2006 INTERNATIONAL FIRE CODE DOCUMENTATION
IBC - MEANS OF EGRESS

Code Change No: E5-07/08

Original Proposal

Sections: 1002.1 (IFC [B] 1002.1)

Proponent: Gerard Hathaway, New York State Department of State Building Codes Division, representing himself

Revise definitions as follows:

1002.1 (IFC [B] 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 and is not a building element (see Grandstands).

FOLDING AND TELESCOPIC SEATING. Tiered seating ~~facilities~~ having an overall shape and size that are capable of being reduced for purposes of moving or storing and is not a building element.

GRANDSTAND. Tiered seating ~~facilities~~ supported on a dedicated structural system and two or more rows high and is not a building element (see Bleachers).

Reason: : Bleachers, Grandstands and Folding and Telescopic Seating are addressed in ICC 300. The 2007 edition has been approved as the referenced document for the 2009 IBC. 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 and were based on the definitions in the 2002 edition of the ICC 300.

The purpose of the revised definition is to clarify that bleachers and grandstands are limited to items that are separate, independent structures from the buildings that they may be constructed within or from spaces constructed under or over (e.g. concessions booths, toilets, roofs). The ICC 300 is not intended to be utilized for single row seating that is supported directly by the floor system. . “And is not a building element” is proposed to be added to the three definitions to address the concerns that were expressed during last year’s testimony that the proposed definitions needed this additional clarification. This definition for “building element” was added by FS4-07/08.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The revised definitions clarify applicability and coordinates with Standard ICC 300 *Bleachers, Grandstands and Folding and Telescopic Seating.*

Assembly Action: **None**

Final Hearing Results

E5-07/08 **AS**

Code Change No: E7-07/08

Original Proposal

Sections: 1002.1, 1020.1.1, 1021.4 (IFC [B] 1002.1, [B] 1020.1.1, [B] 1021.4)

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

Revise as follows:

1002.1 (IFC [B] 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. That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit ~~stairs~~ stairways, exterior exit ramps and horizontal exits.

EXIT PASSAGEWAY. An exit component that is separated from ~~all~~ other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the exit discharge or the public way.

1020.1.1 (IFC [B] 1020.1.1) Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

~~Except as permitted in Section 402.4.6, openings~~ Openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly ~~conforming to~~ complying with the requirements in Section 715.4. Fire door assemblies in exit enclosures shall comply with Section 715.4.4.

Elevators shall not open into an exit enclosure.

1021.4 (IFC [B] 1021.4) Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than ~~unexposed~~ unprotected exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly ~~conforming to~~ complying with the requirements in Section 715.4. Fire door assemblies in exit passageways shall comply with Section 715.4.4.

Elevators shall not open into an exit passageway.

Reason: The purpose for this proposal is primarily editorial and was prepared in conjunction with related proposals on definitions of the means of egress components, the technical provisions for smokeproof enclosures and pressurized stairways, and exit passageways used to extend exit enclosures to an exit discharge or a public way. In the definition for "exit" in Section 1002.1, exterior exit "stairs" is changed to "stairways" for consistency with the provisions of Section 1022 on exterior exit ramps and stairways. In the definition for "exit passageway" in Section 1002.1, "all" is deleted for consistency with similar language in the definition for "exit enclosure and to eliminate what is judged to be superfluous.

The reference to Section 402.4.6 in the second paragraph of Section 1020.1.1 is deleted because it is not applicable to exit enclosures. Section 402.4.6 applies to service areas opening into exit passageways in covered mall buildings and is appropriately referenced in the second paragraph of Section 1021.4 on exit passageways.

In the third paragraph of Sections 1020.1.1 and 1021.4, "conforming to" is changed to "complying with" to eliminate nonmandatory language. In the second paragraph of Section 1021.4, "unexposed" is changed to "unprotected" for consistency with similar language in the second paragraph of Section 1020.1.1 and to eliminate a term that is vague and unenforceable. In the third paragraph of Section 1021.4, "fire door" is changed to "fire door assembly" for consistency with similar language in the third paragraph of Section 1020.1.1 and with the reference to "door assembly" in the same sentence of each code section.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1021.4 (IFC [B] 1021.4) Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than ~~unprotected~~ exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly complying with the requirements in Section 715.4. Fire door assemblies in exit passageways shall comply with Section 715.4.4.

Elevators shall not open into an exit passageway.

(Portions of proposal not shown remain unchanged)

Committee Reason: The further modification to Section 1021.4 was to delete 'unprotected'. The topic is exterior openings, therefore, this is a fire separation distance issue, so deleting the current term 'unexposed' as well as the proposed 'unprotected' is more consistent with the language in the code. The entire proposal was approved because consistency between Sections 1020 and 1021.

Assembly Action: **None**

Final Hearing Results

E7-07/08 **AM**

Code Change No: E8-07/08

Original Proposal

Sections: 405.1, 405.4.1, 405.8.2, 1020.1.7 (IFC [B] 1020.1.7); IFC 903.2.1, 907.2.18 (IBC [F] 903.2.1, [F] 907.2.18); IEBC 705.4.3.1, 705.9, 705.10, 803.1

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

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS, IFC AND THE IEBC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Revise as follows:

SECTION 405
UNDERGROUND BUILDINGS

405.1 (Supp) General. The provisions of this section apply to building spaces having a floor level used for human occupancy more than 30 feet (9144 mm) below the finished floor of the lowest level of exit discharge.

Exceptions:

1. One- and two-family dwellings, sprinklered in accordance with Section 903.3.1.3.
2. Parking garages with automatic sprinkler systems in compliance with Section 405.3.
3. Fixed guideway transit systems.
4. Grandstands, bleachers, stadiums, arenas and similar facilities.

5. Where the lowest story is the only story that would qualify the building as an underground building and has an area not exceeding 1,500 square feet (139 m2) and has an occupant load less than 10.
6. Pumping stations and other similar mechanical spaces intended only for limited periodic use by service or maintenance personnel.

405.4 Compartmentation. Compartmentation shall be in accordance with Sections 405.4.1 through 405.4.3.

405.4.1 Number of compartments. A building having a floor level more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge shall be divided into a minimum of two compartments of approximately equal size. Such compartmentation shall extend through the highest level of exit discharge serving the underground portions of the building and all levels below.

Exception: The lowest story need not be compartmented where the area does not exceed 1,500 square feet (139 m2) and has an occupant load of less than 10.

405.8.2 Smokeproof enclosure. Every required stairway serving floor levels more than 30 feet (9144 mm) below the finished floor of its level of exit discharge shall comply with the requirements for a smokeproof enclosure as provided in Section 1020.1.7.

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
   1.1. The stairway is open to not more than one story above ~~the story at~~ the level of exit discharge; or
   1.2. The stairway is open to not more than one story below ~~the story at~~ the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

1020.1.7 (IFC [B] 1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the finished floor of the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

PART II – IFC

Revise as follows:

903.2.1 (IBC [F] 903.2.1) (Supp) Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor area where the Group A-1, A-2, A-3 or A-4 occupancy is located, and in all floors ~~between~~ from the Group A occupancy ~~and~~ to, and including, the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

907.2.18 (IBC [F] 907.2.18) (Supp) Deep underground buildings. Where the lowest level of a structure is more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge, the structure shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.6.2.2.

PART III – IEBC

Revise as follows:

705.4.3.1 Supplemental requirements for door closing. Where the work area exceeds 50 percent of the floor area, doors shall comply with Section 705.4.3 throughout the exit stair from the work area to, and including, the level of exit discharge.

705.9 Handrails. The requirements of Section 705.9.1 and 705.9.2 shall apply to handrails from the work area floor to, and including, the level of exit discharge.

705.10 Guards. The requirements of Sections 705.10.1 and 705.10.2 shall apply to guards from the work area floor to, and including, the level of exit discharge but shall be confined to the egress path of any work area.

803.1 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 703.2.1 ~~between~~ from the highest work area floor to, and including, the level of exit discharge and all floors below.

Reason: This code proposal is intended to be editorial in nature. My approved code proposal, E5-06/07, revised the definition of "Level of exit discharge" last cycle to read as follows:

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

With the above clarification of the definition of "level of exit discharge" in the 2007 I Codes Supplement, I reviewed all instances in the I Codes for the use of "level of exit discharge" for consistency with its past intended use as follows:

1. Code provisions under Items IBC/IFC Section 903.2.1, and IEBC Section 705.4.3.1, 705.0, 705.10 and 803.1, needed revisions for clarification by adding the verbiage such as "…including…" the level of exit discharge in order to include the "level of exit discharge" since the level of exit discharge definition was changed from a "horizontal plane" to a "story".
2. One code provision under IBC/IFC 1020.1 that needed the verbiage "…the story at…" removed since the definition of LED is now defined as a "story" and not a "horizontal plane".
3. Code provisions under IBC 405.1, 405.4.1, 405.8.2, and IBC/IFC 907.2.19 and 1020.1.7, that needed clarification of the vertical measurement in feet to the LED when a floor is below the LED by including the verbiage "…below the finished floor of the level of exit discharge…".

It is not my intent to change any of these existing requirements in the Code as they relate to the "level of exit discharge". Last year's code proposal, E5-06/07, along with this year's revisions to the above noted code sections, will complete the correlation of the I Codes' definition for "level of exit discharge" with the definition in NFPA 101, where the "level of exit discharge" concept originally came from.

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS
Committee Action: **Approved as Submitted**

Committee Reason: The proposal will correlate sections throughout the code with the definition of 'level of exit discharge'. This would be consistent with the committee action on E5-06/07 which revised the definition.

Assembly Action: **None**

PART II – IFC
Committee Action: **Approved as Submitted**

Committee Reason: For consistency with the action taken by the IBC-MOE and IEBC Committees. The proposal eliminates the previously existing confusion in establishing a correct point of measurement that these sections posed.

Assembly Action: **None**

PART III – IEBC
Committee Action: **Approved as Submitted**

Committee Reason: This code change picks up language that correlates with a previous code change (E5-06/07) in the 2006/2007 Code Change Cycle.

Assembly Action: **None**

Final Hearing Results

E8-07/08, Part I	**AS**
E8-07/08, Part II	**AS**
E8-07/08, Part III	**AS**

Code Change No: E10-07/08

Original Proposal

Sections: 308.5.2 (IFC [B] 202), 1006.3 (IFC [B] 1006.3), 1007.2.1 (IFC [B] 1007.2.1), 1020.1 (IFC [B] 1020.1), 1020.1.5 (IFC [B] 1020.1.5), 1020.1.7 (IFC [B] 1020.1.7), 1023.6 (IFC [B] 1023.6), 1024.1 (IFC [B] 1024.1); IFC 903.2.1.1- 903.2.1.4 (IBC [F] 903.2.1.1- 903.2.1.4), 903.2.2 (IBC [F] 903.2.2), 1027.5, 1027.18, 1027.19

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

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I — IBC MEANS OF EGRESS

Revise as follows:

308.5.2 (IFC [B] 202) Child care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2-1/2 years of age or less shall be classified as Group I-4.

> **Exception:** A child day care facility that provides care for more than five but no more than 100 children 2-1/2 years or less of age, ~~when~~ where the rooms ~~where such~~ in which the children are cared for are located on ~~the~~ a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

1006.3 (IFC [B] 1006.3) Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premise's electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than ~~the~~ their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1024.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.5 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

1007.2.1 (IFC [B] 1007.2.1) Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the levels of exit discharge.
2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies other than Groups H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
   1.1. The stairway is open to not more than one story above the story at ~~the~~ its level of exit discharge, or
   1.2. The stairway is open to not more than one story below the story at ~~the~~ its level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

1020.1.5 (IFC [B] 1020.1.5) Discharge identification. A stairway in an exit enclosure shall not continue below ~~the~~ its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

1020.1.7 (IFC [B] 1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below ~~the~~ a level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1023.6 (IFC [B] 1023.6) Exterior ramps and stairway protection. Exterior exit ramps and stairways shall be separated from the interior of the building as required in Section 1020.1. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where ~~the~~ a level of exit discharge serving such occupancies is the first story above grade plane.
2. Separation from the interior of the building is not required where the exterior ramp or stairway is served by an exterior ramp and/or balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the openings no less than 7 feet (2134 mm) above the top of the balcony.

3. Separation from the interior of the building is not required for an exterior ramp or stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1.
4. Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors, provided that Items 4.1 through 4.4 are met:
   4.1. The building, including corridors and ramps and/or stairs, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
   4.2. The open-ended corridors comply with Section 1017.
   4.3. The open-ended corridors are connected on each end to an exterior exit ramp or stairway complying with Section 1023.
   4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m2) or an exterior ramp or stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
   1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
   1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
   2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at ~~the~~ their levels of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

PART II — IFC

Revise as follows:

903.2.1.1 (IBC [F] 903.2.1.1) Group A-1. An automatic sprinkler system shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.
4. The fire area contains a multitheater complex.

903.2.1.2 (IBC [F] 903.2.1.2) Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464.5m^2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

903.2.1.3 (IBC [F] 903.2.1.3) Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

Exception: Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.1.4 (IBC [F] 903.2.1.4) Group A-4. An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

Exception: Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.2 (IBC [F] 903.2.2) (Supp) Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m^2) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge ~~that serves~~ serving that portion of the building.

Exception: An automatic sprinkler system is not required in any ~~fire area or~~ area below the lowest level of exit discharge serving that area where every classroom throughout the building has at least one exterior exit door at ground level.

1027.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

   Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below ~~the~~ a level of exit discharge serving the occupants, or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

   Exception: Buildings used only during daylight hours which are provided with windows for natural light in accordance with the *International Building Code*.

5. Group I.
6. Group M.

   Exception: Buildings less than 3,000 square feet (279 m^2) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

   Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

   Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

   Exception: Where each sleeping unit has direct access to the outside of the building at ground level. The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.

1027.18 Stairway discharge identification. A stairway in an exit enclosure which continues below ~~the~~ its level of exit discharge shall be arranged and marked to make the direction of egress to a public way readily identifiable.

Exception: Stairs that continue one-half story beyond ~~the~~ their levels of exit discharge need not be provided with barriers where the exit discharge is obvious.

1027.19 Exterior stairway protection. Exterior exit stairs shall be separated from the interior of the building as required in Section 1023.6. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for buildings that are two stories or less above grade where ~~the~~ a level of exit discharge serving such occupancies is the first story above grade.
2. Separation from the interior of the building is not required where the exterior stairway is served by an exterior balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the opening not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1.
4. Separation from the interior of the building is not required for exterior stairways connected to open-ended corridors, provided that:
   4.1. The building, including corridors and stairs, is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
   4.2. The open-ended corridors comply with Section 1017.
   4.3. The open-ended corridors are connected on each end to an exterior exit stairway complying with Section 1023.1.
   4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees occurs, a clear opening of not less than 35 square feet (3 m2) or an exterior stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

Reason: This proposal is a continuation of Proposal F85-07/08-AMPC1. The reason statement accompanying the proposal pointed out that buildings on sloping sites often have more level of exit discharge. The proposal addressed references to "the level of exit discharge" in IFC Sections 903.2.1 and 903.2.2 but there are other sections in the IBC and IFC that contain the identical phrase. The purpose of this proposal is to adjust the phrase in those sections so that buildings with multiple levels of exit discharge are clearly accounted for while still preserving the current intent of their provisions.

"The" level of exit discharge in the Exception for child care facilities in IBC Section 308.5.2 and IFC Section 202 is changed to "a" level of exit discharge "serving such rooms." The change in occupancy classification from Group I-4 to Group E is dependent on the rooms used for the care of children being located on the level of exit discharge. The change will permit the rooms to be located on one of the levels of exit discharge serving the rooms. The other revisions are editorial, changing "when" to "where" in referring to the rooms providing the day care.

"The" level" of exit discharge in Exception #1 to IBC Section 1007.2.1 on elevators as accessible means of egress is changed to the "levels" of exit discharge. An elevator is required to be an accessible means of egress where the building is four or more stories above or below one of the levels of exit discharge. The change will make it clear that the elevator exemption is limited to floors at or above all the levels of exit discharge (i.e., prevent compliance based only on the higher of two levels of exit discharge). Note that "a" level of exit discharge is cited in the charging language and is unchanged in this proposal.

"The" level of exit discharge in IBC Section 1020.1.7 on smokeproof enclosures is changed to "a" level of exit discharge serving such floor levels. In high-rise and underground buildings, each exit serving a story whose floor surface is more than 30 feet below the level of exit discharge (one of two conditions) serving the story is required to be a smokeproof enclosure or pressurized stairway. The change will make it clear that the requirement applies to exits whose floor surfaces are more than 30 feet below any of the levels of exit discharge serving that story (i.e., prevent compliance based only on the higher of two levels of exit discharge).

"The" level of exit discharge in Exception #1 to IBC Section 1023.6 on protection of exterior ramps and stairways is changed to "a" level of exit discharge "serving such occupancies." Separation of exterior ramps and stairways from occupancies other than Group R-1 or R-2 is not required in buildings that are no more than two stories above grade plane where the level of exit discharge is the first story above grade plane. The change will permit the occupancies to be located on one of the levels of exit discharge serving the occupancies.

"The" level of exit discharge in Item #3 of IFC Sections 903.2.1.1, 903.2.1.2, 903.2.1.3 and 903.2.1.4 on automatic sprinkler systems in Group A occupancies is changed to "a" level of exit discharge "serving such occupancies." One of the three conditions for requiring an automatic sprinkler system in a Group A occupancy other than Group A-5 is that the fire area is located on a floor other than the level of exit discharge. The change will exempt the occupancy from the requirement provided it is located on a floor other than one of the levels of exit discharge serving the occupancy. Note that "the" level of exit discharge of the main entrance and exit is cited in the Exception to Sections 903.2.1.3 and 903.2.1.4 but is unchanged in this proposal.

The "level" of exit discharge in the Exception to IFC Section 903.2.2 on automatic sprinkler systems in Group E occupancies is changed to the "lowest" level of exit discharge "serving that area" for consistency with the requirement in Item #2 for which the Exception modifies. "Fire area" is deleted because it is seen as superfluous. The Exception currently applies to "areas" below the level of exit discharge, which include "fire areas." Note that Item #2 of Section 903.2.2 specifies the "lowest level of exit discharge that serves that portion of the building" and is unchanged in this proposal except for an editorial change for consistency with the proposed change to the Exception.

The "level of exit discharge" in the Exception to IFC Section 1027.5 on emergency power for egress illumination is changed to "a " level of exit discharge "serving the occupants." One of the conditions for requiring emergency power for egress illumination in existing buildings is that there are 100 or more occupants above or below the level of exit discharge. The change will exempt the building from the requirement provided there are less than 100 occupants above and below any of the levels of exit discharge serving any of the occupants (i.e., prevent compliance based only on the higher level of exit discharge for occupants below or the lower level of exit discharge for occupants above).

"The" level of exit discharge in Exception #1 to IFC Section 1027.19 on exterior stairway protection is changed to "a" level of exit discharge "serving such occupancies." Separation of exterior stairways from the interior is not required in buildings that are no more than two stories above grade when the level of exit discharge is the first story above grade. The change will permit the occupancies to be located on one of the levels of exit discharge serving the occupancies.

The provision of IBC Sections 1006.3 (Item 3); 1020.1 (Exception 1, Items 1.1 and 1.2); 1020.1.5; and 1024.1 (Exception 3); and IFC Section 1027.18 typically apply to exit stairways and other means of egress components with distinct levels of exit discharge. Multiple levels of exit discharge are not possible. The building, however, could have multiple levels of exit discharge. Consequently, "the" level of exit discharge is changed to "its level" or "their levels" of exit discharge depending on the context.

IBC Sections 405.1, 405.3, 405.4.1 and 405.8.2; IFC Table 405.2; and IFC Sections 404.2, 903.2.1, 907.2.2, 907.2.4, 907.2.7, 907.2.9.1, 907.2.18, 907.2.18.1 and 914.5.1; are not included in this proposal because they reference the lowest, highest or nearest level of exit discharge. IBC Section 1019.2 (Item 3) is not included because the subject of the provision is a single-level building.

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action: **Approved as Submitted**

Committee Reason: The revision clarifies how to use the definitions for 'level of exit discharge' and 'exit discharge.' The revisions in E8-07/08 to Section 1020.1, Exp 1.1 and 1.2 would still be applicable.

Assembly Action: **None**

PART II – IFC

Committee Action: **Approved as Submitted**

Committee Reason: For consistency with the action taken by the IBC-MOE Committee on Part I of this proposal and to provide correlation between the IBC Chapter 10 and the IFC egress provisions for existing buildings. The changes add clarity to the provisions.

Assembly Action: **None**

Final Hearing Results

E10-07/08, Part I	**AS**
E10-07/08, Part II	**AS**
E10-07/08, Part III	**AS**

Code Change No: E11-07/08

Original Proposal

Sections: 1003.2 (IFC [B] 1003.2)

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

Revise as follows:

1003.2 (IFC [B] 1003.2) (Supp) 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.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with Section 406.2.2.

Reason: The intent of this proposal is to coordinate the new ceiling height requirements of this section with the clear floor height allowed in parking garages per Section 406.2.2. Without this exception, it can easily be interpreted that the clear floor height in parking garages is to be 7'-6". I have solicited the opinion of the ICC Staff on this issue and have received a response that Section 406.2.2 should be considered for this issue in parking garages.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal correlates with the height for means of egress throughout parking garages. This is not a conflict with ICC A117.1 because of the reference in Section 406.2.2 for the accessible portion of the parking garage.

Assembly Action: **None**

Final Hearing Results

E11-07/08 **AS**

Code Change No: E12-07/08

Original Proposal

Sections: 1003.2 (IFC [B] 1003.2)

Proponent: Maureen Traxler, City of Seattle, representing Washington Association of Building Officials Technical Code Development Committee

Revise as follows:

1003.2 (IFC [B] 1003.2) (Supp) 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.
7. Areas above and below mezzanine floors in accordance with Section 505.1.

Reason: This proposal resolves an inconsistency between Section 505.1 and 1003.2. The mezzanine provisions of Section 505.1 allow a ceiling height of 7 feet, but 1003.2 requires ceiling height of 7 feet 6 inches throughout the means of egress, which includes areas above and below mezzanines.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal correlates with the height for mezzanines. There is no need to supersede the provision for a whole floor based on means of egress and the proposed additional exception clarifies that.

Assembly Action: **None**

Final Hearing Results

E12-07/08 **AS**

Code Change No: E13-07/08

Original Proposal

Sections: 1003.5 (IFC [B] 1003.5)

Proponent: John Williams, Washington State Department of Health, Construction Review Services, representing Washington Association of Building Officials Technical Code Development Committee

Revise as follows:

1003.5 (IFC [B] 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:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted 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~~ Throughout a story in a Group I-2 occupancy, any change in elevation in portions of the exit access that serve nonambulatory persons shall be by means of a ramp or sloped walkway.

Reason: The purpose of this code change is to clarify the intent of the current code. The purpose of this section is to prevent a condition where a patient on a hospital bed or stretcher would be required to maneuver a stair or step. Quick horizontal movement of stretchers and beds is imperative during the routine operation of a healthcare facility. I-2 occupancies also use a “protect in place” concept which relies on horizontal evacuation of patient on beds and stretchers during a fire event.

Most hospitals take advantage of the suite provisions within IBC 1014.2.2, which creates passageways that are not classified as a corridors. These passageways often serve nonambulatory traffic, but the current code would not apply to them. A broader term such as “exit access” is necessary to capture all of the areas that see nonambulatory traffic. The existing qualifier “serving nonambulatory persons” remains to prevent this from being applied to mechanical spaces and other staff only areas. The term “story” is used to clarify that this section applies to movement along a level plane; not movement between stories.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal will prevent a condition where a non-ambulatory person would have to negotiate a condition other than a ramp.

Assembly Action: **None**

Final Hearing Results

E13-07/08 **AS**

Code Change No: E19-07/08

Original Proposal

Table 1005.1 (IFC [B]1005.1), 3403.5(New), 3410.6.11, Table 3410.6.11(1) (New), Table 3410.6.11, [IEBC [B]302.5(New), [B]1306.11.1(New), [B]Table 1306.11.1(1) (New), Table 1306.11.1]; IFC 1027.2(New), Table 1027.2(New); IEBC 604.2(New), Table 604.2(New), 912.4.1, 912.4.2

Proponent: David Frable, US General Services Administration

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS, IFC AND THE IEBC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Delete and substitute as follows:

~~**TABLE 1005.1 (IFC [B] 1005.1) (Supp)**~~
~~**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~~	~~Not permitted~~	~~Not permitted~~	~~0.3~~	~~0.2~~
~~Institutional: I-2~~	~~Not permitted~~	~~Not permitted~~	~~03.~~	~~0.2~~

~~For SI: 1 inch – 25.4 mm.~~

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

TABLE 1005.1 (IFC [B] TABLE 1005.1)
EGRESS WIDTH PER OCCUPANT SERVED

OCCUPANCY	STAIRWAYS (INCHES PER OCCUPANT)	OTHER EGRESS COMPONENTS (INCHES PER OCCUPANT)
All occupancies	0.3	0.2

For SI: 1 inch – 25.4 mm.

3403.5 (IEBC 302.5) Means of egress capacity factors. Alterations to any existing building or structure shall not be affected by the egress width factors in Table 1005.1 for new construction in determining the minimum egress widths or the minimum number of exits in an existing building or structure. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the building official, they do not constitute a distinct hazard to life.

2. Revise as follows:

3410.6.11 (IEBC [B] 1301.6.11) Means-of-egress capacity and number. Evaluate the means-of-egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of the *International Building Code*: 1003.7, 1004, 1005.1, 1014.2, 1014.3, 1015.2, 1019, 1024.1, 1024.2, 1024.6, 1025.2, 1024.3, 1024.4 and 1026 (except that the minimum width

required by this section shall be determined solely by the width for the required capacity in accordance with Table 3410.6.11(1)). The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 705.3.1.2. Under the categories and occupancies in Table 1301.6.11(2), determine the appropriate value and enter that value into Table 1301.7 under Safety Parameter 1301.6.11, Means-of-Egress Capacity, for means of egress and general safety.

TABLE 3410.6.11(1) [IEBC TABLE 1306.11.1(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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	03.	0.2

For SI: 1 inch – 25.4 mm.

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

TABLE 3410.6.11(2) [IEBC TALBE 1306.11.1(2)]
MEANS OF EGRESS VALUES

(No change to table – change reference to table in)

PART II – IFC

Add new text as follows:

1027.2 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 1027.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

TABLE 1027.2
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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	03.	0.2

For SI: 1 inch – 25.4 mm.

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

PART III – IEBC

1. Add new text as follows:

604.2 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 604.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

TABLE 604.2
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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	03.	0.2

For SI: 1 inch – 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with the *International Building Code* Section 903.3.1.1 or 903.3.1.2.

2. Revise as follows:

912.4.1 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 912.4, the means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 803.1.
2. Existing stairways including handrails and guards complying with the requirements of Chapter 8 shall be permitted for continued use subject to approval of the code official.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed of wood lath and plaster in good condition or 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.
5. Existing corridor doorways, transoms, and other corridor openings shall comply with the requirements in Sections 705.5.1, 705.5.2, and 705.5.3.
6. Existing dead-end corridors shall comply with the requirements in Section 705.6.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m2) and with minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.
8. Existing corridors shall be permitted to comply with the egress width capacity as determined by Table 604.2.

912.4.2 Means of egress for change of use to equal or lower hazard category. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 912.4, existing elements of the means of egress shall comply with the requirements of Section 805 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
2. Existing corridors shall be permitted to comply with the egress width capacity as determined by Table 604.2.

Reason: PART I - IBC Table 1005.1: The intent of this code change is to ensure coordination of requirements within the IBC. This is Part 4 of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART 1) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when utilizing compliance alternatives in Chapter 34 of the IBC.

3403.5/IEBC 302.5: The intent of this code change is to ensure coordination of requirements within the IBC. This is Part 3 of addressing the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC (see PART 1) will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements in Chapter 34 of the IBC.

3410.6.11/IEBC 1306.11: The intent of this code change is to revise the egress width factors in Table 1005.1 such that the concept of determining egress capacity for the components of the means of egress within a building is not a function of whether or not a building is protected throughout by an automatic fire sprinkler system. Not all building emergencies that necessitate occupant egress either out of a building or within a building to a safe area are dependent on a fire sprinkler system. Please also note that the occupancy factors are still unchanged for I-2 and H occupancies since all I-2 and H occupancies are required to be protected by an automatic fire sprinkler system.

PART II - The intent of this code change is to ensure coordination between the requirements in the IBC and the IFC. This is Part II of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

PART III - The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This is Part III of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

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

Analysis: IBC Section 3410.6.11 was revised to coordinate with IEBC Section 1301.6.11 by the CCC committee at their Sept. 2007 meeting. EB62-04/05 revise the general reference to IBC Chapter 10 in IEBC 1301.6.11 to the specific sections dealing with means of egress capacity and number.

Public Hearing Results

Errata: Modify tables and reason statements as follows:

PART I – IBC MEANS OF EGRESS

TABLE 3410.6.11(1) [IEBC TABLE 1306.11.1(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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	~~03.~~ 0.3	0.2

For SI: 1 inch – 25.4 mm.

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

(Portions of proposal not shown remain unchanged)

REASON: PART I – IBC MEANS OF EGRESS

IBC Table 1005: The intent of this code change is to revise the egress width factors in Table 1005.1 such that the concept of determining egress capacity for the components of the means of egress within a building is not a function of whether or not a building is protected throughout by an automatic fire sprinkler system. Not all building emergencies that necessitate occupant egress either out of a building or within a building to a safe area are dependent on a fire sprinkler system. Please also note that the occupancy factors are still unchanged for I-2 and H occupancies since all I-2 and H occupancies are required to be protected by an automatic fire sprinkler system.

3403.5/IEBC 302.5: The intent of this code change is to ensure coordination of requirements within the IBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements within the IBC and IEBC.

3410.6.11/IEBC 1306.11: The intent of this code change is to ensure coordination of requirements within the IBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements within the IBC and IEBC.

PART II – IFC

TABLE 1027.2
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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	~~03.~~ 0.3	0.2

For SI: 1 inch – 25.4 mm.
a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

(Portions of proposal not shown remain unchanged)

REASON: PART II - IFC
IFC 1027.2 - The intent of this code change is to ensure coordination between the requirements in the IBC and the IFC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

PART III – IEBC

TABLE 604.2
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	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	~~03.~~ 0.3	0.2

For SI: 1 inch – 25.4 mm.
a. Buildings equipped throughout with an automatic sprinkler system in accordance with the *International Building Code* Section 903.3.1.1 or 903.3.1.2.

(Portions of proposal not shown remain unchanged)

PART III - IEBC
IEBC 604.2: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

IEBC 912.4.1: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

IEBC 912.4.2: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

PART I – IBC MEANS OF EGRESS
Committee Action: Approved as Submitted

Committee Reason: Occupants may need to egress buildings during non-fire events where sprinklers systems do not provide additional protection. Therefore, the increase in corridor and stairway width, and thus egress capacity, is justified.

Assembly Action: None

PART II – IFC
Committee Action: Approved as Modified

Modify the proposal as follows:

1027.2 Minimum required egress width. The means of egress width shall not be less than as required by the code under which constructed but not less than as 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 1027.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

(Portions of Part II of proposal not shown remain unchanged)

Committee Reason: For consistency with the action taken by the IBC-MOE Committee on Part I of this proposal and to provide correlation between IBC Chapter 10 and the existing building egress provisions of the IFC. The modification provides a more reasonable approach to existing buildings by allowing compliance with the original code of construction of the building as long as it is comparable to the new section.

Assembly Action: **None**

PART III – IEBC
Committee Action: **Disapproved**

Committee Reason: The proposal would require changes in egress width when minor alterations are made. This is an unreasonable trigger.

Assembly Action: **None**

Final Hearing Results

E19-07/08, Part I	**AS**
E19-07/08, Part II	**AM**
E19-07/08, Part III	**D**

Code Change No: E20-07/08

Original Proposal

Sections: 1005.2 (IFC [B] 1005.2)

Proponent: Philip Brazil, Reid Middleton, representing himself

Revise as follows:

1005.2 (IFC [B] 1005.2) (Supp) Encroachment. Doors, when fully opened, and handrails shall not reduce the required means of egress 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~~ shall be permitted to project into the required width a maximum of 1.5 inches (38 mm) on each side.

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: The purpose of the proposal is to more clearly convey the intent of the changes approved by Proposal E18-07/08-AM by eliminating nonmandatory language and establishing a more objective limit on nonstructural projections.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional language clarifies that the permitted projections are a maximum rather than an absolute.

Assembly Action: **None**

Final Hearing Results

E20-07/08	**AS**

Code Change No: E29-07/08

Original Proposal

Sections: 1007.3 (IFC [B] 1007.3)

Proponent: Maureen Traxler, Planning & Development, City of Seattle, WA

Revise as follows:

1007.3 (IFC [B] 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. 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 or 903.3.1.2.
2. 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. 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. 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.
7. The areas of refuge are not required in Group R-2 occupancies.

Reason: The phrase “or facilities” as used in this section is ambiguous. “Facility” is defined in Section 1102 broadly enough to include everything from a “portion of buildings” to “all … structures… located on a site.” The definition raises the question whether, in order to use these exceptions, a sprinkler system is required in the entire building, in a portion of the building, or throughout the entire site. Removing “facilities” makes it clear that the entire building is required to be sprinklered, which is the most likely interpretation of the existing language. This interpretation is supported by the 2006 International Building Code Commentary that says, in reference to exception 2 of the 2006 IBC (which is now exception 1) “…for an unenclosed exit stairway … in a building sprinklered in accordance with NFPA 13, an area of refuge is not required.” In regard to exception 3 (which is now exception 2), the Commentary says “Exception 3 exempts the 48-inch (1219) mm) width requirement in buildings sprinklered in accordance with NFPA 13 or NFPA 13R for both enclosed and unenclosed stairways.” (emphasis added.)

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The term facility as currently defined is vague. The deletion in the exceptions will make it clear that the entire building must be sprinklered for the exceptions to be applicable.

Assembly Action: **None**

Final Hearing Results

E29-07/08 **AS**

Code Change No: E34-07/08

Original Proposal

Sections: 1007.6.3, 1007.6.4, 1007.9(New), 1007.9.1(New), 1007.9.2(New), [IFC [B] 1007.6.3, [B] 1007.6.4, [B]1007.9(New), [B]1007.9.1(New), [B]1007.9.2(New)]

Proponent: David Frable US General Services Administration

1. Add new sections as follows:

1007.9 (IFC [B] 1007.9) Two-way communication. A two-way communication system shall be provided at the elevator landing on each accessible floor that is one or more stories above or below the story of exit discharge complying with Sections 1007.9.1 and 1007.9.2.

Exceptions:

1. Two-way communication systems are not required at the elevator landing where the two-way communication system is provided within areas of refuge in accordance with Section 1007.6.3.
2. Two-way communication systems are not required on floors provided with exit ramps conforming to the provisions of Section 1010.

1007.9.1 (IFC 1007.9.1) System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two way communication system is permitted to be provided by a controlled access to a public telephone system. The two-way communication system shall include both audible and visible signals.

1007.9.2 (IFC [B] 1007.9.2) Directions. Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system, and written identification of the location, shall be posted adjacent to the two-way communication system.

2. Revise as follows:

1007.6.3 (IFC [B] 1007.6.3) Two-way communication. Areas of refuge shall be provided with a two-way communication system ~~between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have controlled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals.~~ complying with Sections 1007.9.1 and 1007.9.2.

1007.6.4 (IFC [B] 1007.6.4) Instructions. In areas of refuge ~~that have a two-way emergency communications system~~, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:

1. Directions to find other means of egress.
2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
3. ~~Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.~~
4. ~~Directions for use of the emergency communications system.~~

Reason: The intent of this code change is to address an issue that has been raised by the disability community regarding the need to provide a two-way communication system on a floor for individuals unable to negotiate exit stairways during an emergency.

Current text only requires two-way communication systems within areas of refuge. Exceptions to Section 1007.3 and 1007.4 allow for the elimination of the area of refuge. This proposal will require two-way communication systems at the elevators on accessible levels other than the level of exit discharge. Exception 1 would avoid requiring a two-way communication system at the elevator when two-way communication was provided in the area of refuge. Exception 2 would avoid requiring a two-way communication system at the elevator when the floor level had ramps that allowed for independent evacuation, such as in a sports stadium.

In high rise building, typically, building occupant emergency plans use the elevator landings on each floor of a building as a staging area for individuals unable to negotiate exit stairways in an emergency. The new text proposed will provide an effective means for those individuals unable to negotiate exit stairways to communicate their location via a two-way communication system to either the fire command center or a central control point during an emergency condition. Signage will provided with directions for operation of the system when provided at elevators and within areas of refuge.

The changes to Section 1007.6.3 and 1007.6.4 are for correlation only. Putting the two-way communication requirements in one section instead of repeating in two sections will eliminate possible conflicts in the future.

Another change addresses the issue of signage. These two changes will work separately or as a package.

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

Public Hearing Results

Committee Action: Approved as Modified

Modify the proposal as follows:

1007.9.1 (IFC 1007.9.1) System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two way communication system shall have a timed automatic telephone dial-out capability to a monitoring location or 911 ~~is permitted to be provided by a controlled access to a public telephone system~~. The two-way communication system shall include both audible and visible signals.

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification will provide a clearer direction on how the phone system is expected to perform. The requirement for a two-way communication system at an elevator lobby does allow occupants to reach emergency responders to request assistance. This is important for persons with disabilities as well as others who may not be able to evacuate using the stairways. The lobby is an appropriate location since this is the point where most people will go since that is the area they are familiar with. Requirements should be addressed for multi-story buildings where elevators were not provided.

Assembly Action: None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Dave Frable, US General Services Administration, requests Approval as Modified by this public comment.

Modify proposal as follows:

~~**1007.6.4 (IFC [B] 1007.6.4) Instructions.** In areas of refuge, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:~~

~~1. Directions to find other means of egress.~~
~~2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.~~

1007.12 (IFC [B] 1007.12) Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
3. Directions for use of the two-way communications system where provided.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Code changes E34 and E35 were both approved. The result is a requirement for a two way communication system at elevators, and associated signage at the elevators and stairways that serve as part of an accessible means of egress. The original changes were written as stand alone pieces. Inadvertently, the approval of E34 deleted text that is needed for a complete package. This modification is a coordination of requirements between the two changes. The text for signage as it stands now is indicated below. The proposed modification is intended to add Items 2 and 3 in Section 1007.12.

1007.10 Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.

2. Each door providing access to an exterior areas for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.11 Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

1007.12 Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.

Final Hearing Results

E34-07/08 AMPC1

Code Change No: E35-07/08

Original Proposal

Sections: 1007.6.4, 1007.6.5, 1007.7, 1007.8.3, 1007.9(New), 1007.10(New), 1011.3, 1110.1, 1110.2, 1110.3, [IFC [B] 1007.6.4, [B]1007.6.5, [B]1007.7, [B]1007.8.3, [B]1007.9 (New), [B] 1007.10(New)]; IFC 404.3.2

Proponent: David Frable US General Services Administration

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

1. Add new sections as follows:

1007.9 (IFC [B] 1007.9) Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.
2. Each door providing access to an exterior areas for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.10 (IFC [B] 1007.10) Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

2. Revise as follows:

~~**1007.6.4 (IFC [B] 1007.6.4)**~~ **1007.12 (IFC [B] 1007.12) Instructions.** In areas of refuge and exterior areas for assisted rescue ~~that have a two-way emergency communications system~~, instructions on the use of the area under emergency conditions shall be posted ~~adjoining the communications system~~. The instructions shall include all of the following:

~~1. Directions to find other means of egress.~~
~~2.~~ 1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
~~3.~~ 2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
~~4.~~ 3. Directions for use of the ~~emergency~~ two-way communications system where provided.

~~**1007.6.5 (IFC [B] 1007.6.5) Signage.** 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.~~

~~**1007.7 (IFC [B] 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.~~

~~**1007.8.3 (IFC [B] 1007.8.3) Identification.** Exterior areas for assisted rescue shall have identification as required for area of refuge that complies with Section 1007.6.5.~~

1011.2 (IFC [B] 1011.2) Illumination. Exit signs shall be internally or externally illuminated.

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

1011.3 (IFC [B] 1011.3) Tactile exit signs. A tactile sign stating EXIT and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an egress stairway, an exit passageway and the exit discharge.

SECTION 1110
SIGNAGE

1110.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations:

1. Accessible parking spaces required by Section 1106.1 except where the total number of parking spaces provided is four or less.
2. Accessible passenger loading zones.
~~3. Accessible areas of refuge required by Section 1007.6~~.
~~4.~~ 3. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.
~~5.~~ 4. Accessible entrances where not all entrances are accessible.
5. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.
6. Unisex toilet and bathing rooms.
7. Accessible dressing, fitting and locker rooms where not all such rooms are accessible.
8. Accessible areas of refuge in accordance with Section 1007.9
9. Exterior areas for assisted rescue in accordance with Section 1007.9.

1110.2 Directional signage. Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility:

1. Inaccessible building entrances.
2. Inaccessible public toilets and bathing facilities.
3. Elevators not serving an accessible route.
4. At each separate-sex toilet and bathing room indicating the location of the nearest unisex toilet or bathing room where provided in accordance with Section 1109.2.1.
5. At exits ~~and elevators~~ and exit stairways serving a required accessible space, but not providing an approved accessible means of egress, signage shall be provided in accordance with Section ~~1007.7~~ 1007.10.

1110.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.6 shall provide a sign notifying patrons of the availability of assistive listening systems.

   Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

2. At each door to an area of refuge, an exterior area for assisted rescue, an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.3.
3. At areas of refuge, signage shall be provided in accordance with Sections 1007.6.3 through 1007.6.5 and 1007.9.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section ~~1007.8.3~~ 1007.9.
5. At two way communication systems, signage shall be provided in accordance with Section 1007.12.

PART I – IFC

Revise text as follows.

404.3.2 (Supp) 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.
   4.7. Designated locations for persons unable to use the general means of egress unassisted per the facilities fire evacuation plan
   ~~4.7~~. 4.8 Manual fire alarm boxes.
   ~~4.8~~. 4.9 Portable fire extinguishers.
   ~~4.9~~. 4.10 Occupant-use hose stations.
   ~~4.10~~. 4.11 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: The reason for this code change proposal is to address an issue that has been raised by the disability community regarding the availability of information for individuals unable to negotiate exit stairways during an emergency. Exceptions to Section 1007.3 and 1007.4 allow for the elimination of the area of refuge. With the deletion of the area of refuge, there is limited information for people on where assistance for evacuation will be provided.

The intent of this proposal is to provide signage at: the following locations.

- Since most people will tend to go back to the elevator first, information must be available at the elevator that indicates to persons that they can stay there for assistance or directional signage to where they can go for assistance (e.g. stairways, areas of refuge, exterior areas for rescue assistance).
- Signage must be provided at area or refuge and exterior areas of rescue assistance.
- Directional signage must be provided at any exit or exit stairway that does not serve as part of an accessible means of egress.

The signage information needed for accessible means of egress has been grouped in a new Section 1007.9 and 1007.10. This information would be coordinated with the fire and safety evacuation plans (IFC Section 404.3). Changes to Section 1011 are coordination only.

Another change addresses the two-way communication. These two changes will work separately or as a package.

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS
Committee Action: **Approved as Submitted**

Committee Reason: The proposed text provides necessary information for exiting direction.

Assembly Action: **None**

PART II – IFC
Committee Action: **Withdrawn by Proponent**

Final Hearing Results

E35-07/08, Part I	**AS**
E35-07/08, Part II	**WP**

Code Change No: E39-07/08

Original Proposal

Sections: 1008.1.2, 1008.1.2.1 (New) [IFC [B] 1008.1.2, [B] 1008.1.2.1 (New)]

Proponent: Gary Miller, City of Irving, TX, representing North Texas Chapter of ICC

1. Revise as follows:

1008.1.2 (IFC [B] 1008.1.2) (Supp) Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

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.

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

2. Add new text as follows:

1008.1.2.1 (IFC [B] 1008.1.2.1) Double-acting doors. Double-acting doors shall not be used as doors in a means of egress where any of the following conditions exist:

1. The occupant load served by the door is 100 or more.
2. The door is part of a fire door assembly.
3. The door is part of an opening in a smoke barrier.
4. Panic hardware is required or provided on the door.

A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 m^2).

Reason: This proposal will clarify and add new requirements to the Code. As this section is currently written, egress doors equipped with pivot hardware are prohibited from use, and double-acting doors are allowed without any limiting or clarifying language.

Although pivot doors and side-hinged doors function in a nearly identical manner, they are different devices with pivot hardware typically being installed on the bottom and top edges of doors rather than on the side. The omission of pivot type doors from the door swing section of the IBC has been consistent since the 2000 Edition, but they were included as an allowed door type in at least one of the legacy codes (UBC). The 2006 IBC includes at least two direct references and one indirect reference to pivot hardware: (1) Section 715.4.1 designates test standards for "Side-hinged and pivoted swinging doors; (2) Section 1002 includes a reference to "double-pivoted hardware" in the definition of the term "balanced door"; (3) Section 1008.1.9 identifies installation criteria "If balanced doors are used and panic hardware is required . . . " – the implied assumption being that pivots serve as the hinge device of the balanced door. Pivot doors are commonly used, especially on glass doors, and should be allowed as long as they meet the other applicable code provisions such as opening force and clear opening width.

Double-acting doors are doors that swing in both directions, are also in common usage, and should continue to be allowed, but with some restrictions. Proposed Section 1008.1.2.1 is wording that is taken from the 1997 UBC with minor terminology updates. Restriction #1 addresses a practical threshold beyond which the use of double-acting doors would create a potentially unsafe emergency exiting condition; restrictions #2 & #3 address practical limitations since double-acting doors are incapable of providing positive latching; restriction #4 adds another practical restriction in that doors equipped with panic hardware should only swing in one direction. The last sentence in this section requires the installation of a view panel in order to lessen the chance of a person being struck by the door which is being blindly pushed open from the opposite side.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Section 1008.1.2 is a clarification that pivoted and side hinged are both acceptable. The committee had concerns with new Section 1008.1.2.1. It is unclear if the 100 person occupant load is cumulative from both sides, from each side or from the total floor. The viewing panels may be privacy issue in double acting doors used in patient rooms or bathrooms. The location of the viewing panel needs to be stated so that they will achieve their purpose.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Steve Thomas, Colorado Code Consulting LLC, representing Colorado Chapter of ICC, requests Approval as Modified by this public comment.

Maureen Traxler, City of Seattle, WA, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

1008.1.2 (IFC [B] 1008.1.2) (Supp) Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

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.

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

~~**1008.1.2.1 (IFC [B] 1008.1.2.1) Double-acting doors.** Double-acting doors shall not be used as doors in a means of egress where any of the following conditions exist:~~

~~1. The occupant load served by the door is 100 or more.~~
~~2. The door is part of a fire door assembly.~~

~~3. The door is part of an opening in a smoke barrier.~~
~~4. Panic hardware is required or provided on the door.~~

~~A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 m^2).~~

Commenter's Reason: (Thomas) The committee felt that Item 1 of the proposed change was reasonable, but they did not like Item 2. This public comment keeps the language of Item 1 and deletes the language from Item 2. The original proposal added the words "of the pivoted or" to Section 1008.1.2. This would clarify that the use of pivot hinged doors provides the same action of the door swing requirements in the code.

Commenter's Reason: (Traxler) Pivoted doors are a safe and reasonable alternative to side-hinged swinging doors. The Code Development Committee's reason for disapproving this code change proposal included the statement "pivoted and side hinged doors are both acceptable." Section 1008.1.2 of the code change proposal should be approved.

Final Hearing Results

E39-07/08 AMPC

Code Change No: E41-07/08

Original Proposal

Sections: 1008.1.3.4 (IFC [B] 10081.3.4)

Proponent: John Williams, Washington State Department of Health, Construction Review Services, representing Washington Association of Building Officials, Technical Code Development Committee

Revise as follows:

1008.1.3.4 (IFC [B] 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, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, I-2, 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 (1016mmto 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.

Reason: The purpose of this code change is to clarify the intent of the current code. Healthcare facilities are being asked by the Department of Homeland Security to "harden their facilities" and plan for biological, radiological or epidemic disasters. Hospitals need to control access into their facilities by funneling the arriving public through a planned triage point, such as an emergency department. Without this control, infected or contaminated persons could enter at various unsecured points and spread contamination throughout the building as they made their way to the emergency room. Access control systems, such as the one described in section 1008.1.3.4, can be used to mitigate this circumstance. However, this section does not list these systems as allowable in I-2 occupancies. This is overly restrictive and inconsistent with other sections of this code.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal to add Group I-2 to allow access controlled egress doors allows for improved security in hospital areas, such as at the entrance to a maternity ward. This type of lock is already being used throughout Group I-2 facilities.

Assembly Action: **None**

Final Hearing Results

E41-07/08 **AS**

Code Change No: E45-07/08

Original Proposal

Sections: 1008.1.8.4, (IFC [B] 1008.1.8.4)

Proponent: Thomas W. Hanson AIA, The Boeing Company

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

Reason: The purpose of this proposal is to provide for the expanded use of manually operated edge- or surface-mounted bolts under specified conditions. The movement of equipment and computer racks within Group B, F and S occupancies is a commonplace operation that often requires more width than is provided by a standard 3'-0" door. The currently required hardware on additional door leafs can be complicated to specify and problematic to maintain as the operational requirements are different for doors accommodating equipment as opposed to occupants during egress. A number of compensatory measures have been offered in this proposed exception so as to minimize the risk to the occupants of such spaces. There is generally a high degree of occupant familiarity with such special use rooms in Group B, F and S occupancies. The provision that means of egress width requirements be satisfied by the operating leaf ensures that occupants have a fully complying door available for means of egress purposes. Also, the requirement that the inactive leaf contain no operating hardware addresses occupant conditioning. The presence of operating hardware provides an expectation to building occupants. Where no such hardware exists, occupants will naturally approach the active leaf having the appropriate hardware. The additional requirement that the building be equipped throughout with an approved automatic sprinkler system provides for fire suppression throughout the building and further enhances overall occupant safety. Approval of this additional exception will increase building functionality while maintaining a very high degree of occupant safety.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies when surface bolts can be used on non-active leafs of doors. The inactive leaf is not needed for means of egress and the no hardware requirement will make sure this is not considered part of the door. The automatic fire suppression system provides additional compensation. This proposal may need to be expanded to other occupancies such as Group A or M.

Assembly Action: **None**

Final Hearing Results

E45-07/08 **AS**

Code Change No: E46-07/08

Original Proposal

Sections: 1008.1.8.4, (IFC [B] 1008.1.8.4)

Proponent: Thomas W. Hanson, AIA, The Boeing Company

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

Reason: The purpose of this proposal is to provide for the expanded use of manually operated edge- or surface-mounted bolts under specified conditions. Inasmuch as a single 3'-0" door will accommodate an occupant load in excess of 200 persons, if a relatively small space in a Group B, F or S occupancy is equipped with a pair of doors, it is highly likely that such increased width is necessary for the movement of process related equipment or supplies. Automatic surface mounted flush bolts and removable door center posts are easily damaged and difficult to maintain in such areas of frequent equipment movement. A number of compensatory measures have been offered in this proposal so as to minimize the risk to the occupants of such spaces. There is generally a high degree of occupant familiarity with such special use rooms in Group B, F and S occupancies. Placing a less than 50 person occupant load limitation on the area served by the pair of doors greatly increases occupant awareness and decreases competition for the exit or exit access door. Also, the requirement that the inactive leaf contain no operating hardware addresses occupant conditioning. The presence of operating hardware provides an expectation to building occupants. Where no such hardware exists, occupants will naturally approach the active leaf having the appropriate hardware. Approval of this additional exception will increase building functionality while maintaining a very high degree of occupant safety.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal allows design flexibility and functionality. The 50 person limit provides for an additional level of safety. The inactive leaf is not needed for means of egress and the no hardware requirement will make sure this is not considered part of the door. This proposal may need to be expanded to other occupancies such as Group A or M.

Assembly Action: **None**

Final Hearing Results

F46-07/08 **AS**

Code Change No: E47-07/08

Original Proposal

Sections: 1008.1.8.4 (IFC [B] 1008.1.8.4)

Proponent: Bruce Ugelstad, NCARB, MeritCare Health System

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serve patient care rooms in a Group I-2 occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.

Reason: The American society has increasingly become overweight creating the need to care for increasingly more bariatric hospital patients. The movement of morbidly obese patients on bariatric beds through 4' wide doors is a difficult process at best. Providing a pair of doors with a typically fixed inactive leaf except during the movement of the patient would greatly improve the situation. With the active leaf of the door typically open for the monitoring of the patient by the nursing staff, automatic flush bolts would not keep the inactive leaf latched in the closed position as preferred.

Allowing hospital patient care room inactive leaf doors to be equip with standard flush bolts will:

A) Improve the quality of care to hospital patients allowing smooth and easy transport of patients to and from rooms without moving the patient to a transport cart and providing adequate opening size allowing minimal incidence of jarring when the bed bumps the door or wall.

B) Reduce the risk of injury to medical staff by reducing the need to move (lift) the patient on and off of transport carts.

Section 407.3.1 Corridor doors – Code currently indicates that patient room doors "…shall not have a required fire protection rating and shall not be required to be equipped with self closing or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching." Hospital patient room doors are recognized as unique with staff trained to close doors during an alarm situation.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: While the need for this allowance is understood, there are some problems with the proposed language. The language needs to be expanded to say that no hardware is permitted on the door so that it is not perceived as a door. A needed clarification is that the remaining door leaf must meet the egress width of 41-1/2" inches. Language similar to what was approved for E45 and E46 may provide guidance.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bruce Ugelstad, NCARB, MeritCare Health System, requests Approval as Modified by this Public Comment.

Douglas S. Erickson, FASHE, CHFM, HFDP, American Society for Healthcare Engineering, requests As Modified by this public comment.

Modify proposal as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves patient care rooms in a Group I-2 occupancy, ~~manually operated~~ self-latching edge- or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

Commenter's Reason: (Ugelsted) The modified code change proposal will satisfy a real need of medical staff and will not compromise safety to patients and building occupants. The modification changed manual latching device to a self latching hardware device. This hardware type is manufactured by Ives FB61T "Constant latch", Hager 294D 'Self latching", DCI 905 "Self Latching". The function of self latching hardware is to provide a latch and strike at the top of the door and frame, so that when the door is pushed against the stop, the door will latch.

In Palm Springs, the following concerns were raised:

1) Manual latching would require excessive time to secure the inactive leaf during an emergency.
   Response: The self latching bolt will secure when closed reducing the time required securing the door leaf.
2) The inactive leaf should not be considered as required egress width and should not be equip with door knobs, panic bars or similar operating hardware.
   Response: The added wording "provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware." will address this concern.

Commenter's Reason: (Erickson) I am writing in support of the proposed code change being presented by Mr. Bruce Ugelstad, MeritCare Health System. The issue he is representing, needing to increase the typical door opening to a patient room, is a global problem facing the heath care industry, as more of our patients are morbidly obese.

For over a century, the 44" or 48" patient room door has been adequate to permit the efficient transfer of patients to and from their rooms. Over this past decade however, we are struggling with the size of the patient door opening, as the equipment has gotten larger in order to support the increase size and weight of the patient. The purpose for increasing the size of this opening is not for life safety in an emergency, as the typical methods of transporting these patients from their room in an emergency have not changed. The purpose of this proposed change is to assist staff in easily moving equipment and patients to and from their rooms on a daily basis without damaging the doors or injuring themselves by trying to tilt or lift equipment to fit through the opening.

Mr. Ugelstad explains this situation very well in his proposed change. One thing that needs to be added to his substantiation, is that these are not Bariatric patient rooms where the patient is large enough to mandate larger patient room door openings for life safety and evacuation purposes.

Our membership is very interested in the work of the ICC and we stand ready to assist in any manner you and the organization see as appropriate.

Final Hearing Results

E47-07/08 **AMPC**

Code Change No: E48-07/08

Original Proposal

Sections: 1008.1.8.5.1 (New) [IFC [B] 1008.1.8.5.1 (New)]

Proponent: Tom Lariviere, Madison Fire Department, representing Joint Fire Service Review Committee

Add new text as follows:

1008.1.8.5.1. (IFC [B] 1008.1.8.5.1) Closet and bathroom doors in Group R-4 Occupancies. In Group R-4 occupancies, closet doors that latch in the closed position shall be openable from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

Reason: This proposal will require that doors to closets must be openable from the inside. This will provide the ability for someone to exit the closet if they were to get closed into the closet.

Additionally, the bathroom doors must be able to be unlocked from the outside of the bathroom when the door is locked from the inside. This will allow for the door to still be locked when the bathroom is in use, but staff can open the bathroom door when someone is inside and needs assistance.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The committee approved the special locking arrangements for closets and bathrooms in Group R-4 because it was needed for safety of the individuals. The MOE committee disapproved a similar proposal for Group I-1 patient rooms and bathrooms in G81-06/07. The committee would like to see these requirements coordinated to address the concerns for the occupants in these similar types of facilities.

Assembly Action: **None**

Final Hearing Results

E48-07/08 **AS**

Code Change No: E51-07/08

Original Proposal

Sections: 1008.1.8.6 (New) [IFC [B] 1008.1.8.6 (New)]

Proponent: John Williams, Construction Review Services, Washington State Department of Health, Emory Rogers, Virginia Department of Housing and Community Development, John Neff City of Lacey, WA, representing Washington State Building Code Council

Add new text as follows:

1008.1.8.6 (IFC [B] 1008.1.8.6) Special locking arrangements in Group I-2. Where the clinical needs of patients require the restraint of movement, locks shall be permitted on doors within the means of egress, provided that:

1. The building is equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and an approved automatic fire alarm system in accordance with Section 907.
2. The doors unlock upon actuation of the automatic fire alarm system, or, upon the loss of power to the lock or lock mechanism.
3. The doors are capable of being unlocked by a signal from a switch at a nurse station or other approved location.
4. An electronic device, such as a keypad and code, is provided adjacent to each door equipped with a lock. Such device shall deactivate the door locking mechanism and permit operation of the door. Instructions for exiting shall be posted within six feet of the door.
5. All clinical staff shall have the codes or other means necessary to operate the device in Item #4.

Reason: This change provides a much needed option for facilities that house dementia and Alzheimer's patients. There is a reoccurring issue with elopement of dementia patients. Facilities that house these patients face significant challenges in maintaining a safe and secure environment for these patient types within the framework of the building code. The States of Washington and Virginia have amended the building code with similar special provisions for dementia control. The conditions that allow this special locking arrangement provide a measured approach to life safety, similar to delayed egress. We use this as a practical solution to a real world problem.

There were three proposals last cycle that dealt with this concept, all were defeated by the committee. Two changes were turned down in favor of a third amendment (G83-06/07) that was almost identical to this one. The committee turned down G83-06/07 due to concerns that patients would learn to pull the fire alarm to get out of the building. An existing exception to IBC 907.2.6 allows the fire alarm pulls to be located at nurse stations and other constantly staff attended locations, which mitigates this concern.

To address other committee concerns: We believe that while there may be occupancies that may house these types of patients, it is clear that Group I-2 definitely houses these patients. The purpose of this change is targeted towards a verifiable condition. The committee preferred the language "clinical staff" as opposed to "all staff". This change has been made

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proponent requested disapproval based on the committee actions to E44-07/08 and E49-07/08. They intend to work with the Code Technologies Committee Care Facility task group to address this issue.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Paul K. Heilstedt, PE, FAIA, Chair, representing ICC Code Technology Committee (CTC) requests Approval as Modified by this public comment.

Replace proposal as follows:

1008.1.8.6 (IFC [B] 1008.1.8.6) Special locking arrangements in Group I-2. Approved delayed egress locks shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. Delayed egress locks shall be permitted in such occupancies where the building is 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, a nursing station or other approved location.
4. The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the *International Fire Code*.
5. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
6. Emergency lighting shall be provided at the door.

Exception: Items 1 through 3 shall not apply to doors to areas where persons which because of clinical needs require restraint or containment as part of the function of a mental hospital.

[Renumber subsequent sections]

Commenter's Reason: As noted in the reason for disapproval, the proponent recognized that this issue falls within the scope of the CTC area of study entitled "Care Facilities". The CTC care facility study group invited the interested stakeholders to discuss how best to address locking arrangements necessary to both balance the needs of the facility as well as the life safety of the occupants. The proposed revisions are fundamentally based on the current provisions of Section 1008.1.8.6, with the exception of items 4 and 5 which have been replaced by items 4, 5 and 6.

Items 4 and 5 in current Section 1008.1.8.6 require an audible signal to be initiated in the event of the delayed egress lock being activated. This is reasonable for occupancy Groups A, E and H, however, there are special considerations necessary where the occupants are in different environments in Group I-2 hospitals. Such audible signals are considered as nuisance alarms in areas where the patients are under a form of restraint and as such they have been replaced by items 4, 5, and 6 which provides a reasonable mechanism to monitor and allow the unlocking system to be activated.

Hospitals which contain patients with mental disabilities present even more of a challenge in that they need to be restrained and/or contained for their own safety. For these occupancies, it is imperative that the level of restraint be maintained even if the fire protection systems are activated. However, in order to provide the necessary life safety features which would allow for such patients to be evacuated, the emergency planning and preparedness plan must be developed to allow for such evacuation (Item 5) and the clinical staff have the ability to monitor and enable the evacuation (Item 6).

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. Since its inception in Aprril/2005, the CTC has held fifteen meetings - all open to the public. This public comment is a result of the CTC's investigation of the area of study entitled "Care Facilities". The CTC web page for this area of study is: http://www.iccsafe.org/cs/cc/ctc/care.html

Final Hearing Results

E51-07/08 **AMPC1**

Code Change No: E52-07/08

Original Proposal

Sections: 1008.1.8.8 (New) [IFC [B] 1008.1.8.8 (New)]

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new text as follows:

1008.1.8.8 (IFC [B] 1008.1.8.8) Locking arrangements in correctional facilities. In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked when equipped with egress control devices which shall unlock manually and by at least one of the following means:

1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1,
2. Activation of an approved manual alarm box, or
3. A signal from a constantly attended location.

Reason: This section permits the locking of means of egress doors in areas within penal facilities that contain occupancies in Use Groups A-2, A-3, A-4, B, E, F, I-2, M and S, which are occupied by persons who must be restrained for security reasons. In Section 410.2, the code provides for locking of doors in the means of egress in mixed occupancies containing a Group I-3 use area. Correctional and detention facilities, however, often are a complex of buildings that do not necessarily have a Group I-3 classification in each building, but one which still require high levels of security throughout. This section is intended to regulate those areas. All locking devices must be capable of manual unlocking by at least one of the egress control devices specified. Such arrangements are deemed satisfactory to permit prompt egress for the building occupants because correctional and detention facilities are ordinarily continuously staffed with trained personnel. Further, the provisions for backup by activation of an automatic sprinkler system, activation of an approved manual alarm box, or unlocking from a constantly attended location, provide additional life safety measures. Note that in order to utilize this section, an automatic sprinkler system or manual alarm system is not required to be provided.

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

Analysis: A concern may be if this could be considered to conflict with Section 1008.1.8.3 Item 1.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The requirements in Chapter 4 for Group I-3 do not address a campus type setting. The proposed language fills that void.

Assembly Action: **None**

Final Hearing Results

E52-07/08 **AS**

Code Change No: E53-07/08

Original Proposal

Sections: 1008.1.9, 1008.1.9.1 (New), 1008.1.9.2 (New) [IFC [B] 1008.1.9, [B] 1008.1.9.1 (New), [B] 1008.1.9.2 (New)]

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

Revise as follows:

1008.1.9 (IFC [B]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.

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 or exit access doors shall be equipped with panic hardware ~~and~~ or fire exit hardware. The doors shall swing in the direction of egress travel.

1008.1.9.1 (IFC [B] 1008.1.9.1) Installation. Where panic or 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; and
2. The maximum unlatching force shall not exceed 15 pounds (67 N)

1008.1.9.2 (IFC [B] 1008.1.9.2) Balanced doors. 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: Section 1008.1.9 intends to require panic hardware or fire exit hardware under certain conditions, then, specify requirements for their installation including maximum unlatching forces. The current language, however, specifies the installation requirements prior to establishing when panic hardware or fire exit hardware is required. The proposal rearranges the language by stating when panic or fire exit hardware is required, then, stating their installation requirements.

Section 715.4 on fire door and shutter assemblies requires compliance with NFPA 80 and Section 6.4.4.1 of NFPA 80-07 effectively limits locks and latches on fire doors to labeled locks and latches and labeled fire exit hardware. Thus, panic hardware is prohibited on fire doors. Panic hardware and fire exit hardware are permitted to meet the requirements of Section 1008.1.9 on nonrated means of egress doors but only fire exit hardware is permitted to meet the same requirements on means of egress doors that are also fire doors. Based on this, the proposal adds fire exit hardware as an option to the requirement for panic hardware at electrical rooms.

The other changes are primarily editorial and to better correlate Section 1008.1.9 with the other provisions of Chapter 10. "Must" is changed to "shall" to eliminate nonmandatory language. "Exit access doors" is changed to "exit or exit access doors" so that means of egress doors in the exit are not excluded from the applicable requirements and to better correlate with the provisions of Section 1015 on exit and exit access doorways. A means of egress door from an electrical room could be an exit door as readily as an exit access door. "Egress" is changed to "egress travel" to correlate with similar language in Section 1008.1.2 on door swing.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the difference between panic and fire exit hardware. Fire exit hardware is panic listed for fire door assemblies. This coordinates with NFPA 80. The reorganization puts scoping before technical requirements which makes more sense.

Assembly Action: **None**

Final Hearing Results

F53-07/08 **AS**

Code Change No: E54-07/08

Original Proposal

Sections: 1008.1.9, Chapter 35 (New) (IFC [B] 1008.19, Chapter 45 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305.
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305.

~~1.~~3. 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.

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 shall be equipped with panic hardware and doors shall 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 then one-half the width of the door measured from the latch side.

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

Underwriters Laboratories

305-07 Panic Hardware

Reason: This proposal is intended to simplify code enforcement related to approval of panic hardware by requiring it to be listed in accordance with UL 305. For many years panic and fire exit hardware has been listed in accordance with this standard, and over 60 companies have their panic hardware listed and over 40 companies have their fire exit hardware listed.

UL 305 includes a comprehensive set of construction and performance requirements that verify that this important life safety product operates as intended. This includes endurance, emergency operation, elevated ambient exposure, and low temperature impact tests.

The standard currently includes a requirement for the release mechanism to be constructed so that a horizontal force of 15 pounds (66 N) or less will actuate the actuating bar and latches when the door is latched. This requirement (item 2) is being deleted from the body of the code since the listed panic hardware has already been investigated to verify it already meets this criteria.

ANSI/UL 305 is an ANSI approved standard.

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

Analysis: A review of the standard proposed for inclusion in the code, UL 305-07, for compliance with ICC criteria for referenced standards given in Section 3.6. of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard UL-305 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action: **Approved as Modified**

Modify the proposal as follows. Maintain current Exception 2 as new Exception 4.

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305.
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305.
3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
4. 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.

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 shall be equipped with panic hardware and doors shall 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 then one-half the width of the door measured from the latch side.

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification to keep the current Exception 2 for the 15 pounds force should be maintained in the code for several reasons. If UL305 is revised, the building code would still control the force required for panic hardware. The code official may not have a copy of UL305. The International Fire Code is partially a maintenance code, so they need the pounds force in the text. Putting the UL 305 specification into the code provides good guidance in the code for panic hardware requirements. See E53-07/08 for reorganization of this section.

Assembly Action: **None**

Final Hearing Results

E54-07/08 **AM**

Code Change No: E55-07/08

Original Proposal

Sections: 1008.1.9 (IFC [B] 1008.1.9)

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

Revise as follows:

1008.1.9 (IFC [B] 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~~ serving a Group A or E occupancy ~~having~~ with an occupant load of 50 or more ~~and any~~ or a Group H occupancy 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 shall be equipped with panic hardware and doors shall 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 then one-half the width of the door measured from the latch side.

Reason: For Group A and E occupancies, the current language limits the requirement for panic hardware or fire exit hardware to means of egress from the occupancy, thus, exempting the means of egress within the Group A or E occupancy from the requirement. This is not the intent and the proposal corrects this oversight.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language clarifies that panic hardware is required at intervening doors as well as doors leading from spaces.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.

Modify proposal as follows:

1008.1.9 (IFC [B] 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 serving a Group A or E occupancy with an occupant load of 50 or more or a Group H occupancy~~ Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock unless it is panic 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 shall be equipped with panic hardware and doors shall 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 then one-half the width of the door measured from the latch side.

Commenter's Reason: The intent of Public Comment is an editorial improvement. As approved by the committee, the section would require that all doors in an A or E occupancy over 50 would need panic hardware. This would include rooms within the A or E occupancy that individually have less than 50 occupants. The revision changes it to requiring panic hardware where the room or space has 50 occupants. It retains the original proponents "serving' so that it is the whole chain of doors from the space to the exit.

Final Hearing Results

E55-07/08 **AMPC**

Code Change No: E57-07/08

Original Proposal

Sections: 1009.2 (IFC [B] 1009.2); IRC R311.5.2

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Revise as follows:

1009.2 (IFC [B] 1009.2) Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing that is available for placement of the foot in ascent or descent.

Exceptions:

1. Spiral stairways complying with Section 1009.8 are permitted a 78-inch (1981 mm) headroom clearance.
2. 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 edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.

PART II – IRC BUILDING AND ENERGY

Revise as follows:

R311.5.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2036 mm) measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway that is available for placement of the foot in ascent or descent.

Exception: The edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.

Reason: Part I- IBC -This is a required change to assure consistent code enforcement and compliance and eliminate the possibility of entrapment. The change to the charging paragraph supports current enforcement policies around the country and more clearly states the intent of the code. Headroom is simply not required where you cannot walk. The code currently allows extending the line of measurement beyond the limit of the "walkable" surface causing legal issues in court interpretations and provides no additional level of safety for the user. Nosings of treads on open stairs most often over lap the supporting wall and stringer below. This supporting wall is placed under the opening above in alignment with the edge of the opening below (see diagram 1) and in the strictest sense of the code as worded now would trigger a headroom violation as successive treads approached the ceiling of the floor above.

The reason for the exception is best illustrated in the photographs attached. The reasons for the exception are also soundly rooted in the most common current application of the code. This necessary alignment of the walls in relation to the edge of the floor openings is understood and not interpreted as a headroom violation in most jurisdications. There is currently no limit however to the effective projection that is being allowed. Moving the handrails or guards in onto the stairs narrows the exit path unnecessarily without eliminating the current codes literal headroom violation and can create an undesired climbable surface beyond the guard. This code change puts the necessary limits in place and provides an additional level of safety by:

1. Standardizing the most commonly understood current enforcement policies for headroom.
2. Addressing needed prevention of entrapment of an appendage or object being carried in ascent in the narrowing space that is formed when an angled guard or handrail approaches intersection with the ceiling of the next floor or level above. (See photos 1 & 2)
3. Recognizing the standard methods of construction used in the placement and framing of supporting walls and floor systems associated with the perimeter of the openings for stairways. (See diagrams1) In particular it specifies a maximum projection into the headroom space that is based upon the required attachment of a guard/handrail system to the face of a supporting wall sitting solidly on the floor system and limits it to the nominal width of a finished 2 x 4 wall.
4. Allowing the currently accepted methods to transfer stairway loads to the surrounding structure and space saving stacking of stairs and landings in wells without adding juxtaposition support walls that would narrow the stairwells below if the edge of the stair and supporting wall were moved from under the opening above.
5. Allowing the guards and handrails to be positioned such as to widen the stairway in descent, the most common egress direction. (See photos 1 & 2)
6. Allowing the secure attachment of the end of guard/handrail systems providing for the required transfer of loads to the structure.

Part II-IRC: This is a required change to assure consistent code enforcement and compliance and eliminate the possibility of entrapment. The change to the charging paragraph supports current enforcement policies around the country and more clearly states the intent of the code. Headroom is simply not required where you cannot walk. The code currently allows extending the plane of measurement beyond the limit of the "walkable" surface causing legal issues in court interpretations and provides no additional level of safety for the user. Nosings of treads on open stairs most often over lap the supporting wall and stringer below. This supporting wall is placed under the opening above in alignment with the edge of the opening below (see diagram 1) and in the strictest sense of the code as worded now would trigger a headroom violation as successive treads approached the ceiling of the floor above.

The reason for the exception is best illustrated in the photographs attached. The reasons for the exception are also soundly rooted in the most common current application of the code. This necessary alignment of the walls in relation to the edge of the floor openings is understood and not interpreted as a headroom violation. There is currently no limit however to the effective projection that is being allowed. Moving the handrails or guards in onto the stairs narrows the exit path unnecessarily without eliminating the current codes literal headroom violation and can create an undesired climbable surface beyond the guard. This code change puts the necessary limits in place and provides an additional level of safety by:

1. Standardizing the most commonly understood current enforcement policies for headroom.
2. Addressing needed prevention of entrapment of an appendage or object being carried in ascent in the narrowing space that is formed when an angled guard or handrail approaches intersection with the ceiling of the next floor or level above. (See photos 1 & 2)
3. Recognizing the standard methods of construction used in the placement and framing of supporting walls and floor systems associated with the perimeter of the openings for stairways. (See diagram1) In particular it specifies a maximum projection into the headroom space that is based upon the required attachment of a guard/handrail system to the face of a supporting wall sitting solidly on the floor system and limits it to the nominal width of a finished 2 x 4 wall.
4. Allowing the currently accepted methods to transfer stairway loads to the surrounding structure and space saving stacking of stairs and landings in wells without adding juxtaposition support walls that would narrow the stairwells below if the edge of the stair and supporting wall were moved from under the opening above.
5. Allowing the guards and handrails to be positioned such as to widen the stairway in descent, the most common egress direction. (See photos 1 & 2)
6. Allowing the secure attachment of the end of guard/handrail systems providing for the required transfer of loads to the structure.

Photo 1

Photo 2

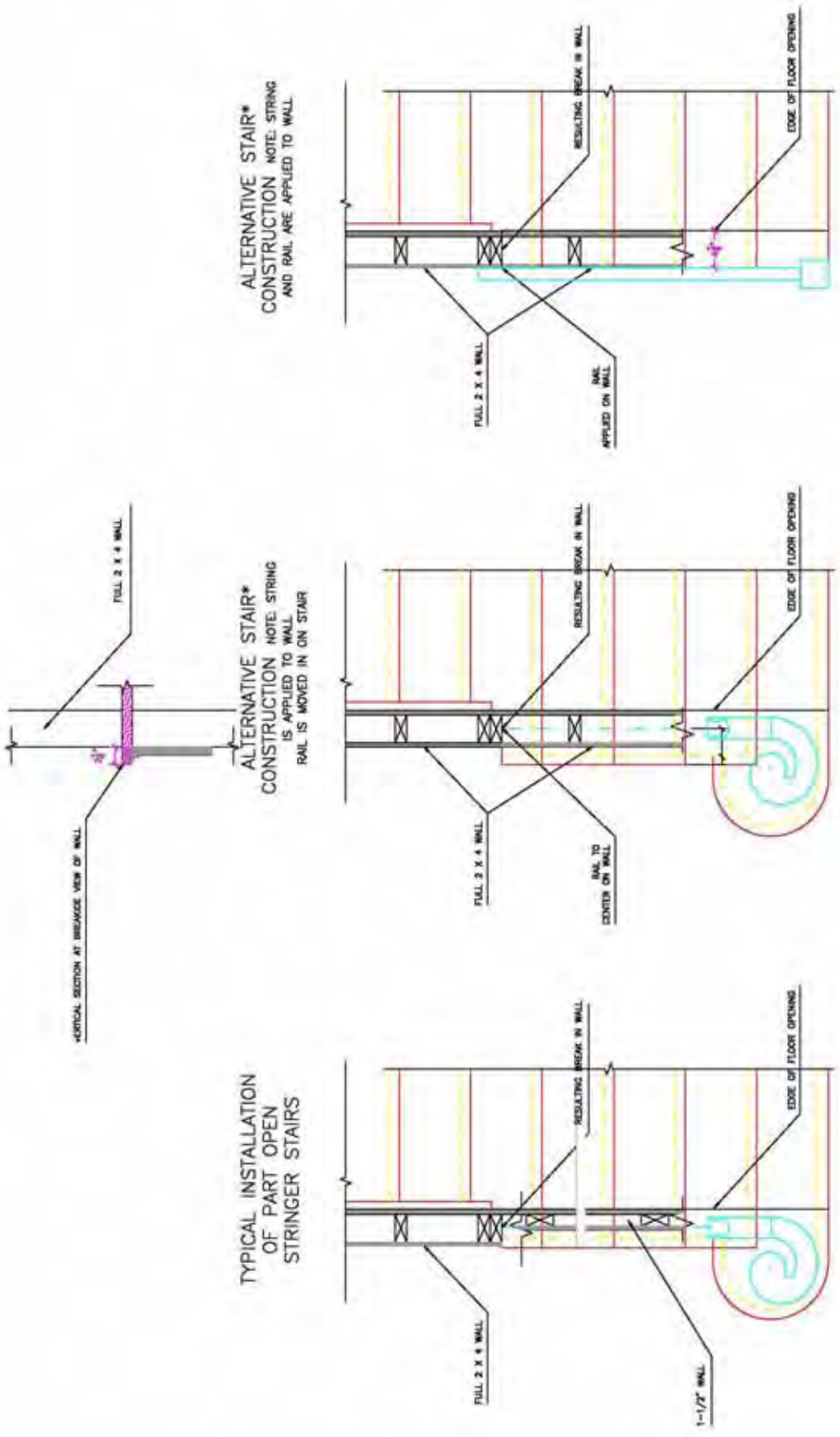


Diagram 1 – TYPICAL WALL SECTIONS AT STAIRS IN PLAN VIEW

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS
Committee Action: **Disapproved**

Committee Reason: The proposed language is ambiguous. Indicating that the minimum clearance is required for the full length of the stairway would be clearer.

Assembly Action: **None**

PART II – IRC-B/E
Committee Action: **Approved as Submitted**

Committee Reason: The proposal adds clarity on how to measure headroom in relation to stairways in relation to established walk lines. Further, the committee supported the new exception that provides a new method for addressing guards and railings on open sides of stairways.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify Part I of proposal as follows:

1009.2 (IFC [B] 1009.2) Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing ~~that is available for placement of the foot in ascent or descent.~~

Exceptions:

1. Spiral stairways complying with Section 1009.8 are permitted a 78-inch (1981 mm) headroom clearance.
2. 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 edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.~~ Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm).

Commenter's Reason – Part I: The modification addresses the committees concerns and clarifies the intent of the exception by removing language that could be incorporated in the handrail and guard sections in the next cycle. The need for this residential exception is well illustrated in the photos offered with the original proposal. This is a common situation in residential construction that allows the guard to terminate securely in the end of a wall at the side of a well opening for a stair. The modification clearly reflects the most commonly accepted interpretation of headroom compliance when a flight of stairs widens at the bottom and the nosings extend under the ceiling above beyond the upper stair width. The proposal further improves the code by and limiting the projection to no more than 4¾ inches, the width of a finished 2 X 4 wall. Approval as modified would support the action taken by the IRC committee.

This item is on the agenda for individual consideration because a public comment was submitted for Part II.

Public Comment:

David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify Part II of proposal as follows:

R311.5.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2036 mm) measured vertically from the sloped ~~plane~~ line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway ~~that is available for placement of the foot in ascent or descent~~.

Exception:~~The edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.~~ Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm)

Commenter's Reason – Part II: The committee approved the original proposal but asked that we clarify the original language submitted by public comment. The modification addresses the committees concerns and clarifies the intent of the exception by separtating language that can be incorporated in the handrail and guard sections in the next cycle. The need for this residential exception is well illustrated in the photos offered with the original proposal. This is a common situation in residential construction that allows the guard to terminate securely in the end of a wall at the side of a well opening for a stair. The modification clearly reflects the most commonly accepted interpretation of headroom compliance when a flight of stairs widens at the bottom and the nosings extend under the ceiling above beyond the upper stair width. The proposal further improves the code by limiting the projection to no more than 4¾ inches, the width of a finished 2 X 4 wall.

Final Hearing Results

E57-07/08, Part I	**AMPC**
E57-07/08, Part II	**AMPC**

Code Change No: E58-07/08

Original Proposal

Sections: 1009.3, 1009.3.2 (IFC [B] 1009.3, 1009.3.2); IRC R311.5.2.3 (New), R311.5.3.2

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Add new text as follows:

1009.3 (IFC [B] 1009.3) Walk line. The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.

Revise as follows:

~~**1009.3 (IFC [B] 1009.3)**~~ **1009.4 (IFC [B] 1009.4) 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. Rectangular tread depths shall be 11 inches (279 mm) minimum ~~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 between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line ~~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 used for placement of the foot ascent or descent 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.

~~**1009.3.1 (IFC [B] 1009.3.1)**~~ **1009.4.1 (IFC [B] 1009.4.1) Winder treads.** (No change to text)

~~**1009.3.2 (IFC [B] 1009.3.2)**~~ **1009.4.2 (IFC [B] 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 tread depth shall not exceed 0.375 inch (9.5 mm) in any flight of stairs. The 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:

1. 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 publicway, 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).

~~**1009.3.3 (IFC [B] 1009.3.3)**~~ **1009.4.3 (IFC [B] 1009.4.3) Profile.** (No change to text)

PART II – IRC BUILDING AND ENERGY

Revise as follows:

R311.5.2.3 Walk line. The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.

R311.5.3.2 Tread depth. The minimum tread depth shall be 10 inches (254 mm). 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. The greatest 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 between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line ~~as above at a point 12 inches (305 mm) from the side where the treads are narrower~~. Winder treads shall have a minimum tread depth used for placement of the foot in ascent or descent of 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 by more than 3/8 inch (9.5 mm).

Reason: PART I – IBC

Need for Improvement:

Current regulation of the placement of the walk line varies for lack of a specific point from which to measure. The tread depth measured at the walk line therefore varies from one enforcement jurisdiction to another sometimes even within a jurisdiction. The complications of varying

interpretations of this part of the code have lead to costly hearings and appeals for variances. The industry needs a standard as do code officials but more importantly the people walking these stairs need a standard as well that will provide consistency in the built environment. In this effort the Stairway Manufacturers' Association has offered several proposals over the years that have met with an agreement by the committees involved that *a standard is needed* but with certain objections. Each proposal in succession has improved utilizing the critical direction obtained from the committees in the code development process and in meetings with code officials around the country.

Separate Section on Walk Line is Needed:

The walk line is a critical element of stair design just as are width, headroom, rise and run. The separation of this element draws attention to the need to meet this requirement in the planning stage rather than being buried within the code. This allows for further specifics for location and simplification of the subsequent sections relative to tread depth. Finally although the term walk line has been used for years with in the code text on tread depth, this section offers a clear understanding.

What is the "Walk Line":

The walk line is related to the person's position *when walking on the stair* and is that line which the inside foot follows when *walking on a stair* and therefore this proposal states that the walk line shall be established based only on that portion of the treads in a flight that can be walked on. Any portion of a tread that cannot be walked on does not require regulation by this section. The extension of the tread or its size beyond the "walk-able" area, whether for structural attachment or decorative purpose, is not necessary to the regulation of tread depth for the safety of the user.

Ease of enforcement:

In this proposal the location of the walk line is simply determined by measuring onto the tread at the front of each tread from the point of minimum tread depth because the walk line is defined as being parallel to the side of the flight. This represents no change in the common practice to measure at the leading edge or nosing of the tread and no longer will require a square across the tread depth to accurately determine the winder tread depth at the walk line.

Simplification of the IBC Tread Related Sections:

No changes in any of the specified dimensions are being made. The first change is to only move the tread depth requirement to allow the riser requirements to appear together. The word "rectangular" used in exception 2 of the dimensional uniformity exception has been added to clarify. The way in which the winder treads will be measured is changed to match the way they are laid out to be uniform. This does not affect typical two or three winder layouts that are typically much deeper than the rectangular treads they are paired with in a flight and more closely reflects the foot positions in both ascent and descent as a person turns while walking on the stair. At the same time this allows for an easier method of accurately measuring the tread depth without the use of a square across the depth of the winder tread. The minimum winder tread depth is now clarified by reflecting the most common enforcement convention and is to be measured on that portion of the stair-walking surface that is actually used for walking as is in the new walk line section.

The Dimensional uniformity section has been edited for simplification because these terms are now clearly stated in the new walk line section.

PART II-IRC

Need for Improvement:

Current regulation of the placement of the walk line varies for lack of a specific point from which to measure. The tread depth measured at the walk line therefore varies from one enforcement jurisdiction to another sometimes even within a jurisdiction. The complications of varying interpretations of this part of the code have lead to costly hearings and appeals for variances. The industry needs a standard as do code officials but more importantly the people walking these stairs need a standard as well that will provide consistency in the built environment. In this effort the Stairway Manufacturers' Association has offered several proposals over the years that have met with an agreement by the committees involved that a standard is needed but with certain objections. Each proposal in succession has improved utilizing the critical direction obtained from the committees in the code development process and in meetings with code officials around the country.

Separate Section on Walk Line is Needed:

The walk line is a critical element of stair design just as are width, headroom, rise and run. The separation of this element draws attention to the need to meet this requirement in the planning stage rather than being buried within the code. This allows for further specifics for location and simplification of the subsequent sections relative to tread depth. Finally although the term walk line has been used for years with in the code text on tread depth, this section offers a clear understanding.

What is the "Walk Line":

The walk line is related to the person's position when walking on the stair and is that line which the inside foot follows when walking on a stair and therefore this proposal states that the walk line shall be established based only on that portion of the treads in a flight that can be walked on. Any portion of a tread that cannot be walked on does not require regulation by this section. The extension of the tread or its size beyond the "walk-able" area, whether for structural attachment or decorative purpose, is not necessary to the regulation of tread depth for the safety of the user.

Ease of enforcement:

In this proposal the location of the walk line is simply determined by measuring onto the tread at the front of each tread from the point of minimum tread depth because the walk line is defined as being parallel to the side of the flight. This represents no change in the common practice to measure at the leading edge or nosing of the tread and no longer will require a square across the tread depth to accurately determine the winder tread depth at the walk line.

Simplifications of the IRC Tread Related Sections:

No changes in any of the specified dimensions are being made. The way in which the winder treads will be measured is changed to match the way they are laid out to be uniform. This does not affect typical two or three winder layouts that are typically much deeper than the rectangular treads they are paired with in a flight and more closely reflects the foot positions in both ascent and descent as a person turns while walking on the stair. At the same time this allows for an easier method of accurately measuring the tread depth without the use of a square across the depth of the tread winder. The minimum winder tread depth is now clarified by reflecting the most common enforcement convention and is to be measured on that portion of the stair-walking surface that is actually used for walking as is in the new walk line section.

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action: **Disapproved**

Committee Reason: The committee felt that Section 1009.3 for the 'walk line' is a definition and would be better placed in Section 1002. The current way to measure the stairs has been used for years and is precise. The proposed language in Section 1009.4 would add ambiguity. The measurements proposed in Section 1009.4 does not specify which angle to which tread, so it is unclear

Assembly Action: **None**

PART II – IRC B/E
Committee Action: **Disapproved**

Committee Reason: The proposed language does not improve the current code language for stairways. The committee felt that the definition for walk line should be placed in Section 202. Further, the committee felt the language appeared to be more consistent with commentary rather than code charging text.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.3 (IFC [B] 1009.3) Walk line. ~~The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.~~ The walk line across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

1009.4 (IFC [B] 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 the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum 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 between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line and a minimum tread depth ~~used for placement of the foot ascent or descent~~ of 10 inches (254 mm) within the clear width of the stair.

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.

Commenter's Reason – Part I: The modification addresses the concerns of all the committees over several cycles of the code of a need to standardize the walk line location at winder treads. The SMA has consistently listened to their feedback for many years in an effort to address the problem. Attempts made to relate the walk line to the handrail or the guard "in fill" at the side of the stair have met with disapproval but further direction from each committee. At the CDH in Palm Springs the IBC committee gave insightful information suggesting that the walk line could be related to the width of the stair. This modification clearly states that relationship and adds further clarity.

The IRC committee had issues with the terminology "used for placement of the foot…" and that has been stricken. The new section titled walk line states clearly and specifically how to locate the walk line at winder treads where it is used to determine the tread depth of winder tread(s) that provide for turning of the stair's direction of travel. This line of travel across winders is a curved path and the walk line established for regulation must parallel it. The term concentric is used because it more accurately describes the geometry of parallel arcs or curves sharing the same center. This separate section substantiates this essential element required in the design and construction of stairs that turn. It further provides clarity for regulating its location that is not subject to the wide interpretation of the present code and thereby allows for the direct reference to walk line in subsequent sections of the code. Please also see the original supporting statement for further substantiation of these changes.

The simple steps to determine compliance are:

Locate the winder treads in the turn of the stair.

1. Locate the side of the stair where the winder treads are narrower
2. Establish the widest point of clear width of the stair at the surface of the winder or run of adjacent winders
3. Measure across the stair width 12 inches from the object that restricts the clear width at the tread surface
4. Measure tread depth between the intersections of the nosings with the walk line.

Measuring the tread depth at the intersections with the walk line provides for consistent winders that are uniform in depth at the most common path of travel.

The Figures 1, 2 & 3 Illustrate common situations in determining the walk line when walls, posts, and balusters/in-fill or combinations of each are located at winder treads. The specification works for any of these situations and assures that the walk line is located as close to the narrow end of the tread as is possible to use. By keeping the walk line closest to the narrow end it assures that the tread is as wide as necessary for safe walking within the width of the stair that is intended and available to use. The 12 inch dimension in the code was determined by measuring the location of a person on a stair while grasping a handrail and is intended to measured on that portion of the stair that can be used. Portions of winder treads not located with in the clear width of the stair do not need to be considered.

For those that wish to offer guidance on complying winder treads at the initial rough inspection it is important to note that this is no more difficult to regulate during the rough stage of inspection than is the width of the stair and probably much easier that regulating the required riser height. In fact the minimum finished clear stair width could easily be determined by marking the place on the rough winder tread where the minimum walk line depth occurs on the rough tread and measuring 12 inches from that location toward the side where the treads are narrower.

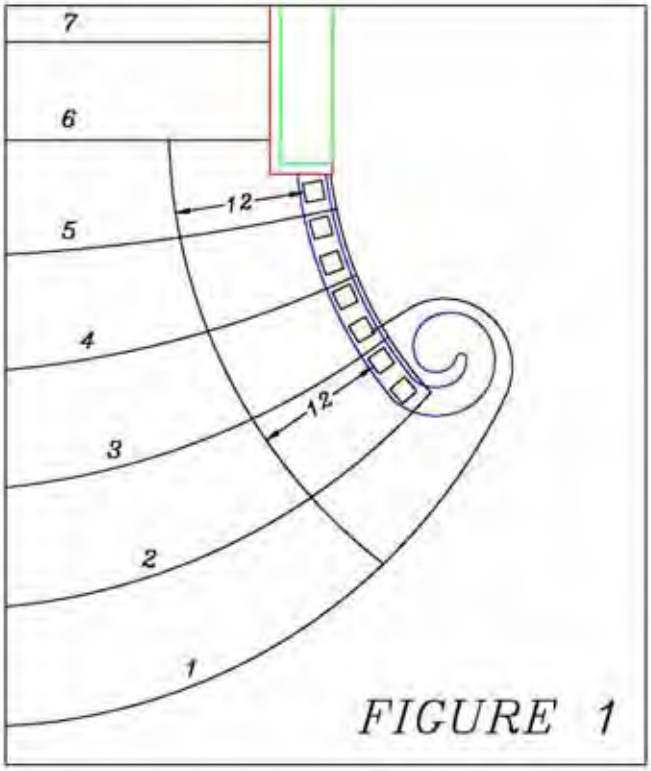


FIGURE 1

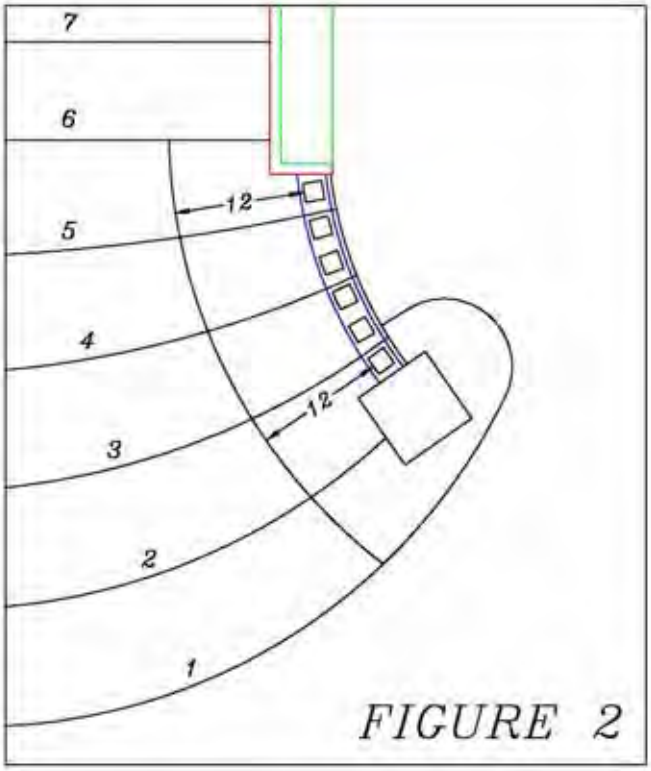


FIGURE 2

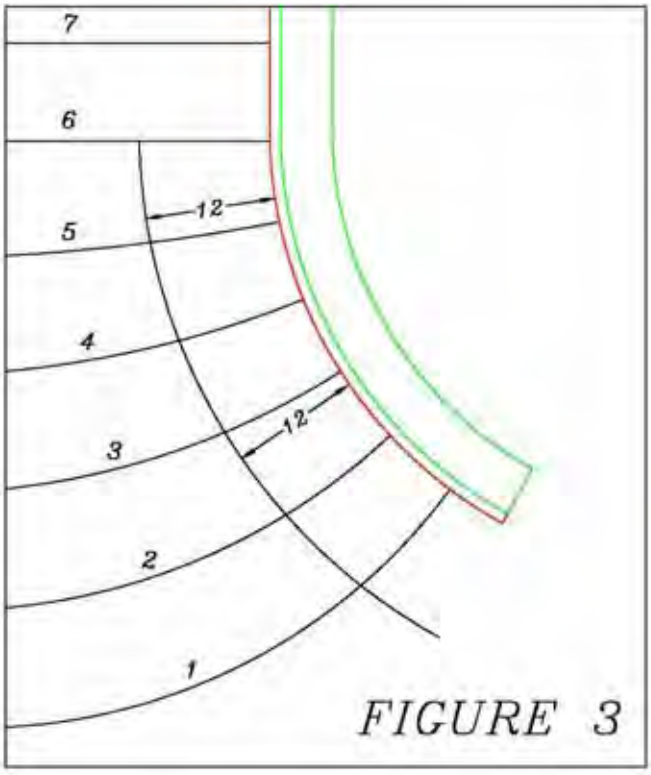


FIGURE 3

Figures 1,2, & 3 show common walk line locations as determined by the modification. The walk line, balusters, post, and tread nosings are in black. The wall is green and the skirt board or finish stringer is in red.

This item is on the agenda for individual consideration because a public comment was submitted for Part II.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

R311.5.2.3 Walk line. ~~The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.~~ The walk line across winder treads shall be concentric to the curved direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

R311.5.3.2 Tread depth. The minimum tread depth shall be 10 inches (254 mm). 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. The greatest 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 between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line. Winder treads shall have a minimum tread depth ~~used for placement of the foot ascent or descent~~ of 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walk line shall not exceed the smallest winder tread by more than 3/8 inch (9.5 mm).

Commenter's Reason – Part II: (See Part I reason and figures.)

Final Hearing Results

E58-07/08, Part I	**AMPC**
E58-07/08, Part II	**AMPC**

Code Change No: E60-07/08

Original Proposal

Sections: 1009.3, 1009.3.1 (IFC [B] 1009.3, [B] 1009.3.1); IRC R311.5.3

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Add new text as follows:

1009.3 (IFC [B] 1009.3) Stair treads and risers. Stair treads and risers shall comply with Sections 1009.3.1 through 1009.3.5.

1009.3.1 (IFC [B] 1009.3.1) Dimension reference surfaces. For the purpose of the section, all dimensions are exclusive of carpets, rugs, or runners.

2. Revise as follows:

~~**1009.3 (IFC [B] 1009.3) Stair treads and risers**~~ **1009.3.2 (IFC [B] 1009.3.2) Riser height and tread depth.** 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.

~~**1009.3.1 (IFC [B] 1009.3.1)**~~ **1009.3.3 (IFC [B] 1009.3.3) Winder treads.** (No change to text)

~~**1009.3.2 (IFC [B] 1009.3.2)**~~ **1009.3.4 (IFC [B] 1009.3.4) Dimensional uniformity.** (No change to text)

~~**1009.3.3 (IFC [B] 1009.3.3)**~~ **1009.3.5 (IFC [B] 1009.3.5) (Supp) Profile.** (No change to text)

PART II – IRC BUILDING AND ENERGY

Revise text as follows:

R311.5.3 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs, or runners.

Reason: PART I-IBC- This new section provides for accurate measurements consistent with the intent of the code by standardizing the surfaces to be measured from the dimensions currently described under **1009.3 Treads and risers**. It further makes sense out of the nosing radius and bevel dimensions in **1009.3.3 Profile** as these are not intended to be measured at a carpeted surface.

This clarification would result in more consistent interpretation and enforcement eliminating confusion. In our code seminars around the country I ask how officials determine the riser height if the stair is carpeted. Some have a standard thickness they calculate for the carpet without knowing the thickness that will be used. Others measure in consideration of the compressed thickness and still others wait to pass or fail the stairway based on measuring to the uncompressed surface of a carpet that might change after just a few months use or when it is replaced. We can't have our cake and eat it too. Court battles ensue over such widely interpreted issues that become law upon adoption and in this case should become the sole responsibility of the occupant as they change carpets, rugs, and runners.

Surfaces can easily vary 1 inch or more in thickness when uncompressed carpet and pad is inserted in the calculation of the riser height. The code requires accuracy within 3/8 of an inch and yet it provides for inconsistent measurements and enforcement. The fact is that carpeting is not regulated by the code and cannot be indiscriminately inserted based on widely varying individual interpretation.

Whether the stair is site built or prefabricated the rise of the stair is determined during the rough stage long prior to the selection of carpet for thickness. Prior to layout of the stringer you must know what thickness treads will be used and what materials will be used on the floors. The decision is made to allow the landing tread that meets the floor surface (or also called landing nosing) to be held up to accept floor coverings to abut its back edge or place it flush for carpet to wrap it such that the top riser *should always be the same height as the other stair risers within normal construction tolerances prior to the addition of carpets*. The top and bottom steps should not be controlled based on carpet because the uncontrollable addition of rugs and/or runners at the floors and landings will change at the option of the owners/occupants/residents.

Since carpeting is not controlled by the code then the dimensions of the stair should not be controlled by carpet. The code must provide a product that the end user can rely on regardless of the jurisdiction they decide to live or *walk*. We mislead ourselves if we think that the variants now allowed in measuring the rise on stairs provide for safety. We need to provide a standard the consumer can count on and *walk safely on*. This change provides the needed standard the code now lacks.

PART II-IRC-This new section provides for accurate measurements consistent with the intent of the code by standardizing the surfaces to be measured from the dimensions described under R311.5.3 Treads and risers. It further makes sense out of the nosing radius and bevel dimensions in R311.5.3.3 Profile as these are not intended to be measured at a carpeted surface.

This clarification would result in more consistent interpretation and enforcement eliminating confusion. In our code seminars around the country I ask how officials determine the riser height if the stair is carpeted. Some have a standard thickness they calculate for the carpet without knowing the thickness that will be used. Others measure in consideration of the compressed thickness and still others wait to pass or fail the stairway based on measuring to the uncompressed surface of a carpet that might change after just a few months use or when it is replaced. We can't have our cake and eat it too. Court battles ensue over such widely interpreted issues that become law upon adoption and in this case should become the sole responsibility of the occupant as they change carpets, rugs, and runners.

Surfaces can easily vary 1 inch or more in thickness when uncompressed carpet and pad is inserted in the calculation of the riser height. The code requires accuracy within 3/8 of an inch and yet it provides for inconsistent measurements and enforcement. The fact is that carpeting is not regulated by the code and cannot be indiscriminately inserted based on widely varying individual interpretation.

Whether the stair is site built or prefabricated the rise of the stair is determined during the rough stage long prior to the selection of carpet for thickness. Prior to layout of the stringer you must know what thickness treads will be used and what materials will be used on the floors. The decision is made to allow the landing tread that meets the floor surface (or also called landing nosing) to be held up to accept floor coverings to abut its back edge or place it flush for carpet to wrap it such that the top riser should always be the same height as the other stair risers within normal construction tolerances prior to the addition of carpets. The top and bottom steps should not be controlled based on carpet because the uncontrollable addition of rugs and/or runners at the floors and landings will change at the option of the residents.

Since carpeting is not controlled by the code then the dimensions of the stair should not be controlled by carpet. The code must provide a product that the end user can rely on regardless of the jurisdiction they decide to live or walk. We mislead ourselves if we think that the variants now allowed in measuring the rise on stairs provide for safety. We need to provide a standard the consumer can count on and walk safely on. This change provides the needed standard the code now lacks.

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS
Committee Action: **Disapproved**

Committee Reason: The allowance to measure riser and tread depth without consideration of the carpeting could result in stairs that exceed the tolerances between the adjoining risers and treads.

Assembly Action: **None**

PART II – IRC-B/E
Committee Action: **Approved as Submitted**

Committee Reason: The proposed language provides for accurate measurements of the stair tread and riser profiles. Further, establishing that all dimensions and surfaces are measured exclusive of carpets, rugs or runners gives the building official a clear place to measure to.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturing Association, requests Approval as Submitted.

Commenter's Reason: This issue was approved by the IRC and deserves consideration in the IBC Final Action hearing. Measuring to carpet that does not exist or is subject to changes made by occupants including the addition of mud and water absorbing carpets so commonly used in public spaces provides no level of additional safety and/or can not be regulated. Providing reference surfaces that are standardized will provide consistency through out the built environment.

Final Hearing Results

E60-07/08, Part I	**AS**
E60-07/08, Part II	**AS**

Code Change No: E62-07/08

Original Proposal

Sections: 1009.3 (IFC [B] 1009.3)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1009.3 (IFC [B] 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.
6. In Group I-3 facilities, stairways providing access to guard towers, observations stations and control rooms, not more than 250 square feet (23 m^2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

Reason: The proposed new Exception 6, applicable to Use Group I-3, allows spaces that are normally occupied by a small number of staff persons to have stairways with greater riser height and narrower tread depth than the standard 7-11 risers/tread requirements. In order to provide the 360-degree visibility and maximum mobility necessary for guard observation stations, the size of the base of such elevated stations must be kept to a minimum. Security is increased without risk to either the general public or the inmates, since access to these spaces is restricted to prison staff personnel.

This incorporates an allowance found in 1996 BOCA Building Code Section 1014.6

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The exception for Group I-3 is in recognition of the unique environment – limited occupant load with people familiar with the space. The code already allows for alternating tread devices. The proposal would allow for a safer means of access and egress.

Assembly Action: **None**

Final Hearing Results

E62-07/08 **AS**

Code Change No: E64-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: David W. Cooper, Stairway Manufacturers' Association

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (**Supp) Profile**. The radius of curvature at the leading edge of the tread shall be not greater than ~~0.5 inch (12.7 mm)~~ 9/16 inch (14.3 mm) Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and 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 (0.52 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: Risers are allowed to slope to provide for nosing projection and necessary heel clearance in descent. The present language does not control the direction in which the riser is allowed to slope. The insertion of the words "under the tread above" provides the clarification needed.

The substitution of the word nosing provides a sentence that is easier to read and understand. The term nosing is a defined term in the code and is further clarified by its use in parenthesis within the text of this section.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The 9/16" dimension recognizes actual construction with a full half round on the front of the tread on a stairway. The proposal recognizes a safety issue that needed to be addressed for riser slope.

Assembly Action: **None**

Final Hearing Results

E64-07/08 **AS**

Code Change No: E66-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (Supp) 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. <u>There are no restrictions on the size of the opening in the riser.</u>

Reason: The additional language is needed for clarification that there are no limits on openings in risers in these unique situations. Exception 2 recognizes that open risers are commonly used for stairs in occupancies such as detention facilities for practical reasons. Open risers provide a greater degree of security and supervision due to the fact that people cannot effectively conceal themselves behind the stair. There is no opening size limitation. These risers can be completely open with no restrictions.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal is appropriate for Group I-3 for areas where direct line of site is important for security reasons.

Assembly Action: **None**

Final Hearing Results

E66-07/08 **AS**

Code Change No: E67-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: Scott Crossfield, Theatre Projects Consultants, Inc., representing himself

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (Supp) 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.
3. Solid risers are not required for spiral stairways constructed in accordance with Section 1009.8.
4. Solid risers are not required for alternating tread devices constructed in accordance with Section 1009.9.

Reason: The general requirements for solid risers, 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 are necessary for these types of stairways to be constructed safely and efficiently. Sections 1009.8 for spiral stairways and Section 1009.9.2 for alternating tread device do provide specifics for tread and riser dimensions, but do not state if open risers are permitted.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The allowance for open risers on spiral and alternating tread devices is appropriate for safe construction and current practice for these types of stairways.

Assembly Action: **None**

Final Hearing Results

E67-07/08 **AS**

Code Change No: E68-07/08

Original Proposal

Sections: 1009.6 (IFC [B] 1009.6)

Proponent: Robert Bagnetto, Lapeyre Stair Inc.

Revise as follows:

1009.6 (IFC [B] 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. Alternating tread devices used as a means of egress shall not have a rise greater than 20 feet (6096mm) between floor levels or landings.

Reason: The purpose of this proposed change to IBC-2006 is to allow a maximum allowable vertical height of 20 feet for alternating tread devices used as a means of egress, without requiring an intermediate landing or platform.

The proposed change is superior to the current provisions of the code in that alternating tread devices may be used in heights up to 20 ft, without the use of an intermediate landing platform. In some instances this eliminates the need for unnecessary components; and potentially improves safety by allowing alternating tread devices to be used in areas with limited horizontal space, where otherwise the only alternative would be to use a vertical ladder.

Alternating tread devices are allowed by the code only as a means of egress to locations that are for use by maintenance/industrial workers (see listing below). Such workers are typically able to climb higher vertical distances than the general public without an intermediate landing. Sections 502 and 505 allow the use of a ladder to access equipment platforms which are also typically used by maintenance/industrial workers. Allowable heights for ladders are not addressed in IBC. OHSA regulations in 29CFR1910.27 allow ladders with cages, wells or safety devices up to 30 feet in height before a landing is required; Ladders without cages, wells or safety devices are allowed up to 20 feet in height before a landing is required. IMC section 306.5 allows ladders up to 30 feet in height without a landing. Alternating tread devices are typically not equipped with cages, wells or safety devices; however they are typically safer than a ladder as they have a larger landing area for the users' feet, side rails that act as a guard and a handrail and a shallower angle. Additionally, alternating tread devices have been shown by approximately 25 years of successful use and by the scientific study, "Performance, perceived safety and comfort of the alternating tread stair" to be an acceptable vertical access component and preferred over ships' ladders. Therefore, allowing alternating tread devices with vertical heights of 20 feet (the same vertical distance as ladders without cages, wells or safety devices) without requiring a landing is reasonable.

Allowed Alternating Tread Devices usage as a Means of Egress

410.5.3	*Gridirons of Stage Exits to scuttle in roof*
1009.9	*Mezzanines $\leq$ 250 ft^2 & $\leq$ 5 occupants in F,H & S occupancies*
1009.9	*I-3 guard towers observation stations or control rooms $\leq$ 250 ft^2*
1009.9.11	*to Unoccupied roofs*
1015.3	*Secondary means of egress to Boiler, Incinerator and Furnace rooms*
1015.3	*Secondary means of egress to Refrigeration machinery rooms*
1015.6.1	*Stage galleries, gridirons and catwalks*
1019.1.2	*Second means of egress for helistops < 60 ft long or 2,000 ft^2 in area*

Bibliography:

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder, Virginina Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

29CFR1910.27(d)(2) Fixed ladders – landing platforms

Cost Impact: The code change proposal could minimally reduce the cost of construction in some cases by eliminating the need for landings for alternating tread devices.

Analysis: There is a similar code change by Mr. Bagnetto to Section 505.5.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: An alternating tread device is not a stairway, so it should be allowed the same as a ladder. Since this is not a stairway, a landing is not required at any height, so the additional exception would provide that clarification.

Assembly Action: **None**

Final Hearing Results

E68-07/08 **AS**

Code Change No: E72-07/08

Original Proposal

Sections: 1009.9.2 (IFC [B] 1009.9.2)

Proponent: Robert Bagnetto, Lapeyre Stairs Inc.

Revise as follows:

1009.9.2 (IFC [B] 1009.9.2) Treads of alternating tread devices. Alternating tread devices shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 7 inches (178 mm) and a maximum riser height of 9.5 inches (241 mm). The projected tread depth shall be measured horizontally between the vertical planes of the foremost projections of adjacent treads. The riser height shall be measured vertically between the leading edges of adjacent treads. The combination of riser height and projected tread depth provided shall result in an alternating tread device angle that complies with Section 1002. The initial tread of the device shall begin at the same elevation as the platform, landing or floor surface.

> **Exception**: Alternating tread devices used as an element of a means of egress in buildings from a mezzanine area not more than 250 square feet (23 m^2) in area which serves not more than five occupants shall have a minimum projected tread of 8.5 inches (216 mm) with a minimum tread depth of 10.5 inches (267 mm). The rise to the next alternating tread surface should not be more than 8 inches (203 mm).

Reason: The purpose of this proposed change is to clarify the code. The code is ambiguous in that it does not specify how to measure riser height and projected tread depth of alternating tread devices.

This proposal is superior to the current provisions in the code in that it rectifies shortcomings in the code by clarifying the manner is which alternating tread device projected tread depth and riser height are measured.

IBC Section 1009.3 provides details on how to measure riser height and projected tread depth of traditional stairs. However, exception 1 of this section exempts alternating tread devices from measuring riser height and projected tread depth using the same method as for traditional stairs.

IBC Section 1009.9.2 provides the values for minimum projected tread depth and maximum riser height but does not provide the details on how to measure these features.

IBC Section 1002 defines alternating tread devices as having a series of steps between 50 and 70 degrees.

By definition, the left and right treads of alternating tread devices are each about ½ the width of the device and therefore do not overlap one another. The most reasonable method of measuring projected tread depth of alternating tread devices is using treads that are directly above and below each other (not adjacent treads which are to the side of each other and do not overlap one another.), as these are the treads that the left and right feet of the user each separately use.

Also, measuring both projected tread depth and riser height from adjacent treads would give maximum angles of *43.26 degrees* for alternating tread devices accessing mezzanines and *62.24 degrees* for alternating tread devices accessing any other area. This would conflict with section 1002 as the maximum angle of *43.26 degrees* would be below the minimum *50 degree* allowed by definition in section 1002; and the maximum angle of *62.24 degrees* would be significantly more restrictive than the *70 degree* angle allowed by section 1002. Measuring projected tread depth and riser height in accordance with this proposal would result in maximum angles of *62.02 degrees* for alternating tread devices accessing mezzanines and *75.26 degrees* for alternating tread devices accessing other areas. These angles are in the range of *50 to 70 degrees* as required by the definition of alternating tread devices in section 1002 (with the exception that either the actual projected tread depth used must be larger than the minimum or the actual riser height used must be below the maximum to ensure a maximum angle of *70 degrees*).

Note: The current wording in Section 1009.9.2 is almost exactly the same as in Section 101.4.6.6 of the 1996 and 1999 editions of the BOCA National Building Code. The history behind how the wording was incorporated into BOCA could not be ascertained.

Bibliography:
Standard Building Code; Section 1007.8.4
The BOCA National Building Code/1999 Sections 1014.6.6

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language would provide a controlled way to measure treads and risers in alternating tread devices.

Assembly Action: **None**

Final Hearing Results

E72-07/08 **AS**

Code Change No: E74-07/08

Original Proposal

Sections: 408.3.4 (New), 1009.10 (New), 1009.3, 1012.2, 1012.5, 1013.2, 1013.5 (IFC [B] 1009.10 (New), [B] 1009.3, [B] 1012.2, [B] 1012.5, [B] 1013.2, [B] 1013.5)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

1. Add new text as follows:

1009.10 (IFC [B] 1009.10) Ships Ladders. Ships ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs.

Ships ladders shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a maximum riser height of 9.5 inches (241 mm).

Handrails shall be provided on both sides of ships ladders.

(Renumber subsequent sections)

408.3.4 Ship ladders. Ship ladders shall be permitted for egress from control rooms or elevated facility observation rooms in accordance with Section 1009.10.

(Renumber subsequent sections)

2. Revise text as follows:

1009.3 (IFC [B] 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. Ships ladders in accordance with Section 1009.10.
2. 3. Spiral stairways in accordance with Section 1009.8.
3. 4. 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.~~ 5. 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.~~ 6. See the Section 3403.4 for the replacement of existing stairways.

1012.2 (IFC [B] 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 and ship ladders, measured above tread nosings shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

1012.5 (IFC [B] 1012.5) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices and ship ladders are permitted to terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices and ship ladders are not required to be continuous between flights or to extend beyond the top or bottom risers.

1013.2 (IFC [B] 1013.2) Height. Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (1067 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with section 1024.14.
3. Along alternating tread device and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 (IFC [B] 1013.3) Opening limitations. Open guards shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.
3. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.
5. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.

Reason: Applicable to Use Group I-3, allows spaces that are normally occupied by a small number of staff persons to have stairways with greater riser height and narrower tread depth than the standard 7-11 riser/tread requirements. In order to provide the 360-degree visibility and maximum mobility necessary for guard observation stations, the size of the base of such elevated stations must be kept to a minimum. Security is increased without risk to either the general public or the inmates, since access to these spaces is restricted to prison staff personnel.

Ships ladders are easier and safer to maneuver than are alternating tread stairs in conditions related to I-3 functions which require carrying items necessary for occupation.

The proposals to Sections 1009.3, 1012.2, 1012.5, 1013.2 and 1013.3 are for correlation. During the 2006/07 cycle the committee approved the revisions in code changes E86, E93, E99 and E100 that added provisions for alternating tread devices to 1012.2, 1012.5, 1013.2 and 1013.3. The same exceptions for handrails and guards should apply to ship ladders.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Ships ladders are undefined terms. This could be misapplied to other locations where this type of access would not be appropriate. This should be limited to Group I-3.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

A. Brooks Ballard, Virginia Department of Corrections, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.10 (IFC [B] 1009.10) Ship ~~Ships~~ ladders. Ship ~~Ships~~ ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs in Group I-3.

Ship ~~Ships~~ ladders shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a maximum riser height of 9.5 inches (241 mm).

Handrails shall be provided on both sides of ship ~~ships~~ ladders.

(Renumber subsequent sections)

1009.3 (IFC [B] 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. Ship ~~Ships~~ ladder~~s~~ in accordance with Section 1009.10.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: These changes, in response to spring hearing comments, are to remove the inconsistency in the term ship vs ships and clarify the original intent of this being allowed for Group I-3 only. Ship ladders are defined within this change by prescriptive requirements and parameters.

Public Comment 2:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.10 (IFC [B] 1009.10) Ships Ladders. Ships ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs. Ships ladders shall have a minimum ~~projected~~ tread depth of 5 inches (127 mm), The tread shall be projected such that the total of the

tread depth plus the nosing projection is no less than 8.5 inches (216 mm). ~~a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a~~ The maximum riser height shall be ~~of~~ 9.5 inches (241 mm)**.** Handrails shall be provided on both sides of ships ladders. The minimum clear width at and below the handrails shall be 20 inches (508 mm)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal unnecessarily took flawed alternating tread device language and inappropriately applied it to ships ladders. Ships ladders can be easily referenced using the terminology that is used for stairs to allow for ease of understanding by all and provide for consistent enforcement of the code. The clear width of the ladder should be identified as with stairs not the tread width.

Final Hearing Results

E74-07/08 AMPC1, 2

Code Change No: E76-07/08

Original Proposal

Sections: 1009.12 (New), 1009.12.1 (New) (IFC [B] 1009.12 (New), [B] 1009.12.1 (New))

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

Add new text as follows:

1009.12 (IFC [B] 1009.12) Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

1009.12.1 (IFC [B] 1009.12.1) Penthouse or roof access. Where the stairway provides access to the penthouse or roof, access shall be provided through a penthouse complying with Section 1509.2.

Reason: The requirement for a stair to the roof for maintaining elevator equipment will correlate the IBC with ASME A17.1/CSA B44. ASME A17.1/CSA B44 has required stairs and a door to access elevator equipment since 1955. 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." Alternating tread devices or ladders are not permitted as alternatives to the starway.

A similar code change was submitted in the last cycle (E71-06/07) to Section 1009.11, which was disapproved as it was felt that the definition of occupiable space already addressed this concern. The definition for occupiable space does not necessarily cover maintenance of elevator equipment as the intent of "engaged in labor" is talking more about the intended occupancy classification of the space such as an office space. The commentary for the definition of occupiable space states "Some spaces are neither habitable nor occupiable, such as closets, toilet rooms and mechanical equipment rooms." Without clarification this section conflicts with the elevator code.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1009.12 (IFC [B] 1009.12) Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

~~**1009.12.1 (IFC [B] 1009.12.1) Penthouse or roof access.** Where the stairway provides access to the penthouse or roof, access shall be provided through a penthouse complying with Section 1509.2.~~

Committee Reason: The proposed Section 1009.12.1 was deleted because it was unclear if the stairway access to the roof was required to be through a separate roof structure or through the elevator penthouse. In addition, there are hatches that provide safe roof access; therefore a stair penthouse is not needed.

Section 1009.12 was approved to provide coordination with the elevator standard, ASME A17.1.

Assembly Action: **None**

Final Hearing Results

E76-07/08 AM

Code Change No: E78-07/08

Original Proposal

Sections: 1011.1 (IFC [B] 1011.1)

Proponent: Keith Wen, RA, New York City Department of Buildings, representing New York City

Revise as follows:

1011.1 (IFC [B] 1011.1) Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel ~~Access~~ to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in sleeping areas in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

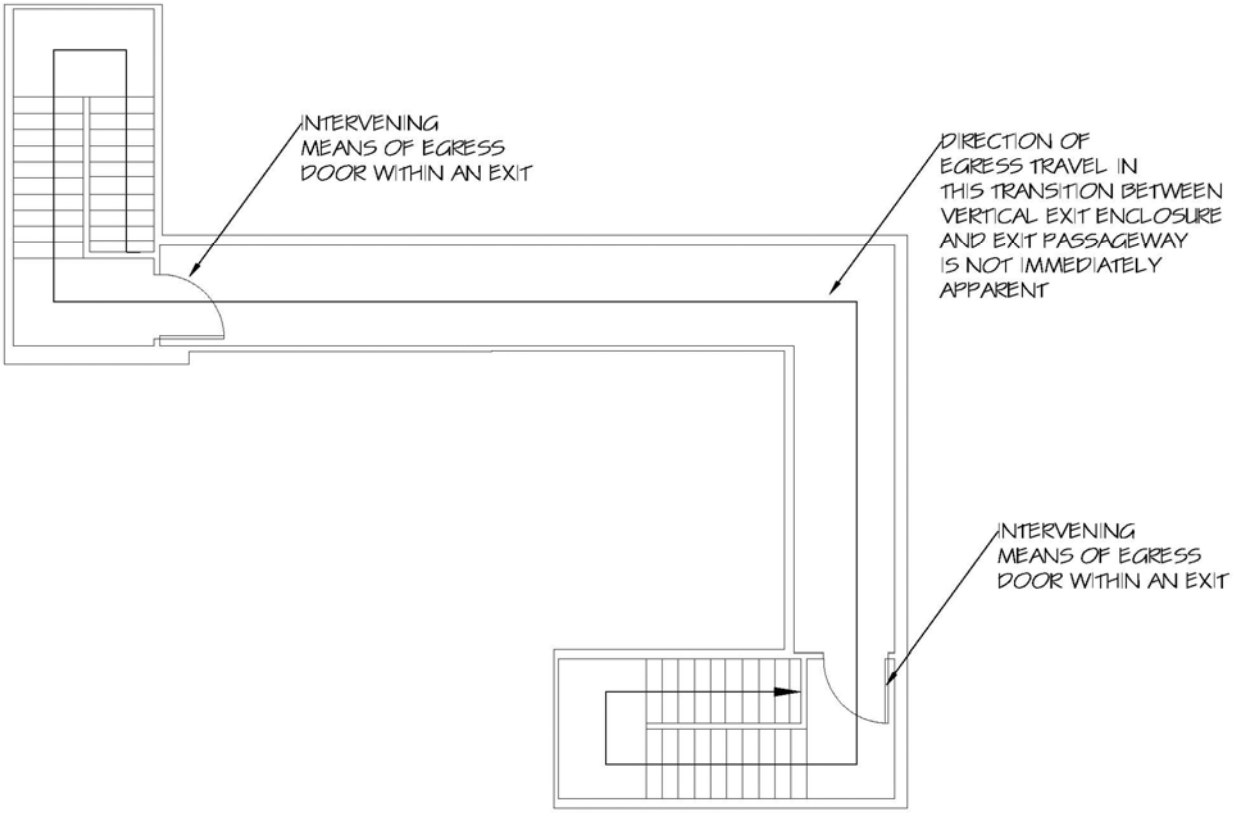
Reason: Section 1011.1 requires exit signs along the exit access to help occupants to reach the exits. Typically, once the occupants reach the exits, exit signs are not required within the exits. However, in buildings with more complicated egress layout, it is possible that the direction of egress travel within the exits may not be immediately apparent to the occupants. For example, a vertical exit enclosure on the north side of a building may transition into a horizontal extension in the form of either an extended landing/corridor or an exit passageway with intervening means of egress doors on the 15th floor before continuing down into the staircase on the south side. The path of egress might involve turns with extended distances. In such cases, it is important to provide clear egress direction for the occupants within the exits.

The report from the 2003 World Trade Center Building Code Task Force identified the problem of clarity or “readability” of travel within exit enclosures, and in response to the 1993 and 2001 World Trade Center incidents, recommended additional exit signs within the exit enclosures.

Evacuees may be hesitant or even confused when traveling within an exit that involves transition from a vertical to a horizontal direction and horizontal extension that includes turns and intervening doors within the path of egress. When travel direction is not clear within an exit, it creates uncertainty in decision making and causes delays in evacuations in threatening conditions.

The proposed changes clarify that exit signs shall be installed if the path of egress travel within an exit is not obvious to the occupants. This may already be the practice of many jurisdictions to ensure life safety of the occupants; this proposal simply codifies such practice.

Additionally, similar to the requirement for exit access corridor, exit signs in exit passageways should also be visible from within a 100 feet or the listed viewing distance for the sign, whichever is less.



EXAMPLE OF AN EXIT PASSAGEWAY THAT REQUIRES EXIT SIGNS ALONG THE EGRESS PATH AND ON THE INTERVENING EXT DOORS

Bibliography:
City of New York, Department of Buildings. World Trade Center Building Code Task Force: Findings and Recommendations (available at http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf). February, 2003.
LL26/2004 Section 27-383.1 (a).

Cost Impact: This proposal establishes requirements for exit signs in exits where egress direction is not immediately apparent, which may increase costs in buildings that have more complicated egress paths, but the decrease in egress and full building evacuation time outweighs the moderate cost of the exit signs.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional exit signage is needed for clarity for occupant egress. The proposed language would clarify if exit signs are needed within exit stairways or exit passageways.

Assembly Action: **None**

Final Hearing Results

E78-07/08 **AS**

Code Change No: E79-07/08

Original Proposal

Sections: 1011.1 (IFC [B] 1011.1)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1011.1 (IFC [B] 1011.1) Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit signs in cases where the exit or the path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in a corridor is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in dayrooms, sleeping ~~areas~~ rooms, or dormitories in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

Reason: This change clarifies the intent of this section that exit signs are not required in cells or contiguous housing dayrooms or sleeping dormitories in Group I-3 occupancies as those areas are within the same smoke compartment and therefore fall under the Group I-3 classification. Most occupants in such buildings are long-time residents who become familiar with the locations of all exits outside their sleeping areas, whether they are marked or unmarked. In cases of emergency, occupants in Use Group I-3 are escorted by staff to the exits and to safety. The exit signs also represent potential for vandalism and use as weapons when they are accessible to the residents.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language would clarify and coordinate with the fire operation and the safety plans for Group I-3 occupancies. Signage may need to be removed in these areas for security concerns about the signs being used as potential weapons.

Assembly Action: **None**

Final Hearing Results

E79-07/08 **AS**

Code Change No: E82-07/08

Original Proposal

Sections: 1012.5 (IFC [B] 1012.5)

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

Revise as follows:

1012.5 (IFC [B] 1012.5) (Supp) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit or sleeping unit that is not required to be ~~accessible~~ an Accessible unit or a Type A unit, need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

Reason: The question of what direction handrails should extend at the top and bottom of stair flights and ramp runs has existed for many years. I believe public safety is better served when the extensions are in the same direction as the stair flights and ramp runs they serve. The purpose for this proposal is to add language making it clear that the extensions are required to be in the same direction. It will also better align IBC Section 1012.5 with Section 505.10 of ICC A117.1-03, which requires handrails to extend beyond and in the same direction of stair flights and ramp runs.

Exception #1 is revised for consistency with the terminology in IBC Chapter 11 for dwelling units, sleeping units, Accessible units and Type A units. Note that the first two terms are defined in Section 202 and the last two terms are defined in Section 1102.1. Type B units are not also excluded from qualifying for Exception #1 because multistory dwelling units and sleeping units not provided with elevator service are not required to be Type B units. Refer to IBC Section 1107.7.2 for further information.

This proposal began as a public comment to Proposal E92-06/07-D. One of the reasons cited by the Means of Egress Committee for disapproving Proposal E92-06/07 was that there should be an exception where handrails are continuous. The proposed language in this proposal requiring handrail extensions to be in the same direction as stair flights and ramp runs, however, does not apply to continuous handrails because there is no extension at a continuous handrail, only at the ends of handrails. Refer to the 2006 Report of the Public Hearing on the 2006 ICC construction codes for further information.

A second reason cited by the Means of Egress Committee for disapproval was that there should be an exception for Group A aisle situations. Exception #2 to Section 1012.5, however, exempts aisle handrails in Group A and E occupancies in accordance with Section 1025.13. Section 1025.13 on handrails in assembly occupancies, in turn, provides exemptions for ramped aisles and aisle stairs. Handrails are not required at (1) ramped aisles with seating on both sides where the slope of the aisle is no greater than1:8 and, (2) at the sides of ramped aisles regardless of the seating arrangement where a guard with graspability at least equivalent to that required for a handrail is provided.

A third reason cited by the Means of Egress Committee for disapproval was that the straight extension of the handrail into the landing at the top and bottom of the stairway could be an egress hazard. Section 1012.5, however, currently requires handrails to return to a wall, guard or the walking surface, except for handrails that are continuous to an adjacent stair flight or ramp run. An extension of a handrail is a portion of the handrail and is subject to this same requirement.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1012.5 (IFC [B] 1012.5) (Supp) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit ~~or sleeping unit~~ that is not required to be accessible ~~an Accessible unit or a Type A unit,~~ need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

Committee Reason: The proposal clarifies that the required handrail extension should not bend to maintain safety for persons with mobility impairments as well as the general public. This would coordinate with ICC A117.1 and the ADA/ABA Guidelines. The modification is to maintain the language in Exception 1. The term 'accessible' is broad enough that it will prohibit the exception for the handrail extension in Accessible units, Type A units and Type B units.

Assembly Action: **None**

Final Hearing Results

E82-07/08 **AM**

Code Change No: E85-07/08

Original Proposal

Sections: 1013.1, 1013.1.1 (New), 1013.2, 1013.3, 1013.5, 1013.6 (IFC [B] 1013.1, [B] 1013.1.1 (New), [B] 1013.2, [B] 1013.3, [B] 1013.5, [B] 1013.6); IRC R312.1, R312.2

Proponent: Paul K. Heilstedt, P.E., Chair, representing ICC Code Technology Committee (CTC)

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Revise as follows:

SECTION 1013.0
GUARDS

1013.1 (IFC [B] 1013.1) (Supp) Where required. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, ~~stairway~~s, stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side ~~above the floor or grade below~~.. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. ~~Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.~~

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.

5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

2. Add new text as follows:

1013.1.1 (IFC [B] 1013.1.1) Glazing. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements in Section 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces.

3. Revise as follows:

1013.2 (IFC [B] 1013.2) (Supp) Height. Required guards shall ~~form a protective barrier~~ be not less than 42 inches (1067 mm) high, measured vertically above the adjacent walking surfaces, adjacent fixed seating or the line connecting the leading ~~edge~~ edges of the ~~tread~~ treads ~~, adjacent walking surface or adjacent seatboard~~.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, ~~guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from the leading edge of the stair tread nosing.~~ guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

~~2.~~ 3. The height in assembly seating areas shall be in accordance with Section 1024.14.

~~3.~~4. Along alternating tread device, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 (IFC [B] 1013.3) (Supp) Opening limitations. ~~Open~~ Required guards shall ~~have balusters or ornamental patterns such that a~~ not have openings which allow passage of a sphere 4~~-inch-~~ inches (102 mm) ~~diameter sphere~~ in diameter from the walking surface to the required guard height ~~cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.~~

Exceptions:

1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings which allow passage of a sphere 4.375 inches (111 mm) in diameter.

~~1.~~ 2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail, ~~at the open side of a stairway~~ shall ~~be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.~~ not allow passage of a sphere 6 inches (152 mm) in diameter.

~~2~~ 3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall ~~have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.~~ not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.

~~3.~~ 4. In areas which are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices ~~balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.~~ guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.

~~4.~~ 5. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall ~~have balusters or ornamental patterns such that a~~ not have openings which allow passage of a sphere 4 ~~inch~~ inches (102mm) in diameter ~~sphere cannot pass through any opening~~ up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter ~~shall not pass~~.

~~5.~~ 6. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, ~~openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.~~ guards on the open sides of stairs shall not have openings which allow passage of a sphere 4.375 (111 mm) inches in diameter.

1013.4. (IFC [B] 1013.4) Screen porches. (No change to current text)

1013.5 (IFC [B] 1013.5) Mechanical equipment. Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 ~~inch~~ inches (533 mm) in diameter ~~sphere~~. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

1013.6 (IFC [B] 1013.6) Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 ~~inch~~ inches (533 mm) in diameter ~~sphere.~~

PART II – IRC BUILDING AND ENERGY

1. Revise as follows:

SECTION R312
GUARDS

R312.1 (Supp) Where ~~Guards~~ required. ~~Guards shall be provided on all decks, landings, porches, balconies, ramps or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below.. Required guards shall not be less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.~~ Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side Insect screening shall not be considered as a guard.

~~Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.~~

2. Add new text as follows:

R312.2 Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

3. Revise as follows:

~~R312.2~~ R312.3 ~~Guard~~ Opening limitations. Required guards ~~on open sides of stairways, raised floor areas, balconies and porches~~ shall not have openings ~~intermediate rails or ornamental closures~~ which ~~do not~~ allow passage of a sphere 4 inches (102 mm) ~~or more~~ in diameter from the walking surface to the required guard height.

Exceptions:

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, ~~at the open side of a stairway~~ shall ~~are permitted to be of such a size that a sphere 6 inches cannot pass through.~~ not allow passage of a sphere 6 inches (153 mm) in diameter.

2. ~~Openings for required guards on the open sides of stair treads stairs shall not allow passage of a sphere 43/8 inches or more in diameter to pass through~~ Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4.375 inches (111 mm) in diameter

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

This proposed change is a result of the CTC's investigation of the area of study entitled "Climbable Guards". The scope of the activity is noted as:

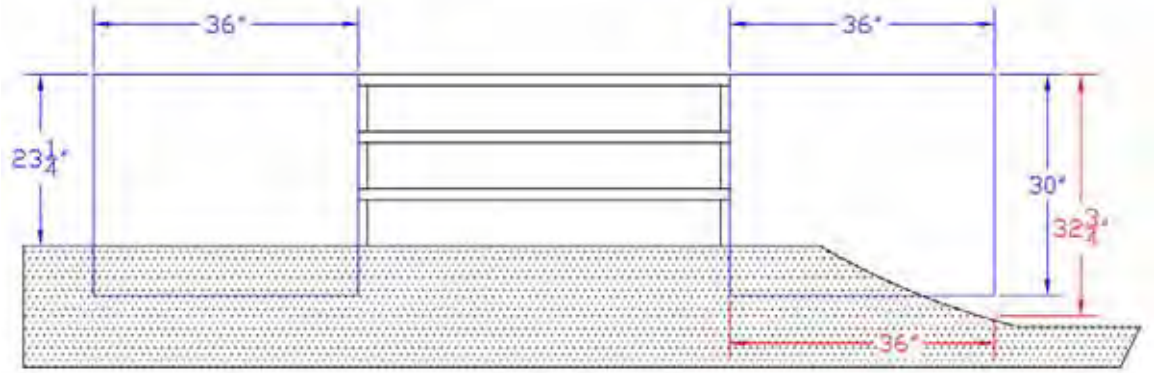
The study of climbable guards will focus on determining the need for appropriate measures to prevent or inhibit an individual from utilizing the elements of a guard system, including rails, balusters and ornamental patterns, to climb the guard, thereby subjecting that person to the falling hazard which the guard system is intended to prevent.

This proposal is a follow-up to E96 – 06/07.As of this writing this area of study has been completed by the CTC relative to these proposals. The general focus of these two proposals, one to the IBC and one to the IRC, is to create consistency in language regulating guards in the two codes.

Part I – IBC

IBC 1013.1. Laundry lists of items in the code are typically not all-inclusive. The word "including" provides this clarification in the following sections as well. This section is divided into two paragraphs with the second paragraph dealing with glass and glazing without a change in intent.

The key part of thjs change to IBC 1013.1 is submitted in order to clarify how the height measurement which triggers the guard requirement is made relative to proximity to the adjacent fall-off. This is illustrated in the following figure:



The view is taken from the landing of a 3 riser stair, looking towards the face of the risers.

IBC 1013.2: The technical portions of this change are the changes that stipulates that the provisions are applicable to only required guards and that a fixed seat becomes a potential walking surface to a child and thus warrants the guard height to be measured from that point. The remainder does not change the intent but rather provides standardized text dealing with stair treads and the determination of how to measure guard height. This public comment revises the term to "fixed seating" so as to clarify the measurement, using common terminology. Fixed seating represents a walking surface that is sure to be utilized by children. As such, the measurement of the guard must be taken from this location to address the hazard of a child falling over the guard. It is impossible for the code to regulate ornamentals such as planters, furniture and the like and this proposal does not intend to regulate them.

IBC 1013.3: This section is also clarified to apply to only required guards. In the disapproval of E96-06/07, committee notes that they feel that exceptions 1 and 2 are redundant. A careful reading of the text revisions reveals a subtle difference. Exception 1 is a general exception for guard height along stairs. Exception 2 addresses the guard height where the top of the guard serves as a handrail. This distinction is intended to provide clarification in the code for the two possible scenarios.

The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency. The technical change is to exception 1 to reduce the maximum opening (8" to 4-3/8" inches) for this upper portion of the guard above 36 inches.

The 8 inch limitation on openings at the upper section of the guard was based on the difference between the 34 inch height being the part of the guard that protects small children and the 42 inch height for the rest of the population. However this does not take into account that residential R-3 use groups require a minimum guard height of 36 inches. Proposed exception 1 raises the height for which the 4 inch opening requirement is applicable - to coincide with the minimum guard height of 36 inches in residential occupancies.

The change in maximum opening size at the upper portion of the guard, from the current 8 inch sphere criteria to a 4-3/8 inch sphere, is based on providing an equivalent level of protection as that provided by the current 4 inch opening on the lower portion of the guard. As a point of reference, the following measurements of head sizes of infants are excerpted from Drawing #2 Measurement of Infants from a book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, first published by Whitney Library of Design in 1993, republished and copyrighted by John Wiley & Sons, New York (ISBN 0-471-09955-4) in 2002.

The publication states "We have chosen to accommodate 98% of the U.S. population, which lies between the 99 percentile and the 1 percentile, for product designs for civilians" page 10-11 headlined percentiles.

Age	Side-to-side measurement	Back-to-front measurement
12-15 months:	5"	6.5"
16-19 months:	5"	6.5"
20-23 months:	5.1"	6.8"

Additional point of reference, from the same book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, figure number 8, page 14, showing child age 2.5 – 3 years. The chest dimension when scaled (1" = 12") shows a 4-3/4" dimension from the back to the front.

The following information from various resources has been compiled to illustrate how countries outside of the US are regulating the openings in guards:

Country of Origin	Sphere Rule Metric	Sphere Rule Inches
Canada	100mm	3.94"
United Kingdom	100mm	3.94"
United States	102mm	4"
Australia	125mm	4.92"
Germany	120mm	4.72"
France	110mm	4.33"
Mexico (no code – standard followed)	102mm – 152mm	4" – 6"
Russia	100mm	3.94"
Romania	100mm	3.94"
Trinidad & Tobago	102mm	4"
Japan (Confirmation Pending)	125mm	4.92"
Spain (Confirmation Pending)	(120mm) (125mm)	(4.72") (4.92")
Switzerland	120mm	4.72"
Sweden	100mm	3.94"
Taiwan (Confirmation Pending)	125mm	4.92"
Singapore (Confirmation Pending)	125mm	4.92"
Poland (Confirmation Pending)	100mm	3.94"
Turkey	100 mm	3.94"
Netherlands (Confirmation Pending)	100mm	3.94"

Part II – IRC

IRC R312.1: This section is being divided into two sections, similar to the IBC. The first section includes the general guard requirement, and the new section (R312.2) includes the height requirements. See reason for IBC Section 1013.1.

IRC R312.2: This new section includes the guard height requirements. It is reformatted to place emphasis on the 36" high guard required at level surfaces. There are not technical changes to the minimum height. As noted in the current text to IRC Section R312.2, the IRC applies to required guards. The term "required" is proposed here as well. This section uses the term "adjacent fixed seating" – intended to clarify that where there is built-in seating, the guard height is to be measured from the seat itself to provide for the minimum required height where it is assumed that children may be standing. See reason for IBC Section 1013.2.

IRC R312.3: The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency.

Bibliography:

Interim Report No. 1 of the CTC, Area of Study – Climbable Guards, March 9, 2006.
"The Measure of Man and Woman: Human Factors" by Alvin R. Tilley

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

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action: **Approved as Submitted**

Committee Reason: The proposal comprehensively revises guard requirements and clarifies where they are required. It also directs users to the appropriate structural provisions.

Assembly Action: **None**

PART II – IRC B/E
Committee Action: **Approved as Submitted**

Committee Reason: The committee agreed that the rewording of this section which includes fixed seating as a measuring point for guard rails and new language on how to measure open sided walking surfaces at any point within 36 inches horizontally to the edge of the open side significantly improves the existing code language. The committee felt this new language helps to address a significant amount of issues with where guards are to be located and how they are to be measured while bringing the *International Residential Code* closer to the current language in the *International Building Code*.

Assembly Action: **None**

Final Hearing Results

E85-07/08, Part I	**AS**
E85-07/08, Part II	**AS**

Code Change No: E91-07/08

Original Proposal

Sections: 1014.1 (IFC [B] 1014.1)

Proponent: Anne R. vonWeller, Murray City, UT, representing Utah Chapter of ICC

Revise as follows:

1014.1 (IFC [B] 1014.1) General. The exit access ~~arrangement~~ shall comply with ~~Sections 1014 through 1017 and~~ the applicable provisions of Sections 1003 through 1013. Exit access arrangement shall comply with Sections 1014 through 1017.

Reason: The change is editorial and made to clarify all of the applicable requirements of 1003 through 1013 apply to the exit access, not just the provisions related to exit access arrangement.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional language clarifies the intent of the organization of Chapter 10 exit access requirements.

Assembly Action: **None**

Final Hearing Results

E91-07/08	**AS**

Code Change No: E92-07/08

Original Proposal

Sections: 1014.2 (IFC [B] 1014.2)

Proponent: Gary Lampella, City of Redmond, OR, representing Oregon Officials Association

Revise as follows:

1014.2 (IFC [B] 1014.2) (Supp) Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to ~~the area served~~ one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.

   Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

   Exceptions:

   1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
   2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
      2.1. The stock is of the same hazard classification as that found in the main retail area;
      2.2. Not more than 50 percent of the exit access is through the stockroom;
      2.3. The stockroom is not subject to locking from the egress side; and
      2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full or partial height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.
   3. An exit access shall not pass through a room that can be locked to prevent egress.
   4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

Reason: The code as currently written does not allow a small accessory use to egress through a larger space. Since the term “except where such adjoining rooms or areas are accessory to the area served” indicates that a larger space exiting though a smaller space is the only egress configuration that is allowed. An example would be a large retail store where there was a manager’s office that was accessory to the M occupancy. The office being an accessory use could have the occupants from the M egress through it, but you would not be permitted to egress from the office into the M occupancy because the M is not accessory to the office.

The definition for “accessory” can be found in Section 508.3.1 which limits them to being subsidiary to the main occupancy of the building, and not occupying more than 10 percent of area of the story in which they are located. . In essence the code prohibits an accessory use, such as described above, from exiting into the main occupancy of the building but allows the main occupancy, which could be considerably larger, to exit through the accessory use.

Section 1014.2.1 was revised in Detroit via a public comment to recognize that some smaller separate tenants could have a means of egress through a larger separate tenant. This code change would simply allow one tenant space to have a means of egress that separate tenants are currently permitted to have.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language assists in understanding the intent for egress through other spaces. Egress should be permitted when the areas are related to each other and basically the same space. The phrase "to the area served" has been misinterpreted to prohibit an office area from exiting through a warehouse.

Assembly Action: **None**

Final Hearing Results

E92-07/08 **AS**

Code Change No: E93-07/08

Original Proposal

Sections: 1014.2.1 (IFC [B] 1014.2.1)

Proponent: John Berry, Cole + Russell Architects, Inc

Revise as follows:

1014.2.1 (IFC [B] 1014.2.1) Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

Exception: The ~~Means~~ means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernable path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

Reason: The intent of this code change is simply to add clarifying language as to which tenant space is egressing through the other. I have had several people ask for clarification on how this section was to be applied. I believe the original change was needed and appropriate, but it just needs a little more clarification.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the intent of the exception for small tenant spaces within a larger mercantile space.

Assembly Action: **None**

Final Hearing Results

E93-07/08 **AS**

Code Change No: E95-07/08

Original Proposal

Sections: 1002.1, 1014.2.3 (IFC [B] 1002.1, [B] 1014.2.3)

Proponent: Roger Severson, RSA Consulting, representing Oregon Department of Health Services

1. Add new definition as follows:

1002.1 (IFC [B] 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.

SUITE. A group of patient treatment rooms or patient sleeping rooms within Group I-2 occupancies where there is direct and constant visual supervision of all patients within the suite, and the suite is in conformance with the requirements of Section 1014.2.2 through 1014.2.6.

2. Revise as follows:

1014.2.3 (IFC [B] 1014.2.3) (Supp) Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites with one intervening room where ~~if one of~~ the following conditions ~~is~~ are met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

Reason: Suite definition - The IBC currently contains some requirements for suites but there is not an explanation or definition to inform the reader as to the intent of the suite. The concept for suites to function within the code without corridor width or rating requirements were accepted to allow staff to have clear and unobstructed supervision of patients in specific treatment and sleeping rooms. It was not, and is not intended for day rooms or business sections of the hospital. Without a definition this concept is vague, leaving doubt and confusion for all who are responsible for the construction of suites within Health Care Facilities.

Section 1014.2.3 - In order to avoid a conflict, a revision to Section 1014.2.3 of the 2007 supplement is needed that would require both items, rather than having a choice as proposed. Regardless of the concern for conflict, the existing code does not state that only one of the exceptions is permitted. The Oregon Health Care Facilities Committee is not sure why the original proposal allowed the choice? With this revision, Oregon is in support of the supplemental language and the proposals by Washington submitted for this cycle. The original proponent of this section, John Williams of the Construction Review Section of Washington's DOH is in support of this revision.

Cost Impact: Depending on previous codes used and/or other applicable codes today, this code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1002.1 (IFC [B] 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.

SUITE. A group of patient treatment rooms or patient sleeping rooms within Group I-2 occupancies where staff are in attendance within the suite, for ~~there is direct and constant visual~~ supervision of all patients within the suite~~,~~ and the suite is in conformance with the requirements of Section 1014.2.2 through 1014.2.6.

1014.2.3 (IFC [B] 1014.2.3) (Supp) Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites with one intervening room ~~where~~ if one of the following conditions is ~~are~~ met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

Committee Reason: The revisions to Section 1014.2.3 were disapproved for coordination with the modification to the definition. This new definition, with the modification, clarifies the definition for "suite" by defining the supervision and arrangement of the rooms within a suite. This coordinates with the 2007 Supplement, Sections 1014.2.2 through 1014.2.6

Assembly Action: **None**

Final Hearing Results

E95-07/08 AM

Code Change No: E96-07/08

Original Proposal

Sections: 1014.2.2.5 (New) [IFC [B] 1014.2.2.5 (New)]

Proponent: Roger Severson, RSA Consulting, representing Oregon Department of Health Services

Add new text as follows:

1014.2.2.5 (IFC [B] 1014.2.2.5) Exit access through suites. Exit access from all other portions of a building in a Group I-2 occupancy, including exit access from other suites, shall not pass through a suite.

Reason: Exit access not to pass through suites- This new section is an important concept which is implied but silent regarding the use of suites. Unlike the use of room to room, or intervening room exit access, suites have a very specific function for medical and health practices and should not be used as an exit access from other portions of the facility. Also, because suites are not required to have minimum access width or ratings within the suite for the benefit of operations and supervision, exit access from other portions of a facility should not be designed through this space.

Cost Impact: Where there are areas that never had requirements in a previous code prior to the IBC, the code change proposal could cause an increase to the cost of construction.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1014.2.2.5 (IFC [B] 1014.2.2.5) Exit access through suites. Exit access from all other portions of a building not classifies as a suite in a Group I-2 occupancy, ~~including exit access from other suites,~~ shall not pass through a suite.

Committee Reason: The modification clarifies that it is acceptable to egress through a suite when coming from another suite. This is important for a defend-in-place scenario to allow for lift support facilities to be available in both locations – which is not an option in a corridor. This proposal, as modified, clarifies exiting from a suite. The definition for suite would include associated storage rooms and bathrooms, therefore, these spaces could also egress through the suite to a corridor or another suite.

Assembly Action: **None**

Final Hearing Results

E96-07/08 AM

Code Change No: E101-07/08

Original Proposal

Sections: 1015.5 (IFC [B] 1015.5)

Proponent: James C. Gerren, Clark County Department of Development Services

Revise as follows:

1015.5 (IFC [B] 1015.5) Refrigerated rooms or spaces. Rooms or spaces having a floor area ~~of~~ larger than 1,000 square feet (93m2) ~~or more~~, containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doors.

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access door where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *International Mechanical Code*.

Reason: The purpose of the proposed change is to make the syntax of IBC Section 1015.5 consistent with the rest of the code. In all other sections that reference criteria based on floor area, the language used consistently indicates that the requirement applies when a floor area is exceeded. For example, Section 1015.3 applies "where the area is over 500 square feet" while Section 1015.4 applies to "rooms larger than 1,000 square feet". However, Section 1015.5 currently applies to "a floor area of 1,000 square feet or more". The proposed change would make the language of Section 1015.5 more consistent with the terminology used throughout the rest of the IBC.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal clarifies the intent and brings consistency to the code.

Assembly Action: **None**

Final Hearing Results

E101-07/08 **AS**

Code Change No: E105-07/08

Original Proposal

Sections: 1002.1, 1007.3 (IFC [B] 1002.1, [B] 1007.3)

Proponent: Sarah A Rice, CBO, Schirmer Engineering Corporation

Revise as follows:

1002.1 (IFC [B] 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 egress travel from any accessible point in a building or facility to a place designated for assisted rescue or a public way.

1007.3 (IFC [B] 1007.3) (Supp) ~~Exit~~ Stairways. In order to be considered part of an accessible means of egress, an exit or exit access 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. The area of refuge is not required at ~~unenclosed interior~~ open exit access or exit stairways a permitted by ~~Section~~ Sections 1016.1 and 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 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit access or 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. 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. 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.
7. The areas of refuge are not required in Group R-2 occupancies.

Reason: The proposed language is part of a package of code changes that is intended to clarify how an unenclosed stairway can be used as part of the required means of egress system for a building. The package was developed by a group of stakeholders representing code officials, designers and code users who have been working together for the past 6 years to make the provisions for unenclosed vertical egress elements work within the terms and concepts found in the IBC.

The package does the following:

- Officially introduces 3 new terms for elements within the required means of egress; unenclosed vertical exit access, exit access stair and exit access ramp;
- Allows, through the use of an exception in 1019.1, an unenclosed vertical exit access element (i.e., “exit access stair” or “exit access ramp”) to be used in lieu of an enclosed vertical exit (i.e., “exit stair” or “exit ramp”);
- Clarifies that a maximum of 50% of the enclosed vertical exits can be replaced by an unenclosed exit access (1019.1); and
- Clarifies that when an unenclosed vertical exit access is part of the required means of egress system the exit access travel limits in Section 1016.1 are to be measured down the unenclosed vertical exit access to an exit or exit discharge.
- Eliminates the option for 100% of the required exits to be replaced with unenclosed exit access elements as this would create a hardship for small buildings (those that are less than 4 stories above or below the level of exit discharge) where 2 accessible means of egress must be provided on all stories. Without at least one enclosed vertical exit, the elevator which would most like have been installed only to provide an accessible route, would now need to be equipped with standby power in accordance with the provisions of 1007.4 (which could add a considerable amount to the overall cost of the project).
- Clarifies what happens when a corridor that is required to be fire rated terminates at a unenclosed exit access (Section 1017.5)

Together this package is considered to resolve many of the design quandaries that have been encountered by small buildings (typically 2 stories) wishing to have “openness.”

The revision to the definition is to clarify that the stairway or elevator portion of the accessible means of egress may be through assistance by emergency responders. Stairways, while they may include provisions for persons with mobility impairments, are not part of an accessible route. In order to avoid possible entrapment, during emergencies, control and evacuation using the elevators must be by the fire department. The current definition could be interpreted to mean that the entire route must be accessible and unassisted. This leads to confusion between the exiting and entrance requirement.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1002.1 (IFC [B] 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 egress travel from any accessible point in a building or facility to ~~a place designated for assisted rescue or~~ a public way.

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification to remove consideration of the change to the definition of accessible means of egress was done based on the proponent's request. Revisions to Section 1007.3 were approved for coordination with the 2007 Supplement where some open stairways provisions were relocated to Section 1016.1.

Assembly Action: **None**

Final Hearing Results

E105-07/08 **AM**

Code Change No: E110-07/08

Original Proposal

Sections: 1002.1, 1016.1, 1019.1 (IFC [B] 1002.1, [B] 1016.1, [B] 1019.1)

Proponent: Anne R. vonWeller, Murrary City UT, representing Utah Chapter ICC

Revise as follows:

1002.1 (IFC [B] 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. That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ~~ground~~ the level of exit discharge, vertical exit enclosures, exit passageways, exterior exit ~~stairs~~ stairway, exterior exit ramps and horizontal exits.

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, unenclosed exit access stair or unenclosed exit access ramp.

1016.1 (IFC [B] 1016.1) (Supp) Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story ~~to the entrance to an exit~~ along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp shall not exceed the distances given in Table 1016.1.

~~Where the path of exit access includes unenclosed stairways or ramps within the exit access, the distance of travel on such means of egress components shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open ~~stairs~~ exit stairways.
2. In outdoor facilities with open exit access components and open exterior ~~stairs~~ exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of ~~a stair~~ an exit stairway or the closest slope of the exit ramp.
3. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps when connecting a maximum of two stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. ~~The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~

4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. ~~The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway~~.

Where applicable, travel distance on unenclosed exit access stairways or ramps and on connecting stories shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

1019.1 (IFC [B] 1019.1) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. ~~The required number of exits from any story shall be maintained until arrival at grade or the public way.~~

Exceptions:

1. As modified by Section 403.15 *(Additional exit stairway)*.
2. As modified by Section 1019.2.
3. ~~Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be~~ Exit access stairways and ramps that comply with Exception 3 or 4 of Section 1016.1 shall be permitted to provide the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.

The required number of exits from any story shall be maintained until arrival at grade or the public way.

Reason: This change is offered to make terms consistent in Chapter 10 and help clarify the understanding of how certain unenclosed stairways should appropriately be considered 'exit access stairways' without changing the current intent of the code.

There remains a good deal confusion about the appropriate application of unenclosed stairways and ramps under the IBC. During the last cycle, the final action moved two exceptions to 1020.1 from the exit enclosure provisions to exceptions for travel distance. Admittedly, travel distance is a very important issue related to unenclosed stairways, but by removing the provisions from those for interior exit stairways and making them exceptions to travel distance will result in further confusion unless additional changes are made to clearly identify these stairways as exit access. Also, parts of the base provisions for 1016.1 and 1091.1 should be moved after the exceptions so they apply correctly to important issues such as measurement of travel distance on unenclosed stairways and maintenance of number of required exits.

The term 'exit access doorway' is used in 13 sections in the IBC (405.8.1, 411.7, 414.7.2, 715.4.3, 1004.3, 1008.1.3.5, 1015.1, 1015.2, 1015.4, 1015.4, 1017.3 and 1025.9). Exit access doorways are used to design many critical aspects of the means of egress including arrangement, number, separation, opening protection and exit sign placement. It is important to include a definition of 'exit access doorway' with this change because as we clarify that the stairways described in 1016.1 exceptions 4 and 5 are exit access stairways, we need to ensure the term exit access doorway is inclusive of specific points in the means of egress which may not include a 'doorway' such as when an unenclosed exit access stairway is used in the egress path.

Exception 3 to 1019.1 is confusing and seems to say one doesn't have to provide required exits as long as exceptions 3 and 4 to Section 1016.1 are met. Each of those exceptions only requires two means of egress. This change makes it clear all the required exits are to be provided and compliant exit access stairways are permitted to be used to help provide them.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal would coordinate with the open exit and exit access stairways as provided for in the 2007 Supplement. This clarifies this issues and how to use these elements. A definition for vertical exit enclosure may also be helpful. This should be referred to the Code Technologies Committee. See the committee action on E103-07/08.

Assembly Action: **None**

Final Hearing Results

E110-07/08 **AS**

Code Change No: E111-07/08

Original Proposal

Table 1016.1 (IFC [B] Table 1016.1)

Proponent: Sarah A. Rice, Schirmer Engineering Corporation

Revise table as follows:

TABLE 1016.1 (IFC [B] TABLE 1016.1)
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E,F-1, ~~I-1~~, M, ~~R,~~ S1	200	250[b]
I-1, R	Not Permitted	250[b]
B	200	300[b]
F-2, S2, U	300	400[b]
H-1	Not Permitted	75[b]
H-2	Not Permitted	100[b]
H-3	Not Permitted	150[b]
H-4	Not Permitted	175[b]
H-5	Not Permitted	200[b]
I-2, I-3, I-4	~~150~~ Not Permitted	200[b]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:
Section 402.4: For the distance limitation in malls.
Section 404.8: For the distance limitation through an atrium space.
Section 407.4: For the distance limitation in Group I-2.
Section 408.6.1 and 408.7.1: For the distance limitations in Group I-3.
Sections 411.4: For the distance limitation in Special Amusement Buildings.
Section 1014.2.2: For the distance limitation in Group I-2 Hospital Suites.
Section 1015.4: For the distance limitation in refrigeration machinery rooms.
Section 1015.5: For the distance limitation in refrigerated rooms and spaces
Section 1016.2 For increased limitations in Groups F-1 and S-1.
Section 1025.7: For increased limitation in assembly seating.
Section 1025.7: For increased limitation for assembly open-air seating.
Section 1019.2: For buildings with one exit.
Section 3103.4: For temporary structures
Section 3104.9: For pedestrian walkways
~~Chapter 31: For the limitation in temporary structures.~~

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Reason: The proposal has two purposes. First to correct the table as it addresses Group I and R occupancies. Per section 903.2 these occupancies have to be protected by an automatic sprinkler system. Therefore there is no need to list a travel distance for an unsprinklered situation. These are the changes within the table itself. With respect to the revision to footnote a, the existing footnote lists 7 code sections where travel distance is modified. The list is incomplete, there are at least 14 locations where travel distance is modified. The proposal adds the other 7 locations. This unfortunately results in a fairly long laundry list in a footnote. Since the code sections referenced are fairly specific to section perhaps the topic addressed by the section is extra information. The extra information does prevent unnecessary searching of other sections. An argument can be made that if one is considering a covered mall building, one is already looking at Section 402 and shouldn't need a reminder in Chapter 10 that there is something else to look for. An alternative to a long laundry list in footnote a would be to revise it as follows: "a. See the following sections for modifications to exit access travel distance for specific occupancies and spaces: 402.4, 404.8, 407.4, 408.6.1, 408.7.1, 411.4, 1014.2.2, 1015.4, 1015.5, 1016.2, 1019.2, 1025.7, 3103.3, 3104.9."

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional language provides a good cross reference and clarification for Table 1016.1.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Carroll Lee Pruitt, FAIA, Pruitt Consulting, representing North Texas Chapter of ICC, requests Approval as Modified by this public comment.

Modify table as follows:

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E,F-1, M, R, S1	200	250[b]
I-1, ~~R~~	Not Permitted	250[b]

(Portions of table and footnotes not shown remain unchanged)

Commenter's Reason: The code change as approved eliminates the use of NFPA13D fire sprinkler systems permitted by Section 903.3.13 for one- and two- family dwellings as these facilities are not considered sprinklered for code permitted trade offs or reductions. Unless these types of structures were protected with a NFPA 13 or 13R system under the original submittal, there would be no allowed travel distance in these types of buildings. This would be better handled by an appropriate footnote, however, that was not a part of this code change. If this challenge is approved, we will bring back the appropriate code change in the next cycle.

Final Hearing Results

E111-07/08 **AMPC**

Code Change No: E112-07/08

Original Proposal

Sections: 1016.2 [IFC [B] 1016.2)

Proponent: Rick Thornberry, PE, The Code Consortium, Inc., representing AAMA Smoke Vent Task Group

Revise as follows:

1016.2 (IFC [B] 1016.2) ~~Roof~~ Smoke and heat vent increase. In buildings ~~that are~~ one story in height, equipped with automatic ~~heat and~~ smoke and heat ~~roof~~ vents complying with Section 910 and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 or S-1.

Reason: Editorial.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The revision to the definition would use correct language for smoke and heat vents.

Assembly Action: **None**

Final Hearing Results

E112-07/08 **AS**

Code Change No: E114-07/08

Original Proposal

Table 1016.1, 1016.2 (IFC [B] Table 1016.1, [B] 1016.2); IFC 910.2.3 (IBC [F] 910.2.3)

Proponent: Richard Schulte, Schulte & Associates

1. Revise IBC as follows:

TABLE 1016.1 (IFC [B] TABLE 1016.1)
EXIT ACCESS TRAVEL DISTANCE

(No change to table entries)

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:
   Section 402: For the distance limitation in malls.
   Section 404: For the distance limitation through an atrium space.
   ~~Section 1016.2 For increased limitations in Groups F-1 and S-1.~~
   Section 1025.7: For increased limitation in assembly seating.
   Section 1025.7: For increased limitation for assembly open-air seating.
   Section 1019.2: For buildings with one exit.
   Chapter 31: For the limitation in temporary structures.
b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.
c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

~~**1016.2 (IFC [B] 1016.2) Roof vent increase.** In buildings that are one story in height, equipped with automatic heat and smoke roof vents complying with Section 910 and equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 or S-1.~~

2. Revise IFC as follows:

~~**IFC 910.2.3 (IBC [F] 910.2.3 Exit access travel distance increase.** Buildings and portions thereof used as a Group F-1 or S-1 occupancy where the maximum exit access travel distance is increased in accordance with Section 1016.2.~~

Reason: The purpose of this code change proposal is to delete the provision which allows an increase in travel distance to 400 feet in one story Group F-1 and S-1 occupancies protected by a sprinkler system and provided with smoke and heat (roof) vents.

At present, the IBC permits travel distance to be increased from 200 feet to 250 feet in Group F-1 and S-1 occupancies when sprinkler protection is provided. Section 1016.2 allows an additional 150 feet of travel distance in Group F-1 and S-1 occupancies above and beyond that permitted when sprinkler protection is provided when smoke and heat (roof) vents are also provided.

While smoke and heat (roof) vents by themselves will automatically vent smoke and heat generated by a fire in an unsprinklered one story building, there is serious doubt whether or not smoke and heat (roof) vents actually perform their intended function in buildings protected throughout by a sprinkler system.

Fire tests utilizing a combination of standard spray sprinklers and fusible link-activated smoke and heat (roof) vents conducted at Underwriters Laboratories (UL) in 1997 and 1998 clearly demonstrated that operating sprinklers interfere with the opening of roof vents. The following are quotes from the report of the tests at UL, "Sprinkler, Smoke & Heat Vent, Draft Curtain Interaction -- Large Scale Experiments and Model Development", dated September 1998. (The report is referred to as NISTIR 6196-1.)

"*It had become clear by this time in the project that the vents were unlikely to open when the fire was ignited more than about 4.6 m (15 ft) away.*" (Page 54, NISTIR 6196-1)

"*. . . .it appears from the data below that the sprinkler spray influenced the thermal response characteristics of this particular vent, and it is believed that sprinklers could have a similar influence on similar vent designs.*" (Page 64, NISTIR 6196-1)

"*Six other tests were performed with the fire at this distance from the vent when the vent was equipped with a fusible link, and in none of these tests did the vent open. . . Examination of the near-ceiling temperatures from all the tests indicates that sprinklers of this type* [standard spray sprinklers] *have a significant cooling effect, and this will certainly have an effect on thermally-responsive, independently-controlled vents.*" (Page 64, NISTIR 6196-1)

"*In Plastic Test P-2, the fire was ignited directly under a vent. In the experiment, flames reached the top of the central array at about 65 s and the vent cavity at about 70 s. The first sprinkler activated at 100 s. The vent did not open at any time during the 30 min test even though another vent 6 m (20 ft) to the west of the unopened vent opened at 6:04.*" Page 64, NISTIR 6196-1)

"*This data, along with the plunge tunnel measurements reported in Section 3.1.4, suggests that the fusible link reached its activation temperature before or at about the same time as the first sprinkler activated, but the link did not fuse. It is not clear whether the link did not fuse because it was cooled directly by water drawn upwards into the vent cavity, or whether the sprinkler spray simply cooled the rising smoke plume enough to prevent the link from fusing. In any event, this phenomenon deserves further study.*" (Page 64, NISTIR 6196-1)

"*The mass flow rates* [through the vents] *for Test I-10 and P-5 are relatively low compared with the theoretical maximum because the near-ceiling gas temperatures are greatly reduced by the sprinklers.*" (Page 100, NISTIR 6196-1)

"The significant cooling effect of sprinkler sprays on the near-ceiling gas flow often prevented the automatic operation of vents. This conclusion is based on thermocouple measurements within the vent cavity, the presence of drips of solder on the fusible links recovered from unopened vents, and several tests where vents remote from the fire and the sprinkler spray activated. In one cartoned plastic commodity experiment, a vent did not open when the fire was ignited directly beneath it." (Page 101, NISTIR 6196-1)

NFPA 204 also clearly indicates that operating sprinklers will reduce the venting rate through any vents which do open due to the reduction of temperature in the vicinity of the vent caused by operating sprinklers. The following is an excerpt from the 2002 edition of NFPA 204:

"**A.4.4.3** *Mass flow through a vent is governed mainly by the vent area and the depth of the smoke layer and its temperature. Venting becomes more effective with smoke temperature differentials between ambient temperature and an upper layer of approximately 110°C* [198°F] *or higher. Where temperature differences of less than 110°C* [198°F] *are expected, vent flows might be reduced significantly. . . .*"

The following are quotes from Dr. Craig Beyler, Hughes Associates, Inc. regarding the operation of smoke and heat (roof) vents in buildings protected by a sprinkler system:

"*The experimental studies have shown that . . . . .current design practices are likely to limit the number of vents operated to one and vents may in fact not operate at all in very successful sprinkler operations.*" (Page 1, "Interaction of Sprinklers with Smoke and Heat Vents")

Not only is the fear of early operation not founded, current design practice will likely lead to 0-1 vents operating" ("Page 61," "Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

"*Eliminates Need for Manual Venting? No*" (Page 42, ""Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

"*Revised design methods for early operation of vents are needed*" (Page 61, "Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

Given the above, it can be concluded that smoke and heat (roof) vents do not actually operate as expected in buildings protected by a sprinkler system. Based upon this, it can be concluded that there is no technical basis for permitting an increase in travel distance of 150 feet beyond the travel distance permitted for Group F-1 and S-1 occupancies protected by a sprinkler system when smoke and heat (roof) vents are provided.

Bibliography

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2. "Interaction of Sprinklers with Smoke and Heat Vents", Craig L. Beyler and Leonard Y. Cooper, February 1999. http://www.haifire.com/publications/Paper21.pdf
3. "Sprinkler/Vent Interactions-What people think, what we know, and what we don't.", Dr. Craig Beyler, Hughes Associates, Inc. (undated (presentation). http://www.haifire.com/presentations/Sprinkler%20Vent%20Interactions%20-%20NFPA%202000.pdf
4. NFPA 204, Standard for Smoke and Heat Venting (2002 edition).

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: Fire fighter safety is a concern in these buildings. In this situation, the tenability in the building will diminish even with the sprinklers in operation, and the 400 feet in and 400 feet out in a building is a hazard for these responders. The correlative reference in the IFC should be struck for consistency.

Assembly Action: **None**

Final Hearing Results

E114-07/08 **AS**

Code Change No: E121-07/08

Original Proposal

Sections: 1017.2 (IFC [B] 1017.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services

Revise as follows:

1017.2 (IFC [B] 1017.2) (Supp) 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 and areas serving gurney traffic in ~~surgical Group I, health care centers for ambulatory patients receiving~~ occupancies where patients receive 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.

Reason: The purpose of this code change is to revise outdated material. The combination of the term "surgical Group I" with the term "outpatients" does not capture the intent of the code. It has become a common industry practice to perform some surgical procedures in "ambulatory surgery centers" without 24 hour care. Such facilities are currently classified as a B occupancy. This code is meant to apply to outpatient surgical areas, which could be typical hospitals under Group I or "ambulatory surgery centers" under Group B.

This change in medical industry practice is being addressed by a CTC workgroup. This change would require a wider corridor wherever there is outpatient surgery, not just Group I. This wider corridor is needed only where there is gurney traffic, not in business office areas.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language is a clarification that this corridor width is applicable to Group B and Group I facilities where gurney traffic occurs, not just Group I.

Assembly Action: **None**

Final Hearing Results

E121-07/08 **AS**

Code Change No: E122-07/08

Original Proposal

Sections: 1017.4 (IFC [B] 1017.4) (IMC [B] 601.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services

Revise as follows:

1017.4 (IFC [B] 1017.4) (IMC [B] 601.2) Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m2) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within healthcare facilities, provided that the corridor is not the primary source of supply or return to the room.

Reason: The purpose of this code change is to clarify the code. Healthcare facilities require direct pressurization control of certain rooms to provide a clean or sterile environment for patients. For example, operating rooms and pharmacies are required to be positively pressurized, resulting in a general air movement out of the room. This ensures that airborne contaminants do not infect a sterile procedures or supplies. Pressurization is achieved by supplying air at a greater or lesser rate than the return air. Often code officials interpret that this resulting "incidental air" that flows in or out of the room violates this section.

The proposed language recognizes the need of infection control and clarifies that the corridor should not be the primary source of supply or return. There shall be supply and return air within the room. If the concept of room pressurization for infection control is not allowed there is a daily threat of patients being infected. This should be balanced with the occasional threat of fire

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: An allowance for pressurization of rooms within certain hospital areas where the spreading of germs or contaminants is a concern is appropriate. This is incidental air for the space and will not be a safety hazard for the supply and return within the room.

Assembly Action: **None**

Final Hearing Results

E122-07/08 **AS**

Code Change No: E126-07/08

Original Proposal

Sections: 1019.1 (IFC [B] 1019.1)

Proponent: Gerald Anderson, City of Overland Park, KS, representing himself

Revise as follows:

1019.1 (IFC [B] 1019.1) (Supp) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story shall be maintained until arrival at grade or the public way.

Exceptions:

1. As modified by Section 403.15 (additional exit stairway).
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provided the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at grade level, are permitted to have one exit.

Reason: The purpose of this code change is to make allowance for those rooms or spaces that have exits independent of the building exits. The exits serving these spaces exit directly at grade. Often times due to grade differentiations these rooms spaces may exit at different levels, thus I did not speak to exits from the basement or first story.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1019.1 (IFC [B] 1019.1) (Supp) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story shall be maintained until arrival at grade or the public way.

Exceptions:

1. As modified by Section 403.15.
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provided the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at ~~grade level~~ the level of exit discharge, are permitted to have one exit.

Committee Reason: The modification is for coordination with the revision to level of exit discharge approved in the committee actions on E8-07/08 and E5-06/07. There are situations where rooms or spaces have independent exits directly to the outside of a building, similar to what is permitted in Section 1019.2, Exception 3. As long as these spaces meet provisions for spaces with one means of egress with access directly to the outside, there is an adequate level of safety provided.

Assembly Action: **None**

Final Hearing Results

E126-07/08 **AM**

Code Change No: E127-07/08

Original Proposal

Sections: 1019.2, Table 1019.2, 1015.1, Table 1015.1 (IFC [B] 1019.2, [B] Table 1019.2, [B] 1015.1, [B] Table 1015.1)

Proponent: Jonathan C. Siu, City of Seattle Department of Planning and Development, Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1019.2 (IFC [B] 1019.2) (Supp) ~~Stories with one exit.~~ Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1019.2. ~~specified below:~~ Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1019.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1019.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane.

~~1. Stories meeting the limitations of Table 1021.2.~~
~~2. Buildings of Group R-3 occupancy.~~

TABLE 1019.2 (IFC [B] TABLE 1019.2)
(Supp) STORIES WITH ONE EXIT

STORY ~~ABOVE GRADE PLANE~~	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE TO EXIT
First story or basement	A, B[d], E[e], F[d], M, U, S[d]	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S[a]	29 occupants and 100 feet travel distance
Second story	B[b], F, M, S[a]	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third Story	R-2[c]	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 3048.mm
a. For the required number of exits for parking structures, see Section 1019.1.1.
b. For the required number of exits for air traffic control towers, see Section 412.1.

1015.1 (IFC [B] 1015.1) (Supp) Exits or exit access doorways from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds one of the values in Table 1015.1.

   Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4, 1015.5, 1015.6 or 1015.6.1.

   Exception: Group I-2 occupancies shall comply with Section 1014.2.2.

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

TABLE 1015.1 (IFC [B] TABLE 1015.1)
SPACES WITH ONE ~~MEANS OF EGRESS~~ EXIT OR EXT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E[a], F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load is 10.

Reason: This proposal is intended to follow up on Item E136-06/07 of the previous code development cycle. The City of Portland, Oregon, proponents of that submittal, correctly identified shortcomings in the 2006 Table 1019.2. The Means of Egress Code Development Committee and the membership agreed as the item was approved and appears in the 2007 Supplement. As much as the code change represents a significant improvement, specific details remain unaddressed. The City of Seattle frequently encounters single exit designs and we feel that too much is presently left to interpretation. This proposal primarily adds explanatory language to the section text. It is felt that this more detailed verbiage is necessary to provide clarity and lend to uniformity in application of single exit provisions. An indication that this is necessary is offered in the 2006 International Building Code, Code and Commentary, Volume 1. That document makes two statements of questionable technical merit or history. For example, it states, “Also, this section assumes single occupancy buildings. The use of these provisions for mixed occupancies is subject to approval by the building official.” Section 1019.1 or 1019.2 do not make that distinction and previous editions of the commentary have not either. The 2006 Commentary also states, “It is important to note that the provisions in Section 1019.2 apply to entire buildings only, not individual stories or fire areas.” This statement has obviously been nullified by the 2007 Supplement.

The reformatting of Table 1019.2 in the 2007 Supplement goes a long way in implying the purpose of the table. That is, to indicate the combination of variables under which a given occupancy may be served by a single exit. It is felt that these provisions are intended to be used in combination based on their individual merit. For example, a building of any height where the remainder of the building is served by two or more exits may have a Group M occupancy at the second story of the building so long as that occupancy has an occupant load of not more that 29 persons and the travel distance does not exceed 75 feet. This obviously assumes no cumulative occupant loads as regulated by Section 1004.1. Should one occupancy egress through another occupancy, the cumulative occupant load and applicable travel distance would serve as entry values for Table 1019.2. Additionally, the same building could have a Group A occupancy at the first story of the building provided that the occupant load and the travel distance did not exceed 49 occupants and 75 feet, respectively.

Section 1001.1 fundamentally requires that, “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.” Clearly, means of egress provisions apply to the “portions served” and may be designed independently of other “portions served” within a given building. The proposed second sentence of Section 1019.2 makes this distinction. This portion-by-portion philosophy also potentially applies to mixed occupancies so long as the individual occupancies do not exceed the limitations for those occupancies as delineated in Table 1019.2. The Boeing Company has been instrumental in the development of current IBC mixed occupancy requirements. They share our concern about the vagueness of single exit provisions and are co-proponents of this proposal. Boeing noted that the perceived limitation of mixed occupancies in individual story applications could also be applied to individual spaces given the similarity of threshold requirements in Section 1015.1. Accordingly, that section has also been modified to clarify mixed occupancy requirements. Additionally, the title of Table 1015.1 has been altered to agree with the title of the section and the text in Section 1015.1.

Lastly, and to support a position stated in the 2006 Commentary, the last sentence of Section 1019.2 stipulates that single exit basement applications are limited to the first story below grade plane. To be consistent with the allowance for single exit basements, the column heading in Table 1019.2 has been changed to acknowledge that the story could be above or below grade plane (basement).

In summary, this proposal provides needed amplification of single exit provisions from various stories within a building. It provides necessary guidance for designers and code enforcement officials alike and will lend to more uniform and appropriate interpretations of this important concept.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal adds consistency and clarifies the provisions for single exit buildings as provided in the 2007 Supplement.

Assembly Action: **None**

Final Hearing Results

E127-07/08 **AS**

Code Change No: E129-07/08

Original Proposal

Sections: 1020.1 (IFC [B] 1020.1)

Proponent: Jay Wallace, The Boeing Company

Revise as follows:

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1021, except as permitted in Section 1024.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
   1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
   The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

Reason: This proposal is intended to clarify a fundamental means of egress provision. The relationship between vertical exit enclosures and exit passageways is an extremely important one for the maintenance of egress continuity and yet, the code does not specifically state the requirement. Section 1024.1 states, “Exits shall discharge directly to the exterior of the building.” Section 1019.3 states, “Exits shall be continuous from the point of entry into the exit to the exit discharge.” Section 1019.1 states, “Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.” Section 1020.1.1 states, “Where interior exit enclosures are extended to the exterior of a building by an exit passageway…” Section 1021.3 states, “Exit passageway enclosures shall have … …fire-

resistance rating, and not less than that required for any connecting exit enclosure." This collection of requirements obviously implies the extension of exit enclosures to the exterior of the building by means of an exit passageway; however, Section 1020.1 Enclosures required, does not make the direct statement of this important egress provision. The added sentence also references the exceptions to the exit (enclosure) leading directly to the exterior. These exceptions arguably belong in Section 1018 or 1020; however, given their present location in Section 1024.1, a cross-reference is appropriate and will assist users who may not know to look in the exit discharge section for this information. The proposed revision will assist code users by clearly stating this fundamental egress requirement.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language will clarify a vague area of the code by indicating that the exit or exit passageway must connect to the outside.

Assembly Action: **None**

Final Hearing Results

E129-07/08 **AS**

Code Change No: E130-07/08

Original Proposal

Sections: 706.7, 1020.1.1 (IFC [B] 1020.1.1), 1020.1.6 (IFC [B] 1020.1.6), 1020.1.7 (IFC [B] 1020.1.7), 1020.1.7.1 (IFC [B] 1020.1.7.1), 1020.2 (New) (IFC [B] 1020.2 (New)), 1020.2.1 (New) (IFC [B] 1020.2.1 (New)), 1021.3 (IFC [B] 1021.3), 1021.4 (IFC [B] 1021.4)

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

1. Revise as follows:

706.7 (Supp) Openings. Openings in a fire barrier shall be protected in accordance with Section 715. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m^2). Openings in exit enclosures and exit passageways shall also comply with Sections 1020.1.1 and 1021.4, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m^2) where adjoining floor areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving an exit enclosure.
3. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective assembly has been tested in accordance with ASTM E 119 or UL 263 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.
4. Fire window assemblies permitted in atrium separation walls shall not be limited to a maximum aggregate width of 25 percent of length of the wall.
5. Openings shall not be limited to 156 square feet (15m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door assembly in a fire barrier separating an exit enclosure from an exit passageway in accordance with Section 1020.2.1.

2. Add new text as follows:

1020.2 (IFC [B] 1020.2) Termination. Exit enclosures shall terminate at an exit discharge or a public way.

Exception: An exit enclosure shall be permitted to terminate at an exit passageway complying with Section 1021 provided the exit passageway terminates at an exit discharge or a public way.

1020.2.1 (IFC [B] 1020.2.1) Extension. Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit enclosure shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure. A fire door assembly complying with Section 715.4 shall be installed in the fire barrier to provide a means of egress from the exit enclosure to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

Exception: Penetrations of the fire barrier in accordance with Section 1020.4 shall be permitted.

3. Revise as follows:

~~**1020.1.1 (IFC [B] 1020.1.1)**~~ **1020.3 (IFC [B] 1020.3) Openings and penetrations.** Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

~~Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly conforming to the requirements in Section 715.4. Fire door assemblies in exit enclosures shall comply with Section 715.4.4.~~

Elevators shall not open into an exit enclosure.

(Renumber Sections 1020.1.2 through 1020.1.5 as Sections 1020.4 through 1020.7)

~~**1020.1.6 (IFC [B] 1020.1.6)**~~ **1020.8 (IFC [B] 1020.8) (Supp) Floor identification signs.** A sign shall be provided at each floor landing in ~~interior~~ exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

~~**1020.1.7 (IFC [B] 1020.1.7)**~~ **1020.9 (IFC [B] 1020.9) Smokeproof enclosures and pressurized stairways**. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

~~**1020.1.7.1 (IFC [B] 1020.1.7.1)**~~ **1020.9.1 (IFC [B] 1020.1.9.1)** ~~**Enclosure exit**~~ **Termination and extension**. A smokeproof enclosure or pressurized stairway shall ~~exit into~~ terminate at an exit discharge or a public way ~~or into an exit passageway, yard, or open space having direct access to a public way~~. The smokeproof enclosure or pressurized stairway shall be permitted to be extended by an exit passageway in accordance with Section 1020.2. The exit passageway shall be without ~~other~~ openings other than the fire door assembly required by Section 1020.2 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire-resistance-rated construction.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. The fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway.

4. A smoke proof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1024.

(Renumber Section 1020.1.7.2 as Section 1020.9.2)

1021.3 (IFC [B] 1021.3) [Supp] Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

1021.4 (IFC [B] 1020.4) Termination. Exit passageways shall terminate at an exit discharge or a public way.

~~**1021.4 (IFC [B] 1021.4)**~~ **1021.5 (IFC [B] 1021.5) Openings and penetrations**. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than ~~unexposed~~ unprotected exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where ~~interior~~ an exit enclosures ~~are~~ is extended to ~~the exterior of a building~~ an exit discharge or a public way by an exit passageway, the ~~door assembly from the exit enclosure to the~~ exit passageway ~~shall be protected by a fire door conforming to the requirements in Section 715.4. Fire door assemblies in exit passageways~~ shall also comply with Section ~~715.4.4~~ 1020.2.1.

Elevators shall not open into an exit passageway.

(Renumber Section 1021.5 as Section 1021.6)

Reason: The purpose of this proposal is to establish a technical basis for the option of extending an exit enclosure to an exit discharge or a public way by means of an exit passageway. It was prepared in conjunction with related proposals on editorial revisions to the provisions for exit enclosures and exit passageways, definitions of the means of egress components, and the technical provisions for smokeproof enclosures and pressurized stairways. Currently, there is no charging language permitting such an option, only references to the option in the third paragraphs of Sections 1020.1.1 and 1021.4 (Sections 1020.3 and 1021.5 in proposal). These paragraphs, in turn, reference a door assembly from the exit enclosure to the exit passageway and require it to be a fire door assembly, but there is no charging language requiring the door assembly. The paragraphs are also silent on what surrounds the door assembly, which is typically a wall or partition. Section 1002.1 defines "exit enclosure" and "exit passageway" as providing egress travel "to the exit discharge or the public way" but there is no charging language requiring such travel other than in the definitions, which should not be relied upon for providing technical requirements.

The references to a door assembly from the exit enclosure to the exit passageway have caused confusion when the exit passageway is used in conjunction with a smokeproof enclosure or a pressurized stairway. Requiring separation of the exit enclosure from the exit passageway with a fire barrier, where the passageway is used to extend an exit enclosure to an exit discharge or public way, typically has merit. The exit passageway is permitted by Section 1021.4 (Section 1021.5 in proposal) to have openings from rooms adjacent to the exit passageway provided they are limited to those necessary for exit access to the exit passageway from normally occupied spaces. A fire in one of these rooms could compromise the use of the exit passageway as a component of the means of egress. The fire barrier reduces the possibility of the connecting exit enclosure also being compromised, thus, preserving its function for other floor levels.

When the exit passageway is used in conjunction with a smokeproof enclosure or a pressurized stairway, however, the fire barrier could be detrimental to the operation of the mechanical system providing pressurization where the mechanical ventilation alternative of Section 909.20.4 is utilized. The fire barrier is also superfluous since Section 1020.1.7.1 (Section 1020.9.1 in proposal) prohibits openings into such exit passageways, thus, eliminating the hazard posed by openings from adjacent rooms to the passageway.

The proposal accomplishes the following: [code sections noted in ( )]

1. Provides charging language requiring exit enclosures to terminate at an exit discharge or a public way. (1020.2)
2. Provides charging language permitting the option of using an exit passageway to extend an exit enclosure to an exit discharge or a public way. (1020.2, Exception)
3. Requires separation of the exit enclosure from the exit passageway by means of a fire barrier when the option of using an exit passageway to extend an exit enclosure is utilized. (1020.2.1)
4. Specifies requirements for the fire barrier that are equivalent to that of the connecting exit enclosure. (1020.2.1)
5. Adds an exception to Section 706.7 for the fire barrier consistent with Exception #2. (706.7, Exception 5)
6. Provides charging language requiring smokeproof enclosures and pressurized stairways to terminate at an exit discharge or a public way, and permitting the option of using an exit passageway to extend the smokeproof enclosure or pressurized stairway to an exit discharge or a public way in the same manner as for exit enclosures. (1020.9.1)
7. Revises the language on openings into an exit passageway used to extend a smokeproof enclosure or pressurized stairway by prohibiting them except for the fire door assembly in the fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway and those necessary for egress from the exit passageway in conjunction with similar language in the second paragraph of Section 1021.4 (Section 1021.5 in proposal) on openings in exit passageways. (1020.9.1)
8. Provides an exception to the requirement for separation of the smokeproof enclosure or pressurized stairway from the exit passageway by means of a fire barrier when the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway. (1020.9.1, Exception 3)
9. Provides charging language requiring exit passageways to terminate at an exit discharge or a public way. (1021.4)
10. Provides charging language permitting the option of using an exit passageway to extend an exit enclosure to an exit discharge or a public way in conjunction with Item #2 above. (1021.5, paragraph #3)

In proposed Section 1020.2.1, "interior exit enclosures," currently in the third paragraph of Section 1020.1.1, is changed to "exit enclosures" because "interior" is judged to be superfluous. All exit enclosures are interior enclosures including those with exterior walls (refer to current Section 1020.1.4). Note that Section 1002.1 defines an "interior stairway" as a "stairway not meeting the definition of exterior stairway." The same change is proposed in Sections 1020.1.6 and 1021.4 (Sections 1020.8 and 1021.5 in proposal), which represent the only other instances of "interior exit enclosure" in the 2006 IBC.

In proposed Section 1020.2.1, "exterior of a building," currently in the third paragraph of Section 1020.1.1, is changed to "exit discharge" for consistency with the definitions in Section 1002.1 of "exit enclosure", which is defined as providing a protected path of egress travel to the exit discharge or the public way, and "exit," which is defined as providing a protected path of egress travel between the exit access and the exit discharge. It is also changed for consistency with Section 1024.1, which requires exits to discharge directly to the exterior of the building (with exceptions).

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language would clarify the intent of exit and exit discharge. This fills voids in the current text regarding the connection between the exit enclosure and exit passageway, and what happens where an pressurized stairway discharges to an exit passageway.

Assembly Action: **None**

Final Hearing Results

E130-07/08 **AS**

Code Change No: E134-07/08

Original Proposal

Sections: 1020.1.7, 1020.1.7.1 (IFC [B] 1020.1.7, [B] 1020.1.7.1)

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

Revise as follows:

1020.1.7 (IFC [B]1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the ~~exits of a building that serves stories where the~~ exit enclosures serving a story with a floor surface that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such ~~floor levels~~ stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1020.1.7.1 (IFC [B] 1020.1.7.1) Enclosure exit. A smokeproof enclosure or pressurized stairway shall exit into a public way or into an exit passageway, yard or open space having direct access to a public way. The exit passageway shall be without other openings and shall be separated from the remainder of the building by 2-hour ~~fire-resistance-rated construction~~ fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1024.

Reason: In Section 1020.1.7, serving "such floor levels" is changed to serving "such stories" for internal consistency within the section where it specifies exits serving a story whose floor surface is located as noted.

In Section 1020.1.7, "exit" is changed to "exit enclosure" for correlation with Section 1020.1 requiring enclosure of all interior exit stairways and interior exit ramps unless exempted. If each exit with a floor surface more than 75 feet above the lowest level of fire department vehicle access or more than 30 feet below the level of exit discharge were required to be a smokeproof enclosure or pressurized stairway, many of the exceptions to the requirement for enclosure in Section 1020.1 would be negated, which is not the intent.

The other proposed changes are editorial. In Section 1020.1.7, exits "of a building that serves stories where the floor surface is located" as noted is changed to exits "serving a story with a floor surface located" as noted. In Section 1020.1.7.1, "fire-resistance-rated construction" at exit passageways is changed to "fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both" for consistency with similar language in Section 1021.3 for exit passageways.

This proposal was prepared in conjunction with related proposals on editorial revisions to the provisions for exit enclosures and exit passageways, definitions of the means of egress components, and exit passageways used to extend exit enclosures to an exit discharge or a public way.

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

Public Hearing Results

Errata: Modify the proposal as follows.

1020.1.7 (IFC [B]1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exit enclosures serving a story with a floor surface ~~that is~~ located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

(Portions of proposal not shown remain unchanged)

Committee Action: **Approved as Submitted**

Committee Reason: The proposal offers specific language and references for separation requirements. This coordinates provisions that were started in the 2007 Supplement.

Assembly Action: **None**

Final Hearing Results

E134-07/08 **AS**

Code Change No: E136-07/08

Original Proposal

Sections: 1022.1, 1022.4, (IFC [B] 1022.1, [B] 1022.4)

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

Revise as follows:

1022.1 (IFC [B] 1022.1) Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m^2) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

The adjoining compartment ~~Every fire compartment for which credit is allowed in connection with a horizontal exit~~ shall not be required to have a stairway or door leading directly outside, provided the ~~adjoining fire compartments have~~ refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

~~The area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant capacity imposed by persons entering it through horizontal exits from other areas. At least one of its exits shall lead directly to the exterior or to an exit enclosure.~~

1022.4 (IFC [B] 1022.4) Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m^2) for each occupant to be accommodated therein.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m^2) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m^2) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m^2) per occupant for nonambulatory occupancies in Group I-2.

Reason: This proposal intends to clarify horizontal exit provisions. First, the second paragraph of Section 1022.1 currently contains some confusing language referencing a fire compartment credit concept that is not recognized anywhere in Chapter 10. The paragraph has been rewritten in more contemporary language while maintaining the original technical intent. Secondly, the third paragraph of Section 1022.1 has been relocated to Section 1022.4. That provision deals with the design of the means of egress from the refuge area and is more appropriately located in the latter section. Approval of this proposal will clarify the intent of the code and assist users in the proper determination of horizontal exit technical requirements.

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

Public Hearing Results

Errata: Replace the proposal with the following:

1022.1, 1022.4, (IFC [B] 1022.1, [B] 1022.4)

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

Revise as follows:

1022.1 (IFC [B] 1022.1) Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m2) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

~~Every fire compartment for which credit is allowed in connection with a horizontal exit shall not be required to have a stairway or door leading directly outside, provided the adjoining fire compartments have stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.~~

~~The area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant capacity imposed by persons entering it through horizontal exits from other areas. At least one of its exits shall lead directly to the exterior or to an exit enclosure.~~

1022.4 (IFC [B] 1022.4) Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m2) for each occupant to be accommodated therein.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m2) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m2) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m2) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

Reason: This proposal intends to clarify horizontal exit provisions. First, the third paragraph of Section 1022.1 has been relocated to Section 1022.4. That provision deals with the design of the means of egress from the refuge area and is more appropriately located in the latter section. Secondly, the second paragraph of Section 1022.1 currently contains some confusing language referencing a fire compartment credit concept that is not recognized anywhere in Chapter 10. The paragraph has been rewritten in more contemporary language while maintaining the original technical intent. Additionally, based on IBC errata, the provision in question was originally intended to be an exception. Accordingly, it has been retained as an exception; however, it also been placed in context following the proposed second paragraph of Section 1022.4. Approval of this proposal will clarify the intent of the code and assist users in the proper determination of horizontal exit technical requirements.

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

Analysis: An errata has been issued for Section 1022.1, Exception 2. In the 2000 IBC this section had two paragraphs under the exception. The 2003 IBC and 2006 IBC show the second paragraph of Exception 2 moved out as a main section paragraph. There was no code change proposal to relocate this paragraph, therefore, and errata has been issued for the 2003 and 2006 IBC to locate the paragraph starting “Every fire compartment….” as part of Exception 2.

Committee Action: **Approved as Submitted**

Committee Reason: The proposal places the language in a better location to improve understanding of what is permitted for horizontal exits.

Assembly Action: **None**

Final Hearing Results

E136-07/08 **AS**

Code Change No: E138-07/08

Original Proposal

Sections: 1024.1 (IFC [B] 1024.1)

Proponent: Lee J. Kranz, City of Bellevue, WA, representing The Washington Association of Building Officials (WABO), Technical Code Development Committee

Revise as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. Exceptions 1 and 2 below shall not be used concurrently within a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
   1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
   1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.

2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
   2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Reason: This code change clarifies for designers and code officials that only one of the two exceptions related to reentering a building from an exit enclosure may be used in a single building. As currently written, it appears that both exceptions could be used in the same building. The IBC Commentary book indicates "or" but there is no code basis to support that assumption.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: In a four exit building the proposed language would prohibit the option of one lobby, one vestibule and two exits to the exterior. The committee agreed that using the exceptions to exempt 100% of the exits of a building from going to the exterior was not the intent and requested the proponent to return with revised language.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Lee J. Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 below shall not ~~be used concurrently within a building~~ exceed 50% of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
   1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
   1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).

2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Commenter's Reason: As advised by the Egress Committee in Palm Springs, the language has been modified to make it clear that not more than 50% of the required exit enclosures may utilize exceptions #1 & #2 concurrently. This is necessary as there will be cases where more than 2 exit enclosures are required and the revised language resolves the issue.

Final Hearing Results

E138-07/08 AMPC1

Code Change No: E140-07/08

Original Proposal

Sections: 1024.1, (IFC [B] 1024.1)

Proponent: Jay Wallace, The Boeing Company

Revise as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
   1.1. Such exit enclosures egress to a free and unobstructed path of travel ~~way~~ to an exit at the exterior of the building~~, which way~~ and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
   1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
   2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Reason: Exception 1 allows egress through areas along the way to the exterior of the building but those areas are not well defined. As written, it could be interpreted to allow for a free and unobstructed way that winds through various areas on the level of discharge as long as the way is readily visible and identifiable. The intent of the exception is to allow for egress along a path of travel which leads directly to an exit at the exterior of the building that can be seen from the door of the exit enclosure. This revision clarifies that the exit door to the exterior of the building must be visible upon egress from the exit enclosure which is how this section is being interpreted in most jurisdictions today.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language clarifies that the exit signage is not enough in the lobby used for exit discharge. The exit door must be visible from the bottom of the exit stair.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.

Modify proposal as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
   1.1. Such exit enclosures egress to a free and unobstructed path of travel to an exterior exit door ~~at the exterior of the building~~ and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
   1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
   1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
   2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Commenter's Reason: The proposal as approved by the committee has a flaw in that it requires an unobstructed path to an "exit" at the exterior of the building. Since the definition of exit includes 6 different things, this exit could be another exit enclosure (vertical) or an exit passageway, or an exterior exit stairway. We believe the intent of the proponent and of the original code is that this is specifically an exterior exit door.

Final Hearing Results

E140-07/08 **AMPC1**

Code Change No: E141-07/08

Original Proposal

Sections: 1025.1.1, (IFC [B] 1025.1.1)

Proponent: Gerard Hathaway, New York State Department of State Building Codes Division, representing ICC 300 Development Committee

Revise as follows:

1025.1.1 (IFC [B] 1025.1.1) Bleachers. Bleachers, grandstands, and folding and telescopic seating, that are not building elements, shall comply with ICC 300.

Reason: Bleachers, Grandstands and Folding and Telescopic Seating are addressed in ICC 300. The purpose of the proposed scoping change is to clarify that bleachers, grandstands and folding and telescopic seating are limited to items that are separate, independent structures from the buildings. They may be located within buildings or combined with spaces constructed under or over (e.g. concessions booths, toilets, roofs). The ICC 300 addresses specifics for the listed types of seating only. The ICC 300 is not intended to by utilized for single row seating that is supported directly on the floor system.

Note that 'building element' is a defined term that was added to the code by FS04-06/07.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The inclusion of the term "not a building element" clarifies that bleachers and grandstands are not part of a floor system. Therefore, where ICC 300 *Bleachers, Grandstands and Folding and Telescopic Seating* should be used is also clarified.

Assembly Action: **None**

Final Hearing Results

E141-07/08 **AS**

Code Change No: E144-07/08

Original Proposal

Sections: 1002.1 (IFC [B] 1002.1)

Proponent: Bob Eugene, Underwriters Laboratories Inc.

Add new definitions as follows:

1002.1 (IFC [B] 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.

PHOTOLUMINESCENT. Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

SELF-LUMINOUS. Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

Reason: These terms are used in 2007 Supplement, Section 1011.4 and 1027.1.6. They should be defined for the user to better understand the differences between the two technologies.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The definitions are consistent with the referenced standards in Section 1027 in the 2007 Supplement. The definition is generic enough to allow for other technologies that were brought up during the floor testimony. Having it as a guide is helpful to users of the code.

Assembly Action: **None**

Final Hearing Results

E144-07/08 **AS**

Code Change No: E145-07/08

Original Proposal

Sections: 1027.1.1, 1027.1.3, 1027.1.4, 1027.6, 1027.6.1 (New), 1027.6.2 (New) [IFC [B] 1027.1.1, [B] 1027.1.3, [B] 1027.1.4, [B] 1027.6, [B] 1027.6.1 (New), [B] 1027.6.2 (New)]

Proponent: Bob Eugene, Underwriters Laboratories Inc.

Revise as follows:

SECTION 1027 (Supp)
EXIT PATH MARKINGS

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous markings delineating the exit path shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7.

Exception: Exit path markings shall not be required in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with the exception to Section 1023.1.

1027.1.1 (IFC [B] 1027.1.1) (Supp) Steps. A stripe 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.

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL1994.

1027.1.2 (IFC [B] 1027.1.2) (Supp) Landings: The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1027.1.3 (IFC [B] 1027.1.3) 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).

Exception: The minimum width of 1 inch (25 mm) shall not apply to handrail stripes listed in accordance with UL1994.

1027.1.4 (IFC [B] 1027.1.4) (Supp) Perimeter demarcation lines: Stair landings and other floor areas within exit enclosures, 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).

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL1994.

1027.1.4.1 (IFC [B] 1027.1.4.1) (Supp) 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.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 (IFC [B] 1027.1.4.2) (Supp) Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe 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. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 (IFC [B] 1027.1.4.3) (Supp) Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.1.5 (IFC [B] 1027.1.5) (Supp) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 (IFC [B] 1027.1.6) (Supp) Materials. Materials shall comply with Section 1027.16.1 or 1027.1.6.2

1027.1.6.1 (IFC [B] 1027.1.6.1) Self-luminous and photoluminescent. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

1027.1.6.2 (IFC [B] 1027.1.6.2) Externally powered. Externally powered exit path markings shall be listed in accordance with UL 1994.

1027.1.7 (IFC [B] 1027.1.7) Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Reason: The minimum width requirement for an outline stripe is intended to ensure that the stripe, when installed, is sufficiently visible. For a stripe Listed per UL 1994, the visibility performance is determined using the actual width of the assembled product (UL 1994 does not accommodate field-applied paints), so there is no need to subsequently specify the minimum width in the installation code. This is not the case for paints or other raw materials that could be claimed to comply with ASTM E2072, which instead relies upon a field performance test. The proposed changes allow those products that have been performance tested and are manufactured in a closely controlled environment to be utilized in accordance with listing requirements.

Additionally, externally illuminated exit path markings should also be recognized for use where the external power source is sufficient to provide 90 minutes of power and the systems conform to the performance test of the adopted standard. This performance criterion is integral to the UL 1994 Listing program.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

1027.1.6 (IFC [B] 1027.1.6) (Supp) ~~Materials.~~ ~~Materials shall comply with Section 1027.16.1 or 1027.1.6.2~~

~~1027.1.6.1 (IFC [B] 1027.1.6.1)~~ Self-luminous and photoluminescent. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

~~1027.1.6.2 (IFC [B] 1027.1.6.2) Externally powered~~. ~~Externally powered exit path markings shall be listed in accordance with UL 1994.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proponent requested the modification because 'externally powered' is not under the purview of UL 1994. The proposal was approved because it would allow a different performance based requirement for photoluminescent materials. There were some concerns expressed regarding UL 1994 and if it is going to provide the same level of photoluminescence in the same conditions, specifically to handrails in turnings and transitions.

Assembly Action: **None**

Final Hearing Results

E145-07/08 **AM**

Code Change No: E146-07/08

Original Proposal

Sections: 403.16, 1027.1, 1027.1.1, 1027.1.3, 1027.1.4, 1027.1.6 (IFC [B] 1027.1, [B] 1027.1.1, [B] 1027.1.3, [B] 1027.1.4, [B] 1027.1.6)

Proponent: James P. Colgate, RA, Esq, City of New York, Department of Buildings

Revise as follows:

403.16 (Supp) ~~Exit~~ Luminous egress path markings. ~~Exit~~ Luminous egress path markings shall be provided in accordance with Section 1027.

SECTION 1027
~~EXIT~~ LUMINOUS EGRESS PATH MARKINGS

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous egress path markings delineating the exit path shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7.

Exceptions:

1. ~~Exit~~ Luminous egress path markings shall not be required on the level of exit discharge in lobbies ~~or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with the exception to~~ that serve as part of the exit path in accordance with Section ~~1023.1~~ 1024.1, Exception 1.
2. Luminous egress path markings shall not be required in areas of open parking garages that serve as part of the exit path in accordance with Section 1024.1, Exception 3.

1027.1.1 (IFC [B] 1027.1.1) (Supp) Steps. A solid and continuous stripe 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.

1027.1.2 (IFC [B] 1027.1.2) (Supp) Landings: The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1027.1.3 (IFC [B] 1027.1.3) (Supp) Handrails: All handrails and handrail extensions shall be marked with a solid and continuous 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).

1027.1.4 (IFC [B] 1027.1.4) (Supp) Perimeter demarcation lines: Stair landings and other floor areas within exit enclosures, with the exception of the sides of steps, shall be provided with solid and continuous 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).

1027.1.4.1 (IFC [B] 1027.1.4.1) (Supp) 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.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 (IFC [B] 1027.1.4.2) (Supp) Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe 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. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 (IFC [B] 1027.1.4.3) (Supp) Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.1.5 (IFC [B] 1027.1.5) (Supp) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 (IFC [B] 1027.1.6) (Supp) Materials. ~~Luminescent exit~~ Luminous egress path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

1027.1.7 (IFC [B] 1027.1.7) (Supp) Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Reason: Sections 403.16 and 1027 were added by two-thirds majority of the membership present at the ICC Final Action Hearing in Rochester. The purpose of this code change proposal is two-fold. The first is to correct terminology used throughout the aforementioned sections. Second, the proposal will clarify the graphic requirements for the proper execution of egress path marking. The change the exception to Section 1027.1 is to correctly reference the section for lobbies and parking garages that serve as part of the exit discharge.

First, this proposal will correct the terminology used in these sections to conform to the terminology used in the referenced standard UL 1994. This standard uses the term “luminous egress path markings”. Therefore, the term “luminescent” will be replaced with “luminous”, and the term “exit path” will be replaced with “egress path”. By aligning terminology with definitions utilized by the nationally recognized referenced standard UL 1994, practitioners and interpreters of the code will be able to mitigate confusion caused by potentially conflicting terms.

Second, this proposal will clarify that the luminous stripes shall be “solid and continuous”, rather than a series of dots, icons or chevrons. A consistent standard for the graphic representation of egress markings will enhance the utility of such markings and enable the safe egress of buildings.

First, the code change proposal to correct terminology can only facilitate the use of the myriad codes, standards, and local laws that govern the construction and use of buildings. All too often, identical terms are used by different codes and standards, but those terms may be defined very differently. Where possible, definitions ought to be replicated across the codes and national standards, and specific terms should be duplicated in both definition and context in order to establish regulations that are irrefutable in light of competing standards and rules.

Second, the code change proposal to clarify the graphic standard for egress path markings is necessary to maintain a universal ‘language’ irrespective of location. Much like the red octagon denoting a vehicular traffic ‘stop,’ a readily recognized graphic consistency can significantly enhance the occupants’ understanding of a building and its circulation, especially in unfamiliar environments. This proposed code clarification brings the graphic requirements into conformance with New York City’s low-location egress path marking requirements instituted in response to the attacks on the World Trade Center of September 11, 2001. New York City had comprehensively reviewed and tested several types of luminous egress path marking systems and found the “solid and continuous” stripes to be the most effective and have required such markings retroactively for all high rise business buildings. The proposal approved at the Final Action Hearing in Rochester in 2007 added Sections 403.16 and 1027.1 with the intent to introduce to the IBC the same requirements that are already found in the New York City. This proposal is an essential clarification to prevent non-solid and non-continuous marking stripes of the type that New York City already prohibits.

Bibliography:

1. City of New York, Department of Buildings. Building Code Reference Standard RS 6-1 and 6-1A (available at http://www.nyc.gov/html/dob/downloads/pdf/rs_6-1.pdf). Promulgated May 31, 2005.

2. City of New York, Department of Buildings. Word Trade Center Building Code Task Force: Findings and Recommendations (available at http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf). February, 2003.
City of New York.

3. Local Law 26 of 2004, Section 15, modifying Building Code Section 27-283 (available at http://www.nyc.gov/html/dob/downloads/bldgs_code/locallaw26of04.pdf). Enacted May 24, 2004.

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

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provides some good clarifications. The term “luminous” is more consistent with the standard. The proposal clarified the requirements for exit discharge through lobbies or vestibules. The addition of “solid” and “continuous” will ensure that these markings are usable. The exception for open parking garages is needed. The proposal differentiates between the means of egress path and the luminescent path.

Assembly Action: **None**

Final Hearing Results

E146-07/08 **AS**

Code Change No: E147-07/08

Original Proposal

Sections: 1027.1, 1027.1.6, 1027.2 (New), 1027.2.5 (New), 1027.2.6 (New), 1027.2.6.1 (New), 1027.2.6.2 (New), 1027.2.6.3 (New), 1027.3 (New), 1027.3.1 (New), 1027.7 (New), Chapter 35, (IFC [B] 1027.1, [B] 1027.1.6, [B] 1027.2 (New), [B] 1027.2.5 (New), [B] 1027.2.6 (New), [B] 1027.2.6.1 (New), [B] 1027.2.6.2 (New), [B] 1027.2.6.3 (New), [B] 1027.3 (New), [B] 1027.3.1 (New), [B] 1027.7 (New), Chapter 45)

Proponent: James P. Colgate, RA, Esq, City of New York, Department of Buildings; Thomas Jensen, City of New York Fire Department

1. Revise as follows:

SECTION 1027 (IFC [B] 1027) (Supp)
EXIT PATH MARKINGS

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous markings delineating the exit path shall be provided in ~~exit enclosures, including vertical exit enclosures and exit passageways, of~~ buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access ~~and shall comply with Sections 1027.1.1 through 1027.1.7~~ in accordance with Sections 1027.2 through 1027.7.

Exception: Exit path markings shall not be required in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with ~~the exception~~ to Section ~~1023.1~~ 1024.1 Exceptions 1 or 3.

1027.2 (IFC [B] 1027.2) Markings within exit enclosures. Egress path markings shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, in accordance with Sections 1027.2.1 through 1027.2.6.

~~**1027.1.1 (IFC [B] 1027.1.1)**~~ **1027.2.1 (IFC [B] 1027.2.1) (Supp) Steps.** A stripe 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.

~~**1027.1.2 (IFC [B] 1027.1.2)**~~ **1027.2.2(IFC [B] 1027.2.2) (Supp) Landings:** The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

~~**1027.1.3 (IFC [B] 1027.1.3)**~~ **1027.2.3 (IFC [B] 1027.2.3) (Supp) 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).

~~**1027.1.4 (IFC [B] 1027.1.4)**~~ **1027.2.4 (IFC [B] 1027.2.4) (Supp) Perimeter demarcation lines:** Stair landings and other floor areas within exit enclosures, 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).

~~**1027.1.4.1(IFC [B] 1027.1.4.1)**~~ **1027.2.4.1 (IFC [B] 1027.2.4.1) (Supp) 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.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

~~**1027.1.4.2 (IFC [B] 1027.1.4.2)**~~ **1027.2.4.2 (IFC [B] 1027.2.4.2) (Supp) Wall mounted demarcation lines:** Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe 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. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

~~**1027.1.4.3 (IFC [B] 1027.1.4.3)**~~ **1027.2.4.3 (IFC [B] 1027.2.4.3) (Supp) Transition.** Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.2.5 (IFC [B] 1027.2.5) Obstacles. Obstacles at or below 6'-6" (1981 mm) in height and projecting more than 4" (102 mm) into the egress path shall be outlined with markings no less than 1" (25 mm) in width comprised of a pattern of alternating equal bands, of luminescent luminous material and black, with the alternating bands no more than 2" thick and angled at 45 degrees. Obstacles shall include, but are not limited to, standpipes, hose cabinets, wall projections, and restricted height areas. However, such markings shall not conceal any required information or indicators including but not limited to instructions to occupants for the use of standpipes.

1027.2.6 (IFC [B] 1027.2.6) Intervening doors within exit enclosures and discharge doors from exit enclosures. Doors through which occupants within an exit enclosure must pass in order to complete the exit path shall be provided with markings complying with Sections 1027.6.1 through 1027.2.6.3.

1027.2.6.1 (IFC [B] 1027.2.6.1) Low-location luminous marking for doors. The doors shall be identified by a low-location luminous marking complying with Section 1027.3.

1027.2.6.2 (IFC [B] 1027.2.6.2) Door Hardware markings. Door hardware shall be marked with no less than 16 in^2 (406 mm2) of luminous material. This marking shall be located behind, immediately adjacent to, or on the door handle and/or escutcheon. Where a panic bar is installed, such material shall be no less than 1" (25 mm) wide for the entire length of the actuating bar or touchpad.

1027.2.6.3 (IFC [B] 1027.2.6.3) Door frame markings. The top and sides of the door frame shall be marked with a solid and continuous 1" to 2" (25 mm to 51 mm) wide stripe. Where the door molding does not provide sufficient flat surface on which to locate the stripe, the stripe shall be permitted to be located on the wall surrounding the frame.

1027.3 (IFC [B] 1027.3) Markings where exit signs are provided. Where exit signs are provided in accordance with Section 1011 in interior corridors, at doors opening into exits, or within exit enclosures, approved low-location luminous egress path markings shall be provided. The top of the marking shall be not more than 18 inches (457 mm) above the finished floor. For doors, the marking shall be mounted on the door, or on the wall adjacent to latch side of the door with the nearest edge of the marking within 4 inches (100 mm) of the door frame.

1027.3.1 (IFC [B] 1027.3.1) Graphics. The marking shall comply with the following:

1. The marking shall contain the "emergency exit" symbol complying with the 1st line of Table 4.2 of NFPA 170, except that the color of the luminous portions shall be permitted to be a light, contrasting color in lieu of white. The exit symbol shall be least 4" (102 mm) high.
2. The marking shall contain the word EXIT printed in sans serif letters at least 4" (102 mm) high with strokes no less than ½" (13 mm). The color of the letters shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the letters are luminous and the background is the same color as the exit symbol.
3. In the case of markings that identify doors, the marking shall not be required to contain an arrow when mounted on the door, but shall contain an arrow when mounted on a wall. Any such arrow shall be at 45 degrees and at least 2 ¾" (70 mm) high and shall comply with the 3rd, 4th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the exit symbol is luminous and the background is the same color as the exit symbol.

4. In the case of markings that do not identify a door, the sign shall contain an arrow at least 2 ¾" (70 mm) high, complying with the 2nd, 3rd, 4th, 7th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminescent, or shall be a light color or white if the arrow is luminescent and the background is the same color as the exit symbol.
5. Additional descriptive text shall be permitted, provided such words are in sans serif letters and are no more than one-half as high as the word EXIT or the emergency exit symbol.

~~**1027.1.5 (IFC [B] 1027.1.5)**~~ **1027.4 (IFC [B] 1027.4) (Supp) Uniformity.** Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

~~**1027.1.6 (IFC [B] 1027.1.6)**~~ **1027.5 (IFC [B] 1027.5) (Supp) Materials.** Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 milicandelas per square meter at 10 minutes and 5 milicandelas per square meter after 90 minutes.

~~**1027.1.7 (IFC [B] 1027.1.7)**~~ **1027.6 (IFC [B] 1027.6) (Supp) Illumination.** Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

1027.7 (IFC [B] 1027.7) Labeled. The markings shall be labeled in at least 6 point font with the manufacturer's name and product number, the test standard utilized, and, where ASTM E 2072 is utilized, the luminance measurements at 10 and 90 minutes.

Exception: For paints and epoxies applied in the field, the labeling information shall be provided on the container.

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

NFPA

170-06 Standard for Fire Safety and Emergency Symbols

Reason: The purpose of this code change proposal is modify section 1027 to include the egress path marking components that are already required in high rise buildings in New York City.

At the Codes Forum in Orlando in 2006, the Means of Egress Committee was supportive of low-location egress path marking system for high rise buildings, but was frustrated by the number different proposals. The Committee rejected all of the proposals and suggested that the various proponents work together to resolve their differences, and to submit a more unified proposal in the future. As a result, at the Final Action hearing in Rochester, Section 1027 was added by over two-thirds majority of the membership present.

The luminous low-location egress path marking systems, required only in particular occupancies of high-rise buildings, identify the egress path elements in the event of failure of power and back-up power. Although based on the requirements already enacted in New York City, Section 1027, as adopted in Rochester, lacks some important components required in New York City and, therefore, did not result in a complete egress path marking system. Specifically, Section 1027 currently does not require the egress path marking system to include marking of obstacles, of intervening egress doors, and of access to the exit doors. This proposal will strengthen Section 1027 by adding into it these omitted features.

Organizationally, the proposal will break the egress path marking requirements into two parts. The first part will comprise Section 1027.2, and will include those markings within the exit enclosure. The second part will comprise Section 1027.3, and will include a limited amount of markings within the exit access.

This proposal will add three new components into section 1027:

1. Obstacles within exits: The current Section 1027 does not require the marking of obstacles, such as hose cabinets, radiators, pipes, etc. In dark conditions where only outlines of the steps, floors, and handrails are luminous, it is critical to mark the projecting obstacles to prevent accidents. Section 1027.2.5 will require markings of obstacles with luminous stripes.
2. Intervening doors within exits: The current Section 1027 does not require the marking of intervening doors through which an occupant who is already within the exit enclosure must thereafter pass through in order to complete the egress path. In dark conditions, it is critical to make clear to the occupant what is the next step when the stair ends abruptly at ground floor or at a transfer level. Section 1027.2.6 will require markings of such doors with luminous stripes around the door moldings, markings at the door hardware, and a low-location sign.
3. At locations where exit signs are required: The current section 1027 provides markings within the exit enclosure, but does not require any markings that identify the exits from the exit access side. When the power and back-up power fail, finding the exit in the dark would be difficult without low-location luminous markings. Section 1027.3 will require low-location markings at the door opening onto the exit and interior corridors at the same locations where high-location exit signs are required by Section 1011.

Additionally, the proposal will add a requirement for a minimum luminance measurement at 10 minutes for products tested under the ASTM 2072 testing standard. This was inadvertently omitted from the prior proposal. The 10-minute standard will ensure that the luminance has a sufficient luminance decay curve such that the markings will be brighter at the beginning of an evacuation.

Lastly, the proposal will require that the products be labeled by the manufacturer to increase accountability and prevent counterfeiting.

The new additions to Section 1027 come from the standards established by New York City's RS 6-1. The RS 6-1 was developed by the New York City Department of Buildings' architects and engineers after over one year of research of all available relevant standards, including but not limited to those published by the ASTM, UL, ISO, IMO, APTA (American Public Transportation Association). In addition, the department performed outreach and consultation with the various industries, including those from overseas. The Buildings Department also inspected mock-up/test installations of luminescent markings in various permutations, with different placement and dimensional configurations, to ensure that the resulting standards were adequate and appropriate. The result of all this research was a draft standard that was published for public comment – the public hearing on the proposal drew over 80 attendees representing a wide range of egress and safety experts. As a result of the public comment, the draft standard was refined and published in final form on May 31, 2005. Since then over 1500 installations have been completed in high rise buildings pursuant to this standard. It is on the basis of this experience that this proposal is being made.

Regarding obstacles markings, the text comes from New York City's RS 6-1. The only change to New York's city language was a clarification that required standpipe instructions should not be covered by the markings.

Regarding the intervening door markings, the text also comes from New York City's RS 6-1.

Regrading the markings on the exit access side of exit doors, the text comes from New York City's RS 6-1. However, at the time of RS 6-1's enactment in 2005, the NFPA 170 had not yet by then been updated to include the international arrow and egress symbols. As a result, RS 6-1 referenced ISO 7010 (2003). With the recent modification to NFPA 170 (2006), this proposal will reference to NFPA instead of ISO.

Regarding the 10-minute measurement at 30 milicandelas per square meter, this is the same luminance reading as specified in New York City's RS 6-1.

Regarding the labeling requirement, this is the same as specified in New York City's RS 6-1. There is no need to specify labeling for products tested to UL 1994 since UL 1994 already has a labeling provision as a condition of the listing.

Bibliography:

1. ASTM E 2072-04, Standard Specification for Photoluminescent (Phosphorescent) Safety Marking
2. City of New York, Department of Buildings. Building Code Reference Standard RS 6-1 and 6-1A (available at http://www.nyc.gov/html/dob/downloads/pdf/rs_6-1.pdf). Promulgated May 31, 2005.
3. City of New York, Department of Buildings. Word Trade Center Building Code Task Force: Findings and Recommendations (available at http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf). February, 2003.
City of New York.
4. Local Law 26 of 2004, Section 15, modifying Building Code Section 27-283 (available at http://www.nyc.gov/html/dob/downloads/bldgs_code/locallaw26of04.pdf). Enacted May 24, 2004.
5. UL 1994-04, Luminous Egress Path Marking Systems, with revisions through February, 2005.

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

Public Hearing Results

Analysis: Review of proposed new standard NFPA 170 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action: Disapproved

Committee Reason: The proposal would require photo luminescent markings in all corridors, not just in exits. With all obstructions being marked, the visual clutter may be a problem for occupants following the means of egress. There was no justification provided that the current requirements were not adequate. There is no testing that photoluminescent markings are going to provide additional levels of protection in general, and this proposal is just adding more. Section 1027.3.1 references only specific lines of a table in NFPA 170 – the requirements should be moved into the code. The labeling requirement in Section 1027.7 is a problem for enforcement – where and how often in a building. Low exit signage was previously disapproved in E80-07/08. The proponent developed new standards for graphics instead of following those in NFPA 170.

Assembly Action: None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

James P. Colgate, RA, Esq., New York City Department of Buildings, requests Approval as Modified by this public comment.

Modify proposal as follows:

1027.2.6 ~~Intervening doors within exit enclosures and discharge d~~Doors from exit enclosures. Doors through which occupants within an exit enclosure must pass in order to complete the exit path shall be provided with markings complying with Sections 1027.6.1 through 1027.2.6.3.

1027.2.6.1. Emergency Exit Symbol. ~~Low-location luminous marking for doors.~~ The door shall be identified by a low-location luminous emergency exit symbol complying with NFPA 170~~marking complying with Section 1027.3~~. The exit symbol shall be a minimum of 4 inches (102 mm) in height and shall be mounted on the door, centered horizontally, with the top of the symbol no higher that 18 inches (457 mm) above the finished floor.

1027.3 Markings where exit signs are provided. Where exit signs are provided in accordance with Section 1011 in interior corridors, at doors opening into exits, or within exit enclosures, approved low-location luminous egress path markings shall be provided. The top of the marking shall be not more than 18 inches (457 mm) above the finished floor. For doors, the marking shall be mounted on the door, or on the wall adjacent to latch side of the door with the nearest edge of the marking within 4 inches (100 mm) of the door frame.

1027.3.1 Graphics. The marking shall comply with the following:

1. The marking shall contain the "emergency exit" symbol complying with the 1st line of Table 4.2 of NFPA 170, except that the color of the luminous portions shall be permitted to be a light, contrasting color in lieu of white. The exit symbol shall be least 4" (102 mm) high.
2. The marking shall contain the word EXIT printed in sans serif letters at least 4" (102 mm) high with strokes no less than ½" (13 mm). The color of the letters shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the letters are luminous and the background is the same color as the exit symbol.
3. In the case of markings that identify doors, the marking shall not be required to contain an arrow when mounted on the door, but shall contain an arrow when mounted on a wall. Any such arrow shall be at 45 degrees and at least 2 ¾" (70 mm) high and shall comply with the 3rd, 4th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the exit symbol is luminous and the background is the same color as the exit symbol.
4. In the case of markings that do not identify a door, the sign shall contain an arrow at least 2 ¾" (70 mm) high, complying with the 2nd, 3rd, 4th, 7th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminescent, or shall be a light color or white if the arrow is luminescent and the background is the same color as the exit symbol.
5. Additional descriptive text shall be permitted, provided such words are in sans serif letters and are no more than one-half as high as the word EXIT or the emergency exit symbol.

(Renumber remaining paragraphs 1027.4, 1027.5, 1027.6)

1027.7 Labeled. The markings shall be labeled in at least 6 point font with the manufacturer's name and product number, the test standard utilized, and, where ASTM E 2072 is utilized, the luminance measurements at 10 and 90 minutes.

Exception: For paints and epoxies applied in the field, the labeling information shall be provided on the container.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: In Rochester, the ICC membership voted to add low-location luminous egress path markings as a requirement in the exit enclosures of most new high-rise buildings. This improvement in fire safety followed the lead of New York City – which required such markings in all new and existing high rise office buildings back in 2004 as a result of lessons learned from 1993 and 2001 World Trade Center attacks.

However, the Rochester change did not address three fundamental aspects of the low-location luminous egress path system – namely, the marking of the door opening into the exit enclosure, the marking of the protruding obstacles within the exit enclosure, and the marking of the door discharging from the exit enclosure. In Palm Springs, I submitted a proposal that rectified all three missing components.

However, in Palm Springs, the Means of Egress Committee made clear that it was not ready to require low-location luminous egress path markings outside of the exit enclosures. It was concerned about the placement of such markings, that it was simply too much, and that it would make for much visual clutter.

The other issues raised by the Means of Egress Committee were related to the overly-complicated way in which the proposal referenced NFPA 170 (Standard for Fire Safety and Emergency Symbols), and that the labeling requirement was problematic.

This public comment squarely addresses all of these of these Committee concerns.

First, it eliminates any requirement for markings outside of the exit enclosure – if accepted by the membership, this comment will restrict the markings solely to within the exit enclosure. While the result will be less extensive than New York City's requirements, the overall system resulting from adoption of this comment will greatly improve safety.

Second, it simplifies the NFPA signage, so that the only signage requirement is a single, low-location emergency exit symbol on the inside face of the door that exits out of the exit enclosure. This exit symbol on the discharge door is an important feature because knowing which door is the one out of the exit enclosure is important to the safe evacuation when there is a loss of both primary and emergency power.

Third, it removes the labeling requirement that the committee found problematic.

The result of these changes to E 147 is that the path markings that the 2009 IBC will require in high-rise buildings will provide a complete and safe system of emergency egress.

Final Hearing Results

E147-07/08 AMPC

Code Change No: E148-07/08

Original Proposal

Sections: 1027.1.6 (IFC [B] 1027.1.6)

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

1. Add new text as follows:

1027.1.6 (IFC [B] 1027.1.6) Stairway floor number signs. Stairway floor number signs required by 1020.1.6 shall also comply with Section 1027.1.8.

2. Revise text as follows:

~~**1027.1.6 (IFC [B] 1027.1.6)**~~ **1027.1.7 (IFC [B] 1027.1.7) (Supp) Materials.** Luminescent exit path markings shall be permitted to be made of material including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not be limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994 or
2. ASTM E 2072, except that the charging source shall be 1 foot candle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 millicandles per square meter after 90 minutes.

~~**1027.1.7 (IFC [B] 1027.1.7)**~~ **1027.1.8 (IFC [B] 1027.1.8) (Supp) Illumination.** Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Reason: The ICC membership agreed with the New York City Building Code by voting to require that stairs, handrails and stair landings in high rise stair enclosures be marked so they are visible during normal, emergency and total blackout lighting conditions. Stairway floor numbers signs required by Section 1020.1.6 give critical egress information which should also be visible during all three of these lighting conditions.

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

Public Hearing Results

Analysis: The 2007 Supplement includes a new Section 1027 Exit Path Markings where this proposal language would be located. A consideration would be if this new requirement should be located in Section 1020.1.6

Committee Action: **Disapproved**

Committee Reason: Section 1020.1.6 uses the term 'stairway identification' signs instead of 'stairway floor number signs' used in this proposal. The signage requirements should be in Section 1020, not in photoluminescent requirements.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Manny Muniz, Manny Muniz Associates, LLC, representing himself, requests Approval as Modified by this public comment.

Replace proposal as follows:

1020.1.6 (IFC [B] 10201.1.6) (Supp) Floor identification signs. A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1, shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1020.1.6.1 (IFC [B] 10201.1.6.1) (Supp) Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1 1/2 inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (22 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. <u>When signs required by Section 1020.1.6 are installed in interior exit enclosures of buildings subject to Section 1027, the signs shall be made of the same materials as required by Section 1027.1.6.</u>

Commenter=s Reason: The committee's reason for disapproval was not because the proposal did not have merit but because it was not located in the correct section of the code. Based on the recommendations of the committee, the proposal has now been relocated to 1020.1.6.

The ICC membership agreed with the New York City Building Code by voting to require that stairs, handrails and stair landings in high rise stair enclosures be marked so they are visible during normal, emergency and total blackout lighting conditions. Stairway floor numbers signs required by Section 1020.1.6 give critical egress information which should also be visible during all three of these lighting conditions.

Final Hearing Results

E148-07/08 AMPC