempts to reconcile organizational differences of opinion. The minutes of the September 10, 1998 meeting of the H.I.T.F. indicate a question was submitted regarding door locking arrangements. The task force was asked to determine if it was the intent of the Life Safety

Code to permit doors in the means of egress of health care facilities to be locked. Provided the clinical needs of the patients require specialized security measures and provided the staff can unlock these doors at all times. The H.I.T.F.'s opinion was that the code did allow such door locking arrangements.

A series of similar questions was again addressed by the H.I.T.F. at their meeting in Reno, NV on November 19, 2003. The question was asked; "Is it the intent of the Code to restrict the type of locking devices to time delayed locks?" and the answer was NO.

We believe the IBC currently allows for the door locking arrangements in I-2 occupancies where the specialized needs of patients who wander, exit seek and elope may require them to be housed in an area of restraint. We are asking for this code change to clarify the existing code.

Bibliography:

IBC 2003 Section 1008.1.8.3 Locks and Latches, #1.

NFPA 101 2000 Section 19.2.2.2.4, exception #1.

Minutes of the September 10, 1998 meeting of the Health Care Interpretation Task Force

Minutes of the November 19, 2003 meeting of the Health Care Interpretation Task Force

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

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

E49-06/07

1008.1.8.6 (IFC [B] 1008.1.8.6)

Proponent: John Berry, representing Cole + Russell Architects, Inc.

Revise as follows:

1008.1.8.6 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

Reason: The proposed text would allow delayed egress locks to be operated in the same manner as stairway doors currently allowed in Section 1008.1.8.7. Other than in a high-rise building, currently there is no requirement for delayed egress locks to be operated in an emergency from a remote location. This proposal will rectify this.

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

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

E50-06/07

1008.1.8.6 (IFC [B] 1008.1.8.6)

Proponent: Randall R. Dahmen, P.E., Licensed Commercial Building Inspector, Waunakee, Wisconsin, representing himself

Revise as follows:

1008.1.8.6 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection

system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of ~~not more than~~ 15 pounds (67 N) or greater is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

Reason: As currently worded, a user who pushes with greater than 15 pounds force for 1 second will NOT be allowed to open the door. The intent of the section is to require a minimum force of 15 pounds or greater. Current code commentary for this section states, "... A user must apply a minimum 15 pound (7 kg) force to release device for at least 1 second, at which time an audible alarm will sound and the device will automatically start to unlock the door." The proposed change is to correct the wording to match the intent of the code.

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

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

E51-06/07

1008.1.8.6.1 (New) [IFC [B] 1008.1.8.6.1 (New)]

Proponent: Michael G. Kraft, Division of State Fire Marshal, State of Ohio

Add new text as follows:

1008.1.8.6.1 Special security measures in I-2 occupancies. When approved by the fire code official, within a Group I-2 occupancy that is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and an approved smoke detection system installed in accordance with Section 907, spaces used for patients that require elopement prevention or special security measures shall be permitted to have the egress doors exiting from that space to be equipped with approved, listed egress locks installed in accordance with Section 1008.1.8.6 except that a keypad or similar elopement prevention or security control device may be utilized in lieu of the irreversible process required when a force is applied to the release device indicated in Item 4.

Reason: The reason for this code change is simply to address the plethora of hospital, nursing home, Alzheimer care facilities, and similarly challenged I-2 occupancies that tend to install the magnetic locks on exit doors. Once these issues come before an appeals board, the relief is typically granted as our peers recognize that this "real world" condition needs a proper solution. This situation is pervasive, in that many facilities are struggling to address the growing population of Alzheimer patients. Although the presence of a locking device on an egress door appears counter intuitive to the fire service, it is incumbent upon code officials to recognize when technology and/or real world circumstances necessitate an adjustment in the applicable code requirements.

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

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

E52-06/07

1008.1.8.7 (New) [IFC [B] 1008.1.8.7 (New)]

Proponent: Dave Frable, U.S. General Services Administration

Revise as follows:

1008.1.8.7 Electromagnetically Locked Egress Doors. Doors in the means of egress in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch that meets the requirements below:

1. The listed hardware is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware interrupts power supply to the electromagnetic lock and unlocks the door.
4. Loss of power to the listed hardware automatically unlocks the door.

Reason: The intent of this code change proposal is add a new requirement that would permit doors in the means of egress to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch that interrupts the power supply to the electromagnetic lock and unlocks the door.

Current code requirements do not permit the use of this new type of technology for electromagnetically locked egress door. Current requirements only permit the use of delayed egress locking systems and egress access control systems. However, these two types of egress locking systems typically do not meet the security needs of the building and are often misapplied.

The listed hardware that incorporates a built-in switch has been tested by UL under Special Locking Arrangements FWAX.SA6635. For example, the Adams Rite 3000 bars are OEM listed as 3700, 3600, 3300, and 3100. In addition, the Securitron Touch Sense Bars and Handles are also listed.

We believe type of locking arrangement will address a majority of security concerns in buildings while still maintaining a reasonable degree of safety. This new type of locking arrangement would also be acceptable in the 2006 edition of the NFPA 101, *Life Safety Code*.

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

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

E53–06/07

1008.1.8.7 (IFC [B] 1008.1.8.7)

Proponent: John Berry, representing Cole + Russell Architects, Inc.

Revise as follows:

1008.1.8.7 Stairway doors. Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. Stairway discharge doors, when discharging directly to the exterior of a building, shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.12.
3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.

Reason: The proposed text clarifies that when a stairway discharge door opens interior to a building, the discharge door cannot be locked thereby preventing reentry into the exit stair. There are several situations where an exit stair is allowed to discharge interior to a building, i.e. exit passageways, atriums and Section 1024.1 - Exceptions 1 & 2. Current code language technically allows these doors to be locked, which creates a serious life safety liability.

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

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

E54–06/07

1008.1.9 (IFC [B] 1008.1.9)

Proponent: Laura Blaul, Orange County Fire Authority, and Lorin Neyer, Office of Statewide Health, Planning and Development, State of California, representing California Fire Chief's Association

Revise as follows:

1008.1.9 Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. The maximum unlatching force shall not exceed 15 pounds (67 N).

Each door in a means of egress from a Group A or E occupancy having an occupant load of 50 or more and any Group H occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware. Each door in a means of egress from an assembly area not classified as a Group A occupancy, with an occupant of 50 or more, shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit access doors must be equipped with panic hardware and doors must swing in the direction of egress.

If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

Reason: This section requires panic hardware for assembly occupancies of more than 50 people but does not include assembly areas. Section 303.1 states that "Assembly areas with less than 750 square feet and which are accessory to occupancy according to Section 302.2.1 are not assembly occupancies." Without the proposed new text it would be interpreted that panic hardware is not required in assembly areas which could result in allowing over 100 people in a room before panic hardware is required.

We strongly believe that that this new text is necessary for life safety which is a factor of the number of people, whether it be an assembly occupancy of assembly room. And furthermore, this revision will provide clear and usable code language that will result in providing panic hardware in all areas where more than 50 people may assemble.

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

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

E55-06/07

1009.1 (New), 1009.3 [IFC [B] 1009.1 (New), [B] 1009.3]

Proponent: Bill Conner, Conner Associates LLC, representing himself

1. Add new text as follows:

1009.1 Scope. The provisions of this section shall apply to stairways used as a component of means of egress. Exterior exit stairways shall also comply with Section 1023.

Exception: Existing stairways being altered or replaced shall be permitted to comply with Section 3403.4.

(Renumber subsequent sections)

2. Revise as follows:

1009.3 Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
5. ~~See the Section 3403.4 for the replacement of existing stairways.~~

Reason: There is no general scoping section for stairways. Without this language, there has also been the interpretation that exterior exit stairways do not have to comply with the general provisions for stairways in Section 1009, only the specific provisions in Section 1023. The language here is that similar for ramps in Section 1010.1. This would also coordinate better with the provisions in ADAAG 210.1.

Exception 5 is not needed if the general scoping provisions are added.

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

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

E56–04/05

1009.1, 1010.5.3, 1012.7 (IFC [B] 1009.1, [B] 1010.5.3, [B] 1012.7)

Proponent: William W. Stewart, FAIA, Chesterfield, MO, representing himself

Revise as follows:

1009.1 Stairway width. The width of stairways shall be ~~determined as specified in~~ regulated by Section 1005.1, but such width shall not be less than ~~44~~ 35 inches (4448 ~~890~~ mm). The width shall be the clear width measured between handrails. For stairs with a handrail on only one side, the width shall be measured from face of handrail to the wall or guard on the opposite side. See Section 1007.3 for accessible means of egress stairways.

Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than ~~36~~ 31.5 inches (944 ~~800~~ mm).
2. Spiral stairways as provided for in Section 1009.8.
3. Aisle stairs complying with Section 1025.
4. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

1010.5.3 Restrictions. Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited except as allowed by Section 1012.7. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

1012.7 Projections. ~~On ramps, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of stairways and ramps at each handrail shall not exceed 4.5 inches (114 mm) at or below the handrail height. Handrails and other projections at or below the height of the handrail shall not project more than 4.5 inches (114 mm) from the face of the wall on which they are supported.~~ Projections into the required width shall not be limited above the minimum headroom height required in Section 1009.2.

Reason: The changing “determined” to “regulated” is simply semantic. The table regulates the width. It does specify the width.

The reduction of required width from 44” to 35” is not actually a change when coupled with the clarification of the surface from which a stair width is measured. Currently the code allows the handrail to project 4.5” from the wall into the required width. The minimum stair width between walls and the minimum stair width between handrails will be the same as currently required. We currently measure ramp width and accessible stair width from inside of handrail to inside of handrail. There is nothing in the code that indicates from which point a “traditional” stair width is measured. This new language is consistent with how we measure the width of ramps and accessible stairs. It will eliminate confusion on this point. Many stairs are open on one side or on both sides. For these “open” stairs I have received many questions on how to measure the width of the stair. These questions will go away.

This change will bring the IBC into closer harmony with Section R311.5.1 of the IRC which already controls the clear width between handrails.

The reduction to 31.5” in Exception 2 will result in no change for the normal narrow stair that has a handrail on one side. Currently, if this narrow stair has handrails on both sides the distance between the handrails can be as little as 27”. That’s too narrow even though the IRC allows it. I don’t think exception 4 needs to be changed.

The new text in 1010.5.3 simply recognizes the fact that 1012.7 does allow projections into the required width when those projections are above 6’-8”. Thus it eliminates an inconsistency.

The ramp width requirement is deleted from 1012.7 because it is redundant. Ramp width is controlled in Section 1010.5. I had no real problem with the text about the 4.5 inch projection except that it didn’t work when we are no longer talking about projections into the required width. If you want to leave the current sentence and change “required width” to “actual width” that would be fine with me.

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

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

E57–06/07

1009.3, 1009.3.1 (New) [IFC [B] 1009.3. [B] 1009.3.1 (New)]

Proponent: Bill Conner, Conner Associates LLC, representing himself

1. Revise as follows:

1009.3 Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically

between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3, and within individual dwelling units in Group R-2, not required to comply with Accessible, Type A or Type B units in accordance with Section 1107.7, shall be permitted comply with the stair tread and riser requirements in accordance with Section 1009.3.1.
4. ~~In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).~~
5. See the Section 3403.4 for the replacement of existing stairways.

2. Add new text as follows:

1009.3.1 Stair tread and rises in Groups R-2, R-3 and U. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).

Reason: Section 1009.3, Exception 4 from Section 1009.3 is moved to new Section 1009.3.1 in order to clarify the residential requirements as well as indicating that the reduction in tread riser ratios are not permitted for stairways that may be in Accessible, Type A or Type B units

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

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

E58-06/07

1009.3, 1009.3.3 (IFC [B] 1009.3, [B] 1009.3.3); IRC R311.5.3.3

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Revise as follows:

1009.3 Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.

3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). ~~A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).~~
5. See the Section 3403.4 for the replacement of existing stairways.

1009.3.3 Profile. The radius of curvature at the ~~nosing leading edge~~ shall be not greater than ~~0.5 9/16~~ inch (14.3427 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the ~~nosing leading edge~~ under of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The ~~leading edge (nosings) of treads~~ shall project ~~not less than 3/4 inch (19 mm) but not more than 1.25 inches (32 mm)~~ beyond the tread below and all projections of the ~~nosings in the stairway leading edges~~ shall be of uniform size, ~~including the leading edge of the floor at the top of a flight.~~

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3.

PART II – IRC

~~R311.5.3.3~~ **R311.5.4.3 Profile.** The radius of curvature at the ~~leading edge of the tread~~ nosing shall be no greater than 9/16 inch (14 mm). ~~The nosings shall project 3/4 inch (19 mm) but not more than 1.25 inches (32 mm) beyond the tread below on stairs with solid risers. The tolerance between the largest and smallest nosing projection shall not exceed 3/8 inch (9.5 mm) within any stairway. A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inch (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings.~~ Beveling of nosings shall not exceed 1/2 inch (12.7 mm). Risers shall be vertical or sloped ~~under the tread above~~ from the underside of the ~~leading edge of the tread~~ nosing above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions:

1. ~~A nosing is not required where the tread depth is a minimum of 11 inches (279 mm).~~
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less.

Reason: (IBC) The purpose of the change is for clarification of the code and minor revision of a dimension. The code language can be simplified by using the code defined term **Nosing**. The change of the radius curvature dimension requested from 1/2" to 9/16" will not affect stair safety and will technically allow compliant use of the industry standard thickness of 1-1/16" for wooden stair treads with a half round nosing.

This change is all about profile, requiring projection, and using defined terms. Because of a reference to nosing projection in one of the exceptions in 1009.3 that section has been included. Suffice it to say that the requirement hidden in the exception is not necessary if our proposed changes to 1009.3.3 are accepted because the requirement will appear where it belongs in the charging paragraph of 1009.3.3.

The change in the radius from .5 inch to 9/16 inch permits the currently allowed radius of the half round profile that is used to nose treads that are manufactured to an industry standard thickness of 1-1/16 inch. This minimal change will not affect stair safety as the 9/16 inch radius is currently accepted in field inspections as a nominal variation and would match the dimension used in the IRC as well as the standard to which all wood treads are made.

The text of this section could be less confusing if the code's defined term "nosing" is substituted for "leading edge". The word nosing is used throughout the industry in the daily; manufacture, distribution, sale and installation of treads, landing tread and return nosing mouldings, and stairs. In addition the IBC definition in "**1002.1 NOSING**. The leading edge of treads of stairs and of landings at the top of stairway flights." very simply includes the answer to the questions: "Leading edge of what?", "Does the code mean Nosing?", "Is a Nosing different than a leading edge of a tread or leading edge of a stair or leading edge of a landing? This substitution eliminates the need for parentheses and includes in the definition reference to the nosing of landings as well. In this particular code use of the defined term can simplify and eliminate confusing and redundant language that causes people to think that there is a difference between nosing and leading edge.

When descending a stair the user places the ball and toes of the foot onto the tread below. From this pivot point the heel then drops in an arc until the foot is balanced on the tread and the weight shift can be completed to swing the other foot to the next tread below. As the heel drops in the arc a nosing projection allows additional clearance for the heel. The same relief can be obtained by sloping the riser under the upper tread. The word "under" is being added to clarify the intent that the riser may be sloped back into the stair as an alternative to the use of a nosing projection that allows heel relief for the descending user. Currently the code is misinterpreted to allow the riser to be sloped out onto the tread below which causes an effective shortening of the tread depth expected by the user. Please see attached graphic illustrating the maximum space available for the heel to arc onto the tread.

In the profile study (graphic) below it is clear to see the advantage of having a nosing projection even on treads as large as 11 inches. If a projection is not used or required the usable tread space in descent is greatly reduced. If you compare the illustration of the 11 inch tread with no projection it has less available foot space than is attained with a 10 inch tread with the required projection. I am sure you have walked on stairs with no nosing projection and wondered why it felt strange. It is because the user experiences a foreshortening of the tread and is not given the heel

clearance that he or she is accustomed to related to where they normally place the ball and toes of the feet near the edge of the tread when descending. This is usually noticeable and the user must make the adjustment when no nosing projection is used. Without further study we could not recommend a minimum width that could be used without a nosing projection however requiring nosing projections makes sense. For this reason we have included 1009.3

Finally the use of the defined term Stairway further clarifies the codes intent to include nosings at the edges of floors and landings as they are part of a stairway by definition.

(IRC) The purpose of the change is for clarification of language and intent.. This proposal is necessary to correct errors in the code as well as ease understanding.

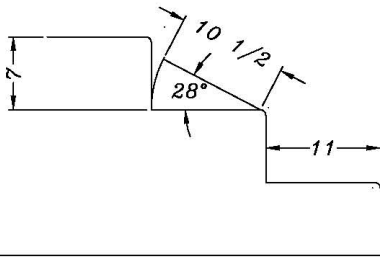
The text of this section could be less confusing if the code's defined term "nosing" is substituted for "leading edge". The word nosing is used throughout the industry in the daily; manufacture, distribution, sale and installation of treads, landing tread and return nosing mouldings, and stairs. In addition the IBC definition in "**1002.1 NOSING**. *The leading edge of treads of stairs and of landings at the top of stairway flights.*" very simply includes the answer to the questions: "Leading edge of what?", "Does the code mean Nosing?", Is a Nosing different than a leading edge of a tread or leading edge of a stair or leading edge of a landing? Furthermore by substituting the defined term the definition's reference to the nosing of landings further clarifies. In this particular code use of the defined term can simplify and eliminate confusing and redundant language that causes people to think that there is a difference between nosing and leading edge.

The inserted text is intended to be editorial and result in more easily understood text that will convey the code's intent. Use of the code's defined term STAIRWAY in place of the laborious sentence referencing stories, floors, and landings, is also intended to convey the same meaning.

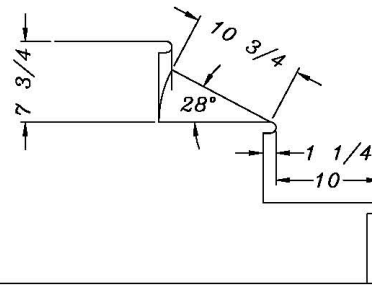
When descending a stair the user places the ball and toes of the foot onto the tread below. From this pivot point the heel then drops in an arc until the foot is balanced on the tread and the weight shift can be completed to swing the other foot to the next tread below. As the heel drops in the arc a nosing projection allows additional clearance for the heel. (see graphic below) The same relief can be obtained by sloping the riser under the upper tread. The word "under" is being added to clarify the intent that the riser may be sloped back into the stair as an alternative to the use of a nosing projection that allows heel relief for the descending user. Currently the code is misinterpreted to allow the riser to be sloped out onto the tread below which causes an effective shortening of the tread depth expected by the user.

In the diagram below an 11 inch tread is shown without a nosing projection. The effective tread depth in descent is diminished when a nosing projection is not used and in the case illustrated the radius at the nosing which is normally provided to reduce wear and chipping at the nosing actually reduces the 11 inch tread depth below that of the 10 inch tread with a nosing projection of 1-1/4 inches. For this reason and others related to the effect of lower risers often used with deeper treads, larger treads should be required to have a nosing projection especially where this is normally provided and expected in residential applications. Please see graphic below illustrating the maximum space available for the heel to arc onto the tread.

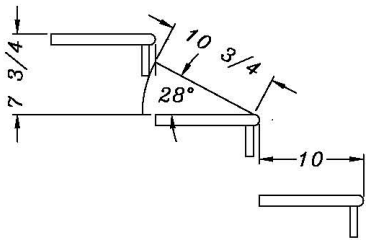
(The following graphic was provided as part of the reason for the IBC and IRC proposed changes.)



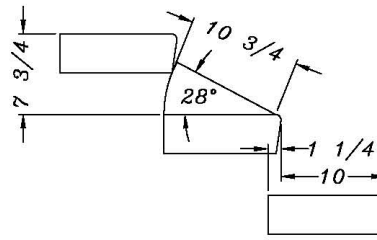
No Nosing Projection - shows that foot space of 11 inch tread depth is less than conventional with only 10 inch tread depth and that a change in rise has no effect on foot space.



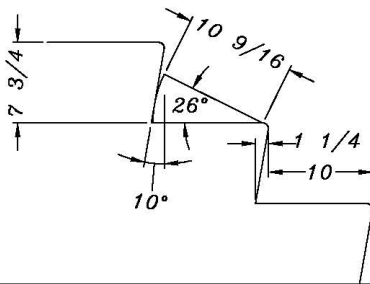
Conventional Construction



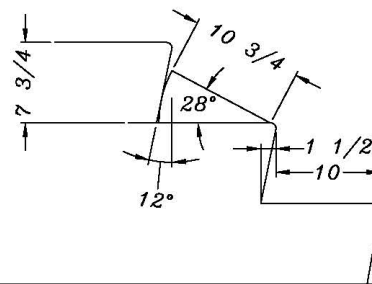
Open Riser Without Projection - shows lack of projection has no effect on foot space if opening limiter is clear of heel arc.



Open Riser With Projection - shows thicker treads required to reduce opening could affect available tread depth



Sloped Riser - shows riser angle at 1 1/4 inch projection has less available foot space than conventional



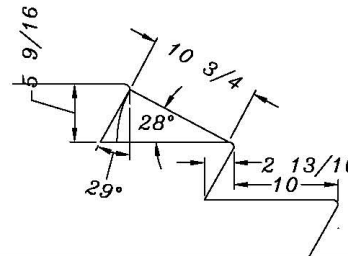
Sloped Riser - shows riser angle and projection required to attain same available foot space as conventional

PROFILE STUDY

Although not all possibilities are illustrated here, the intent is to show several of the factors, controlled by the sections of the ICC codes for **Profile**, related to the need for a nosing projection in the descent of stairways. Although the anatomy of the foot projects the heel from the back of the leg and shoe the projection is approximately 1 to 2 inches the illustrations are simply a comparison of the maximum available foot space. It is not normal for the heel to be pushed back against the riser in descent.

In each example we have drawn an arc from the restriction of space at the back of the tread to the intersection of the vertical plane of the nosing.

Each of the diagrams is drawn with the same nosing radius and pivot point at the nosing edge.



Sloped Riser - shows that lower riser heights of stairs with projection could affect available foot space also shows riser angle required to attain foot space of Conventional. For this and other reasons related to proportion it is best to use wider treads with shorter risers.

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

PART I - IBC

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

PART II - IRC

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

E59-06/07

1009.3 (New), 1009.3, 1009.3.1, 1009.3.2 (IFC [B]1009.3 (New), [B]1009.3, [B]1009.3.1, [B]1009.3.2; IRC R311.5.3 (New), R311.5.3, R311.5.3.1, R311.5.3.2

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

1. Add new text as follows:

1009.3 Walk line. The stairway walk line shall be located on the side of the stairway with the shortest path of travel, through a point 12 inches (305mm) from the wall or on open sides of stairs, through a point 12 inches (305 mm) from the guard in-fill, measured on the usable portion of the tread. The walk line shall be extended through this point on each flight in a single continuous smooth line in the direction of travel. On flights with winder treads the through-point of the walk line shall be measured at a winder.

2. Revise as follows:

~~1009.3~~ **1009.4 Stair treads and risers.** Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between nosings of adjacent treads. Stair Rectangular and winder tread depth shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the nosings foremost projection of adjacent treads at the intersection of the walk line and the nosing, and at a right angle to the tread's leading edge. Winder treads shall have a minimum walk line tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum usable tread depth of not less than 10 inches (254 mm) at any point.

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum rectangular and winder tread depth shall be 10 inches (254 mm); ~~the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder treads shall have a usable tread depth shall be not less than~~ 6 inches (152 mm) at any point. A nosing projection not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways ~~with solid risers~~ where the tread depth is less than 11 inches (279 mm).
5. See the Section 3403.4 for the replacement of existing stairways.

~~1009.3.4~~ **1009.4.1 Winder treads.** Winder treads are not permitted in means of egress stairways ~~except within a dwelling unit.~~

Exceptions:

1. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; winder treads shall be permitted.
2. Curved stairways in accordance with Section 1009.7.
3. Spiral stairways in accordance with Section 1009.8.

~~1009.3.2~~ **1009.4.2 Dimensional uniformity.** Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest rectangular tread depth shall not exceed 0.375 inch (9.5 mm) in any flight of stairs. The tolerance between the largest and smallest greatest winder tread depth at the ~~12-inch (305 mm)~~ walk line within any flight of stairs shall not exceed the smallest by more than 0.375 inch (9.5 mm) ~~measured at a right angle to the tread's leading edge.~~

Exceptions: 4- Nonuniform riser dimensions of aisle stairs complying with Section 1025.11.2.

2- ~~Consistently shaped winders, complying with Section 1009.3, differing from rectangular treads in the same stairway flight.~~

Where the bottom or top riser adjoins a sloping public way, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of stairway width. The nosings or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight. The distinctive marking stripe shall be visible in descent of the stair and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

PART II – IRC

1. Add new text as follows:

R311.5.3 Walk line. The stairway walk line shall be located on the side of the stairway with the shortest path of travel, through a point 12 inches (305mm) from the wall or on open sides of stairs, through a point 12 inches (305 mm) from the guard in-fill, measured on the usable portion of the tread. The walk line shall be extended through this point on each flight in a single continuous smooth line in the direction of travel. On flights with winder treads the through-point of the walk line shall be measured at a winder.

2. Revise as follows:

~~R311.5.3~~ **R311.5.4 Stair treads and risers.**

~~R311.5.3.1~~ **R311.5.4.1 Riser height.** The maximum riser height shall be 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

~~R311.5.3.2~~ **R311.5.4.2 Tread depth.** ~~The minimum Rectangular and winder tread depth shall be 10 inches (254 mm) minimum. The tread depth shall be measured horizontally between the vertical planes of the foremost projection nosing of adjacent treads and at a right angle to the tread's leading edge at the intersection of the walk line and the nosing. The greatest rectangular tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum usable tread depth of not less than 6 inches (152 mm) at any point. Within any flight of stairs, the largest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest winder tread depth by more than 3/8 inch (9.5 mm).~~

Reason: The purpose of the proposed change is to add new requirements. The current text allows for wide interpretation of the arbitrary location of the walk line. Without more prescriptive code the problems associated with arbitration of this critical design factor after stairs are built will continue to accumulate wasted time and costs for regulatory agencies, contractors, stairbuilders and homeowners not to mention unnecessary material and labor costs to make changes.

This will be the third cycle in a row that the topic of the walk line has been brought before the ICC. I think it is fair to say that in each of the previous cycles everyone recognized the associated problems to the industry that were brought forward and a need for a change to eliminate them with a better standard for the location of the walk line. In the last two cycles the proposals included a relationship to the handrail location. The arguments in opposition focused on the association of the walk line in relationship to the handrail and brought out some additional problems that could occur with enforcement. In this proposal handrail location is not a factor in the determination of the walk line location as the wall and/or required guard become the reference point. The additional reference of the guard in-fill is needed for open sides of stairs to eliminate confusion in measuring to the wall that often supports the open side of a stair from below, which has no relationship to the walk line. Guard in-fill has been specified because this is the closest point of the guard to the usable tread. We have done our best to separate and alleviate these issues to provide enforceable code language.

Important to the understanding of this proposal is the fact that the walk line is an element of the stairway, just as are width and headroom. In order to aid this understanding a new section has been added to the beginning of the stairway section prior to the treads and risers section to indicate this priority. This also allows us to establish the necessary parameters of the walk line without adding confusing text to the treads and risers section and permits significant simplification of the subsequent section on tread depth by providing a method to regulate all treads.

The walk line is an established line on the stair showing the path of travel used to design the stair. At 12 inches this represents the foot closest to the inside of the turn or shortest side of the stairway. In stairs that turn, the designer uses this line to establish minimum tread depth. The ICC and the legacy codes all recognize that the walk line should be located on the side where treads are narrower or in other words the shortest side of turning stairways which in most cases is the most common path of travel. This important relationship remains unchanged and is clarified for stairs that may even reverse direction or have changes in width by specifying that the walk line shall be determined on one side of the stairway. Stairways by definition include all flights between floors. By choosing the side with the shortest path of the entire stairway, then choosing a point on each flight to measure on the usable portion of the tread, a walk line maybe established relevant to the function of the entire stairway in compliance with actual stairway use.

In other codes around the world the walk line is sometimes positioned on the opposite side of the stairway or in the center for various reasons. In any case the intent in every code is to regulate the minimum standard tread depth at this critical point such that the minimum tread depth of winders can be associated with the minimum tread depth for rectangular treads (fliers). However because it is impossible to regulate where people will choose to walk we must recognize that people not only change their stride on winders and landings they are actually turning and pivoting as they traverse winders and it is not the intent to equalize the tread depth of winders and rectangular treads at the walk line.

In the ICC codes all treads are recognized to be one of two types, rectangular treads (fliers) with parallel edges and winders treads with nonparallel edges. Both of these treads can be regulated for tread depth at the walk line allowing us to simplify the standard in regard to how tread

depth is measured. Of course since a rectangular tread (flier) has parallel edges, its width can be regulated and measured at any point and it is understood that the code would still require this in order to determine the tread type. This test is required in the IBC because winder treads are not permitted in some egress stairs and both the IBC and IRC regulate winder tread depth at two points. This proposal allowing all treads to be regulated at the walk line offers us the opportunity to simplify the text in regard to the measurement criteria and establish a method that works for all treads.

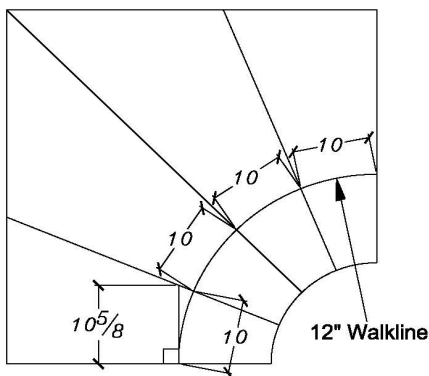
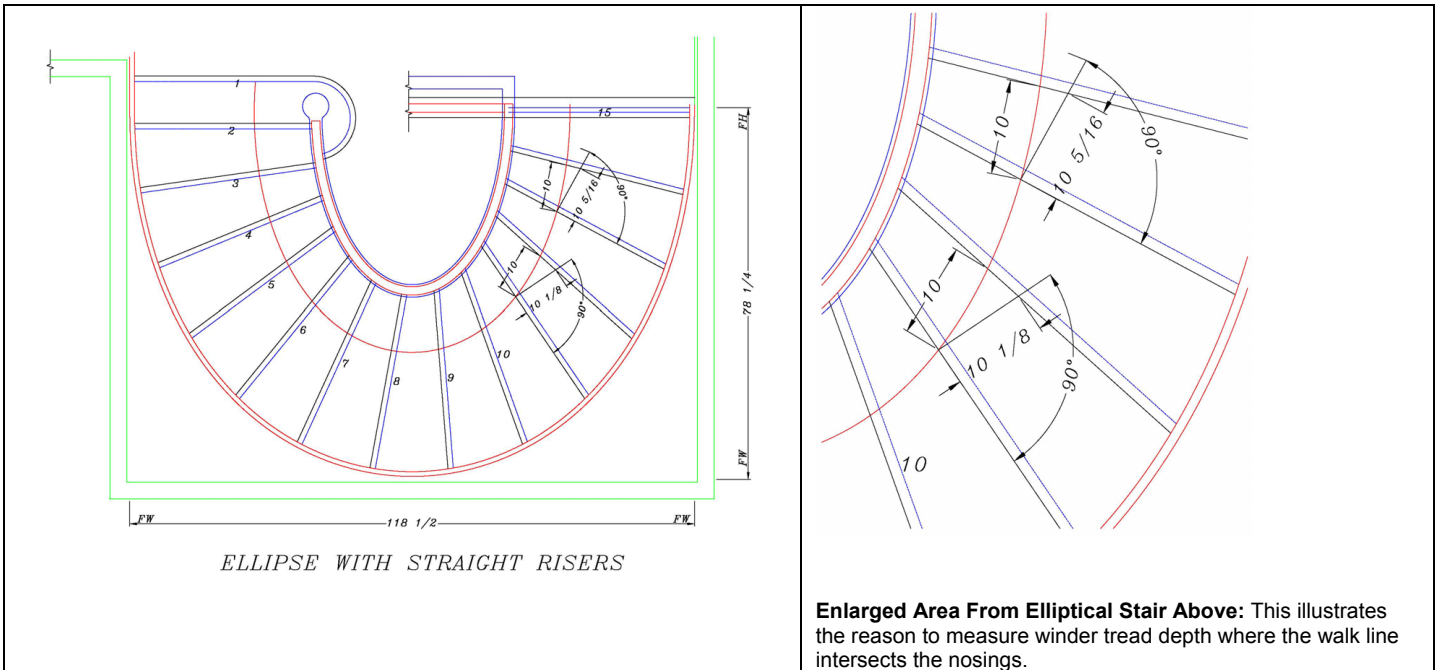
The tread depth measuring method prescribed by this proposal allows the tread depth to be measured at the intersection of the walk line and the nosing or leading edge of the tread. This is critical to equal division of curved walk lines and the formation of uniform winder treads. This is clearly explained in the attached graphics that show the discrepancies when measuring winders by the current method. The current method is flawed and results in irregular distribution of the treads edges that do not correlate with the user's experience.

Further clarification is given to the concern for measuring depth of winder treads by establishing that both the 6 inch minimum measurement and the walk line measurement are to be taken on the "usable" portion of the tread where the foot can be placed when traversing the stairway. Although this is the historic basis for this measurement this simple word will allow more consistent interpretation and enforcement. To further simplify and eliminate the need to prescribe a particular place on the tread to verify the narrow end (10 inch or 6 inch) measurement the words "at any point" allows for less confusion in measuring treads that may have narrowing at two points.

The language has been further simplified by using the word "nosing" defined in the code as: **1002.1 NOSING**. The leading edge of treads of stairs and of landings at the top of stairway flights.

We have also submitted a proposal that will add this definition to the IRC for those jurisdictions not adopting the IBC and have submitted changes to the sections on Profile and other related sections to correspond. It only makes sense to use the definition when it can simplify the language and lead to more consistent understanding across the industry.

Finally in the following sections on winder treads and dimensional uniformity the intent was only to clarify or make editorial changes to correlate with the changes to the preceding sections. The changes to the exceptions are possible due to these clarifications and do not change the intent and need to regulate winder treads separately from rectangular treads for dimensional uniformity and tread depth.



Measuring between the intersections of the walk line and the leading edge of winder treads more clearly represents the users experience of tread depth when walking on winder treads. This measuring method accurately reflects how uniform winder treads are designed by dividing the walkline into equal segments.

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

PART I - IBC

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

PART II - IRC

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

E60-06/07

1009.3.2.1 (New) [IFC [B] 1009.3.2.1 (New)]

Proponent: Bill Conner, Conner Associates LLC, representing himself

Add new text as follows:

1009.3.2.1 Visual contrast The leading 2 inches (51 mm) of the tread shall have visual contrast of dark-on-light or light-on-dark from the remainder of the tread.

Reason: This requirement is currently in ICC A117.1, Section 504.5. Stairways are a mainstreamed item that has requirements that are both general safety provisions and concerns for persons with mobility and visual impairments. If this is a needed stairway requirement, it should be in the IBC.

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

Analysis: The public comments to ICC A117.1 may be viewed at http://www.iccsafe.org/cs/standards/a117/2008/2008_public_proposals.html. There is a comment to this section. The original proposal was submitted to ICC A117.1 Development Committee as Proposal Number 5-015 in 2002.

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

E61-06/07

1009.3.3 (IFC [B] 1009.3.3)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.3.3 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not part of a required means of egress to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3.
3. Openings in risers required to be solid shall be a size that does not permit the passage of ½ inch (13 mm) diameter sphere.

Reason: The purpose of this proposal is to address what size holes in risers should be permitted. The intent of this change is for coordination with stairways as scoped in ADAAG.

Can solid risers have holes? How big can the hole be and the riser still be considered 'solid'? IBC currently allows for 4" opening in stairways that are not part of accessible means of egress. ADAAG requires all means of egress stairways to have solid risers.

Why is Exception 1 in Section 1009.3.3 for solid risers tied to accessible means of egress stairways? The open riser is a potential tripping hazard for people moving up the stairway, and is not an issue tied to accessible means of egress (especially when accessible means of egress is typically assisted use and going down the stairway, not up).

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

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

E62-06/07

1009.3.3 (IFC [B] 1009.3.3)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.3.3 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3.
3. Solid risers are not required for spiral stairways constructed in accordance with Section 1009.9.
4. Solid risers are not required for alternating tread devices constructed in accordance with Section 1009.10.

1009.6 Vertical rise. A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

Exceptions:

1. Aisle stairs complying with Section 1025.
2. Spiral stairs complying with Section 1009.8.
3. Alternating tread devices complying with Section 1009.9.

Reason: The general requirements for solid risers and landing at 12 feet intervals, as currently stated, are applicable to all stairways. Spiral stairways and alternating tread devices are only used for limited access areas, such as catwalks in theaters, or roof access for maintenance and service personnel. Open risers and landings only at the top and bottom are necessary for these types of stairways to be constructed safely and efficiently.

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

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

E63-06/07

1009.3.3 (IFC [B] 1009.3.3)

Proponent: William McErlane, City of Springdale, Ohio, representing Ohio Building Officials Association

Revise as follows:

1009.3.3 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public.

Reason: Solid risers are required in occupancies where guards are limited to maximum four inch openings because open risers are typically more than four inches high. They are also a concern for mobility impaired persons. This section already recognizes one occupancy where the opening limitations are relaxed due to decreased hazard. This would allow stairs such as those at loading docks and industrial mezzanines to have open risers.

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

E64-06/07

1009.4 (IFC [B] 1009.4)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.4 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches (1219 mm) where the stairway has a straight run. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When wheelchair spaces are required on the stairway landing in accordance with Section 1007.6.1, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exceptions: 4- Aisle stairs complying with Section 1025.

- ~~2- Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing.~~

Reason: The intent of this proposal is to maintain clear width for the general means of egress down an exit stairway. If a wheelchair space that is part of an area of refuge is located on the landing it is important for the safety of both the general public and the persons using the wheelchair spaces that this area is outside of the general path of travel. The door should not swing over the wheelchair space so that someone can be in the space and not block the door. Wheelchair spaces should be outside of the general traffic flow so that the do not cause a bottle neck and the persons using the wheelchair spaces are not bumped. The other moved language was for consistency with corridors as paths for means of egress (e.g. don't allow the door swing to block the path of travel). This is a requirement, not an exception.

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

E65-06/07

1009.5.1 (IFC [B] 1009.5.1)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.5.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½ inch (13 mm) diameter sphere. Elongated opening shall be places so that the long dimension is perpendicular to the dominant direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1.125 inches (29 mm) cannot pass through the opening.

Reason: The purpose of this proposal is to address what holes in treads should be permitted. This change is intended to coordinate with stairway treads as scoped in ADAAG.

For stairway walking surfaces ICC A117.1 Section 302.3 says ½" openings are permitted on walking surfaces.

There are many locations, especially outside, where allowing perforated treads would help keep snow and water off the tread surfaces.

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

E66-06/07

1009.5.3 (New) [IFC [B] 1009.5.3 (New)]

Proponent: Greg Rogers, Kitsap Fire District 7, representing ICC Joint Fire Service Review Committee

Add new text as follows:

1009.5.3 Outdoor stair treads. The treads of outdoor stairs shall be slip resistant.

Reason: Provides the same level of safety as ramps.

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

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

E67-06/07

1009.8 (IFC [B] 1009.8); IRC R311.5.8.1

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Revise as follows:

1009.8 Spiral stairways. Spiral stairways are permitted to be used as a component in the means of egress only within dwelling units or from a space not more than 250 square feet (23 m²) in area and serving not more than five occupants, or from galleries, catwalks and gridirons in accordance with Section 1015.6.

A spiral stairway shall have a 7.5 inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9.5 inches (241 mm). The minimum stairway clear width at and below the handrail shall be 26 inches (660 mm).

PART II – IRC

Revise as follows:

R311.5.8.1 Spiral stairways. Spiral stairways are permitted, provided the minimum clear width at and below the handrail shall be 26 inches (660 mm) with each tread having a 7 1/2-inches (190 mm) minimum tread depth at 12 inches from the narrower edge. All treads shall be identical, and the rise shall be no more than 9 1/2 inches (241 mm). A minimum headroom of 6 feet 6 inches (1982 mm) shall be provided.

Reason: The purpose of the change is to clarify the code. This proposal will allow consistent interpretation.

(IBC) The intent of the code needs to be clarified. The added text clarifies the width that has long been accepted and enforced. This issue is further complicated by the fact that the IBC Commentary drawing does not show the handrail. Another option would be to insert the text "measured at the tread" as the commentary drawing would imply however this is not felt to be the historical interpretation.

(IRC) In R311.5.1 Width, the section discusses the width of the stair at several points. Although this level of detail is not necessary in the Spiral stairway section the added text clarifies the width that has long been accepted and enforced. Because the exception in R311.5.1 refers to this section it is necessary to insert the additional text. The is further complicated by the fact that the IRC Commentary drawing does not show the handrail. Another option would be to insert the text "measured at the tread" as the commentary would imply however this is not felt to be the historical interpretation.

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

PART I - IBC

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

PART II - IRC

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

E68–06/07

1009.9 (IFC [B] 1009.9)

Proponent: John Berry, representing Cole + Russell Architects, Inc.

Revise as follows:

1009.9 Alternating tread devices. Alternating tread devices are limited to an element of a means of egress in buildings of Groups F, H and S from a mezzanine not more than 250 square feet (23 m²) in area and which serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m²) in area; equipment platforms accessed only by maintenance or service personnel and not more than 250 square feet (23 m²) in area; and for access to unoccupied roofs.

Reason: Considering that equipment platforms are normally unoccupied, except for the occasional service technician servicing the equipment, alternating tread devices should be allowed. The proposed text utilizes the same area limitations currently in use in this section. Allowing alternating tread devices in this application will allow for more efficient use of space in tight spaces.

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

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

E69–06/07

1009.10, 1010.8, 1025.13 (IFC [B] 1009.10, [B] 1010.8, [B] 1025.13)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1009.10 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

- ~~1. Aisle stairs complying with Section 1025 provided with a center handrail need not have additional handrails.~~
Handrails for aisle stairs are not required where permitted by Section 1025.13.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of only one riser within dwelling units and sleeping units in Group R-2 and R-3 occupancies do not require handrails.

1010.8 Handrails. Ramps with a rise greater than 6 inches (152 mm) shall have handrails on both sides. Handrails shall comply with Section 1012.

Exception: Handrails for ramped aisles are not required where permitted by Section 1025.13.

1025.13 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and aisle stairs shall be provided with handrails located either at the side or within the aisle width.

Exceptions:

1. Handrails are not required for ramped aisles having a gradient no greater than one unit vertical in eight units horizontal (12.5-percent slope) and seating on both sides.
2. Handrails are not required if, at the side of the aisle, there is a guard that complies with the graspability requirements of handrails.
3. Handrail extensions are not required at the top and bottom of aisle stair and aisle ramp runs to permit crossovers within the aisles.

Reason: The intent is clarification of the handrail provisions for aisle steps and aisle ramps in assembly seating and coordination with ICC A117.1 and ADAAG Section 505.

Section 1009.10, Exception 1: The handrail exception for aisle steps should provide direct reference to handrail provisions.
Section 1010.8: Coordination with handrails provisions for ramps is required.
Section 1025.13: New language – coordination with A117.1 and ADA 505.2 and 505.10. The handrail extensions could become protruding objects at these locations.

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

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

E70–06/07

1009.10 (IFC [B] 1009.10)

Proponent: Tom Rubotton, City of Lakewood, Colorado, representing the Colorado Chapter of ICC

Revise as follows:

1009.10 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

1. Aisle stairs complying with Section 1025 provided with a center handrail need not have additional handrails.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of ~~only one riser~~ 3 or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails.

Reason: This code change will make these requirements for when handrails are required on stairs within dwelling units and sleeping units in R-2 and R-3 occupancies the same as the requirements when building under the IRC. These occupancies are considered non transient and therefore the occupants are living there for longer periods of time and are much more familiar with their surroundings. It does not make sense to require handrails when there are 2 or more risers in a condo or house built under the IRC and to only require handrails when 4 or more risers when single family house or townhouse is built under the IRC. The same types of people are living in these structures and they are often built on same street by the same builder.

It should be noted that the last sentence of Section R310 for R-3 states "Adult and Child care facilities that are within a single-family home are permitted to comply with the International Residential Code" which would allow the conditions this change proposes.

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

Analysis: Section 308.5 would limit adult and child care facilities in Group R-3 to five or fewer persons.

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

E71–06/07

1009.11, 1009.11.1 (IFC [B] 1009.11, [B] 1009.11.1)

Proponent: Ed Donoghue, Edward A. Donoghue Associates, Inc., representing National Elevator Industry, Inc.

Revise as follows:

1009.11 Stairway to roof. In buildings located four or more stories in height above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof and not containing elevator equipment, access to the roof from the top story shall be permitted to be by an alternating tread device.

1009.11.1 Roof access. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2.

Exception: In buildings without an occupied roof and not containing elevator equipment, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m²) in area and having a minimum dimension of 2 feet (610 mm).

Reason: The purpose of the proposed change is to correlate with A17.1 ASME A17.1 requires stairs and a door to access elevator equipment. More specifically Section 2.27.3.2.1 of A17.1 states the following "a stairway with a swinging door and platform at the top level, conforming to 2.7.3.3 shall be provided from the top floor of the building to the roof level. Hatch covers as a means of access to roofs shall not be permitted." Currently the IBC allows ladders and hatch openings for non occupied roofs. This will allow these exceptions but only when elevator equipment is not located on the roof. Not having stairs and a door make maintenance more difficult and unsafe.

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

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

E72–06/07

1009.12 through 1009.12.2 (New) [IFC [B] 1009.12 through [B] 1009.12.2 (New)]

Proponent: Bill Conner, Conner Associates LLC, representing himself

Add new text as follows:

1009.12 Lighting. Lighting for interior stairways shall comply with Section 1009.12.

1009.12.1. Luminance Level. Lighting facilities shall be capable of providing 10 foot–candles (108 lux) of luminance measured at the center of tread surfaces and on landing surfaces within 24 inches (610 mm) of step nosings.

1009.12.2. Lighting Controls. If provided, occupancy–sensing automatic controls shall activate the stairway lighting so the luminance level required by Section 1009.12.1 is provided on the entrance landing, each stair flight adjacent to the entrance landing, and on the landings above and below the entrance landing prior to any step being used.

Reason: This requirement is currently in ICC A117.1, Section 504.8. Stairways are a mainstreamed item that has requirements that are both general safety provisions and concerns for persons with mobility and visual impairments. If this is a needed stairway requirement, it should be in the IBC.

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

Analysis: The public comments to ICC A117.1 may be viewed at http://www.iccsafe.org/cs/standards/a117/2008/2008_public_proposals.html. There is a comment to this section. The original proposal was submitted to ICC A117.1 Development Committee as Proposal Number 5-018 in 2002.

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

E73–06/07

1010.1, 1010.9 (IFC [B] 1010.1, [B] 1010.9)

Proponent: Thomas B. Zuzik, Jr., Artistic Railings, Inc., representing himself

Revise as follows:

1010.1 Scope. The provisions of this section shall apply to ramps used as a component of a means of egress.

Exceptions:

1. Other than ramps that are part of the accessible routes providing access in accordance with Sections 1108.2 through 1108.2.3 and 1108.2.5, ramped aisles within assembly rooms or spaces shall conform with the provisions in Section 1025.11.
2. Curb ramps shall comply with the current publication of the ICC A117.1 listed in Chapter 35 that has been adopted by the enforcing jurisdiction.
3. Vehicle ramps in parking garages for pedestrian exit access shall not be required to comply with Sections 1010.3 through 1010.9 when they are not an accessible route serving accessible parking spaces, other required accessible elements or part of an accessible means of egress.

1010.9 Edge protection. Edge protection complying with Section 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the current publication of the ICC A117.1 listed in Chapter 35 that has been adopted by the enforcing jurisdiction, curb ramp provisions.

2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical dropoff of not more than 0.5 inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.

Reason: The purpose of the code change is to clarify which version of the ICC A117.1 is to be enforced.

The currently published code text does not direct the reader to the standards section of this IBC publication for those not formally trained, like contractors, with the use of the IBC publication leaving a direction question for the specific date of printing for the ICC A117.1 publication referenced in this code text. The intent of the new wording is to provide a direction to a specific version or date of publication for those not formally trained. Also the currently published code text assumes that the enforcing jurisdiction has adopted the version of the ICC A117.1 and does not have a provision if one is not adopted. By appending the text to include the term "adopted by the enforcing jurisdiction" it allows this code section to update automatically when the jurisdiction adopts a version of the ICC A117.1 while also not allowing or requiring the exception if the jurisdiction has not adopted a version of the ICC A117.1 into the record.

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

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

E74-04/05

1010.5.1 (IFC [B] 1010.5.1)

Proponent: William W. Stewart, Chesterfield, MO, representing himself

Revise as follows:

1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1017.2. The clear width of a ramp ~~and the clear width between handrails, if provided, or other permissible projections~~ shall be 36 inches (914 mm) minimum.

Reason: Ramps require handrails on both sides per 1010.8 thus the deleted text is redundant. It is also misleading because it implies ramps do not need handrails on both sides. If the slope is less than 1:20 then the walking surface is not a ramp and is not regulated by this section. Other permissible projections are introduced because someone might think that ramp curbs and similar components should be included in the width if a ramp.

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

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

E75-06/07

1010.6.3, 1010.6.4 (IFC [B] 1010.6.3, [B] 1010.6.4)

Proponent: John Rooney, United Spinal Association

Revise as follows:

1010.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. ~~Landings in nonaccessible~~ Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible, Type A or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

1010.6.4 Change in direction. Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches by 60 inches (1524 mm by 1524 mm) minimum.

Exception: ~~Landings in nonaccessible~~ Group R-2 and R-3 individual dwelling or sleeping units that are not required to be Accessible, Type A or Type B units in accordance with Section 1107, landings are permitted to be 36 inches by 36 inches (914 mm by 914 mm) minimum.

Reason: The purpose of this change is for code clarification. This change specifies where the exceptions are not permitted (i.e. within Accessible, Type A or Type B dwelling or sleeping units). The three levels of accessibility for units can lead to discussions about what is accessible. This language is more specific.

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

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

E76–06/07

1010.7.2 (IFC [B] 1010.7.2)

Proponent: John Rooney, United Spinal Association

Delete and substitute as follows:

~~1010.7.2 Outdoor conditions **Wet conditions.** Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces. Landings subject to wet conditions shall be designed to prevent the accumulation of water.~~

Exception: Submerged landings of ramps into swimming pools.

Reason: This change will provide consistent language between IBC and ICC/ANSI A117.1 and ADA/ABA Guidelines.

Interior and exterior ramps can be subject to wet conditions. Since ramps are sloped there is not really a concern of water accumulation at walking surfaces as much as landings, which are required to be essentially, level.

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

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

E77–06/07

1010.9 (IFC [B] 1010.9)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1010.9 Edge protection. Edge protection complying with Sections 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the ICC A117.1 curb ramp provisions.
2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical dropoff of not more than 0.5 inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.
4. In assembly spaces with fixed seating, edge protection is not required on the sides of ramps where the ramps provide access to the adjacent seating and aisle accessways.

Reason: The current requirements for ramp edge protection are applicable to all ramps, including those in assembly seating. While 1010.9.2 could cover a ramp that went up with the sloped seating, the exception is attached to the location of the handrail. Ramped aisles may not have handrails, or may have a central handrail.

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

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

E78–06/07

1010.9.1 (IFC [B] 1010.9.1)

Proponent: John Rooney, United Spinal Association

Revise as follows:

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of 2 inches (51mm) in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

Reason: The proposed change will harmonize the code language with Section 405.9.2 of ICC/ANSI A117.1 and Section 405.9.2 of the ADA/ABA Guidelines. The laundry list is not needed since a "rail" or "wall" are types of barriers.

The proposal for a 2" dimension for a curb is consistent with current ADAAG. The new ADA/ABA Guidelines and ICC A117.1 do not indicate the height requirements if a curb option is chosen.

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

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

E79–06/07

1010.9.1 (IFC [B] 1010.9.1)

Proponent: John Rooney, United Spinal Association

Revise as follows:

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided that prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

Reason: The proposed change will harmonize the code language with Section 405.9.2 of ICC/ANSI A117.1 and Section 405.9.2 of the ADA/ABA Guidelines. The laundry list is not needed since a "rail" or "wall" are types of barriers.

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

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

E80–06/07

1011.2 (New), 1011.2 through 1011.5.1.3, 1011.6.4 (New), [F] 2702.2.3 (IFC [B] 1011.2 (New), [B]1011.2 through 1011.5.1.3, [B]1011.6.4 (New), 604.2.3)

Proponent: Timothy C. Barncord, Safeway Lighting/Duraled Lighting Technologies, Corp.

1. Add new text as follows:

1011.2 Exit light strips. Where exit signs are required by Section 1011.1, exit and exit access doors shall also be marked by an approved exit light strips readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit light strips in cases where the exit or path of egress travel is not immediately visible to the occupants. Exit light strips would be place around the perimeter of the door frame, to 12 inch (305 mm) minimum from the floor level on each side.

2. Revise as follows:

4011.2 1011.3 Illumination. Exit signs and light strips shall be internally or externally illuminated.

Exception: Tactile signs required by Section 1011.3 need not be provided with illumination.

4011.3 1011.4 Tactile exit signs. A tactile sign stating EXIT and complying with ICC A117.1 shall be provided adjacent to each door to an egress stairway, an exit passageway and the exit discharge.

4011.4 1011.5 Internally illuminated exit signs and light strips. Internally illuminated exit signs shall be listed and labeled and light strips shall be installed in accordance with the manufacturer's instructions and Section 2702. Internally illuminated exit light strips shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit signs and light strips shall be illuminated at all times.

4011.5 1011.6 Externally illuminated exit signs and light strips. Externally illuminated exit signs shall comply with Sections 4011.5.4 1011.6.1 through 4011.5.3 1011.6.3. Light strips shall comply with Sections 1011.6.2 through 1011.6.4.

4011.5.4 1011.6.1 Graphics. Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than 0.75 inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing

between letters shall not be less than 0.375 inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height. The word "EXIT" shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If a chevron directional indicator is provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.

4011.5.2 1011.6.2 Exit sign and light strip illumination. The face of an exit sign and light strip illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux).

4011.5.3 1011.6.3 Power source. Exit signs and light strips shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign and light strip illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

Exception: Approved exit sign and light strip illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

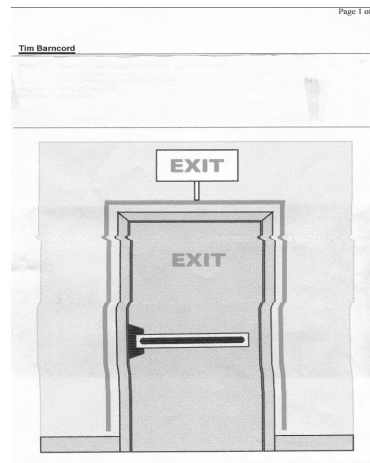
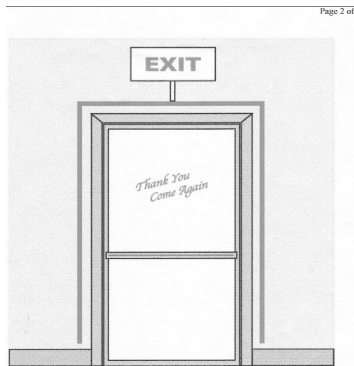
3. Add new text as follows:

1011.6.4 Design. Light strips shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm) and be securely attached to the door frame or the wall within 4 inches (102 mm) of the outside edge of the door frame.

4. Revise as follows:

[F] 2702.2.3 (IFC 604.2.3) Exit signs and light strips. Emergency power shall be provided for exit signs and light strips in accordance with Section 1011.5.3.

Reason: As a firefighter for the last 24 years, the nightclub fire that killed over one hundred people in West Warwick, Rhode Island on February 20th, 2003 greatly affected me. Later the fire was proclaimed the fourth deadliest nightclub fire in United States history. Most of the fatalities were found mere feet away from an exit that would have led them to safety. After viewing the videotape, a major problem with the lighting of the emergency exits signs became obvious to me. Current emergency exit signs are inadequate in a smoke filled room or building because of their location. Exit signs are at the ceiling level where smoke would make it hard to see them. If there were exit light strips in addition to the exit signs, exits would become easier locate. Therefore, a number of lives, including firefighters, would be saved. The IBC change that I am proposing would make all possible exits easily seen from all angles to aide in an escape from a fire situation. This code change would complete my mission as a firefighter to save more lives.



Bibliography:
www.nfpa
www.post-gazette.com

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

Analysis: The action on the proposed change to Section 2702.2.3 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for this section instead of the IFC Committee.

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

E81-06/07

1011.3 (IFC [B] 1011.3)

Proponent: Thomas B. Zuzik, Jr., Artistic Railings, Inc., representing himself

Revise as follows:

1011.3 Tactile exit signs. A tactile sign stating EXIT and complying with the current publication of the ICC A117.1 listed in Chapter 35 that has been adopted by the enforcing jurisdiction, shall be provided adjacent to each door to an egress stairway, an exit passageway and the exit discharge.

Reason: The purpose of the code change is to clarify which version of the ICC A117.1 standard is to be enforced.

The currently published code text does not direct the reader to the standards section of this IBC publication for those not formally trained, like contractors, with the use of the IBC publication leaving a direction question for the specific date of printing for the ICC A117.1 publication referenced in this code text. The intent of the new wording is to provide a direction to a specific version or date of publication for those not formally trained. Also the currently published code text assumes that the enforcing jurisdiction has adopted the version of the ICC A117.1 and does not have a provision if one is not adopted. By appending the text to include the term "adopted by the enforcing jurisdiction" it allows this code section to update automatically when the jurisdiction adopts a version of the ICC A117.1 while also not allowing or requiring the exception if the jurisdiction has not adopted a version of the ICC A117.1 into the record.

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

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

E82-06/07

1011.4, Chapter 35 (IFC [B] 1011.4, Chapter 45)

Proponent: Manny Muniz, Manny Muniz Associates, LLC, representing himself

1. Revise as follows:

1011.4 Internally illuminated exit signs. Internally illuminated exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit signs shall be illuminated at all times.

2. Add new standard to Chapter 35 as follows:

Underwriters Laboratories (UL)

UL 924-06, Standard for Safety Emergency Lighting and Power Equipment

Reason: The purpose of the change is to clarify what standard internally illuminated exit signs shall be listed and labeled to. A requirement for a safety device to be listed must identify the standard that the device must be listed to. The code cannot require a device to be listed but then stay silent as to what standard it should be listed in accordance with. This section of the code would most likely be looked at by the courts as ambiguous, unclear and perhaps even unenforceable.

The Life Safety Code (NFPA 101), which is used in every state in the US, contains a similar requirement in Section 7.10.7.1 which does identify UL 924, Standard for Safety Emergency Lighting and Power Equipment, as the standard that internally illuminated exit signs must be listed to.

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

Analysis: The standard UL 924-06 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

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

E83-06/07

1011.4, Chapter 35 (IFC [B] 1011.4, Chapter 45)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

1011.4 Internally illuminated exit signs. Electrically powered internally illuminated, self-luminous and photo-luminescent exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit signs shall be illuminated at all times.

2. Add standard to Chapter 35 as follows:

UL

UL 924-06 Emergency Lighting and Power Equipment

Reason: The purpose is broadening the scope of this section to include self-luminous and photoluminescent exit signs and to add the specific standard for listing of these illuminated exit signs.

The reason for the change is to provide flexibility and to add clarity to the user. Internally powered covers all exit signs that generate their own luminosity. Using the phrase "electrically-powered" will capture LED, incandescent, fluorescent, and electroluminescent. In combination with self-luminous and photoluminescent, that covers the full range of product types currently in the market.

UL 924 applies to emergency lighting and power equipment for use in unclassified locations and intended for connection to branch circuits of 600 volts or less. Such equipment is intended to automatically supply illumination or power or both to critical areas and equipment in the event of failure of the normal supply, in accordance with Article 700 or 701 of the National Electrical Code, NFPA 70, the Life Safety Code, NFPA 101, and the International Building Code, IBC. EXIT SIGN is general term used to refer to an Exit Light, Exit Fixture, and Self-Luminous or Photoluminescent Exit Sign.

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

Analysis: A concern would be if the reference to Section 2702 for self-luminous and photoluminescent signage could be interpreted as a power requirement for signs that use no power.

The standard UL 924-06 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

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

E84-06/07

403.15 (New); 1011.6, Chapter 35 (IFC 1011.6, Chapter 45)

Proponent: William M. Connolly, State of New Jersey, Department of Community Affairs, Division of Codes and Standards, representing International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

1. Add new text as follows:

403.15 Exit path markings. Exit path markings shall be provided in accordance with Section 1011.6.

1011.6 Photoluminescent exit path markings: Photoluminescent exit path markings (outlining stripes) complying with UL 1994 shall be provided in buildings of Group B, E, M, and R-1 with occupied floors greater than 75 feet above the lowest level of fire department vehicle access. Exit stairways where photoluminescent exit path markings are required shall be continuously illuminated and lighting shall not be controlled by motion sensors or timers.

1011.6.1 Markings (outlining stripes) within vertical exits: Markings within vertical exits shall comply with Section 1011.6.1.1 through Section 1011.6.1.4.

1011.6.1.1 Steps: Outlining stripes shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

1011.6.1.2 Landings: The leading edge of landings in exits shall be marked with outlining stripes consistent with the dimensional requirements for steps and shall be the same length as and consistent with the stripes on the steps or shall extend the full length of the leading edge of the landing.

1011.6.1.3 Handrails: All handrails and handrail extensions shall be marked with a stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

1011.6.1.4 Floor perimeter demarcation stripes: Stair landings and other parts of the egress path, with the exception of the sides of steps, shall be provided with demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

1011.6.1.4.1 Floor mounted demarcation lines: Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

1011.6.1.4.2 Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the bottom edge of the wall no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Demarcation lines on walls shall continue across the face of all doors or may transition to the floor and extend across the floor in front of such doors.

2. Add standard to Chapter 35 (IFC Chapter 45) as follows:

UL

UL 1994-04 Luminous Egress Path Marking Systems, with revisions through February, 2005

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on terrorism Resistant Buildings.

The purpose of this code change is to add new requirements for photoluminescent exit path markings into the code.

The proposed new section on exit path markings will require photoluminescent exit path markings be provided in vertical exit enclosures. The Code currently has no requirements for the installation of these markings. This proposal will facilitate rapid egress and assist in full building evacuation and is drawn from Recommendations 17 and 18 of the National Institute of Standards and Technology's (NIST) report on the World Trade Center tragedy.

Up to this point, code requirements for high rise buildings were written under the assumption that the building would be evacuated floor by floor. In most instances, in a building with a full suppression system, only the floor where the fire is located and the floors immediately above and below would be evacuated. Acts of terrorism and accidental incidents like power failures have made it necessary to consider design for full building evacuation that is as rapid as possible. This may be made necessary in response to an event within the building or an event outside the building. The proposed code change to require exit path markings is intended to facilitate the most rapid possible full building evacuation.

In the City of New York, after the first bombing of the WTC, requirements were instituted to require exit path markings in vertical exit enclosures. This proposal is taken directly from those requirements.

New Section 1011.6 establishes the base requirement for the markings and requires compliance with UL 1994, a standard developed using an approved consensus process. As per this new section, the markings are required only in vertical exit enclosures. This is unlike previously unsuccessful proposals that attempted to establish requirements for low-level exit signage and exit access markings. The remainder of the new text establishes the minimum requirements for the markings.

Bibliography:

1. Reference Standard 6-1, Photoluminescent exit path markings as required by Local Law 26 of 2004, New York City Building Code, § 27-383(b)
2. National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.
3. UL 1994

Cost Impact: This proposal establishes a requirement for markings in vertical exit enclosures, which may increase costs, but only very modestly. The proponents believe that the decrease in egress and full building evacuation time outweighs the moderate cost of the markings.

Analysis: The standard UL 1994-04 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

The action on the proposed change to Section 403.15 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for the entire proposal.

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

E85-06/07

1011.6 (New) [IFC [B] 1011.6 (New)]

Proponent: Vincent "VJ" Bella, Retired State of Louisiana State Fire Marshal, representing himself

Add new text as follows:

1011.6 Floor proximity path markings. A listed and labeled floor proximity path marking system shall be installed not more than 8 inches (203.2 mm) above the floor, marking the path of egress travel. The floor path marking system and approved low-level exit signs shall provide a visible delineation of the path of travel along the designated exit access and be essentially continuous, except as interrupted by hallways, corridors or other architectural features. Path marking materials shall include, but not be limited to electrical, photoluminescent or self luminous material. Such markings shall become visible in an emergency and path marking systems shall be activated by the automatic fire detection system in accordance with Section 907.2.11.2.

Exceptions:

1. Floor proximity path markings are not required in the following occupancies: Group A with occupancy less than 300, F, H, M, R-3, R-4, S and U
2. Main exit passageways greater than 15 feet (4572 mm) in width leading to exterior exit doors which obviously and clearly are identifiable such as in atriums and foyers, need not have floor path marking.

Performance of floor proximity path marking systems shall be consistent with the exit signs requirements of each similar type in accordance with Section 1011.

Reason:

- Events like 9-11, the Warwick Station Nightclub Fire and others demonstrate the need for getting people out of a building more quickly and safely.
- During a fire, smoke rises. As the exit signs located above doors very quickly become obscured by smoke, low level exit signs and directional floor path markings will continue to be visible to aid occupants safely to egress.
- Not all exits are efficiently used in emergency situations. Floor proximity path markings reinforce the effectiveness of the already existing emergency exit system, ensuring occupants are aware of all routes and exits.
- The same system that will allow people to get out of a building will also provide safety for firefighters and emergency personnel getting in to rescue people and fight the fire and will work in power outages that are not necessarily emergencies.
- NIST (National Institute of Standards & Technology), a US government agency, released its report on March 3, 2005 on the Station Nightclub fire with Recommendation 3.e: "The factor of safety on the time to egress should be increased in the model code by providing improved means - such as exit signs near the floor and floor lighting- for occupants to locate emergency routes once standard exit signs become obscured by smoke."
- Referenced section 411.7 Exit Markings requiring approved low-level exit signs and directional path markings.
- The NFPA 101 Life Safety Code is one source that provides basic functional requirements for Floor Proximity Egress Path Marking Section 7.10.1.7 which reads:

Where floor proximity egress path marking is required in Chapter 11 through Chapter 42, a listed and approved floor proximity path marking system that is internally illuminated shall be installed within 455mm (18 in.) of the floor. The system shall provide a visible delineation of the path of travel along the designated exit access and shall be essentially continuous, except as interrupted by doorways, hallways, corridors, or other such architectural features. The system shall operate continuously or at any time the building fire alarm system is activated. The activation, duration and continuity of operation of the system shall be in accordance with 7.9.2.

- Some state codes and jurisdictions have begun adopting floor proximity path marking and low level exit signs, but without widespread adoption of such systems in national code, there is a lack of a single standard or design guide on where to place markings for different types of buildings.

- a. The State of California, adopted the following code in 1991:

1013.5.1a Path Marking. When exit signs are required by Chapter 10, in addition to approved floor-level exit signs, approved path marking shall be installed at floor level or no higher than 8 inches (203 mm) above the floor level in all interior rated exit corridors of unsprinklered Group R, Division 1 and unsprinklered Group A Occupancies. Such marking shall be continuous, except as interrupted by doorways, corridors or other such architectural features in order to provide a visible delineation along path of travel.

- b. In June of 2004, the New York City Council passed NYC Introduction Bill 0126-2004 which implements recommendations from the World Trade Center Building Code Task Force. This law is limited to only photoluminescent markings and a specific reference standard has been developed to govern where the markings need to be placed and minimum performance levels. *b) Exit path markings in high rise office buildings and in occupancy group E high rise buildings. On and after January 1, 2006 all high rise office buildings and all high rise buildings classified in occupancy group E shall have exit path markings conforming to this subdivision. This provision shall be retroactive and shall apply to buildings constructed on and after such date and to buildings in existence on such date. All exit path markings required herein shall be of an approved photoluminescent material which shall be capable of remaining visible in total darkness for a period of at least eight hours after exposure to normal lighting conditions. The markings shall be washable, non-toxic, non radioactive, and if subjected to fire must be self extinguishing when the flame is removed.*
- c. The State of MA Task Force on Fire & Buildings Safety issued a report in September 2003 and is now in the process of executing the recommendations including, *Section III, Section B. Egress Recommendation #4) The Board of Building Regulations & Standards should study methods to enhance exit identification in all buildings used for public assembly purposes and incorporate these improvements in the upcoming 7th edition of the State Building Code. Topics for study should include low-level lighting that leads to each exit, outlining exit doors with luminescent marking, distinctive exit sign lighting, and scheduled testing and maintenance for the operation of exit signs and lights.*
- d. The State of Connecticut adopted Floor Proximity Exit Signage requirements in its 2005 Building Code and then introduced legislation in the 2006 legislative session to mandate later adoption of Floor Proximity Exit Lighting. The bill has left committee and will be voted on in the current with wording as follows:

(Effective October 1, 2006) Not later than October 1, 2007, the State Building Inspector and the State Fire Marshal, in conjunction with the Codes and Standards Committee, shall make amendments to the State Building Code and the State Fire Code concerning floor proximity path marking devices or related devices intended for installation as a system to identify the path of emergency egress. Such amendments shall require that a path marking system be installed within eighteen inches of the floor, and provide a visible delineation of the path of travel along the designated exit access and be essentially continuous, except as interrupted by doorways, hallways, corridors or other architectural features. The amendments shall provide which materials may be used for path marking and such materials shall include, but not be limited to, electrical photoluminescent or self luminous material. Such amendments shall apply to all new construction in (1) Group A occupancies with an occupant load of more than three hundred persons, (2) Group B medical occupancies, (3) Group E occupancies, (4) Group I-1 occupancies, (5) Group I-2 occupancies, (6) Group R1 hotels and motels, and (7) Group R-2 dormitories

- e. The State of Rhode Island enacted new fire code in the aftermath of the Warwick tragedy that requires Floor Proximity Exit Signs in assembly occupancies with a loading of more than 150 persons.

Bibliography:

- March 3, 2005 National Institute of Standards and Testing (NIST) Key Findings and Recommendations for Improvement - NIST Investigation of The Station Nightclub Fire
- Video of NIST Test Simulation of the Station Nightclub Fire
- UL Standard 1994 "Floor Proximity Path Marking" Summary
- SINTEF NBL - Norwegian Fire Research Laboratory - 1993 study of evacuation from buildings in smoky conditions - Published in Gemini Magazine
- FIREPRO Consultants opinion letter regarding Floor Proximity Path Marking
- Fairfield, CT Chief Richard Felner letter reporting on rescue tests conducted with path marking
- Text from New York City Law 126 requiring Path Marking in High Rise Office Buildings
- CT State Legislature Bill Proposal - 2005 Session
- MA State Task Force Recommendations for Floor Proximity Path Marking

- International Maritime Organization (IMO) Resolution A.752(18) *Adopted on 4 November 1993*
GUIDELINES FOR THE EVALUATION, TESTING AND APPLICATION OF LOW-LOCATION LIGHTING ON PASSENGER SHIPS
- NFPA 101 Life Safety Code
- Underwriters Laboratories (UL) Standard 1994, Floor Proximity Egress Path Marking.
- International Maritime Organization (IMO) Resolution A.752(18)

Cost Impact: The code change proposal will increase the cost of construction. However the median cost of the different types of floor proximity path marking systems, would be approximately 0.1% of a project budget.

Analysis: There is also a proposal being heard by the General Committee for photoluminescent markings in Section 411, Special Amusement Buildings.

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

E86–06/07

1012.2 (IFC [B] 1012.2)

Proponent: Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

Revise as follows:

1012.2 Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices, measured above tread nosings shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

Reason: The purpose of this proposed change is to replace the current handrail height requirements for alternating tread devices, which are inappropriately based on the handrail height requirements for traditional type stairs, with new handrail height requirements more appropriate to alternating tread devices.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for alternating tread device handrail height. The current required handrail height of alternating tread devices of 34 inches to 38 inches is based on the required handrail height of traditional type stairs which have stair angles much lower than alternating tread devices. This alternating tread device handrail height appears to have been chosen arbitrarily, assuming that the handrail height best suited for traditional type stairs would also be best for alternating tread devices. Although they have treads as a traditional stair does, alternating tread devices have considerable different characteristics (the most important being a much steeper angle) from a traditional stair and thus the requirements for the features for an alternating tread device often must differ from a traditional stair. The alternating tread device features result in differences of handrail use such as, different arm posture, the hand gripping the handrail near a higher part of the body and the use of the handrails under the arms for stabilization. Therefore, a lower handrail height of 30 inches to 34 inches is more appropriate for alternating tread devices.

Alternating tread devices have been used for approximately 25 years with handrail heights (measured vertically from the tread nosings to the top of the handrail) of approximately 32 inches. Lapeyre Stair is not aware of any cases where this handrail height has been a problem for users of alternating tread devices. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify that this is the most appropriate handrail height. Additionally, a scientific stud titled "Performance, perceived safety and comfort of the alternating tread stair" was performed that demonstrated the satisfactory use of alternating tread devices. The 34 inch to 38 inch handrail height requirement for alternating tread devices appears to have first been introduced in sections 1003.3.3.10.1 and 1003.3.3.11.1 of IBC-2000 and then carried forward to sections 1009.10.1 and 1009.11.1 of IBC-2003. The precursor codes to IBC appear either not to discuss alternating tread device handrail height or to allow whatever handrail height provides safe use of the device. (Ref: BOCA-1999 Sections 1014.6.6.1 and 1022.2.5, SBC-1999 Section 1007.8.4 and 1007.8.5; UBC Section 1003.3.3.1). Furthermore, Lapeyre Stair is not aware of any documented scientific testing to verify that the current handrail heights in IBC for alternating tread devices are the most appropriate. Finally, an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicates that the current handrail height in the IBC may not be appropriate for alternating tread devices, and a code official could approve an alternating tread device with a handrail height inconsistent with IBC, Section 1012.2.

The lower handrail height for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results in less occupied space which could minimally lower costs.

Bibliography:

The BOCA National Building Code/1999 Sections 1014.6.6.1 & 1022.2.5
 Standard Building Code 1999 Edition Sections 1007.8.4 & 1007.8.5
 1997 Uniform Building Code Section 1003.3.3.1 (exception)
 Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

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

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