

## Code Technologies Committee Report Unenclosed Exit Stairways – Group A changes:

There are 11 areas of study currently listed under CTC.

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

Following are code change proposals submitted through CTC from Unenclosed Exit Stairways study group and related changes.

### Unenclosed Exit Stairways

Code Change #	Section	CTC (x) or Related (o)	Position					Comments
			Oppose & Testify	Oppose	No Position	Support	Support & Testify	
E001	1015/1022	o						Combine 1015 and 1022
E002	Varies	x						Definitions for stairways
E003	various	o						Exit access point/doorway
E004	202	o						ramp and stairway definition
E006	202	o						stair/stairway definition
E007	Varies	x						Coordination with E5-09/10
E008	1009	o						
E017	1004.1.1.2	o						
E038	1007.3	x						
E089	1009.3	o						
E090	1009.3	o						
E115	1016.2	o						
E127	1021	o						

E129	1021.1	o						
E136	1021.3.1	o						

# E1-12

**202, 1006 (New), 1007 (New), 1014.3, 1015, 1020.1, 1021 (IFC [B] 1006 (New), 1007 (New), 1014.3, 1015, 1020.1, 1021)**

**Proponent:** Charles S. Bajnai, Chesterfield County, VA, ICC Building Code Action Committee

**Revise as follows:**

## SECTION 202 DEFINITIONS

**COMMON PATH OF EGRESS TRAVEL.** That portion of the exit access travel distance measured from the most remote point within a story to that point where ~~which the occupants are required to traverse before two~~ have separate and distinct paths of egress travel access to two exits or exit access doorways are available. ~~Paths that merge are common paths of travel. Common paths of egress travel shall be included within the permitted travel distance.~~

**Revise as follows:**

**1014.3 (IFC [B] 1014.3) Common path of egress travel.** The common path of egress travel shall not exceed the common path of egress travel distances in Table 1014.3.

**TABLE 1014.3 (TABLE [B] 1014.3)  
COMMON PATH OF EGRESS TRAVEL**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)		WITH SPRINKLER SYSTEM (feet)
	Occupant Load		
	OL ≤ 30	OL > 30	
B, S <sup>d</sup>	100	75	100 <sup>a</sup>
U	100	75	75 <sup>a</sup>
F	75	75	100 <sup>a</sup>
H-1, H-2, H-3	Not Permitted	Not Permitted	25 <sup>a</sup>
R-2	75	75	125 <sup>b</sup>
R-3 <sup>e</sup>	75	75	125 <sup>b</sup>
I-3	100	100	100 <sup>a</sup>
All others <sup>e</sup>	75	75	75 <sup>a,b</sup>

For SI: 1 foot = 304.8 mm.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- 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 are permitted in accordance with Section 903.3.1.2.
- c. For a room or space used for assembly purposes having fixed seating, see Section 1028.8.
- d. The length of a common path of egress travel in a Group S-2 open parking garage shall not be more than 100 feet (30 480 mm).
- e. The length of a common path of egress travel in a Group R-3 occupancy located in a mixed occupancy building.
- f. For the distance limitations in Group I-2, see Section 407.4.

## SECTION 1015 1006 (IFC [B] 1015 1006) NUMBERS OF EXITS AND EXIT ACCESS DOORWAYS

**1015.4 1006.1 (IFC [B] 1015.4 1006.1) General Exits or exit access doorways from spaces.** ~~The number of exits or exit access doorways required within the means of egress system shall comply with the provisions of Section 1006.2 for spaces and Section 1006.3 for stories. 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.

**Exceptions:**

1. In Group 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. Care suites in Group I-2 occupancies complying with Section 407.4.3.
2. The *common path of egress travel* exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, or 1015.6.

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 EXIT OR EXIT ACCESS DOORWAY**

<b>OCCUPANCY</b>	<b>MAXIMUM OCCUPANT LOAD</b>
A, B, E, F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-2, I-3, I-4, R	10
S	29

**1006.2 (IFC [B] 1006.2) Egress from spaces.** Rooms, areas or spaces, including mezzanines, within a story or basement shall be provided with the number of exits or access to exits in accordance with this section.

**1006.2.1 (IFC [B] 1006.2.1) Egress based on occupant load and common path of egress travel distance.** Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1.

**Exceptions:**

1. In Group 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 and the common path of egress travel does not exceed 125 feet (38 100 mm).
2. Care suites in Group I-2 occupancies complying with Section 407.4.

**TABLE 1006.2.1 (IFC [B] 1006.2.1)  
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

<b>OCCUPANCY</b>	<b>MAXIMUM OCCUPANT LOAD OF SPACE</b>	<b>MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)</b>		
		<b>WITHOUT SPRINKLER SYSTEM</b>		<b>WITH SPRINKLER SYSTEM</b>
		<b>Occupant Load</b>		
		<b>OL ≤ 30</b>	<b>OL &gt; 30</b>	
A <sup>a</sup> , E, M, U	49	75	75	75 <sup>b</sup>
B	49	100	75	100 <sup>b</sup>
F	49	75	75	100 <sup>b</sup>
H-1, H-2, H-3	3	NP	NP	25 <sup>b</sup>
H-4, H-5, I-1, I-2, I-4, R-1, R-3,	10	NP	NP	75 <sup>b</sup>

<u>OCCUPANCY</u>	<u>MAXIMUM OCCUPANT LOAD OF SPACE</u>	<u>MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)</u>		
		<u>WITHOUT SPRINKLER SYSTEM</u>		<u>WITH SPRINKLER SYSTEM</u>
		<u>Occupant Load</u>		
		<u>OL ≤ 30</u>	<u>OL &gt; 30</u>	
R-4				
I-3	10	NP	NP	100 <sup>b</sup>
R-2	10	NP	NP	125 <sup>c</sup>
R-3	10	NP	NP	125 <sup>d</sup>
S	29	100	75 <sup>e</sup>	100 <sup>b</sup>
U	49	100	75	75 <sup>b</sup>

For SI: 1 foot = 304.8 mm.

NP – Not Permitted

- For a room or space used for assembly purposes having fixed seating, see Section 1028.8.
- Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- 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 are permitted in accordance with Section 903.3.1.2.
- The length of common path of egress travel distance in a Group R-3 occupancy located in a mixed occupancy building shall be not more than 125 feet (38 100 mm).
- The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet (30 480 mm).

**4015.1.1 1006.2.1.1 (IFC [B] 4015.1.1 1006.2.1.1) Three or more exits or exit access doorways.**

Three exits or exit access doorways shall be provided from any space with an occupant load of 501-1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

**4015.2 (IFC [B] 1015.2) Exit or exit access doorway arrangement.** (relocated to new Section 1007)

**4015.2.1 (IFC [B] 1015.2.1) Two exits or exit access doorways.** (relocated to new Section 1007)

**4015.2.2 (IFC [B] 1015.2.2) Three or more exits or exit access doorways.** (relocated to new Section 1007)

**1006.2.2 (IFC [B] 1006.2.2) Egress based on use.** The numbers of exits or access to exits shall be in accordance with this section.

**4015.3 1006.2.2.1 (IFC [B] 4015.3 1006.2.2.1) Boiler, incinerator and furnace rooms.** Two *exit access doorways* are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m<sup>2</sup>) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two *exit access doorways* are required, one is permitted to be a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

**4015.4 1006.2.2.2 (IFC [B] 4015.4 1006.2.2.2) Refrigeration machinery rooms.** Machinery rooms larger than 1,000 square feet (93 m<sup>2</sup>) shall have not less than two *exits* or *exit access doors*. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the *occupant load* served. Doors shall be tight fitting and self-closing.

**1045.5 1006.2.2.3 (IFC [B] 1045.5 1006.2.2.3) Refrigerated rooms or spaces.** Rooms or spaces having a floor area larger than 1,000 square feet (93 m<sup>2</sup>), 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*.

**1045.6 1006.2.2.4 (IFC [B] 1045.6 1006.2.2.4) Day care facilities.** Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2-1/2 years of age or less, shall have access to not less than two exits or exit access doorways.

## **SECTION 1021 (IFC [B] 1021) NUMBER OF EXITS AND EXIT CONFIGURATION**

**1021.3.1 (IFC [B] 1021.3.1) 1006.3 (IFC [B] 1006.3) Access to exits at adjacent levels. Egress from stories or occupied roofs** ~~The means of egress system serving any story or occupied roof shall be provided with the number of exits or access to exits based on the aggregate occupant load served in accordance with this section.~~ Access to exits at other levels shall be by stairways or ramps. Where access to exits occurs from adjacent building levels, the horizontal and vertical exit access travel distance to the closest exit shall not exceed that specified in Section 1016.1. Access to exits at other levels shall be from an adjacent story.

Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. Where a minimum of three or more exits, or access to exits are required, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways or ramps.

**Exception:** ~~Landing platforms or roof areas for helistops that are less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m<sup>2</sup>) in area, shall be permitted to access the second exit by a fire escape, alternating tread device or ladder leading to the story or level below.~~

### **Exceptions:**

1. Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.
2. Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.

**1021.1 (IFC [B] 1021.10) 1006.3.1 (IFC [B] 1006.3.1) General Egress based on occupant load.** Each story and occupied roof shall have the minimum number of exits, or access to exits, as specified in Table 1006.3.1 this section. A single exit or access to a single exit shall be permitted in accordance with Section 1006.3.3. The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at the exit discharge grade or a public way. ~~Exits or access to exits from any story shall be configured in accordance with this section.~~ Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.

**Exceptions:**

1. Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.
2. Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.

**TABLE 1006.3.1 (IFC [B] TABLE 1006.9.3.1)  
MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY**

<u>OCCUPANT LOAD PER STORY</u>	<u>MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY</u>
1-500	<u>2</u>
501-1,000	<u>3</u>
More than 1,000	<u>4</u>

~~1021.2.4 (IFC [B] 1021.2.4) Three or more exits.~~ Three exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load from 501 to and including 1,000. Four exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load greater than 1,000.

~~1021.2.5 1006.3.2 (IFC [B] 1021.2.5 1006.3.2) Additional exits.~~ In buildings over 420 feet in height, additional exits shall be provided in accordance with Section 403.5.2.

~~1021.2 1006.3.3 (IFC [B] 1021.2 1006.3.3) Single exits Exits from stories.~~ Two exits, or exit access stairways or ramps providing access to exits, from any story or occupied roof shall be provided. A single exit or access to a single exit shall be permitted from any story or occupied roof, where one of the following conditions exists:

1. The occupant load or number of dwelling units ~~exceeds one of~~ and common path of egress travel distance does not exceed the values in Table 1006.3.3(1) or 1006.3.3(2) ~~1021.2(1) or 1021.2(2).~~
2. The exit access travel distance ~~exceeds that specified in Table 1021.2(1) or 1021.2(2) as determined in accordance with the provisions of Section 1016.1.~~
3. Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits.

**Exceptions:**

- ~~42.~~ Rooms, areas and spaces complying with Table 1006.2.1 ~~Section 1015.1~~ with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.
- ~~23.~~ Group R-3 occupancy buildings shall be permitted to have one exit.
- ~~34.~~ Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.
- ~~45.~~ Air traffic control towers shall be provided with the minimum number of exits specified in Section 412.3.
- ~~5.~~ Individual dwelling units in compliance with Section 1021.2.3.
- ~~6.~~ Group R-3 and R-4 congregate residences shall be permitted to have one exit.
- ~~7.~~ Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:
  - ~~7.1~~ The number of exits from the entire story complies with Section 1021.2.4;
  - ~~7.2~~ The access to exits from each individual space in the story complies with Section 1015.1, and
  - ~~7.3~~ All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story, but not less than two exits.

**1021.2.3 (IFC [B] 1021.2.3) Single-story or multi-story dwelling units.**

7. Individual single-story or multi-story dwelling units shall be permitted to have a single exit or access to a single exit from the dwelling unit provided that all of the following criteria are met:
- 7.1.4- The dwelling unit complies with Section ~~4015.4~~ 1006.2.1 as a space with one means of egress and
  - 7.2.2- Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two approved independent exits.

**TABLE 1021.2(4) TABLE 1006.3.3(1) (IFC [B] TABLE 1021.2(4) TABLE 1006.3.3(1))  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES**

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM COMMON PATH OF EGRESS EXIT ACCESS TRAVEL DISTANCE (feet)
Basement, first, second or third story <u>above grade plane</u>	R-2 <sup>a, b</sup>	4 dwelling units	125 feet
Fourth story <del>and</del> <u>above grade plane and higher</u>	NP	NA	NA

For SI: 1 foot = 3048 mm.

NP – Not Permitted  
NA – Not Applicable

- a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.3(2) ~~1021.2(2)~~.

**TABLE 1021.2(2) TABLE 1006.3.3(2) (IFC [B] TABLE 1021.2(2) TABLE 1006.3.3(2))  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS EXIT ACCESS TRAVEL DISTANCE (feet)
First story <u>above or basement below grade plane</u>	A, B <sup>a</sup> , E F <sup>a</sup> , M, U, S <sup>a</sup>	49 occupants	75 feet
	H-2, H-3	3 occupants	25 feet
	H-4, H-5, I, R-1, R-2 <sup>b, c</sup> , R-4	10 occupants	75 feet
	S	29 occupants	100 feet
Second story <u>above grade plane</u>	B, F, M, S	29 occupants	75 feet
Third story <del>and</del> <u>above grade plane and higher</u>	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP – Not Permitted  
NA – Not Applicable

- a. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- b. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- c. This table is used for Group R-2 occupancies consisting of sleeping units. For Group R-2 occupancies consisting of dwelling units, use Table 1006.3.3(1) ~~1021.2(1)~~.



**~~1021.2.1 1006.3.3.1~~ (IFC [B] ~~1021.2.1 1006.3.3.1~~) Mixed occupancies.** Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1006.3.3(1) ~~1021.2(1)~~ or Table 1006.3.3(2) ~~1021.2(2)~~ for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants for each occupancy does not exceed one.

**~~1021.2.2 1006.3.4~~ (IFC [B] ~~1021.2.2 1006.3.4~~) Basements.** A basement provided with one exit shall not be located more than one story below grade plane.

**~~1021.3 (IFC [B] 1021.3) Exit configuration.~~** ~~Exits, or exit access stairways or ramps providing access to exits at other stories, shall be arranged in accordance with the provisions of Section 1015.2 through 1015.2.2. Exits shall be continuous from the point of entry into the exit to the exit discharge.~~

**~~1021.4 1006.3.5~~ (IFC [B] ~~1021.4 1006.3.5~~) Vehicular ramps.** Vehicular ramps shall not be considered as an exit access ramp unless pedestrian facilities are provided.

**~~1006.3.6 (IFC [B] 1006.3.6) Helistop Platforms.~~** ~~Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits.~~

**Exception:** Landing platforms or roof areas for helistops that are less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m<sup>2</sup>) in area, shall be permitted to access the second exit by a fire escape, alternating tread device or ladder leading to the story or level below.

## **SECTION 1007(IFC [B] 1007)** **EXIT AND EXIT ACCESS DOORWAY CONFIGURATION**

**~~1045.2 1007.1~~ (IFC [B] ~~1045.2 1007.1~~) General Exit or exit access doorway arrangement.** ~~Exits and exit access doorways serving spaces, including individual building stories, shall be separated in accordance with the provisions of this section. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.~~

**~~1045.2.1 1007.1.1~~ (IFC [B] ~~1045.2.1 1007.1.1~~) Two exits or exit access doorways.** Where two *exits* or *exit access doorways* are required from any portion of the *exit access*, the *exit* doors or *exit access doorways* shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the story or area to be served measured in a straight line between *exit* doors or *exit access doorways*. Interlocking or *scissor stairs* shall be counted as one *exit stairway*.

### **Exceptions:**

- 1 2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the *exit* doors or *exit access doorways* shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.
- 2 4. Where interior exit stairways are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.

**~~1045.2.2 1007.1.2~~ (IFC [B] ~~1045.2.2 1007.1.2~~) Three or more exits or exit access doorways.** Where access to three or more *exits* is required, at least two *exit* doors or *exit access doorways* shall be arranged in accordance with the provisions of Section 1007.1.1. Additional required exits, or access to exits shall be located a reasonable distance apart such that if one becomes involved, the others will be

available.

**1007.2 (IFC [B] 1007.2) Measurement.** The required separation distance between exits or exit access doorways shall be measured in accordance with the following:

1. The separation distance to exit or exit access doorways shall be measured to the nearest point along the width of the doorway.
2. The separation distance to exit access stairways shall be measured to the closest riser.
3. The separation distance to exit access ramps shall be measured to the start of the ramp run.

*(Renumber remaining sections.)*

## **SECTION 1020 (IFC [B] 1020) EXITS**

**1020.1 (IFC [B] 1020.1) General.** Exits shall comply with Sections 1020 through 1026 and the applicable requirements of Sections 1003 through 1013. An exit shall not be used for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge. Exits shall be continuous from the point of entry into the exit to the exit discharge.

**Reason:** This proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

This proposal is a continuation of Item E5-09/10 that was approved for inclusion in the 2012 IBC. That is, the proposal intends to clarify current IBC means of egress requirements resulting in greater user friendliness and increased uniformity in the application of these important provisions.

Currently, both Sections 1015 and 1021 contain provisions for the determination of the number of exits and exit access doorways. The relationship between the two sections is not particularly obvious to many code practitioners. This proposal combines the two sections and places their various provisions in technical context. This is partially achieved through formatting. Section 1015.2 prescribes the provisions for the determination of the number of required exits or exit access to exits from any individual space. Section 1015.3 provides the provisions for the determination of the number of required exits or access to exits from stories or occupied roofs.

Recognizing the importance of tables during the design/review process, improvements were made to improve understanding and consistency. Fundamental to the proper determination of the number of required exits is the consideration of design occupant loads and occupant remoteness. Currently, only Table 1021.2(2) includes both variables (number of occupants per story and exit access travel distance). Section 1015.1 currently addresses the occupant load in Table 1015.1; however, it requires the user to determine occupant remoteness requirements at Section 1014.3 that are indicated as "common path of egress travel." For the 2012 Edition of the IBC, common path of egress travel provisions have been consolidated into a tabular format. The only remaining text of Section 1014.3 states, "The common path of egress travel shall not exceed the common path of egress travel distances in Table 1014.3," without contextual reference to Section 1015.1 that requires that two exits or exit access doorways from any space shall be provided where the common path of egress travel exceeds one of the limitations of Section 1014.3. This technical disconnect is repaired through the consolidation of Tables 1015.1 and 1014.3 in a format already contained in Table 1021.1(2). The current difference in occupant remoteness terminology (exit access travel distance vs. common path of egress travel) was resolved in favor of common path of egress travel distance.

To increase consistency in interpretations and application, the definition of "COMMON PATH OF EGRESS TRAVEL" has been modified. The proposed language emphasizes that the common path of egress travel is initially measured identically to exit access travel distance; however, technically terminates at an earlier point (that point where an occupant has separate and distinct access to two exits or exit access doorways vs. to an entrance to an exit). The somewhat vague wording in the current definition results in inconsistent applications of this important provision. It should be noted that the *NFPA 101 Handbook* states that common path of egress travel is a portion of the exit access travel distance. Many rely on that document to interpret IBC requirements. Additionally, the merging provision has been deleted. This is a moot point because once a second exit or exit access doorway (to include any point where an occupant enters an intervening room, corridor, exit access stairway or exit access ramp) is required, it must be separated in accordance with Section 1015.2. In recent code development cycles, many definitions have been edited to more accurately describe means of egress design requirements in context with the IBC system philosophy. This is another example of more accurately describing what is intended.

The establishment of a single method and term for the determination of occupant remoteness will greatly benefit code practitioners. The resultant Table 1006.2.1 is consistent in format, terminology and application to Table 1006.3.3(2) and will result in more accurate and consistent determination of the required number of exits and access to exits.

This proposal deletes current Section 1021.2, Exception 7. This provision was new to the 2009 Edition of the IBC and, according to the proponent's reason statement, was intended to coordinate the fragmented requirements of Sections 1015 and 1021. The consolidation of the two sections eliminates the need for the provision. The exception can be considered moot because

it represents an exception to a non-requirement. There is no requirement for specific spaces to be accessed by the remainder of the story. The performance nature of number of exits/exit access provisions allows each space to be designed based on its own technical merit on an individual and collective basis. The conditions of the exception simply restate fundamental means of egress provisions. Based on the stated requirements of this proposal, the deleted exception is unnecessary.

Formerly, both Sections 1015 and 1021 contained provisions for the determination of exit/exit access configuration/arrangement/separation. Inasmuch as this issue is a major means of egress design requirement, the provisions have been consolidated into a new stand-alone section, Section 1007. Additionally, separation measurement provisions have been clarified. Currently, there are no specific measurement points for the determination of exit/exit access separation. New Section 1007.2 provides guidance for measuring to doors, exit access stairways and exit access ramps. This will reduce subjectivity in the determination of exit/exit access configuration.

Numbers of exits/exit access doorways and exit/exit access doorway configuration provisions have been located in Sections 1006 and 1007 respectively. This creates a sectional sequence for occupant load based means of egress provisions. Section 1004 covers design occupant load determination. Means of egress sizing requirements based on occupant load are contained in Section 1005. Now, occupant load based numbers requirements are placed in Section 1006 with multiple exit/exit access doorway arrangement provisions following in Section 1007. This logical format should assist designers and enforcement officials alike.

It was also determined that a general exit provision addressing exit continuity is incorrectly located in current Section 1021.3. It has been properly located in Section 1020.1.

In summary, this proposal represents a continuing effort to improve means of egress provisions for the purposes of philosophical functionality, technical consistency and user friendliness. Approval of this proposal will simplify the interpretation and application of IBC means of egress provisions while maintaining the highest traditions of fire and life safety.

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

## E1-12

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

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## E2-12

### PART I – INTERNATIONAL BUILDING CODE

IBC 202, 403.5.1, 403.5.2, 505.3, 707.6, 707.7.1, 713.1, Table 716.5, 718.2.4, Table 803.9, 909.20.1, 909.20.4.4, 909.20.5, 909.20.6, 909.20.6.2, 1007.7.2, 1008.1.4.1, 1008.1.9.11, 1009.3, 1009.7.4, 1009.9.3, 1010.2, 1011.4, 1012.6, 1013.2, 1015.2.1, 1019.2, 1021.1, 1022.1, 1022.7, 1022.9, Table 1028.6.2, 1028.7, 1205.4, 1207.1, 2110.1.1, 2308.12.7, 2406.4.6, 2406.4.7, 3406.1.3, 3406.4, 3411.8.4; (IFC [B] 1007.7.2, 1008.1.4, 1008.1.9.11, 1009.3, 1009.7.4, 1009.9.3, 1010.2, 1011.4, 1012.6, 1013.2, 1015.2.1, 1019.2, 1021.1, 1022.1, 1022.7, 1022.9, Table 1028.6.2, 1028.7; IEBC [B] 405.1.3, 405.4, 410.8.4);

### PART II - INTERNATIONAL MECHANICAL CODE

IMC 306.5.1, 1107.2; (IFGC [M] 306.5.1)

### PART III – INTERNATIONAL FIRE CODE

IFC 508.1.5, 905.3.3, 905.4, 905.4.1, 907.2.13.2, 907.5.2.2, 1104.5, 1104.6.1, 1104.9, 1104.10, 1104.10.1, 1104.12, 1104.16, 1104.16.1, 1104.16.2, 1104.16.3, 1104.16.4, 1104.16.5, 1104.16.5.1, 1104.16.6, 1104.16.7, 1104.20, 1104.21, 1104.23, 3313.1, 5704.2.9.4, 5706.5.1.12; (IBC [F] 911.1.5, 905.3.3, 905.4, 905.4.1, 907.2.13.2, 907.5.2.2, 3311.1; IEBC [F] 1506.1)

### PART IV – INTERNATIONAL EXISTING BUILDING CODE

IEBC 804.1.1, 805.3.1.1, 805.3.1.2.1, 805.3.1.2.3, 805.4.3, 805.4.3.1, 805.9.1, 805.10.1, 806.2, 902.2.1, 1102.2, 1203.9, 1205.11

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

**THIS IS A 4 PART CODE CHANGE. ALL PARTS WILL BE HEARD BY THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE AS 4 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.**

### PART I – INTERNATIONAL BUILDING CODE

Revise as follows:

#### CHAPTER 2 DEFINITIONS

#### SECTION 202 DEFINITIONS

**EQUIPMENT PLATFORM.** An unoccupied, elevated platform used exclusively for mechanical systems or industrial process equipment, including the associated elevated walkways, ~~stairs~~ stairways, alternating tread devices and ladders necessary to access the platform (see Section 505.3).

**EXIT.** That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways*, ~~*interior exit*~~ and ramps, *exit passageways*, *exterior exit stairways* and ~~*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*, *exit access* ~~*stair*~~ stairway or ~~*exit access*~~ ramp.

**FLOOR AREA, GROSS.** The floor area within the inside perimeter of the *exterior walls* of the building under consideration, exclusive of vent *shafts* and *courts*, without deduction for *corridors*, *stairways*, *ramps*, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding *exterior walls* shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include *shafts* with no openings or interior *courts*.

**FLOOR AREA, NET.** The actual occupied area not including unoccupied accessory areas such as *corridors*, *stairways*, *ramps* toilet rooms, mechanical rooms and closets.

**SCISSOR STAIR STAIRWAY.** Two interlocking *stairways* providing two separate paths of egress located within one ~~stairwell~~ exit enclosure.

**STAIR STAIRWAY, SCISSOR.** See "Scissor ~~stair~~ stairway."

Revise as follows:

## CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

### SECTION 403 HIGHRISE BUILDINGS

**403.5.1 Remoteness of interior exit stairways.** Required *interior exit stairways* shall be separated by a distance not less than 30 feet (9144 mm) or not less than one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the *interior exit stairways*. In buildings with three or more *interior exit stairways*, no fewer than two of the *interior exit stairways* shall comply with this section. Interlocking or *scissor stairs* stairways shall be counted as one *interior exit stairway*.

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

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

Revise as follows:

## CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS

### SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

**IBC 505.3 Equipment platforms.** *Equipment platforms* in buildings shall not be considered as a portion of the floor below. Such *equipment platforms* shall not contribute to either the *building area* or the number of *stories* as regulated by Section 503.1. The area of the *equipment platform* shall not be included in determining the *fire area* in accordance with Section 903. *Equipment platforms* shall not be a part of any *mezzanine* and such platforms and the walkways, *stairs* stairways, *alternating tread devices* and ladders providing access to an *equipment platform* shall not serve as a part of the *means of egress* from the building.

Revise as follows:

## CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

### SECTION 707 FIRE BARRIERS

**707.6 Openings.** Openings in a fire barrier shall be protected in accordance with Section 716. 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<sup>2</sup>). Openings in enclosures for exit access stairways and ramps, interior exit stairways and ramps and exit passageways shall also comply with Sections 1022.3 and 1023.5, respectively.

#### Exceptions:

1. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) 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<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving enclosures for exit access stairways, ~~exit access~~ and ramps, and interior exit stairways and ~~interior exit~~ ramps.
3. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E 119 or UL263 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 the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) 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 enclosures for exit access stairways, ~~exit access~~ and ramps, and interior exit stairways and ~~interior exit~~ ramps from an exit passageway in accordance with Section 1022.2.1.

**707.7.1 Prohibited penetrations.** Penetrations into enclosures for exit access stairways, ~~exit access~~ and ramps, interior exit stairways, ~~interior exit~~ and ramps or an exit passageway shall be allowed only when permitted by Section 1009.3.1.5, 1022.5 or 1023.6, respectively.

### SECTION 713 SHAFT ENCLOSURES

**713.1 General.** The provisions of this section shall apply to shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. Exit access stairways and ~~exit access~~ ramps shall be protected in accordance with the applicable provisions of Section 1009. Interior exit stairways and ~~interior exit~~ ramps shall be protected in accordance with the requirements of Section 1022.

Revise as follows:

### SECTION 716 OPENING PROTECTIVES

**TABLE 716.5  
OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**

<b>Type of Assembly</b>
Fire barriers having a required fire resistance rating of 1 hour: Enclosures for shafts, exit access stairways, <del>exit access</del> <u>and</u> ramps, interior exit stairways, <del>interior exit</del> <u>and</u> ramps and exit passageway walls

(Portions of table not shown remain unchanged.)

**SECTION 718  
CONCEALED SPACES**

**718.2.4 Stairways.** Fireblocking shall be provided in concealed spaces between *stair* stringers at the top and bottom of the run. Enclosed spaces under ~~stairs~~ stairways shall also comply with Section 1009.9.3.

Revise as follows:

**CHAPTER 8  
INTERIOR FINISHES**

**SECTION 803  
WALL AND CEILING FINISHES**

**TABLE 803.9  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY<sup>k</sup>**

Group	SPRINKLERED			NONSPRINKLERED		
		Interior exit stairways, <del>interior exit</del> <u>and</u> ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>	Interior exit stairways, <del>interior exit</del> <u>and</u> ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps

b. In other than Group I-2 occupancies in buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.

j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.

(Portions of table and notes not shown remain unchanged)

Revise as follows:

**CHAPTER 9  
FIRE PROTECTION SYSTEMS**

**SECTION 909  
SMOKE CONTROL SYSTEMS**

**909.20.1 Access.** Access to the ~~stair~~ stairway shall be by way of a vestibule or an open exterior balcony. The minimum dimension of the vestibule shall not be less than the required width of the *corridor* leading to the vestibule but shall not have a width of less than 44 inches (1118 mm) and shall not have a length of less than 72 inches (1829 mm) in the direction of egress travel.

**909.20.4.4 Stair Stairway shaft air movement system.** The ~~stair~~ stairway shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the shaft relative to the vestibule with all doors closed.

**909.20.5 Stair Stairway pressurization alternative.** Where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the vestibule is not required, provided that interior *exit stairways* are pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway doors closed under maximum anticipated conditions of stack effect and wind effect.

**909.20.6 Ventilating equipment.** The activation of ventilating equipment required by the alternatives in Sections 909.20.4 and 909.20.5 shall be by smoke detectors installed at each floor level at an *approved* location at the entrance to the smokeproof enclosure. When the closing device for the ~~stair~~ stairway shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

**909.20.6.2 Standby power.** Mechanical vestibule and ~~stair~~ stairway shaft ventilation systems and automatic fire detection systems shall be powered by an *approved* standby power system conforming to Section 403.4.8 and Chapter 27.

Revise as follows:

## CHAPTER 10 MEANS OF EGRESS

### SECTION 1007 (IFC [B] 1007) ACCESSIBLE MEANS OF EGRESS

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

### SECTION 1008 (IFC [B] 1008) DOORS, GATES AND TURNSTILES

**1008.1.4.1 (IFC [B] 1008.1.4.1) Revolving doors.** Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of ~~stairs~~ stairways or escalators. A dispersal area shall be provided between the ~~stairs~~ stairways or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.4.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an *accessible route* required by Section 1007 and Chapter 11.

**1008.1.9.11 (IFC [B] 1008.1.9.11) Stairway doors.** Interior *stairway means of egress* doors shall be openable from both sides without the use of a key or special knowledge or effort.



### Exceptions:

1. *Stairway* discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. In *stairways* serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
4. *Stairway exit* doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single ~~exit stair~~ *stairway* where permitted in Section 1021.2.
5. *Stairway exit* doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single ~~exit stair~~ *stairway* where permitted in Section 1021.2.

## SECTION 1009 (IFC [B] 1009) STAIRWAYS

**1009.3 (IFC [B] 1009.3) Exit access stairways.** Floor openings between stories created by *exit access stairways* shall be enclosed.

### Exceptions:

1. In other than Group I-2 and I-3 occupancies, *exit access stairways* that serve, or atmospherically communicate between, only two stories are not required to be enclosed.
2. *Exit access 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.
3. In buildings with only Group B or M occupancies, *exit access stairway* openings are not required to be enclosed provided that the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the *exit access stairway*, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
4. In other than Groups B and M occupancies, *exit access stairway* openings are not required to be enclosed provided that the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the *exit access stairway*, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
5. *Exit access stairways* within an *atrium* complying with the provisions of Section 404 are not required to be enclosed.
6. *Exit access stairways and ramps* in open parking garages that serve only the parking garage are not required to be enclosed.
7. *Exit access* *Stairways* serving outdoor facilities where all portions of the *means of egress* are essentially open to the outside are not required to be enclosed.
8. *Exit access stairways* serving stages, platforms and *technical production areas* in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.
9. *Exit access* *Stairways* are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
10. In Group I-3 occupancies, *exit access stairways* constructed in accordance with Section 408.5 are not required to be enclosed.

**1009.7.4 (IFC [B] 1009.7.4) 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 3/8 inch (9.5 mm) in any *flight of stairs*. The greatest *winder* tread depth at the walkline within any *flight of stairs* shall not exceed the smallest by more than 3/8 inch (9.5 mm).

**Exceptions:**

1. Nonuniform riser dimensions of *aisle stairs* complying with Section 1028.11.2.
2. Consistently shaped *winders*, complying with Section 1009.7, differing from rectangular treads in the same ~~stairway~~ *flight of stairs*.

Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of ~~stairway~~ *stair* width. The *nosings* or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosings* 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).

**1009.9.3 (IFC [B] 1009.9.3) Enclosures under interior stairways.** The walls and soffits within enclosed usable spaces under enclosed and unenclosed *stairways* shall be protected by 1-hour fire-resistance-rated construction or the *fire-resistance rating* of the *stairway* enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the ~~stair~~ *stairway* enclosure.

**Exception:** Spaces under *stairways* serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

**SECTION 1010 (IFC [B] 1010)  
RAMPS**

**1010.2 (IFC [B] 1010.2) Enclosure.** All *interior exit ramps* shall be enclosed in accordance with the applicable provisions of Section 1022. *Exit access ramps* shall be enclosed in accordance with the provisions of ~~Section~~ Sections 1009.2, 1009.3 and 1009.4 for enclosure of *stairways*.

**SECTION 1011 (IFC [B] 1011)  
EXIT SIGNS**

**1011.4 (IFC [B] 1011.4) Raised character and Braille exit signs.** A sign stating EXIT in raised characters and Braille 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 *exit stairway*, ~~an exit or ramp~~, an *exit passageway* and the *exit discharge*.

**SECTION 1012 (IFC [B] 1012)  
HANDRAILS**

**1012.6 (IFC [B] 1012.6) 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 of stairs* or *ramp* run. 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 *handrails* 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 of stairs* at *stairways* and the *ramp* runs at *ramps*.

**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 rooms or spaces used for assembly purposes in accordance with Section 1028.13.
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.

### **SECTION 1013 (IFC [B] 1013) GUARDS**

**1013.2 (IFC [B] 1013.2) Where required.** *Guards* shall be located along open-sided walking surfaces, including *mezzanines*, *equipment platforms*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.8.

**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~~ stairs 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 1028.14 are permitted and provided.

### **SECTION 1015 (IFC [B] 1015) EXIT AND EXIT ACCESS DOORWAYS**

**1015.2.1 (IFC [B] 1015.2.1) Two exits or exit access doorways.** Where two *exits* or *exit access doorways* are required from any portion of the *exit access*, the *exit* doors or *exit access doorways* shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between *exit* doors or *exit access doorways*. Interlocking or ~~scissor stairs~~ stairways shall be counted as one *exit stairway*.

**Exceptions:**

1. Where *interior exit stairways* are interconnected by a 1-hour fire-resistance-rated *corridor* conforming to the requirements of Section 1018, the required *exit* separation shall be measured along the shortest direct line of travel within the *corridor*.
2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the *exit* doors or *exit access doorways* shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

## SECTION 1019 (IFC [B] 1019) EGRESS BALCONIES

**1019.2 (IFC [B] 1019.2) Wall separation.** Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for *corridors*.

**Exception:** Separation is not required where the exterior egress balcony is served by at least two ~~stairs~~ stairways and a deadend travel condition does not require travel past an unprotected opening to reach a ~~stair~~ stairway.

## SECTION 1021 (IFC [B] 1021) NUMBER OF EXITS AND EXIT CONFIGURATION

**1021.1 (IFC [B] 1021.1.) General.** Each story and occupied roof shall have the minimum number of *exits*, or access to exits, as specified in this section. The required number of *exits*, or *exit access stairways* or *ramps* providing access to exits, from any story shall be maintained until arrival at grade or a *public way*. *Exits* or access to exits from any story shall be configured in accordance with this section. Each story above the second story of a building shall have a minimum of one interior or exterior *exit stairway*, or ~~interior or exterior exit ramp~~. At each story above the second story that requires a minimum of three or more *exits*, or access to *exits*, a minimum of 50 percent of the required *exits* shall be interior or exterior *exit stairways*, or ~~interior or exterior exit ramps~~.

### Exceptions:

1. *Interior exit stairways* and ~~interior exit ramps~~ are not required in *open parking garages* where the *means of egress* serves only the *open parking garage*.
2. *Interior exit stairways* and ~~interior exit ramps~~ are not required in outdoor facilities where all portions of the *means of egress* are essentially open to the outside.

## SECTION 1022 (IFC [B] 1022) INTERIOR EXIT STAIRWAYS AND RAMPS

**1022.1 (IFC [B] 1022.1) General.** *Interior exit stairways* and ~~interior exit ramps~~ serving as an *exit* component in a *means of egress* system shall comply with the requirements of this section. *Interior exit stairways* and *ramps* 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 1023, except as permitted in Section 1027.1. An *interior exit stairway* or *ramp* shall not be used for any purpose other than as a *means of egress*.

**1022.7 (IFC [B] 1022.7) Interior exit stairway and ramp exterior walls.** *Exterior walls* of the *interior exit stairway* and *ramp* shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the *stairway* or *ramps* and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building *exterior walls* within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a *fire-resistance rating* of not less than 1 hour. Openings within such *exterior walls* shall be protected by opening protectives having a *fire protection rating* of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the *stairway*, *ramp* or to the roof line, whichever is lower.

**1022.9 (IFC [B] 1022.9) Stairway identification signs.** A sign shall be provided at each floor landing in an *interior exit stairway* and *ramp* connecting more than three stories designating the floor level, the terminus of the top and bottom of the *interior exit stairway* and *ramp* and the identification of the ~~stair~~ stairway 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 *interior exit stairway* and *ramp* 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. In addition to the *stairway* identification sign, a floor level sign in raised

characters and braille complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the *interior exit stairway* and *ramp* into the *corridor* to identify the floor level.

**SECTION 1028 (IFC [B] 1028)  
ASSEMBLY**

**TABLE 1028.6.2 (IFC [B] Table 1028.6.2)  
WIDTH OF AISLES FOR SMOKE-PROTECTED ASSEMBLY**

TOTAL NUMBER OF SEATS IN THE SMOKEPROTECTED ASSEMBLY SEATING	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	<del>Stairs and aisle steps</del> <u>stairs with handrails within 30 inches</u>	<del>Stairs and aisle steps</del> <u>stairs without handrails within 30 inches</u>	<del>Passageways, doorways and Level and ramped aisles</del> <u>ramps not steeper than 1 in 10 in slope</u>	<del>Ramps</del> <u>Ramped aisles steeper than 1 in 10 in slope</u>

(Portions of table not shown remain unchanged)

**1028.7 (IFC [B] 1028.7) Travel distance.** *Exits* and *aisles* shall be so located that the travel distance to an *exit* door shall not be greater than 200 feet (60 960 mm) measured along the line of travel in nonsprinklered buildings. Travel distance shall not be more than 250 feet (76 200 mm) in sprinklered buildings. Where *aisles* are provided for seating, the distance shall be measured along the *aisles* and *aisle accessway* without travel over or on the seats.

**Exceptions:**

1. *Smoke-protected assembly seating:* The travel distance from each seat to the nearest entrance to a vomitory or concourse shall not exceed 200 feet (60 960 mm). The travel distance from the entrance to the vomitory or concourse to a ~~stair~~ stairway, *ramp* or walk on the exterior of the building shall not exceed 200 feet (60 960 mm).
2. *Open-air seating:* The travel distance from each seat to the building exterior shall not exceed 400 feet (122 m). The travel distance shall not be limited in facilities of Type I or II construction.

Revise as follows:

**CHAPTER 12  
INTERIOR ENVIRONMENT**

**SECTION 1205  
LIGHTING**

**1205.4 Stairway illumination.** *Stairways* within *dwelling units* and *exterior stairways* serving a *dwelling unit* shall have an illumination level on tread runs of not less than 1 foot-candle (11 lux). ~~Stairs~~ Stairways in other occupancies shall be governed by Chapter 10.

**SECTION 1207  
SOUND TRANSMISSION**

**1207.1 Scope.** This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* or between *dwelling units* and adjacent public areas such as halls, *corridors*, ~~stairs~~ stairways or service areas.

Revise as follows:

**CHAPTER 21  
MASONRY**

**SECTION 2110  
GLASS UNIT MASONRY**

**2110.1.1 Limitations.** Solid or hollow *approved* glass block shall not be used in fire walls, party walls, fire barriers, fire partitions or smoke barriers, or for load-bearing construction. Such blocks shall be erected with mortar and reinforcement in metal channel-type frames, structural frames, masonry or concrete recesses, embedded panel anchors as provided for both exterior and interior walls or other *approved* joint materials. Wood strip framing shall not be used in walls required to have a fire-resistance rating by other provisions of this code.

**Exceptions:**

1. Glass-block assemblies having a fire protection rating of not less than 3/4 hour shall be permitted as opening protectives in accordance with Section 716 in fire barriers, fire partitions and smoke barriers that have a required fire-resistance rating of 1 hour or less and do not enclose exit stairways, ~~exit and~~ ramps or exit passageways.
2. Glass-block assemblies as permitted in Section 404.6, Exception 2.

Revise as follows:

**CHAPTER 23  
WOOD**

**SECTION 2308  
CONVENTIONAL LIGHT-FRAMED CONSTRUCTION**

**2308.12.7 Anchorage of exterior means of egress components.** Exterior egress balconies, exterior ~~exit stairways or ramps~~ and similar *means of egress* components shall be positively anchored to the primary structure at not over 8 feet (2438 mm) o.c. or shall be designed for lateral forces. Such attachment shall not be accomplished by use of toenails or nails subject to withdrawal.

Revise as follows:

**CHAPTER 24  
GLASS AND GLAZING**

**SECTION 2406  
SAFETY GLAZING**

**2406.4.6 Glazing adjacent to ~~stairs~~ stairways and ramps.** Glazing where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the plane of the adjacent walking surface of stairways, landings between flights of stairs, and ramps shall be considered a hazardous location.

**Exceptions:**

1. The side of a stairway, landing or ramp that has a guard complying with the provisions of Sections 1013 and 1607.8, and the plane of the glass is greater than 18 inches (457 mm) from the railing.
2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.

**2406.4.7 Glazing adjacent to the bottom ~~stair~~ stairway landing.** Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches (914 mm) above the landing and within 60 inches (1524 mm) horizontally of the bottom tread shall be considered a hazardous location.

**Exception:** Glazing that is protected by a guard complying with Sections 1013 and 1607.8 where the plane of the glass is greater than 18 inches (457 mm) from the guard.

Revise as follows:

**CHAPTER 34  
EXISTING STRUCTURES**

**SECTION 3406 (IEBC [B] 405)  
FIRE ESCAPES**

**3406.1.3 (IEBC [B] 405.1.3) New fire escapes.** New fire escapes for existing buildings shall be permitted only where exterior ~~stairs~~ stairways cannot be utilized due to lot lines limiting ~~stair~~ stairway size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

**3406.4 (IEBC [B] 405.4) Dimensions.** *Stairs* shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of ~~stairs~~ stairways not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

**SECTION 3411 (IEBC [B] 410)  
ACCESSIBILITY FOR EXISTING BUILDINGS**

**3411.8.4 (IEBC [B] 410.8.4) ~~Stairs~~ Stairways and escalators in existing buildings.** In *alterations*, change of occupancy or *additions* where an escalator or ~~stair~~ stairway is added where none existed previously and major structural modifications are necessary for installation, an *accessible* route shall be provided between the levels served by the escalator or ~~stairs~~ stairways in accordance with Sections 1104.4 and 1104.5.

## PART II - INTERNATIONAL MECHANICAL CODE

Revise as follows:

### IMC CHAPTER 3 GENERAL REGULATIONS

#### IMC SECTION 306 ACCESS AND SERVICE SPACE

**IMC 306.5.1 (IFGC [M] 306.5.1) Sloped roofs.** Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the *appliance* or *equipment* to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. Access shall not require walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches (762 mm) in height, such obstructions shall be provided with ladders installed in accordance with Section 306.5 or ~~stairs~~ stairways installed in accordance with the requirements specified in the *International Building Code* in the path of travel to and from appliances, fans or *equipment* requiring service.

### IMC CHAPTER 11 REFRIGERATION

#### IMC SECTION 1107 REFRIGERANT PIPING

**IMC 1107.2 Piping location.** Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7 feet 3 inches (2210 mm) above the floor unless the piping is located against the ceiling of such space. Refrigerant piping shall not be placed in any elevator, dumbwaiter or other shaft containing a moving object or in any shaft that has openings to living quarters or to means of egress. Refrigerant piping shall not be installed in an enclosed public stairway, ~~stair~~ stairway landing or means of egress.



## PART III – INTERNATIONAL FIRE CODE

Revise as follows:

### IFC CHAPTER 5 FIRE SERVICE FEATURES

#### IFC SECTION 508 (IBC [F] 911) FIRE COMMAND CENTER

**IFC 508.1.5 (IBC [F] 911.1.5) Required features.** The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system annunciator.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking interior exit stairway doors simultaneously.
8. Sprinkler valve and waterflow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, fire protection systems, fire-fighting equipment and fire department access and the location of *fire walls*, *fire barriers*, *fire partitions*, *smoke barriers* and smoke partitions.
13. An approved Building Information Card that contains, but is not limited to, the following information:
  - 13.1 General building information that includes: property name, address, the number of floors in the building (above and below grade), use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), estimated building population (i.e., day, night, weekend);
  - 13.2 Building emergency contact information that includes: a list of the building's emergency contacts (e.g., building manager, building engineer, etc.) and their respective work phone number, cell phone number, email address;
  - 13.3 Building construction information that includes: the type of building construction (e.g., floors, walls, columns, and roof assembly);
  - 13.4 Exit access and exit stair stairway information that includes: number of exit access and exit stair stairway in building, each exit access and exit stair stairway designation and floors served, location where each exit access and exit stair stairway discharges, interior exit stairs stairways that are pressurized, exit stairs stairways provided with emergency lighting, each exit stairs stairways that allows reentry, exit stairs stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine rooms, location of sky lobby, location of freight elevator banks;
  - 13.5 Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service;
  - 13.6 Fire protection system information that includes: locations of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of sprinkler systems installed (e.g., dry, wet, pre-action, etc.);
  - 13.7 Hazardous material information that includes: location of hazardous material, quantity of hazardous material.

14. Work table.
15. Generator supervision devices, manual start and transfer features.
16. Public address system, where specifically required by other sections of this code.
17. Elevator fire recall switch in accordance with ASME A17.1.
18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

## IFC CHAPTER 9 FIRE PROTECTION SYSTEMS

### IFC SECTION 905 STANDPIPE SYSTEMS

**IFC 905.3.3 (IBC [F] 905.3.3) Covered and open mall buildings.** Covered mall and open mall buildings shall be equipped throughout with a standpipe system where required by Section 905.3.1. Mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to the *automatic sprinkler system* sized to deliver water at 250 gallons per minute (946.4 L/min) at the most hydraulically remote hose connection while concurrently supplying the automatic sprinkler system demand. The standpipe system shall be designed to not exceed a 50 pounds per square inch (psi) (345 kPa) residual pressure loss with a flow of 250 gallons per minute (946.4 L/min) from the fire department connection to the hydraulically most remote hose connection. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each *exit* passageway or *corridor*.
2. At each floor-level landing within ~~enclosed~~ *interior exit* stairways opening directly on the mall.
3. At exterior public entrances to the mall of a covered mall building.
4. At public entrances at the perimeter line of an open mall building.

**IFC 905.4 (IBC [F] 905.4) Location of Class I standpipe hose connections.** Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required *interior exit stairway*, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise *approved* by the fire code official.
2. On each side of the wall adjacent to the *exit* opening of a *horizontal exit*.

**Exception:** Where floor areas adjacent to a *horizontal exit* are reachable from an *interior exit stairway* hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the *horizontal exit*.

3. In every *exit* passageway, at the entrance from the *exit* passageway to other areas of a building.

**Exception:** Where floor areas adjacent to an *exit* passageway are reachable from an *interior exit stairway* hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the *exit* passageway to other areas of the building.

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an *exit* passageway or *exit* corridor to the mall. In open mall buildings, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an *exit* passageway or *exit* corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), a hose connection shall be located to serve the roof or at the highest landing of a *interior exit stairway* with ~~stair~~ access to the roof provided in accordance with Section 1009.16.
6. Where the most remote portion of a nonsprinklered floor or *story* is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or *story* is more

than 200 feet (60 960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in *approved* locations.

**IFC 905.4.1 (IBC [F] 905.4.1) Protection.** Risers and laterals of Class I standpipe systems not located within an ~~enclosed~~ interior exit stairway ~~or pressurized enclosure~~ shall be protected by a degree of *fire resistance* equal to that required for vertical enclosures in the building in which they are located.

**Exception:** In buildings equipped throughout with an *approved automatic sprinkler system*, laterals that are not located within an ~~enclosed interior exit stairway~~ ~~or pressurized enclosure~~ are not required to be enclosed within fire-resistance- rated construction.

## **IFC SECTION 907 (IBC [F] 907) FIRE ALARM AND DETECTION SYSTEMS**

**IFC 907.2.13.2 (IBC [F] 907.2.13.2) Fire department communication system.** Where a wired communication system is *approved* in lieu of an emergency responder radio coverage system in accordance with Section 510 of the *International Fire Code*, the wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 911, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, *areas of refuge* and inside ~~enclosed~~ interior exit stairways. The fire department communication device shall be provided at each floor level within the ~~enclosed~~ interior exit stairway.

**IFC 907.5.2.2 (IBC [F] 907.5.2.2) Emergency voice/alarm communication systems.** Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving *approved* information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404 of the *International Fire Code*. In high-rise buildings, the system shall operate on a minimum of the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Interior Exit stairways.
3. Each floor.
4. *Areas of refuge* as defined in Section 1002.1.

**Exception:** In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

## **IFC CHAPTER 11 CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS**

### **IFC SECTION 1104 MEANS OF EGRESS FOR EXISTING BUILDINGS**

**IFC 1104.5 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 and 2 (*No change*)
3. Group E in interior ~~stairs~~ exit access and exit stairways and ramps, *corridors*, windowless areas with student occupancy, shops and laboratories.
- 4 through 9 (*No change*)

**IFC 1104.6.1 Height of guards.** Guards shall form a protective barrier not less than 42 inches (1067 mm) high.

**Exceptions:**

1. Existing guards on the open side of ~~stairs~~ stairways shall be not less than 30 inches (760 mm) high.
2. Existing guards within *dwelling units* shall be not less than 36 inches (910 mm) high.
3. Existing guards in assembly seating areas.

**IFC 1104.9 Revolving doors.** Revolving doors shall comply with the following:

1. A revolving door shall not be located within 10 feet (3048 mm) of the foot or top of ~~stairs~~ stairways or escalators. A dispersal area shall be provided between the ~~stairs~~ stairways or escalators and the revolving doors.
2. The revolutions per minute for a revolving door shall not exceed those shown in Table 1104.9.
3. Each revolving door shall have a conforming side hinged swinging door in the same wall as the revolving door and within 10 feet (3048 mm).

**Exceptions:**

1. A revolving door is permitted to be used without an adjacent swinging door for street-floor elevator lobbies provided a stairway, escalator or door from other parts of the building does not discharge through the lobby and the lobby does not have any occupancy or use other than as a means of travel between elevators and a street.
2. Existing revolving doors where the number of revolving doors does not exceed the number of swinging doors within 20 feet (6096 mm).

**IFC 1104.10 Stair dimensions for existing ~~stairs~~ stairways.** Existing ~~stairs~~ stairways in buildings shall be permitted to remain if the rise does not exceed 8 1/4 inches (210 mm) and the run is not less than 9 inches (229 mm). Existing ~~stairs~~ stairways can be rebuilt.

**Exception:** Other ~~stairs~~ stairways approved by the *fire code official*.

**IFC 1104.10.1 Dimensions for replacement ~~stairs~~ stairways.** The replacement of an existing *stairway* in a structure shall not be required to comply with the new *stairway* requirements of Section 1009 where the existing space and construction will not allow a reduction in pitch or slope.

**IFC 1104.12 Circular Curved stairways.** Existing ~~circular~~ stairs curved stairways shall be allowed to continue in use provided the minimum depth of tread is 10 inches (254 mm) and the smallest radius shall not be less than twice the width of the *stairway*.

**IFC 1104.16 Fire escape ~~stairs~~ stairways.** Fire escape ~~stairs~~ stairways shall comply with Sections 1104.16.1 through 1104.16.7.

**IFC 1104.16.1 Existing means of egress.** Fire escape ~~stairs~~ stairways shall be permitted in existing buildings but shall not constitute more than 50 percent of the required *exit* capacity.

**IFC 1104.16.2 Protection of openings.** Openings within 10 feet (3048 mm) of fire escape ~~stairs~~ stairways shall be protected by opening protectives having a minimum 3/4-hour *fire protection rating*.

**Exception:** In buildings equipped throughout with an *approved automatic sprinkler system*, opening protection is not required.

**IFC 1104.16.3 Dimensions.** Fire escape ~~stairs~~ stairways shall meet the minimum width, capacity, riser height and tread depth as specified in Section 1104.10.

**IFC 1104.16.4 Access.** Access to a fire escape ~~stair~~ stairway from a *corridor* shall not be through an intervening room. Access to a fire escape ~~stair~~ stairway shall be from a door or window meeting the criteria of Section 1005.1. Access to a fire escape ~~stair~~ stairway shall be directly to a balcony, landing or platform. These shall be no higher than the floor or window sill level and no lower than 8 inches (203 mm) below the floor level or 18 inches (457 mm) below the window sill.

**IFC 1104.16.5 Materials and strength.** Components of fire escape ~~stairs~~ stairways shall be constructed of noncombustible materials. Fire escape ~~stairs~~ stairways and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.78 kN/m<sup>2</sup>). Fire escape ~~stairs~~ stairways and balconies shall be provided with a top and intermediate handrail on each side.

**IFC 1104.16.5.1 Examination.** Fire escape ~~stairs~~ stairways and balconies shall be examined for structural adequacy and safety in accordance with Section 1104.16.5 by a registered design professional or others acceptable to the *fire code official* every five years, or as required by the *fire code official*. An inspection report shall be submitted to the *fire code official* after such examination.

**IFC 1104.16.6 Termination.** The lowest balcony shall not be more than 18 feet (5486 mm) from the ground. Fire escape ~~stairs~~ stairways shall extend to the ground or be provided with counterbalanced ~~stairs~~ stairways reaching the ground.

**Exception:** For fire escape ~~stairs~~ stairways serving 10 or fewer occupants, an *approved* fire escape ladder is allowed to serve as the termination.

**IFC 1104.16.7 Maintenance.** Fire escapes stairways shall be kept clear and unobstructed at all times and shall be maintained in good working order.

**IFC 1104.20 Stairway discharge identification.** An interior *exit stairway* or *ramp* which continues below its *level of exit discharge* shall be arranged and marked to make the direction of egress to a *public way* readily identifiable.

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

**IFC 1104.21 Exterior stairway protection.** Exterior *exit stairs* stairways shall be separated from the interior of the building as required in Section 1026.6. 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 *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 1022.
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~~ stairways, 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 1018.

- 4.3. The open-ended *corridors* are connected on each end to an exterior *exit stairway* complying with Section 1026.
- 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 m<sup>2</sup>) 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.

**IFC 1104.23 Stairway floor number signs.** Existing ~~stairs~~ stairways shall be marked in accordance with Section 1022.8.

**IFC CHAPTER 33  
FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION**

**IFC SECTION 3313 (IBC [F] 3311; IEBC [F] 1506.1)  
STANDPIPES**

**IFC 3313.1 (IBC [F] 3311.1; IEBC [F] 1506.1) Where required.** In buildings required to have standpipes by Section 905.3.1, no fewer than one standpipe shall be provided for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department vehicle access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable ~~stairs~~ stairways. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

**IFC CHAPTER 57  
FLAMMABLE AND COMBUSTIBLE LIQUIDS**

**IFC SECTION 5704  
STORAGE**

**IFC 5704.2.9.4 ~~Stairs~~ Stairways, platforms and walkways.** ~~Stairs~~ Stairways, platforms and walkways shall be of noncombustible construction and shall be designed and constructed in accordance with NFPA 30 and the *International Building Code*.

**IFC 5706.5.1.12 Loading racks.** Where provided, loading racks, ~~stairs~~ stairways or platforms shall be constructed of noncombustible materials. Buildings for pumps or for shelter of loading personnel are allowed to be part of the loading rack. Wiring and electrical equipment located within 25 feet (7620 mm) of any portion of the loading rack shall be in accordance with Section 5703.1.1.

## PART IV – INTERNATIONAL EXISTING BUILDING CODE

### IEBC CHAPTER 8 ALTERATIONS—LEVEL 2

#### IEBC SECTION 804 FIRE PROTECTION

**IEBC 804.1.1 Corridor ratings.** Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the *International Building Code*. In order to be considered for a corridor rating reduction, such system shall provide coverage for the ~~stairwell~~ stairway landings serving the floor and the intermediate landings immediately below.

#### IEBC SECTION 805 MEANS OF EGRESS

**IEBC 805.3.1.1 Single-exit buildings.** Only one exit is required from buildings and spaces of the following occupancies:

1. through 8. *(No change)*
9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smokeproof enclosure or outside ~~stair~~ stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.
10. *(No change)*

**IEBC 805.3.1.2.1 Fire escape access and details.** Fire escapes shall comply with all of the following requirements:

1. and 2. *(No change)*
3. Newly constructed fire escapes shall be permitted only where exterior ~~stairs~~ stairways cannot be utilized because of lot lines limiting the ~~stair~~ stairway size or because of the sidewalks, alleys, or roads at grade level.
4. Openings within 10 feet (3048 mm) of fire escape ~~stairs~~ stairways shall be protected by fire assemblies having minimum 3/4-hour fire-resistance ratings.  
**Exception:** Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.
5. *(No change)*

**IEBC 805.3.1.2.3 Dimensions.** ~~Stairs~~ Stairways shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm). Landings at the foot of ~~stairs~~ stairways shall not be less than 40 inches (1016 mm) wide by 36 inches (914 mm) long and located not more than 8 inches (203 mm) below the door.

**IEBC 805.4.3 Door closing.** In any *work area*, all doors opening onto an exit passageway at grade or an exit ~~stair~~ stairway shall be self-closing or automatic-closing by listed closing devices.

#### Exceptions:

1. Where exit enclosure is not required by the *International Building Code*.
2. Means of egress within or serving only a tenant space that is entirely outside the *work area*.

**IEBC 805.4.3.1 Supplemental requirements for door closing.** Where the *work area* exceeds 50 percent of the floor area, doors shall comply with Section 805.4.3 throughout the exit ~~stair~~ stairway from the *work area* to, and including, the level of exit discharge.

**IEBC 805.9.1 Minimum requirement.** Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the ~~run of steps~~ stairway on at least one side. All exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

**IEBC 805.10.1 Minimum requirement.** Every open portion of a ~~stair~~ stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

## **IEBC SECTION 806 ACCESSIBILITY**

**IEBC 806.2 Stairs Stairways and escalators in existing buildings.** In *alterations* where an escalator or ~~stair~~ stairway is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the *International Building Code*.

## **IEBC CHAPTER 9 ALTERATIONS—LEVEL 3**

### **IEBC SECTION 902 SPECIAL USE AND OCCUPANCY**

**IEBC 902.2.1 Emergency controls.** Emergency controls for boilers and furnace equipment shall be provided in accordance with the *International Mechanical Code* in all buildings classified as day nurseries, children's shelter facilities, residential childcare facilities, and similar facilities with children below the age of 21/2 years or that are classified as Group I-2 occupancies, and in group homes, teaching family homes, and supervised transitional living homes in accordance with the following:

1. Emergency shutoff switches for furnaces and boilers in basements shall be located at the top of the ~~stairs~~ stairways leading to the basement; and
2. Emergency shutoff switches for furnaces and boilers in other enclosed rooms shall be located outside of such room.

## **IEBC CHAPTER 11 ADDITIONS**

### **IEBC SECTION 1102 HEIGHTS AND AREAS**

**IEBC 1102.2 Area limitations.** No *addition* shall increase the area of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings unless fire separation as required by the *International Building Code* is provided.

**Exception:** In-filling of floor openings and nonoccupiable appendages such as elevator and exit ~~stair~~ stairway shafts shall be permitted beyond that permitted by the *International Building Code*.



**IEBC CHAPTER 12  
HISTORIC BUILDINGS**

**IEBC SECTION 1203  
FIRE SAFETY**

**IEBC 1203.9 Stairway railings.** Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all ~~stairs~~ stairways shall be permitted to remain, provided they are not structurally *dangerous*.

**IEBC SECTION 1205  
CHANGE OF OCCUPANCY**

**IEBC 1205.11 ~~Stairs~~ Stairways and guards railings.** Existing stairways shall comply with the requirements of these provisions. The *code official* shall grant alternatives for stairways and ~~railings~~ guards if alternative stairways are found to be acceptable or are judged to meet the intent of these provisions. Existing stairways shall comply with Section 1203.

**Exception:** For buildings less than 3,000 square feet (279 m<sup>2</sup>), existing conditions are permitted to remain at all ~~stairs~~ stairways and ~~rails~~ guards.

**IEBC Resource A**

2.1 Preliminary evaluation

Exterior Nonbearing Walls: The fire resistance of the exterior walls is important for two reasons. These walls (both bearing and non-bearing) are depended upon to: a) contain a fire within the building of origin; or b) keep an exterior fire *outside* the building. It is therefore important to indicate on the drawings where any openings are located as well as the materials and construction of all doors or shutters. The drawings should indicate the presence of wired glass, its thickness and framing, and identify the materials used for windows and door frames. The protection of openings adjacent to exterior means of escape (e.g., exterior ~~stairs~~ stairways, fire escapes) is particularly important. The ground floor drawing should locate the building on the property and indicate the precise distances to adjacent buildings.

The field investigator should be alert for differences in function as well as in materials and construction details. In general, the details within apartments are not as important as the major exit paths and ~~stairwells~~ exit stairways. The preliminary field investigation should attempt to determine the thickness of all walls. A term introduced below called "thickness design" will depend on an accurate ( $\pm 1/4$  inch) determination. Even though this initial field survey is called "preliminary," the data generated should be as accurate and complete as possible.

The field investigator should note the exact location from which observations are recorded. For instance, if a hole is found through a ~~stairwell~~ wall enclosing an exit stairway which allows a cataloguing of the construction details, the field investigation notes should reflect the location of the "find." At the preliminary stage it is not necessary to core every wall; the interior details of construction can usually be determined at some location.

Doors: Doors to stairways and hallways represent some of the most important fire elements to be considered within a building. The uses of the spaces separated largely controls the level of fire performance necessary. Walls and doors enclosing ~~stairs~~ stairways or elevator shafts would normally require a higher level of performance than between a the bedroom and bath. The various uses are differentiated in Figure 1.

*Rule 7: The fire endurance of asymmetrical constructions depends on the direction of heat flow.*  
This rule is a consequence of Rules 4 and 6 as well as other factors. This rule is useful in determining the relative protection of corridors and ~~stairwells~~ walls enclosing an exit stairway from the surrounding

spaces. In addition, there are often situations where a fire is more likely, or potentially more severe, from one side or the other.

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

The intent is for the consistent use of the defined terms for ‘stair’ and ‘stairway’ throughout the all the codes. Stair is used when talking about individual steps or stepped aisles. Stairway is used when the provisions are applicable to a series of steps, or flights and landings between stories. In addition, when terms such as ‘exit access stairway’ and ‘exit access ramp’ follow each other in a list, consistently eliminate a couple of words by saying ‘exit access stairway and ramp.’ When the provisions are equally appropriate for ramps and stairways, ramps is added.

**Cost Impact:** None

## **E2-12**

### **PART I – INTERNATIONAL BUILDING CODE**

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

### **PART II – INTERNATIONAL MECHANICAL CODE**

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

### **PART III – INTERNATIONAL FIRE CODE**

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

### **PART IV – INTERNATIONAL EXISTING BUILDING CODE**

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

## E3 – 12

**202, 405.7.1, 410.6.1, 411.7, [F] 414.7.2, 716.5.3, 1004.3, 1008.1.4.4, 1015, 1018.4, 1028.9 (IFC 5005.4.4, [B]1004.3, [B]1008.1.4.4, [B]1015, [B] 1018.4, [B]1028.9)**

**Proponent:** Gregory R. Keith, Professional heuristic Development, representing The Boeing Company (grkeith@mac.com)

**Revise as follows:**

### SECTION 202 DEFINITIONS

**EXIT ACCESS POINT 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, exit access ~~stair~~ stairway or exit access ramp.

**Revise as follows:**

**405.7.1 Number of exits.** Each floor level shall be provided with no fewer than two exits. Where compartmentation is required by Section 405.4, each compartment shall have no fewer than one exit and shall also have no fewer than one exit access point doorway into the adjoining compartment.

**410.6.1 Arrangement.** Where two or more exits or exit access points doorways from the stage are required in accordance with Section 1015.1, no fewer than one exit or exit access point doorway shall be provided on each side of a stage.

**411.7 Exit marking.** Exit signs shall be installed at the required exit or exit access points doorways of amusement buildings in accordance with this section and Section 1011. Approved directional exit markings shall also be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1011.5, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic fire detection system and the automatic sprinkler system in accordance with Section 907.2.12.2.

**[F] 414.7.2 (IFC 5005.4.4) Dispensing, use and handling.** Where hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704 are transported through corridors, interior exit stairways or ramps, or exit passageways there shall be an emergency telephone system, a local manual alarm station or an approved alarm-initiating device at not more than 150-foot (45 720 mm) intervals and at each exit and exit access point doorway throughout the transport route. The signal shall be relayed to an approved central, proprietary or remote station service or constantly attended on-site location and shall initiate a local audible alarm.

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

#### **Exceptions:**

1. Viewports that require a hole not larger than 1 inch (25 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).

2. Corridor door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multitheater complexes where each motion picture auditorium has at least one-half of its required exit or exit access points ~~doorways~~ opening directly to the exterior or into an exit passageway.
4. Horizontal sliding doors in smoke barriers that comply with Sections 408.3 and 408.8.4 in occupancies in Group I-3.

**Revise as follows:**

**1004.3 (IFC [B] 1004.3) Posting of occupant load.** Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access point ~~doorway~~ from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

**1008.1.4.4 (IFC [B] 1008.1.4.4) Security grilles.** In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be operable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more means of egress are required, not more than one-half of the exits or exit access points ~~doorways~~ shall be equipped with horizontal sliding or vertical security grilles.

**SECTION 1015 (IFC [B] 1015)  
EXIT AND EXIT ACCESS POINTS ~~DOORWAYS~~**

**1015.1 (IFC [B] 1015.1) Exits or exit access points ~~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.

**Exceptions:**

1. In Group 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. Care suites in Group I-2 occupancies complying with Section 407.4.3.
2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, or 1015.6.

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 EXIT OR EXIT ACCESS POINT ~~DOORWAY~~**

<b>OCCUPANCY</b>	<b>MAXIMUM OCCUPANT LOAD</b>
A, B, E, F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-2, I-3, I-4, R	10
S	29

**1015.1.1 (IFC [B] 1015.1.1) Three or more exits or exit access points ~~doorways~~.** Three exits or exit access points ~~doorways~~ shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access points ~~doorways~~ shall be provided from any space with an occupant load greater than 1,000.

**1015.2 (IFC [B] 1015.2) Exit or exit access point doorway arrangement.** Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exit and exit access points doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.

**1015.2.1 (IFC [B] 1015.2.1) Two exits or exit access points doorways.** Where two exits or exit access points doorways are required from any portion of the exit access, the exit doors or exit access points doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access points doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

**Exceptions:**

1. Where interior exit stairways are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access points doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

**1015.2.2 (IFC [B] 1015.2.2) Three or more exits or exit access points doorways.** Where access to three or more exits is required, at least two exit doors or exit access points doorways shall be arranged in accordance with the provisions of Section 1015.2.1.

**1015.3 (IFC [B] 1015.3) Boiler, incinerator and furnace rooms.** Two exit access points doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m<sup>2</sup>) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access points doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access points doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

**1015.4 (IFC [B] 1015.4) Refrigeration machinery rooms.** Machinery rooms larger than 1,000 square feet (93 m<sup>2</sup>) shall have not less than two exits or exit access points doorways. Where two exit access points doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access points doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access point doorway. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the occupant load served. Doors shall be tight fitting and self-closing.

**1015.5 (IFC [B] 1015.5) Refrigerated rooms or spaces.** Rooms or spaces having a floor area larger than 1,000 square feet (93 m<sup>2</sup>), 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 points doorways

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 point doorway 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.

**1015.6 (IFC [B] 1015.6) Day care means of egress.** Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2-1/2 years of age or less, shall have access to not less than two exits or exit access points ~~doorways~~.

**1018.4 (IFC [B] 1018.4) Dead ends.** Where more than one exit or exit access point ~~doorway~~ is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

**Exceptions:**

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.5), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

**1028.9 (IFC [B] 1028.9) Assembly aisles are required.** Every occupied portion of any building, room or space used for assembly purposes that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access points ~~doorways~~ in accordance with this section. Aisle accessways for tables and seating shall comply with Section 1028.10.1.

**Reason:** The term exit access doorway is a misnomer. By definition, the term exit access doorway includes any access point along the path of egress travel including exit access stairways and ramps. Given the literal nature of the term "doorway," without consulting the definition, most code users would not necessarily associate stairways and ramps when they read the word doorway. This distinction becomes important with the 2012 Edition of the IBC. E5-09/10 introduced the terms "exit access stairway" and "exit access ramp" into Chapter 10. These definitions are particularly significant because the concept of accessing exits at an adjacent story by way of exit access stairways and ramps has been formalized in the 2012 IBC.

There are several requirements that relate to the establishment of these terms. For instance, Section 1015.2 states, "Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2." It is important that required exits and exit access stairways serving a given story are properly separated. The fact that the requirement refers only to exits and exit access doorways can be misleading. By requiring the separation of exits and exit access points, it is clear to code practitioners that any specified exit access component, whether it be a door, doorway, exit access stairway or exit access ramp, must comply with the provision.

It is not in the best interests of either the design or enforcement communities for the IBC to be misleading through its terminology. It is imperative that the IBC articulate what is intended in the clearest fashion possible. This is particularly important at a time when the IBC means of egress definitions and provisions are being technically and editorially adjusted. Approval of this proposal will increase uniformity in the application of fundamental means of egress provisions.

**Cost Impact:** None

**E3-12**

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

## E4 – 12

### 202, 1026.3 (IFC [B] 1026.3)

**Proponent:** Gregory R. Keith, Professional heuristic Development, representing The Boeing Company (grkeith@mac.com)

**Revise as follows:**

#### SECTION 202 DEFINITIONS

**EXIT ACCESS RAMP.** An ~~interior~~ ramp that is not a required *interior* or *exterior* exit ramp.

**EXIT ACCESS STAIRWAY.** An ~~interior~~ stairway that is not a required *interior* or *exterior* exit stairway.

**EXTERIOR EXIT RAMP.** An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and is open to yards, courts or public ways.

**EXTERIOR EXIT STAIRWAY, EXTERIOR.** An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and is open to that is open on at least one side, except for required structural columns, beams, handrails and guards. The adjoining open areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

**INTERIOR EXIT RAMP.** An exit component that serves to meet one or more *means of egress* design requirements, such as required number of *exits* or *exit access* travel distance, and provides for a protected path of egress travel to the *exit discharge* or *public way*.

**INTERIOR EXIT STAIRWAY.** An exit component that serves to meet one or more *means of egress* design requirements, such as required number of *exits* or *exit access* travel distance, and provides for a protected path of egress travel to the *exit discharge* or *public way*.

**RAMP.** A walking surface that has a running slope steeper than one unit vertical in 20 units horizontal (5-percent slope).

**STAIRWAY.** One or more *flights* of *stairs*, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

**STAIRWAY, INTERIOR.** ~~A stairway not meeting the definition of an exterior stairway.~~

**Revise as follows:**

**1026.3 (IFC [B] 1026.3) Open side.** *Exterior exit stairways* and *ramps* serving as an element of a required *means of egress* shall be open on at least one side, except for required structural columns, beams, handrails and guards. An open side shall have a minimum of 35 square feet (3.3 m<sup>2</sup>) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

**Reason:** Several new means of egress terms were created and defined in the 2012 Edition of the International Building Code. They include, "EXIT ACCESS STAIRWAY," "EXIT ACCESS RAMP," "INTERIOR EXIT STAIRWAY" and "INTERIOR EXIT RAMP." These, and other terms, are fundamental to the design of any means of egress system. There is a precise relationship between these terms. It is proposed to modify the definition of both "EXIT ACCESS STAIRWAY" and "EXIT ACCESS RAMP" by deleting the word "interior." This is appropriate in that the exit access can be exterior to the building and changes in floor level can occur along the path of egress travel. Since an exit access stairway or ramp can be interior or exterior to the building, it is clarified that they are not exterior exit stairways or ramps as well.

Exterior exit stairways and exterior exit ramps are exit components according to the definition of "EXIT" in Section 202 and Section 1022.1. Both of these terms are currently undefined in the IBC. There is, however, a definition for "STAIRWAY, EXTERIOR." An exterior stairway is not a means of egress component, per se, in the IBC. It is proposed to replace the definition of "STAIRWAY, EXTERIOR" with a definition for "EXTERIOR EXIT STAIRWAY." The proposed definition is consistent with the current definition except for the distinction that such stairways are open to yards, courts or public ways consistent with the requirements in Section 1026.4. Additionally, Section 1026.3 has been modified to add technical language formerly contained in the definition of "STAIRWAY, EXTERIOR" as regards in impact of structural columns, beams, handrails and guards on openness determination. A companion definition for exterior exit ramps has been created which is consistent with the proposed definition of exterior exit stairway.

Lastly, it is proposed to delete the current definition of "STAIRWAY, INTERIOR." This definition is nonsensical, obsolete and out of current technical context. The current definition of "EXIT ACCESS STAIRWAY" effectively replaces this definition.

The definitions of "INTERIOR EXIT RAMP," "INTERIOR EXIT STAIRWAY," "RAMP" and "STAIRWAY" have been included for reference purposes so the relationship of the various terms can be seen.

In summary, the proposed modifications to these means of egress component definitions will provide necessary clarity for users who are designing or analyzing a means of egress system. It is imperative that IBC definitions be technically accurate and properly descriptive. Approval of this proposal will allow for more consistent interpretations and applications of important IBC means of egress provisions.

**Cost Impact:** None

#### **E4-12**

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

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202-Exit access doorway-E-Keith.doc



# E6 – 12

## 202

**Proponent:** Gene Boecker, Code Consultants, Inc., representing self

**Revise as follows:**

### 202 DEFINITIONS

**STAIR.** A change in elevation, consisting of one or more ~~risers~~ steps providing occupant passage from one level to another.

**STAIRWAY.** One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage ~~from one level to another.~~

**Reason:** The intent is not to change the application of the terms Stair and Stairway but to use more common, consistent language and eliminate a circular definition, as it exists for “stair.”

**Stair:** The term riser is deleted because it is not defined. To determine what a riser is, it is necessary to look in Section 1009 on Stairways. This is confusing because a “riser” is used to define a stair, but a riser doesn’t exist unless it is associated with a stair. Using “riser” in the definition is circular and ambiguous. The term “step” is used because it is more common and easier to understand. Whereas a riser, to be considered a code complying element, must meet certain criteria, a step is simply a change in the elevation. The term “step” is commonly used in various dictionaries in the definition of “stair,” so it is common language usage.

It also eliminates the conflict with “risers” upon which people stand in theatrical performances and are connected by steps. A riser as used in theatrical performances is a change in elevation but is not used for occupant passage between levels. The code’s usage of riser should be left to its specific application.

Throughout the IBC, the word “step” is used 51 times. Of those, 30 times it is in association with the type of element addressed. In the other 21 times, it is associated with other changes in elevation such as stepped footings. Hence, it is consistent with the concept of changed levels. The phrase “providing occupant passage” is added to provide distinction from these other types of steps. A stair does not include stepped footings because a stepped footing is not used for occupant passage.

**Stairway:** Because a stair exists within a stairway by definition, it is not necessary to repeat the phrase “passage from one level to another.” That is included in the concept with the revised definition for “stair.” Since a stairway includes the landings and platforms in addition to the stair, those must be included. As used in the stairway definition, the term “passage” is used differently so it should remain.

**Cost Impact:** None

### E6-12

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

## E7-12/13

202, 403.5.1, 505.2.3, 707.3.3, 707.5.1, 707.7.1, 711.4, 712.1.8, 712.1.12, 713.1, 1001.2, 1007.2, 1007.3, 1007.6.2, 1009.2-1009.3.1.8, 1010.2, 1011.1, 1015.1, 1015.2, 1015.2.1, 1015.2.1.1(new), 1015.2.2, 1015.2.3(new), 1015.2.3.1(new), 1016.3, 1018(new), 1026.6, 1027.1, 1028.5 (IFC [B] 1001.2, 1007.2, 1007.3, 1007.6.2, 1009.2-1009.3.1.8, 1010.2, 1011.1, 1015.1, 1015.2, 1015.2.1, 1015.2.1.1(new), 1015.2.2, 1015.2.3(new), 1015.2.3.1(new), 1016.3, 1018(new), 1026.6, 1027.1, 1028.5)

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

Revise as follows:

### SECTION 202 DEFINITIONS

**EXIT ACCESS RAMP.** An ~~interior~~ ramp that is not a required ~~interior~~ exit ramp.

**EXIT ACCESS STAIRWAY.** An ~~interior~~ stairway that is not a required ~~interior~~ exit stairway.

Revise as follows:

### SECTION 1001 ADMINISTRATION

**1001.2 (IFC [B] 1001.2) Minimum requirements.** It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code. Means of egress shall be designed to be continuous and unobstructed.

### SECTION 1007 (IFC [B] 1007) ACCESSIBLE MEANS OF EGRESS

**1007.2 (IFC [B] 1007.2) Continuity and components.** Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. *Accessible* routes complying with Section 1104.
2. *Interior exit stairways* complying with Sections 1007.3 and 1022.
3. ~~Interior exit access stairways~~ complying with Sections 1007.3 and ~~4009.3~~ 1018.2 or 1018.3.
4. *Exterior exit stairways* complying with Sections 1007.3 and 1026 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1007.4.
6. Platform lifts complying with Section 1007.5.
7. *Horizontal exits* complying with Section 1025.
8. *Ramps* complying with Section 1010.
9. *Areas of refuge* complying with Section 1007.6.
10. Exterior area for assisted rescue complying with Section 1007.7.

**1007.3 (IFC [B] 1007.3) Stairways.** In order to be considered part of an *accessible means of egress*, a *stairway* between stories 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*. *Exit access stairways* that connect levels in the same story are not permitted as part of an *accessible means of egress*.

**Exceptions:**

1. Exit access stairways providing means of egress from mezzanines are permitted as part of an accessible means of egress.
24. The clear width of 48 inches (1219 mm) between *handrails* is not required in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
32. *Areas of refuge* are not required at *stairways* in buildings equipped throughout by an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
43. The clear width of 48 inches (1219 mm) between *handrails* is not required for *stairways* accessed from a *horizontal exit*.
54. *Areas of refuge* are not required at *stairways* serving *open parking garages*.
65. *Areas of refuge* are not required for smoke protected seating areas complying with Section 1028.6.2.
76. The *areas of refuge* are not required in Group R-2 occupancies.

**1007.6.2 (IFC [B] 1007.6.2) Separation.** Each *area of refuge* shall be separated from the remainder of the story by a *smoke barrier* complying with Section 709 or a *horizontal exit* complying with Section 1025. Each *area of refuge* shall be designed to minimize the intrusion of smoke.

**Exception:** *Areas of refuge* located within an enclosure for ~~exit access stairways or interior exit stairways~~.

## **SECTION 1009 (IFC [B] 1009) STAIRWAYS**

**1009.1 (IFC [B] 1009.1) General.** Stairways serving occupied portions of a building shall comply with the requirements of this section.

~~**1009.2 (IFC [B] 1009.2) Interior exit stairways.** Interior exit stairways 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 1023, except as permitted in Section 1027.1.~~

~~**1009.2.1 (IFC [B] 1009.2.1) Where required.** Interior exit stairways shall be included, as necessary, to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance.~~

~~**1009.2.2 (IFC [B] 1009.2.2) Enclosure.** All interior exit stairways shall be enclosed in accordance with the provisions of Section 1022.~~

~~**1009.3 (IFC [B] 1009.3) Exit access stairways.**—Relocated to 1018.3~~

~~**1009.3.1 (IFC [B] 1009.3.1) Construction.** Where required, enclosures for exit access stairways shall be constructed in accordance with this section. Exit access stairway enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 711, or both.~~

~~**1009.3.1.1 (IFC [B] 1009.3.1.1) Materials.** Exit access stairway enclosures shall be of materials permitted by the building type of construction.~~

~~**1009.3.1.2 (IFC [B] 1009.3.1.2) Fire-resistance rating.** Exit access stairway 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 access stairway enclosures shall include any basements, but not any mezzanines. Exit access stairway enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.~~

~~**1009.3.1.3 (IFC [B] 1009.3.1.3) Continuity.** Exit access stairway enclosures shall have continuity in~~

accordance with Section 707.5 for fire barriers or Section 711.4 for horizontal assemblies as applicable.

~~1009.3.1.4 (IFC [B] 1009.3.1.4) Openings.~~ Openings in an exit access stairway enclosure shall be protected in accordance with Section 716 as required for fire barriers. Doors shall be self- or automatic-closing by smoke detection in accordance with Section 716.5.9.3.

~~1009.3.1.4.1 (IFC [B] 1009.3.1.4.1) Prohibited openings.~~ Openings other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

~~1009.3.1.5 (IFC [B] 1009.3.1.5) Penetrations.~~ Penetrations in an exit access stairway enclosure shall be protected in accordance with Section 714 as required for fire barriers.

~~1009.3.1.5.1 (IFC [B] 1009.3.1.5.1) Prohibited penetrations.~~ Penetrations other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

~~1009.3.1.6 (IFC [B] 1009.3.1.6) Joints.~~ Joints in an exit access stairway enclosure shall comply with Section 715.

~~1009.3.1.7 (IFC [B] 1009.3.1.7) Ducts and air transfer openings.~~ Penetrations of an exit access stairway enclosure by ducts and air transfer openings shall comply with Section 717.

~~1009.3.1.8 (IFC [B] 1009.3.1.8) Exterior walls.~~ Where exterior walls serve as a part of an exit access stairway enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply.

(Renumber remaining sections)

## SECTION 1010 RAMPS

~~1010.2 (IFC [B] 1010.2) Enclosure.~~ All interior exit ramps shall be enclosed in accordance with the applicable provisions of Section 1022. Exit access ramps shall be enclosed in accordance with the provisions of Section 1009.3 for enclosure of stairways.

(Renumber remaining sections)

## SECTION 1011 (IFC [B] 1011) EXIT SIGNS

~~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 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 dayrooms, sleeping 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.

**SECTION 1015 (IFC [B] 1015)  
EXITS AND EXIT ACCESS DOORWAYS**

**1015.1 (IFC [B] 1015.1) Exits or exit access doorways from spaces.** Two exits or exit access doorways from any space including mezzanines 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.

**Exceptions:**

1. In Group 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. Care suites in Group I-2 occupancies complying with Section 407.4.3.
2. The *common path of egress travel* exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, or 1015.6.

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.

**1015.2 (IFC [B] 1015.2) Exit or exit access doorway arrangement.** Required exits shall be located in a manner that makes their availability obvious. ~~Exits shall be unobstructed at all times.~~ Exits, and exit access doorways, and exit access stairways and ramps shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.

**1015.2.1 (IFC [B] 1015.2.1) Two exits or exit access doorways.** Where two *exits* or *exit access doorways* and exit access stairways and ramps are required from any portion of the *exit access*, the ~~exit doors~~ or *exit access doorways* and exit access stairways and ramps shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between ~~exit doors~~ or *exit access doorways* and exit access stairways and ramps. Interlocking or *scissor stairs* shall be counted as one *exit stairway*.

**Exceptions:**

1. Where interior exit stairways are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the ~~exit doors~~ or *exit access doorways* and exit access stairways and ramps shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

**1015.2.1.1 (IFC [B] 1015.2.1.1) Measurement point.** The separation distance required in Section 1015.2.1 shall be measured in accordance with the following:

1. The separation distance to exit or exit access doorways shall be measured to any point along the width of the doorway.
2. The separation distance to exit access stairways shall be measured to the closest riser.
3. The separation distance to exit access ramps shall be measured to the start of the ramp run.

**1015.2.2 (IFC [B] 1015.2.2) Three or more exits or exit access doorways.** Where access to three or more *exits* is required, at least two ~~exit doors or exit access doorways~~ shall be arranged in accordance with the provisions of Section 1015.2.1.

**1015.2.3 (IFC [B] 1015.2.3) Remoteness of exit access stairways or ramps.** Where two exit access stairways or ramps provide the required means of egress to exits at another story, the required separation distance shall be maintained for all portions of such exit access stairways or ramps.

**1015.2.3.1 (IFC [B] 1015.2.3.1) Three or more exit access stairways or ramps.** Where more than two exit access stairways or ramps provide the required means of egress, at least two shall be arranged in accordance with 1015.2.3.

## **SECTION 1016 (IFC [B] 1016) EXIT ACCESS TRAVEL DISTANCE**

**1016.3 (IFC [B] 1016.3) Measurement.** Exit access travel distance shall be measured from the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

### **Exceptions Exception:**

4. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.
2. ~~In outdoor facilities with open exit access components, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.~~

## **SECTION 1018 (IFC [B] 1018) EXIT ACCESS STAIRWAYS AND RAMPS**

**1018.1 (IFC [B] 1018.1) General.** Exit access stairways and ramps serving as an exit access component in a means of egress system shall comply with the requirements of this section. The number of stories connected by exit access stairways and ramps shall include basements, but not mezzanines.

**1018.2 (IFC [B] 1018.2) All occupancies.** Exit access stairways and ramps that serve floor levels within a single story are not required to be enclosed.

**1018.3 (IFC [B] 1018.3) ~~4009.3(IFC [B] 4009.3)~~ Occupancies other than Group I-2 and I-3. Exit access stairways.** Floor openings between stories created by exit access stairways shall be enclosed. In other than Group I-2 and I-3 occupancies, floor openings containing exit access stairways or ramps that do not comply with one of the conditions listed in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713.

### **Exceptions:**

1. ~~In other than Group I-2 and I-3 occupancies, Exit access stairways and ramps that serve, or atmospherically communicate between, only two stories, are not required to be enclosed. Such interconnected stories shall not be open to other stories.~~
2. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within a single residential an individual dwelling unit or

- sleeping unit or live/work unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
3. ~~In buildings with only Group B or M occupancies, Exit access stairways and ramps in openings are not required to be enclosed provided that the buildings is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the floor vertical opening between stories does not exceed twice the horizontal projected area of the exit access stairway or ramp, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M occupancies, this provision is limited to openings that do not connect more than four stories.~~
  4. ~~In other than Groups B and M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.~~
  45. Exit access stairways and ramps within an atrium complying with the provisions of Section 404 are not required to be enclosed.
  56. Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.
  67. Exit access stairways and ramps serving outdoor facilities where all portions of the means of egress are essentially open to the outside are not required to be enclosed open-air seating complying with the exit access travel distance requirements of Section 1028.7.
  8. Exit access stairways serving stages, platforms and technical production areas in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.
  79. Exit access stairways and ramps serving are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
  10. In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.

**1018.4 (IFC [B] 1018.4) Group I-2 and I-3 occupancies.** In Group I-2 and I-3 occupancies, floor openings between stories containing exit access stairways or ramps are required to be enclosed with a shaft enclosure constructed in accordance with Section 713.

**Exception:** In Group I-3 occupancies, exit access stairways or ramps constructed in accordance with Section 408 are not required to be enclosed.

(Renumber Subsequent Sections)

## SECTION 1026 (IFC [B] 1026) EXTERIOR EXIT STAIRWAYS AND RAMPS

**1026.6 (IFC [B] 1026.6) Exterior stairway and ramp protection.** Exterior exit stairways and ramps shall be separated from the interior of the building as required in Section 1022.2. 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 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 *exit stairway* or *ramp* is served by an exterior *ramp* 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 stairway or ramp located in a building or structure that is permitted to have unenclosed exit access stairways in accordance with Section 1009.3.~~
4. Separation from the interior of the building is not required for exterior exit stairways or ramps connected to open-ended corridors, provided that Items 3.1 4.4 through 3.5 4.5 are met:
  - 4.13.1. The building, including corridors, stairways or ramps, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
  - 4.23.2. The open-ended corridors comply with Section 1018.
  - 4.33.3. The open-ended corridors are connected on each end to an exterior exit stairway or ramp complying with Section 1026.
  - 4.43.4. The exterior walls and openings adjacent to the exterior exit stairway or ramp comply with Section 1022.7.
  - 4.53.5. 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 m<sup>2</sup>) or an exterior stairway or ramp shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

## SECTION 1027 (IFC [B] 1027) EXIT DISCHARGE

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

### Exceptions:

1. A maximum of 50 percent of the number and capacity of interior exit stairways and ramps is permitted to egress through areas on the level of exit discharge provided all of the following are met:
  - 1.1 Such Discharge of interior exit stairways and ramps shall be provided with enclosures egress to a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure.
  - 1.2 The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure.
  - 1.3 The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of exit 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 interior exit stairways or ramps.
  - 1.4 Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp.
2. A maximum of 50 percent of the number and capacity of the interior exit stairways and ramps 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~~ of the interior exit stairway or ramp 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. *Horizontal exits* complying with Section 1025 shall not be required to discharge directly to the exterior of the building.

## SECTION 1028 (IFC [B] 1028) ASSEMBLY

**1028.5 (IFC [B] 1028.5) Interior balcony and gallery means of egress.** For balconies, galleries or press boxes having a seating capacity of 50 or more located in a building, room or space used for assembly purposes, at least two means of egress shall be provided, with one from each side of every balcony, gallery or press box ~~and at least one leading directly to an exit.~~

**Revise as follows:**

## SECTION 403 HIGH-RISE BUILDINGS

**403.5.1 Remoteness of interior exit stairways.** Required *interior exit stairways* shall be separated by a distance not less than 30 feet (9144 mm) or not less than one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the enclosure surrounding the interior exit stairways. In buildings with three or more *interior exit stairways*, no fewer than two of the *interior exit stairways* shall comply with this section. Interlocking or *scissor stairs* shall be counted as one *interior exit stairway*.

**Revise as follows:**

## SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

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

**Exceptions:**

- 1. *Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the *occupant load* of the aggregate area of the enclosed space is not greater than 10.
- 2. A *mezzanine* having two or more ~~*means of egress* exits or access to exits~~ is not required to be open to the room in which the *mezzanine* is located ~~if at least one of the *means of egress* provides direct access to an exit from the *mezzanine* level.~~
- 3. *Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the *mezzanine* area.
- 4. In industrial facilities, *mezzanines* used for control equipment are permitted to be glazed on all sides.
- 5. In occupancies other than Groups H and I, that are no more than two *stories* above *grade plane* and equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, a *mezzanine* having two or more *means of egress* shall not be required to be open to the room in which the *mezzanine* is located.

Revise as follows:

## SECTION 707 FIRE BARRIERS

**707.3.3 Enclosures for exit access stairways.** The *fireresistance rating* of the fire barrier separating building areas from an exit access stairway or ramp shall comply with Section ~~4009.3.1.2~~ 713.4.

**707.5.1 Supporting construction.** The supporting construction for a *fire barrier* shall be protected to afford the required *fire-resistance rating* of the *fire barrier* supported. Hollow vertical spaces within a *fire barrier* shall be fireblocked in accordance with Section 718.2 at every floor level.

### Exceptions:

1. The maximum required *fire-resistance rating* for assemblies supporting *fire barriers* separating tank storage as provided for in Section 415.8.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type.
2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 713.12.
3. Supporting construction for 1-hour *fire barriers* required by Table 509 in buildings of Type IIB, IIIB and VB construction is not required to be fire-resistance rated unless required by other sections of this code.
4. Interior exit stairway and ramp enclosures required by Section 1022.2 and exit access stairway and ramp enclosures required by ~~Section 4009.3~~ Sections 1018.3 and 1018.4 shall be permitted to terminate at a top enclosure complying with Section 713.12.

**707.7.1 Prohibited penetrations.** Penetrations into enclosures for ~~exit access stairways, exit access ramps, interior exit stairways, interior exit and ramps~~ or an exit passageway shall be allowed only ~~when~~ where permitted by Section ~~4009.3.4.5, 1022.5 or 1023.6, respectively.~~

## SECTION 711 HORIZONTAL ASSEMBLIES

**711.4 Continuity.** Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 712.1, 714.4, 715, ~~4009.3 1018~~ and 1022.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof assembly is maintained. Unprotected skylights shall not be permitted in roof assemblies required to be fire-resistance rated in accordance with Section 705.8.6. The supporting construction shall be protected to afford the required *fire-resistance rating* of the *horizontal assembly* supported.

**Exception:** In buildings of Type IIB, IIIB or VB construction, the construction supporting the *horizontal assembly* is not required to be fire-resistance-rated at the following:

1. Horizontal assemblies at the separations of incidental uses as specified by Table 509, provided the required *fire-resistance rating* does not exceed 1 hour.
2. Horizontal assemblies at the separations of *dwelling units* and *sleeping units* as required by Section 420.3.
3. Horizontal assemblies at *smoke barriers* constructed in accordance with Section 709.

## SECTION 712 VERTICAL OPENINGS

**712.1 General.** The provisions of this section shall apply to the vertical opening applications listed in Sections 712.1.1 through 712.1.18.

**712.1.1 Shaft enclosures.** Vertical openings contained entirely within a shaft enclosure complying with Section 713 shall be permitted.

**712.1.8 Two story openings.** In other than Groups I-2 and I-3, a floor opening that is not used as one of the application listed in this section shall be permitted if it complies with all the items below.

1. Does not connect more than two stories.
- ~~2. Does not contain a stairway or ramp required by Chapter 10.~~
- ~~23.~~ Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
- ~~34.~~ Is not concealed within the construction of a wall or a floor/ceiling assembly.
- ~~45.~~ Is not open to a corridor in Group I and R occupancies.
- ~~56.~~ Is not open to a corridor on nonsprinklered floors.
- ~~67.~~ Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

**712.1.12 Unenclosed Exit access stairways and ramps.** Vertical floor openings ~~created by unenclosed~~ containing exit access stairways or ramps in accordance with ~~Sections 1009.2 and 1009.3~~ Section 1018 shall be permitted.

## SECTION 713 SHAFT ENCLOSURES

**713.1 General.** The provisions of this section shall apply to shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. ~~Exit access stairways and exit access ramps shall be protected in accordance with the applicable provisions of Section 1009.~~ Interior exit stairways and ~~interior~~ exit ramps shall be protected in accordance with the requirements of Section 1022.

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

The most substantial part of this change is the relocation of exit access specific stair requirements from the general stair section 1009 to a stand alone section 1018. Another substantial purpose of this code change proposal is for coordination between the open stairway code change from this committee for the last cycle (E5-09/10) and other changes that occurred during the same cycle. In addition, there were areas that needed to be clarified as part of coordination. The CTC also reviewed the concerns raised in the E5 09/10 Public Comments and addressed some outstanding issues from the public comments. Below are the specific reason statements for each section proposed for change:

202 (and 1026.6 exception #3)-The word “interior” was deleted from the definition of exit access stairway and ramp. Generally, this is done because there is no need to restrict exit access to interior elements. Specifically, this was done in coordination with the proposed deletion of exception #3 to section 1026.6. Exception #3 was a holdover from when what are currently exit access stairs were exit stairs. Exception #3 was there to coordinate the allowance for an exterior exit stair to be unprotected when an interior exit stair would be allowed to be unprotected. E5 changed the unenclosed exit stair to an exit access stair. In keeping with that methodology this exception is being deleted and “interior” is being removed from the exit access stair and ramp definitions so that the provisions that allow an unenclosed exit access stair are equally applicable to interior or exterior stairways. Rather than use exception #3 to 1026.6 for a exterior stair without protection the exit access provisions would be used for the exterior stair.

1001.2 – The new sentence in 1001.2 was a requirement in two sentences in 1015.2 that is proposed to be relocated here as it is a more general requirement. This was done as part of some additional proposed revisions to section 1015.2 that will be explained below in section order.

1007.2 -This is another coordination change related to the relocation of the access stair provisions from 1009.3 to 1018.

1007.3 – The last sentence of the main paragraph states that exit access stairways connecting levels in the same story are not permitted as part of an accessible means of egress. While this is true for split level floors or stepped aisles, this should not be true for mezzanines. While they are considered part of the floor below for height and area requirements, mezzanines are required to be elevated over 7'-0" (Section 505.2) similar to a story change in level.

1007.6.2-The exception should only apply to exit stairways based on mandatory enclosure requirements for exit stairways. Exit access stairs may be open or enclosed with non-rated “enclosures” therefore the requirement needs to be clear that separation of areas of refuge serving exit access stairways must comply with 1007.6.2.

1009.2, 1009.3 and subsections– This proposed change will remove the specific requirements for exit access stairways for the general stairway section 1009. 1009 will remain a general stair design section for all stairway details that are not means of egress system specific such as tread and riser dimensions, headroom, widths, etc. The specific enclosure requirements regarding exit access stairs are proposed to be addressed in a new stand alone section, 1018. This is in keeping with the same organization already in chapter 10 for the specific protection requirements for interior exit stairways and ramps and exterior exit stairways and ramps, as well as exit passageways and horizontal exits, each having a dedicated section that addresses the specific protection requirements for each means of egress element. The idea is to separate the general requirements from the specific requirements with regards to each type of MOE element.

1009.3.1 through 1009.3.1.8 – These sections explain how to construct a rated shaft enclosure around an exit access stair when a fire rating is required based on floor penetration limits being exceeded to prevent vertical smoke and heat migration. They were deleted entirely and not relocated to 1018 because the new sections 1018.3 and 1018.4 are proposed to reference to Section 713 for floor opening enclosure construction requirements. The original concept in E5 09/10 was to repeat the shaft enclosure requirements in the exit access stair section as exit access stair enclosure construction requirements. It was decided that this added unneeded text to the code and because it was a duplicate of requirements based on 713 that a change to one section may not be made to the companion section and therefore has the potential to set up an inconsistency with the two code sections that are intended to be the same.

1010.2 – This section is proposed to be deleted because it is not necessary. Just as 1009 is the general requirements for stairs 1010 is the general requirements for ramps. The specific requirements are addressed in stand alone sections that do not need to be cross referenced from the general section or vice versa.

1011.1 – “Exit access doors” is proposed for deletion in the first sentence because marking the path of egress travel is addressed in the remainder of section and exit access doors are part of the path of egress travel.

1015.1 – Revised to include mezzanines to clarify a mezzanine is a space, not a story, for purposes of means of egress. This also clarifies the 2012 IBC revision to Section 505 where mezzanines now reference Chapter 10 for means of egress. 505.3 Egress was deleted from the 2009 edition and replaced with 505.2.2, which is just a reference to chapter 10.

1015.2 –The second sentence was moved to 1001.1 because it is a more general requirement. Exit access stairways and ramps is proposed to be added to the third sentence because by definition an exit access doorway is a point where a path of travel enters an unenclosed exit access stairway but not the stairway itself. Therefore, current code text will allow exit access stairs to diverge towards each other reducing the distance between the stairways to less than the minimum separation. This is the beginning of a few changes to section 1015 that will prohibit diverging exit access stairs to less than the required separation distance for exit access doorways. Further modifications detailed below detail arrangement of exit access stairways in addition to exit access doorways, therefore, the elements were added to 1015.2 for consistency with the next proposed changes to 1015.2.1 and 1015.2.2.

1015.2.1 and 1015.2.2- In three places the word “doors” was deleted after “exit” because exit stands on its own and does not need to specifically reference and exit door.

1015.2.1.1–When exit access stairs are used the point where the path of travel enters the stairway is by definition an “exit access doorway”. There is concern that there will be confusion regarding how to measure the distance between “exit access doorways” when unenclosed exit access stairways are used. The three measurement methods are proposed to be added to clearly state how to measure between doors, stairways and ramps when they need to meet separation requirements per section 1015.

1015.2.3 and 1015.2.3.1-This proposed section and sub-section are intended to require that the minimum separation distances between exit access stairways and ramps be maintain for the entire length of travel on the stairway or ramp. This is to prohibit stair and ramp runs that meet separation distance requirements at the first riser or beginning slope, from converging towards another stair or ramp such that the separation is reduced as the occupant goes up or down the stair or ramp run. Exit access stairs and ramps should maintain the required distance, just as doors, until egress travel over the ramp or stair is completed.

1016.3 – This is a companion change to 1018.3 exception #6 (pervious #7 to 1009.2.2) detailed below regarding outdoor facilities. The exception to 1018.3 was changed to match the requirements for open air seating as regulated by section 10128.7, which allows unlimited travel distance in non-combustible construction that has open air seating and 400 feet in combustibile construction. This change deletes the measurement of the travel distance to the closest riser in outdoor facilities and replaces it with the 400 foot or unlimited travel distance per 1028.7. The intent is to coordinate the various travel distance requirements regarding open air seating facilities.

New Section 1018 Exit access stairways and ramps-

Current section 1009.3 is proposed to be relocated to new section 1018. This is the most significant aspect of this code change proposal. This part of the proposed change creates a new stand alone code section for exit access stairway and ramp specific requirements so that the specific requirements for exit access stairs are separate from the general requirements. This is in keeping with the same organization already in chapter 10 for the specific protection requirements for interior exit stairways and ramps and exterior exit stairways and ramps, as well as exit passageways and horizontal exits, each having a dedicated section that addresses the specific protection requirements for each means of egress element. The specific enclosure requirements regarding exit access

stairs are proposed to be addressed in the new section, 1018. 1009 will remain a general stair design section for all stairway details that are not means of egress system specific such as tread and riser dimensions, headroom, widths, etc.

New 1018.1 – This is just a general scoping section. The statement that stories include basements but not mezzanines was included in this section.

New 1018.2 - This section clarifies that steps/ramps between levels within a story are always permitted to be open. Enclosure requirements are not required until openings between stories are created for exit access stairways/ramps.

New 1018.3 (relocated 1009.3) – This proposed section is the text relocated from 1009.3 with some changes to the format and some changes to the specific exemptions. The code change text is formatted with underlines and strike-throughs of the relocated 1009.3 text. Each specific change is explained as follows:

New 1018.3 As an alternative to the rule with exceptions format the section was reformatted with the exceptions reconfigured as conditions which permit unprotected floor openings for exit access stairs/ramps. This is in keeping with the philosophy introduced with the vertical openings code change approved for the 2012 edition, which reconfigured the shaft enclosure exceptions to options. As part of the reformatting the statement “not required to be enclosed” has been removed from the exceptions to the body of section 1018.3. Additionally “and ramps” has been added to each condition; this was done to make it clear that the entire section addresses ramps and stairs equally. Previous section 1009.3.1 and 1009.3.1.1 through 1009.3.1.8 were the enclosure requirements applicable when a floor opening is required to be protected with a fire rated enclosure; this was deleted and not relocated to 1018. These sections were deleted entirely and not relocated to 1018 because the new sections 1018.3 and 1018.4 are proposed to reference to Section 713 for floor opening enclosure construction requirements. The original concept in E5 09/10 was to repeat the shaft enclosure requirements in the exit access stair section as exit access stair enclosure construction requirements. It was decided that this added unneeded text to the code and because it was a duplicate of requirements based on 713 that a change to one section may not be made to the companion section and therefore has the potential to set up an inconsistency with the two code sections that are intended to be the same.

1018.3 Exception/condition #1-Group I-2 and I-2 deleted from condition #1 and moved down to a new Section 1018.4, which addresses group I-2 and I-1. The restriction that requires all group I-2 and I-3 stairway floor openings to be protected with a shaft has not been changed. The last sentence stating “such interconnected stories shall not be open to other stories” was added to clarify that the first condition can only be used when there are no openings to other stories, other than the two stories connected by the exit access stair. This is to prevent other permitted floor openings from being used with this allowed opening to create a staggered opening condition where more than two stories can atmospherically communicate.

1018.3 Exception/condition #2-The use group limitation of this condition was moved from the end of the sentence to the beginning to make it easier to use so the code user can quickly identify the scope of the condition. Additionally “live/work unit” was added to the types of units that can use this condition. Unenclosed exit access stairs are permitted in live/work units per 419.4 and live/work unit is a type of group R-2 unit distinct from dwelling units and sleeping units.

1018.3 Exception/condition #3 and Deletion of exception #4-The term floor opening was replaced with vertical opening because the opening in this condition can be between multiple floors. Exception #4 was the same exception as exception #3 except that it applies to groups other than B and M with the only difference being that the opening is limited to 4 stories for groups other than B and M. To reduce the amount of text and number of conditions the “other than group B and M” provision was moved to condition #3 as the last sentence in condition #3.

1018.3 Exception/condition #4 and #5-Just reformatting as described in the 1018.3 general explanation.

1018.3 Exception/condition #6- This condition was modified with input from Ed Roether, who is an expert in stadium design. “Outdoor facilities where all portions of the means of egress are essentially open to the outside” is proposed to be changed to “open-air seating”, which is the term used in section 1028.7 regarding travel distance in assembly seating. This condition is proposed to be changed to be coordinated with the requirements for open air seating as regulated by section 1028.7, which allows unlimited travel distance in non-combustible construction that has open air seating and 400 feet in combustible construction.

1018.3 previous exception #8-This exception was deleted because the 2012 IBC section 410.6 was modified to address the specific means of egress requirements for stages and technical production areas. New section 410.6.2 in the 2012 IBC specifically exempts stage and technical production areas from stair/ramp enclosure therefore this exception/condition is redundant and not needed.

1018.3 Exception/condition #7-Just reformatting as described in the 1018.3 general explanation.

1018.3 previous exception #10 deleted– This exception was moved to 1018.4

New 1018.4 – This is the relocated and reformatted requirement for group I-2 and I-3 exit access stair/ramp enclosure as part of the reformat from exceptions to conditions. Additionally, as noted above, the previous exception #10 was relocated as an exception to this requirement because it is a specific exception for group I-3.

1026.6 Exception #3 deletion- 1026.6 exception #3 was a holdover from when what are currently exit access stairs were exit stairs. Exception #3 was there to coordinate the allowance for an exterior exit stair to be unprotected when an interior exit stair would be allowed to be unprotected. E5 changed the unenclosed exit stair to an exit access stair. In keeping with that methodology this exception is being deleted and “interior” is being removed from the exit access stair and ramp definitions so that the provisions that

allow an unenclosed exit access stair are equally applicable to interior or exterior stairways. Rather than use exception #3 to 1026.6 for to create an exterior exit stair without protection the exit access provisions would be used for the exterior stair.

1027.1 exception #1.1-This is an editorial change that clarifies the exit stairways/ramps must have the free path of travel. This is a companion to the new section 1.4 described below.

1027.1 exception #1.4-This limitation is proposed to prevent an exit access stair and separate exit stair, which begin on the same floor, from termination to close together on the exit discharge floor. This is proposed so that one localized fire event on the exit discharge floor will not take out the termination of both means of egress components when an exit stair is permitted to discharge into the building. The 30 feet or ¼ diagonal separation distances were based on the 30 feet or ¼ diagonal that is specified for separation of interior stairways in high-rise section 403.5.1.

1028.5 and 505.2.3- “and at least one leading directly to an exit” is proposed for deletion. ICC staff asked for the committee to look at this do to numerous interpretive questions regarding what “leading directly to an exit” means. In both of these cases exit access stairs serving 2 stories could meet 1018.3 exception #1 and since neither condition qualifies as a story allowing exit access stairways is consistent with the provisions of 1018.3. Since “directly to an exit” can be interpreted to mean the mezzanine floor or balcony must have at least one exit at the mezzanine or balcony level that text is proposed to be deleted to allow exit access stairs to be used in both cases for both sets of stairways.

403.5.1-This is in response to E5 public comments. The intent of the separation required by this section is specific to the enclosure, not the stairway, therefore this language has been corrected.

505.2.3 – See reason statement for 1028.5.

707.3.3 and 707.5.1-These changes are to coordinate with the change in section numbering that occurred with moving the exit access stairway and ramp provisions from 1009 to 1018 and the change to reference section 713 for exit access stairway and ramp rated enclosure design requirements. References related to if an enclosure is required refer to sections in 1018, which is where the requirements for when a rated enclosure is required are proposed to be relocated. References related to the construction of the rated enclosure refer to section 713, which is where the requirements for how to rate the enclosure are located.

707.7.1-References to exit access stairways and ramps are proposed to be removed from this section because section 1018 is proposed to reference section 713 for exit access stairway and ramp rated enclosure design. Existing section 713.7.1 addresses prohibited openings therefore this reference is no longer needed in section 707.7.1.

711.4- See reason statement for 707.3.3 above.

712.1.8- Criteria #2 was proposed to be deleted and was approved to be deleted in E5 09/10 but was inadvertently reinstated do to a language change proposed to the same text in FS 56 09/10. Floor openings for open exit access stairways are intended to be protected in accordance with the exit access stair provision in 1009.3 (1018 per this proposal). If Criteria #2 is retained it will cause inconsistency with the exit access stairway provisions. It was the intent of E5 09/10 to have all exit access stair related opening protection requirements provided in the exit access stair provisions in chapter 10.

712.1.12 – This section has the terminology updated from “unenclosed” to “exit access” stairway to coordinate with terminology approved in E5-09/10. Additionally the section references are updated from 1009.3 to 1018 to coordinate with the relocation of exit access stair provisions from 1009.3 to 1018, which is explained further below in the reason statement. The purpose of the section is to act as a pointer to the exit access stairway vertical opening requirements that are all provided in proposed section 1018 (previous section 1009.3) for any vertical opening that contains an exit access stairway.

713.1 – This is another coordination change related to the relocation of the access stair provisions from 1009.3 to 1018. The enclosure requirements for exit access stairways in 1018 now reference Section 713 for rated enclosure construction requirements, rather than repeating the requirements in chapter 10, therefore this sentence is no longer needed.

**Cost Impact:** None

## **E7-12**

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

**1009-E-BALDASSARRA**

## E8 – 12

**707.3.3, 707.5.1, 707.6, 707.7.1, 712.1.12, 712.1.18, Table 716.5, Table 803.9, [F]909.5, 1007.2, 1007.6.2, 1009.2.2, 1009.3-1009.3.1.8, 1010.2, 1028.2; (IFC 909.5, [B]1007.2, [B]1007.6.2, [B]1009.2.2, [B]1009.3-1009.3.1.8, [B]1010.2, [B]1028.2)**

**Proponent:** Vickie Lovell, Intercode Incorporated, representing Alliance for Fire & Smoke Containment & Control, Inc. (AFSCC) (Vickie@intercodeinc.com)

**Revise as follows:**

### SECTION 707 FIRE BARRIERS

**707.3.3 Enclosures for exit access stairways.** ~~The fire-resistance rating of the fire barrier separating building areas from an exit access stairway or ramp shall comply with Section 1009.3.1.2.~~

*(Renumber subsequent section)*

**707.5.1 Supporting construction.** The supporting construction for a *fire barrier* shall be protected to afford the required *fire-resistance rating* of the *fire barrier* supported. Hollow vertical spaces within a *fire barrier* shall be fireblocked in accordance with Section 718.2 at every floor level.

#### Exceptions:

1. The maximum required *fire-resistance rating* for assemblies supporting *fire barriers* separating tank storage as provided for in Section 415.8.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type.
2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 713.12.
3. Supporting construction for 1-hour *fire barriers* required by Table 509 in buildings of Type IIB, IIIB and VB construction is not required to be fire-resistance rated unless required by other sections of this code.
4. Interior exit stairway and ramp enclosures required by Section 1022.2 ~~and exit access stairway and ramp enclosures required by Section 1009.3~~ shall be permitted to terminate at a top enclosure complying with Section 713.12.

**707.6 Openings.** Openings in a *fire barrier* shall be protected in accordance with Section 716. 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<sup>2</sup>). Openings in enclosures for ~~exit access stairways and ramps~~, interior exit stairways and ramps and exit passageways shall also comply with Sections 1022.3 and 1023.5, respectively.

#### Exceptions:

1. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) 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<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving enclosures for ~~exit access stairways, exit access ramps~~, interior exit stairways and interior *exit ramps*.
3. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective 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 the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) 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 enclosure for ~~exit access stairways, exit access ramps,~~ interior exit stairways and interior exit ramps from an exit passageway in accordance with Section 1022.2.1.

**707.7.1 Prohibited penetrations.** Penetrations into enclosures for ~~exit access stairways, exit access ramps,~~ interior *exit* stairways, interior *exit* ramps or an exit passageway shall be allowed only when permitted by Section ~~1009.3.1.5,~~ 1022.5 or 1023.6, respectively.

## SECTION 712 VERTICAL OPENINGS

**712.1.12 Unenclosed stairs and ramps.** Vertical floor stair openings created by unenclosed stairs or ramps in accordance with Sections 1009.2 and ~~1009.3~~ shall be permitted.

~~**712.1.18 Openings otherwise permitted.** Vertical openings shall be permitted where allowed by other sections of this code.~~

## SECTION 716 OPENING PROTECTIVES

**Table 716.5  
OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)	DOOR VISION PANEL SIZE	FIRE RATED GLAZING MARKING DOOR VISION PANEL*	MINIMUM SIDELIGHT/TRANSOM ASSEMBLY RATING (hours)		FIRE-RATED GLAZING MARKING SIDELITE/TRANSOM PANEL	
					Fire protection	Fire resistance	Fire Protection	Fire resistance
Fire barriers having a required fire-resistance rating of 1-hour: Enclosures for shafts, <del>exit access stairways,</del> <del>exit access ramps,</del> interior exit stairways, interior exit ramps and exit passageway walls	1	1	100 sq. in. <sup>c,d</sup>	≤100 sq.in. = D-H-60 >100 sq.in. = D-H-T-60 or D-H-T-W-60	Not Permitted	1	Not Permitted	W-60

(Portions of table not shown remain unchanged)



Revise as follows:

**SECTION 803  
WALL AND CEILING FINISHES**

**TABLE 803.9 (IFC [B] Table 803.3)  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY<sup>k</sup>**

GROUP	SPRINKLERED <sup>j</sup>			NON-SPRINKLERED		
	Interior exit stairways, interior exit ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>	Interior exit stairways, interior exit ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>
I-3	A	A <sup>l</sup>	C	A	A	B

(No change to portions of table not shown)

a. through i. (no change)

j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.

k. and L. (no change)

Revise as follows:

**SECTION 909  
SMOKE CONTROL SYSTEMS**

**[F] 909.5 (IFC 909.5) Smoke barrier construction.** *Smoke barriers* shall comply with Section 710, and shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Walls  $A/A_w = 0.00100$
2. Interior *exit stairways and ramps and exit passageways*:  
 $A/A_w = 0.00035$
3. ~~Enclosed exit access stairways and ramps and~~ All other shafts:  
 $A/A_w = 0.00150$
4. Floors and roofs:  $A/AF = 0.00050$  where:  
A = Total leakage area, square feet (m<sup>2</sup>).  
AF = Unit floor or roof area of barrier, square feet (m<sup>2</sup>).  
A<sub>w</sub> = Unit wall area of barrier, square feet (m<sup>2</sup>).

The leakage area ratios shown do not include openings due to doors, operable windows or similar gaps. These shall be included in calculating the total leakage area.

Revise as follows:

**SECTION 1007 (IFC [B] 1007)  
ACCESSIBLE MEANS OF EGRESS**

**1007.2 (IFC [B] 1007.2) Continuity and components.** Each required *accessible means of egress* shall be continuous to a *public way* and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior *exit stairways* complying with Sections 1007.3 and 1022.
3. ~~Interior exit access stairways complying with Sections 1007.3 and 1009.3.~~
4. Exterior *exit stairways* complying with Sections 1007.3 and 1026 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1007.4.

- 65. Platform lifts complying with Section 1007.5.
- 76. *Horizontal exits* complying with Section 1025.
- 87. *Ramps* complying with Section 1010.
- 98. *Areas of refuge* complying with Section 1007.6.
- 109. Exterior area for assisted rescue complying with Section 1007.7.

**1007.6.2 (IFC [B] 1007.6.2) Separation.** Each *area of refuge* shall be separated from the remainder of the story by a *smoke barrier* complying with Section 709 or a *horizontal exit* complying with Section 1025. Each *area of refuge* shall be designed to minimize the intrusion of smoke.

**Exception:** *Areas of refuge* located within an *interior exit stairway* or *interior exit ramp* enclosure for ~~exit access stairways or interior exit stairways.~~

## SECTION 1009 STAIRWAYS

**1009.2.2 (IFC [B] 1009.2.2) Enclosure.** All *interior exit stairways* shall be enclosed in accordance with the provisions of Section 1022.

### **Exceptions:**

1. In other than Group I-2 and I-3 occupancies, *stairways* that serve, or atmospherically communicate between, only two stories are not required to be enclosed. Any two such atmospherically interconnected floors shall not directly communicate with other floors.
2. *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.

**1009.3 (IFC [B] 1009.3) Exit access stairways.** ~~Floor openings between stories created by exit access stairways shall be enclosed. Floor openings created by exit access stairways or exit access ramps shall comply with Section 712.~~

### **Exceptions:**

1. In other than Group I-2 and I-3 occupancies, ~~exit access stairways~~ that serve, or atmospherically communicate between, only two stories are not required to be enclosed.
2. ~~Exit access 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.
3. In buildings with only Group B or M occupancies, ~~exit access stairway~~ openings are not required to be enclosed provided that the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the *exit access stairway*, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
4. In other than Group B and M occupancies, ~~exit access stairway~~ openings are not required to be enclosed provided that the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the *exit access stairway*, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
5. ~~Exit access stairways~~ within an *atrium* complying with the provisions of Section 404 are not required to be enclosed.
6. ~~Exit access stairways~~ and *ramps* in open parking garages that serve only the parking garage are not required to be enclosed.
7. *Stairways* serving outdoor facilities where all portions of the *means of egress* are essentially open to the outside are not required to be enclosed.
8. ~~Exit access stairways~~ serving stages, platforms and *technical production areas* in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.

9. ~~Stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.~~
10. In Group I-3 occupancies, ~~exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.~~

**1009.3.1 (IFC [B] 1009.3.1) Construction.** Where required, enclosures for ~~exit access stairways~~ shall be constructed in accordance with this section. ~~Exit access stairway~~ enclosures shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* in accordance with Section 711, or both.

**1009.3.1.1 (IFC [B] 1009.3.1.1) Materials.** ~~Exit access stairway~~ enclosures shall be of materials permitted by the building type of construction.

**1009.3.1.2 (IFC [B] 1009.3.1.2) Fire-resistance rating.** ~~Exit access stairway~~ 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 access stairway~~ enclosures shall include any basements, but not any mezzanines. ~~Exit access stairway~~ enclosures shall have a *fire-resistance rating* not less than the floor assembly penetrated, but need not exceed 2 hours.

**1009.3.1.3 (IFC [B] 1009.3.1.3) Continuity.** ~~Exit access stairway~~ enclosures shall have continuity in accordance with Section 707.5 for *fire barriers* or Section 711.4 for *horizontal assemblies* as applicable.

**1009.3.1.4 (IFC [B] 1009.3.1.4) Openings.** Openings in an ~~exit access stairway~~ enclosure shall be protected in accordance with Section 716 as required for *fire barriers*. Doors shall be self- or automatic-closing by smoke detection in accordance with Section 716.5.9.3.

**1009.3.1.4.1 (IFC [B] 1009.3.1.4.1) Prohibited openings.** Openings other than those necessary for the purpose of the ~~exit access stairway~~ enclosure shall not be permitted in ~~exit access stairway~~ enclosures.

**1009.3.1.5 (IFC [B] 1009.3.1.5) Penetrations.** Penetrations in an ~~exit access stairway~~ enclosure shall be protected in accordance with Section 714 as required for *fire barriers*.

**1009.3.1.5.1 (IFC [B] 1009.3.1.5.1) Prohibited penetrations.** Penetrations other than those necessary for the purpose of the ~~exit access stairway~~ enclosure shall not be permitted in ~~exit access stairway~~ enclosures.

**1009.3.1.6 (IFC [B] 1009.3.1.6) Joints.** Joints in an ~~exit access stairway~~ enclosure shall comply with Section 715.

**1009.3.1.7 (IFC [B] 1009.3.1.7) Ducts and air transfer openings.** Penetrations of an ~~exit access stairway~~ enclosure by ducts and air transfer openings shall comply with Section 717.

**1009.3.1.8 (IFC [B] 1009.3.1.8) Exterior walls.** Where *exterior walls* serve as a part of an ~~exit access stairway~~ enclosure, such walls shall comply with the requirements of Section 705 for *exterior walls* and the *fire-resistance-rated enclosure* requirements shall not apply.

(Renumber subsequent sections)

## SECTION 1010 RAMPS

**1010.2 (IFC [B] 1010.2) Enclosure.** All *interior exit ramps* shall be enclosed in accordance with the applicable provisions of Section 1022. *Exit access ramps* shall be enclosed in accordance with the provisions of Section 1009.3 for enclosure of ~~stairways~~.

## SECTION 1028 ASSEMBLY

**1028.2 (IFC [B] 1028.2) Assembly main exit.** In a building, room or space used for assembly purposes that has an *occupant load* of greater than 300 ~~and is~~ shall be provided with a main *exit*, the main *exit* shall be of sufficient width to accommodate not less than one-half of the *occupant load*, but such width shall not be less than the total required width of all *means of egress* leading to the *exit*. Where the building is classified as a Group A occupancy, the main *exit* shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or *public way*. In a building, room or space used for assembly purposes where there is no well-defined main *exit* or where multiple main *exits* are provided, *exits* shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

**Reason:** This code change proposal aims to greatly simplify the requirements that were added to the 2012 IBC related to the provision of exit access stairs.

Exit access stairs have always been allowed by the IBC. Throughout the 2009 IBC, reference to exit access is found in many sections, including: 404.9, 405.7, 408.5, 408.6, 411.7, 414.7, 415.8, 505.3, 715.4, 907.2, and in virtually every section of Chapter 10. Exit access stairs are referenced specifically in 1002, 1007.3, 1016.1, and 1021.1. It is not the intent of this proposal to denigrate or eliminate the appropriate use of the exit access.

The 2012 IBC greatly complicated the use of exit access stairs, adding 854 words to create a maze of rules regarding where they are allowed, where they are not allowed, and precisely how they must be constructed.

The added complexity of the exit access stair provisions that had been added to IBC 2012 did not do anything to increase the safety of building occupants and of building egress. They were part of a comprehensive revision to Chapter 10 that was submitted for the 2012 IBC as code change E5-09/10. Many of the changes in that comprehensive change proposal did greatly improve the clarity and usability of Chapter 10. However, the immensely complex additions related to exit access stairs did not add to the clarity and usability of the code. Instead, it turned an easily understood feature, whose minimal guidance in pre-2012 IBC editions was considered to be fully adequate, into a complicated maze of allowances, rules and exceptions.

This code change now aims to bring back the simplicity of designing exit access stairs by removing over 800 words that were added to the 2012 IBC related to these, allowing exit access stairs to be constructed to the same simple rules as were satisfactorily used in the 2000, 2003, 2006 and 2009 editions of the IBC.

Below is an explanation of some of the individual edits made within this code change proposal, in case it is not self-evident in all cases as to why the change was needed to maintain internal consistency of Chapter 10 and the sections that reference it:

- 707.3.3: The deletion of section 707.3.3 is necessary with the elimination of 1009.3.1.2 referenced therein.
- 707.5.1: Exception 4 to section 707.5.1 contains language referencing 1009.3 that become irrelevant with this proposal. The reference to openings in enclosures for exit access stairways and ramps becomes unnecessary as the enclosure requirement previously at 1009.3 with its associated 10 exceptions is proposed to be replaced with text referencing 712 for a list of 18 possible conditions (options) which make a vertical opening acceptable.
- 707.6, 707.7: With the conditions by which a vertical opening can be acceptable being enumerated in section 712, the deletion of references to enclosures and opening protectives for *exit access stairways* and *exit access ramps* in sections 707.6 and 707.7.1 becomes unnecessary.
- 712.1.12: This section needs to be removed, otherwise a circular reference would be created wherein 712.1.12 send the user to 1009.3 for the conditions allowing a vertical opening, and then the (revised) 1009.3 would send the user back to section 712 to find an acceptable way to construct, or protect, or enclose the exit access stair.
- 712.1.18: Removing this section would ensure that all provisions within the code that allow options for vertical openings within a building would all be located in one single section, section 712. This proposed change does not add or remove any provisions as of today, as there are no vertical opening provisions elsewhere in the code that are not enumerated in section 712. However, having this article opens the door for future changes that would run counter to the overall code strategy of having all allowable vertical opening options listed in this one place.
- Tables 716.5: With the removal of the extensive rules governing the enclosure of exit access stairs, there is no longer any need to have specific rules for opening protectives that would be needed for the exit access stair enclosure. The opening protective would now be more simply decided simply based on the type/fire rating of wall (if any) that encloses an exit access stair.
- Table 803.9: With exit access stairs no longer having specially mandated and specially-designed enclosures, there is no more need to specify special types of finishes for the surfaces of the enclosure.
- 909.5: For the same logical reasons cited above for the changes to sections within Chapter 7, section 909.5 is proposed to redact the reference to *exit access stairways* and *exit access ramps*.
- 1007.2: With the deletion of the numerous custom design details for exit access enclosures (1009.3), there is no longer a need to point to that section and mandate compliance with it.
- 1009.2: So as not to lose two valid allowances for unenclosed exit access stairs that existed within the deleted sections of 1009.3, additions are proposed to Section 1009.2 to include those exceptions, permitting floor openings for convenience stairways and for exit access within a residential *dwelling unit* or *sleeping unit* in Group R-1, R-2, and R-3 occupancies.
- 1009.3: This is the very lengthy section that added a myriad of new construction requirements in IBC 2012 for the enclosure of exit access stairs, and then a series of exceptions to those enclosure construction requirements. . Without a requirement for enclosure, there is no need for any exceptions . Exit access stairs can then be open or enclosed, as long as they meet other requirements of the code, such as having the floor opening for a desired exit access stair meet one of the vertical opening allowances as established in Section 712. Section 712 provides a long list of methods to allow various vertical openings for

numerous applications, as has been studied in great detail by the ICC Code Technology Committee, Vertical Openings Study Group, as part of the 2009 and 2012 code change cycles.

- 1010.2: It is proposed to eliminate the reference to enclosure of stairways as this requirement is superfluous, given that enclosure is required in other sections of the code. The reference to section 1009.3 for enclosure of *exit access ramps* is to remain intact.
- 1028.2: During the preparation for this code change proposal, it was discovered that the requirement for a main exit in assembly occupancies with an occupant load greater than 300 persons had been dropped during the deliberations for the 2012 IBC without sufficient justification and contrary to all previous editions of the International Building Code. Thus, section 1028.2 is proposed to be revised by the substitution of the words “shall be” for the existing text “and is” to correct this requirement.

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

**E8-12**

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

## E17-12

### 1004.1.1.2, 1005.3.1, 1005.3.2 (IFC [B] 1004.1.1.2, 1005.3.1, 1005.3.2)

**Proponent:** Charles S. Bajnai, Chesterfield County, VA, ICC Building Code Action Committee

#### Revise as follows:

**1004.1.1.2 (IFC [B] 1004.1.1.2) Adjacent levels.** That portion of the occupant load of a mezzanine or story with required egress through a room, area or space on an adjacent story level shall be added to the occupant load of that room, area or space.

**1005.3.1 (IFC [B] 1005.3.1) Stairways.** The capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.3 inches (7.62 mm) per occupant. Where interior or exterior exit stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story. Where exit access stairways provide required access to an exit at an adjacent story, the occupant load determined in accordance with Section 1004.1.1.2 shall be used in calculating the required capacity of the means of egress serving that story.

**Exception:** For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairway* by a *means of egress capacity factor* of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an *emergency voice/alarm communication system* in accordance with Section 907.5.2.2.

**1005.3.2 (IFC [B] 1005.3.2) Other egress components.** The capacity, in inches (mm), of *means of egress components* other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress capacity factor* of 0.2 inch (5.1 mm) per occupant. Where exit access ramps provide required access to an exit at an adjacent story, the occupant load determined in accordance with Section 1004.1.1.2 shall be used in calculating the required capacity of the means of egress serving that story.

**Exception:** For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress components* other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress capacity factor* of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an *emergency voice/alarm communication system* in accordance with Section 907.5.2.2.

**Reason:** This proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

The 2012 Edition of the IBC has formalized the concept of accessing exits from adjacent stories. Accordingly, several means of egress design details need to be clarified so as to be consistent with the intent of Section 1021. Currently, Section 1004.1.1.2 literally requires that (100% of) the occupant load of a mezzanine or story with egress through a room, area or space on an adjacent level shall be added to the occupant load of that room, area or space. That would be appropriate if there were no other exits serving the mezzanine or story. However, if the mezzanine or story also has other independent exits that do not egress through the adjacent story, it is reasonable to assume these other independent exits can and will be used by the occupants of that mezzanine or story. This proposal clarifies that only that portion of the occupant load of the level of origin actually using exit access stairways need be used in determining means of egress requirements for the adjacent story. To be consistent with this philosophy, Section 1005.3.2 has also been modified to state an identical provision for exit access ramps which provide required access to an exit at an adjacent story.

Additionally, Section 1005.3.1 has been modified to clarify that only the occupant load of a story directly accessing an interior exit stairway need be considered in determining the required capacity of such interior exit stairway that serves additional stories. The cascade effect is accounted for in the means of egress capacity factor for stairways in Section 1005.3.1. A cross-reference to

the method for determining the required capacity for areas served by exit access stairways from an adjacent level has also been provided.

Section 1004.6 (Mezzanine levels) of the 2009 IBC reads very similarly to Section 1004.1.1.2 (Adjacent levels) of the 2012 IBC. The 2009 IBC Commentary states, "The egress requirements for mezzanines are handled similar to those addressed in Section 1004.1 with accessory areas versus the requirements for exiting from multiple levels in Section 1004.4. That is, that portion of the mezzanine occupant load that discharges to the floor below is to be added to the occupant load of the space on the floor below. The sizing and number of the egress components must reflect this combined occupant load. This does not apply to the means of egress from a mezzanine that does not require travel through another level (i.e., an exit stairway serving the mezzanine)."

Clarification is achieved by adding the "that portion" language in the commentary to the actual provision. Approval of this proposal is consistent with the means of egress philosophy contained in the 2012 IBC and will result in the more consistent interpretation and application of fundamental means of egress design provisions.

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

**E17-12**

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

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# E38-12

## 1007.3 (IFC [B] 1007.3)

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

**Revise as follows:**

**1007.3 (IFC [B] 1007.3) Stairways.** In order to be considered part of an *accessible means of egress*, a *stairway* between stories 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*. *Exit access stairways* that connect levels in the same story are not permitted as part of an *accessible means of egress*.

**Exceptions:**

1. Areas of refuge are not required at exit access stairways where a two-way communication is provided at the elevator landing in accordance with Section 1007.8.
- ~~24.~~ The clear width of 48 inches (1219 mm) between *handrails* is not required in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- ~~32.~~ *Areas of refuge* are not required at *stairways* in buildings equipped throughout by an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- ~~43.~~ The clear width of 48 inches (1219 mm) between *handrails* is not required for *stairways* accessed from a *horizontal exit*.
- ~~54.~~ *Areas of refuge* are not required at *stairways* serving *open parking garages*.
- ~~65.~~ *Areas of refuge* are not required for smoke protected seating areas complying with Section 1028.6.2.
- ~~76.~~ The *areas of refuge* are not required in Group R-2 occupancies.

**Reason:** In an unsprinklered building with unenclosed exit access stairways permitted between stories an area of refuge is require to serve the stairway, which will result in a closet type area of refuge at the top of the stairway with two-way communication inside. At this location, the area of refuge would not be connected to a stairway enclosure, and there is a real chance that it will end up being used as a closet. From a technical point of view, where do you put this area of refuge in relation to the open exit access stairway and how close does it have to be to the open stairway? Does the stair have to be enclosed because of the connection requirements in 1007.3? Since the two-way communication is now required at the elevator lobby it would be more logical to allow the occupants with mobility impairments to move to the elevator landing and use that communication device and move them away from the open stairway.

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

**Cost Impact:** None

### E38-12

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

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## E89 – 12

### 1009.3 (IFC [B] 1009.3)

**Proponent:** Maureen Traxler, City of Seattle Dept of Planning & Development, representing City of Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

#### Revise as follows:

**1009.3 (IFC [B] 1009.3) Exit access stairways.** Floor openings between stories created by exit access stairways shall be enclosed.

#### Exceptions:

1. In other than Group I-2 and I-3 occupancies, exit access stairways that serve, or atmospherically communicate between, only two stories, are not required to be enclosed.
2. Exit access 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.
3. In ~~buildings with only~~ Group B or M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
4. In other than Groups B and M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
5. Exit access stairways within an atrium complying with the provisions of Section 404 are not required to be enclosed.
6. Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.
7. Stairways serving outdoor facilities where all portions of the means of egress are essentially open to the outside are not required to be enclosed.
8. Exit access stairways serving stages, platforms and technical production areas in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.
9. Stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
10. In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.

**Reason:** We believe an inadvertent change to Section 1009.3 exception 3 was made by E5-09/10. In the 2009 IBC, Section 708.2 Exception 2.1 allowed this condition in Group B or M occupancies as proposed here. The language of the 2012 IBC is too restrictive. There are many buildings that include more than just a B or M occupancy. If the proper separation, areas, etc. are followed, this exception should be allowable for mixed use buildings, as this exception has qualifications that have to be met before this can be used. In addition, Exception #4 says: "In other than Group B and M occupancies ..." **not** "In buildings with other than....." which seems to imply that this was the intent of Exception #3 too.

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

#### E89-12

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

## E90 – 12

### 1009.3 (IFC [B] 1009.3)

**Proponent:** Robert J Davidson, Davidson Code Concepts LLC, representing self  
(rjd@davidsoncodeconcepts.com)

#### Revise as follows:

**1009.3 (IFC [B] 1009.3) Exit access stairways.** Floor openings between stories created by exit access stairways shall be enclosed.

#### Exceptions:

1. In other than Group I-2 and I-3 occupancies, exit access stairways that serve, or atmospherically communicate between, only two stories, are not required to be enclosed.
2. Exit access 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.
3. In buildings with only Group B or M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
- ~~4. In other than Groups B and M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.~~
- ~~45.~~ Exit access stairways within an atrium complying with the provisions of Section 404 are not required to be enclosed.
- ~~56.~~ Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.
- ~~67.~~ Stairways serving outdoor facilities where all portions of the means of egress are essentially open to the outside are not required to be enclosed.
- ~~78.~~ Exit access stairways serving stages, platforms and technical production areas in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.
- ~~89.~~ Stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
- ~~940.~~ In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.

**Reason:** The purpose of this code change is to delete the allowance for connecting up to four stories with an unenclosed exit access stairway. This language is the result of a re-write of code language last cycle that was purported to be editorial in nature. When I attempted to point out this change was expanding allowance of the connection of four stories in testimony at the final action hearings I was repeatedly interrupted by the supporters of the proposal and in their testimony they denied there was a change or increase in the allowance for interconnecting floor levels.

If you review the previous language found in the 2009 IBC at Section 708.2, Exception 2 you will find that this allowance did not permit a stairway **that was a portion of the means of egress** to be unenclosed under this concept. Since an "extra" stairway not need for, nor allowed to be considered a portion of the means of egress, would be an added cost that used up valuable square footage, this application of the code was rare. (That is if in fact it was done as provided for by the code and no credit for egress including travel distance was taken)

#### 2009 International Building Code

**708.2 Shaft enclosure required.** Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this section.

**Exceptions:**

2. A shaft enclosure is not required in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening or **stairway that is not a portion of the means of egress** protected according to Item 2.1 or 2.2.
  - 2.1. Where the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories .

With the revised language the code now allows unenclosed “exit access stairways” to connect up to four stories of a building. This is a major technical change; it allows the use of unenclosed stairways that ARE part of the means of egress. The purpose of adding the term “exit access stairway” to the code was to provide for recognition of the stairs for use in exit access provided the travel distance was measured. See 2012 IBC, Section 1016.3.1 below. So we find that the change was not just editorial, it was a significant reduction in safety provided from the spread of smoke or heat.

**2012 International Building Code**

**1016.3.1 Exit access stairways and ramps.** Travel distance on exit access stairways or ramps shall be included in the exit access 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 stair and landings. The measurement along ramps shall be made on the walking surface in the center of the ramp and landings.

The problem with this section is not just a matter of increased allowances from one edition to another contrary to presentation. The section in question, 2012 IBC, Section 1009.3 Exception 4, is in direct conflict with the “atrium” provisions of Section 404.1 wherein additional fire protection features are required when we have an atrium, which is defined as an opening connecting two or more stories “other than enclosed stairways”... etc. Actually, if you apply the allowance for connecting floor levels with unenclosed stairs, you currently have an atrium by definition and design both in the older edition of the code and the present edition. Also note that there is no qualifier as to the size of an opening when dealing with atriums. It is just recognition that we have an opening that can allow the upward travel of smoke and heat due to the lack of an enclosing shaft.

**SECTION 404  
ATRIUMS**

**404.1 General.** In other than Group H occupancies, and where permitted by Section 712.1.6, the provisions of Sections 404.1 through 404.9 shall apply to buildings or structures containing vertical openings defined as “Atriums.”

**ATRIUM.** An opening connecting two or more stories other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505.

Now objectors may argue that this is a matter of two different features, but a plain reading of the definition of an atrium and recognition of why we add fire protection features regardless of the size of the atrium clearly identifies that there is no difference. Whether I have a large atria with an open stairway in the middle, or a small atria with a stairway up through it does not change the fact that it is a path upward for smoke and heat. Since the atrium and the unenclosed exit access stairs present the same hazard, upward travel of smoke and heat, why such a major difference in the required fire protection features?

The new language is a major change from the last edition of the code, contrary to how it was presented to the committee and the membership, it allows a means of egress path where you might be traveling down into the smoke and/or heat, and it is in conflict with long recognized protection features for atriums, i.e, unenclosed holes in floor/ceiling assemblies,

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

**E90-12**

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

# E115 – 12

## 1015.2.1 (IFC [B] 1015.2.1)

**Proponent:** Maureen Traxler, City of Seattle Dept of Planning & Development, representing City of Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

**Revise as follows:**

**1015.2.1 (IFC [B] 1015.2.1) Two exits or exit access doorways.** Where two *exits* or *exit access doorways* are required from any portion of the *exit access*, the *exit* doors or *exit access doorways* shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between *exit* doors or *exit access doorways*. Interlocking or *scissor stairs* shall be counted as one *exit stairway*.

**Exceptions:**

1. Where *exit access stairways* or *interior exit stairways* are interconnected by a 1-hour fire-resistance-rated *corridor* conforming to the requirements of Section 1018, the required *exit* separation shall be measured along the shortest direct line of travel within the *corridor*.
2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the *exit* doors or *exit access doorways* shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

**Reason:** This proposal allows exit access separation to be measured along a rated corridor for exit access stairways as well as for exit stairways. It is the rated corridor that provides a protected environment and justifies this method of measurement for exit stairways. The same justification applies for enclosed exit access stairways. While this provision has been in place for many years, changes in the 2012 Code justify this change. The 2012 IBC is the first edition that requires exit access stairs to be enclosed, and allows them to be used in lieu of enclosed exit stairways.

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

**E115-12**

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

## E127 – 12

1015.2.2, 1021.1, Table 1021.1(New), 1021.2, Table 1021.2(1), Table 1021.2(2), 1021.2.1, 1021.2.2, 1021.2.3, 1021.2.4, 1021.2.5, 1021.3, 1021.3.1, 1021.4 (IFC [B] 1015.2.2, 1021.1, Table 1021.1(New), 1021.2, Table 1021.2(1), Table 1021.2(2), 1021.2.1, 1021.2.2, 1021.2.3, 1021.2.4, 1021.2.5, 1021.3, 1021.3.1, 1021.4)

**Proponent:** Wayne Jewell, Green Oak Township, representing self and Steve Thomas, Colorado Code Consulting, representing self

**Revise as follows:**

**1015.2.2 (IFC [B] 1015.2.2) Three or more exits or exit access doorways.** Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1. Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes, blocked, the others will be available.

### **SECTION 1021 (IFC [B] 1021) NUMBER OF EXITS AND EXIT CONFIGURATION**

**1021.1 (IFC [B] 1021.1) General.** Each story and occupied roof shall have the minimum number of independent exits, or access to exits, as specified in ~~this section~~ Table 1021.1. A single exit or access to a single exit shall be permitted in accordance with Section 1021.2. The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at grade or a public way. ~~Exits or access to exits from any story shall be configured in accordance with this section. Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.~~

#### **Exceptions:**

1. ~~Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.~~
2. ~~Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.~~

**TABLE 1021.1 (IFC [B] TABLE 1021.1)  
MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY**

<u>Occupant Load per Story</u>	<u>Minimum Number of Exits or Access to Exits From Story</u>
<u>1-500</u>	<u>2</u>
<u>501-1,000</u>	<u>3</u>
<u>More than 1,000</u>	<u>4</u>

**1021.2 (IFC [B] 1021.2) Single exits from stories.** A single exit or access to a single exit shall be permitted ~~Two exits, or exit access stairways or ramps providing access to exits,~~ from any story or occupied roof, ~~shall be provided where~~ one of the following conditions exists:

1. The occupant load, ~~or~~ number of dwelling units and exit access travel distance does not

- exceeds ~~one~~ of the values in Table 1021.2(1) or 1021.2(2).
- ~~2. The exit access travel distance exceeds that specified in Table 1021.2(1) or 1021.2(2) as determined in accordance with the provisions of Section 1016.1.~~
  - ~~3. Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits.~~

**Exceptions:**

- ~~42.~~ Rooms, areas and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit or access to a single exit.
- ~~23.~~ Group R-3 occupancy buildings shall be permitted to have one exit.
- ~~34.~~ Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit,
- ~~4.~~ Air traffic control towers shall be provided with the minimum number of exits specified in Section 412.3.
- ~~5.~~ Individual dwelling units in compliance with Section 1021.2.3.
- ~~56.~~ Group R-3 and R-4 congregate residences shall be permitted to have one exit or access to a single exit.
- ~~6. 1021.2.3 (IFC [B] 1021.2.3) Single-story or multi-story dwelling units.~~ Individual single-story or multi-story dwelling units shall be permitted to have a single exit or access to a single exit ~~within and~~ from the dwelling unit provided that all of the following criteria are met:
  - 6.1 The dwelling unit complies with Section 1015.1 as a space with one means of egress and
  - 6.2 Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two approved independent exits.
- ~~7. Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:~~
  - ~~7.1 The number of exits from the entire story complies with Section 1021.2.4;~~
  - ~~7.2 The access to exits from each individual space in the story complies with Section 1015.1; and~~
  - ~~7.3 All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story but not less than two exits.~~

**TABLE 1021.2(1) (IFC [B] TABLE 1021.2(1))  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES**

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story <u>above grade plane</u>	R-2 <sup>a, b</sup>	4 dwelling units	125 feet
Fourth story <u>above grade plane and higher above</u>	NP	NA	NA

For SI: 1 foot = 3048 mm.

NP – Not Permitted

NA – Not Applicable

- a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- b. This Table is used for R-2 occupancies consisting of dwelling units. For R-2 occupancies consisting of sleeping units, use Table 1021.2(2).

**TABLE 1021.2(2) (IFC [B] TABLE 1021.2(2))  
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
First story <u>above or below grade plane</u> <u>basement</u>	A, B <sup>b</sup> , E F <sup>b</sup> , M, U, S <sup>b</sup>	49 occupants	75 feet
	H-2, H-3	3 occupants	25 feet
	H-4, H-5, I, R-1, R-2 <sup>a,c</sup> , R-4	10 occupants	75 feet
	S	29 occupants	100 feet
Second story <u>above grade plane</u>	B, F, M, S	29 occupants	75 feet
Third story <u>above grade plane and above higher</u>	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP – Not Permitted

NA – Not Applicable

- a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- c. This Table is used for R-2 occupancies consisting of sleeping units. For R-2 occupancies consisting of dwelling units, use Table 1021.2(1).

**1021.2.1 (IFC [B] 1021.2.1) Mixed occupancies.** Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2(1) or Table 1021.2(2) for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1012.3(1) for each occupancy does not exceed one. Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by 4 plus the ratio from the other occupancy does not exceed one.

**1021.2.2 (IFC [B] 1021.2.2) Exits from specific space.** Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:

1. The number of exits from the entire story complies with Section 1021.4.4 1021.1;
2. The access to exits from each individual space in the story complies with Section 1015.1; and
3. All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story but not less than two exits.

**1021.2.2 (IFC [B] 1021.1.2) Basements.** A basement provided with one exit shall not be located more than one story below grade plane.

**1021.2.3 (IFC [B] 1021.2.3) Single-story or multi-story dwelling units.** Individual single-story or multi-story dwelling units shall be permitted to have a single exit within and from the dwelling unit provided that all of the following criteria are met:

1. The dwelling unit complies with Section 1015.1 as a space with one means of egress and
2. Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less

~~than two approved independent exits.~~

~~**1021.2.4 (IFC [B] 1021.2.4) Three or more exits.** Three exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load of 501-1,000. Four exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load greater than 1,000.~~

~~**1021.2.5 (IFC [B] 1021.2.5) Additional exits.** In buildings over 420 feet in height, additional exits shall be provided in accordance with Section 403.5.2.~~

~~**1021.3 (IFC [B] 1021.3) Exit configuration.** Exits, or exit access stairways or ramps providing access to exits at other stories, shall be arranged in accordance with the provisions of Section 1015.2 through 1015.2.2. Exits shall be continuous from the point of entry into the exit to the exit discharge.~~

~~**1021.3.1 (IFC [B] 1021.3.1) Access to exits at adjacent levels.** Access to exits at other levels shall be by stairways or ramps. Where access to exits occurs from adjacent building levels, the horizontal and vertical exit access travel distance to the closest exit shall not exceed that specified in Section 1016.1. Access to exits at other levels shall be from an adjacent story.~~

~~**Exception:** Landing platforms or roof areas for helistops that are less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m<sup>2</sup>) in area, shall be permitted to access the second exit by a fire escape, alternating tread device or ladder leading to the story or level below.~~

~~**1021.3 1021.4 (IFC [B] 1021.3 1021.4) Vehicular ramps.** Vehicular ramps shall not be considered as an exit access ramp unless pedestrian facilities are provided.~~

**Reason:** The intent of this proposal is to reorganize Section 1020 for clarity.

**1015.2.2** – Separation for the 3<sup>rd</sup> exit was deleted by E82-04/05 as too subjective, however, this language should be reinserted because now there is no language to describe where additional exits are located.

**1021.1** – The word ‘independent’ is added for clarity (no one should consider a double door as two exits). The minimum number of MOE have been moved into a table format for clarity and ease of reference for other requirements. The exceptions are not needed since the number required is based on exit and/or access to exits. Open parking and outdoor stadiums are exit access stairways from each floor above grade.

**New Table 1021.1** – Requirements from 1021.1 and 1021.2.4 are relocated together into Table format. Allowances are extended to be number of exits and/or number of access to exits (i.e., exit access doorways, exit access stairways, exit access ramps).

**1021.2** – This section is revised for a positive where permitted approach rather than exceptions.

- Item 1 & 2 – combined
- Existing item 3 – deleted because already addressed in 412.7.3 – need to be consistent in references for MOE
- New Item 2 and 4 – revised for exit and exit access
- Existing Exception 4 – deleted because already addressed in 412.3 - need to be consistent in references for MOE
- Existing Exception 5 - addressed in new Item 6
- New Item 5 - revised for exit and exit access
- New Item 6 – revised for exit and exit access; relocated from 1021.2.3. No reason to be separate section.
- Existing Exception 7 – Since this is exit configuration, not single exit, it has been relocated to new 1021.2.2.

**Table 1021.2(1) and 1021.2(2)** – Revise headings to limit number of basements to 1.

**1021.2.1** – The additional sentence adopts the same ratio formula currently in the code but addresses what you would do when dwelling units were in the mix (i.e., there is no occupant load).

**New 1021.2.2** – this was Section 1021.2 Exception 7. Relocated since this is exit configuration for situations where one exit may be within a tenant space and blocked from access from other tenants on the floor.

**Existing 1021.2.2** - Deleted. Basements are now addressed in Table 1021.2(1) and 1021.2(2) so not needed here.

**Existing 1021.2.3** – deleted and relocated to 1021.2 new Item 6.

**Existing 1021.2.4** – deleted and relocated to Table 1021.1

**Existing 1021.2.5** – deleted – 3<sup>rd</sup> stairway is not a required means of egress stairway and already addressed in 403.5.2. Code users should either reference all MOE in Chapter 4 or rely on Chapter 4 and not reference anything.

**Existing 1021.3** - Delete. Now addressed in 1015.2 and 1015.2.1

**Existing 1021.3.1** - Delete. Now addressed in 1015.2 and 1015.2.1. Helistops in exception are addressed in 412.7.3.



**Cost Impact:** None

**E127-12**

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

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1020-E- Jewell-Thomas.doc

## E129 – 12

### 1021.1 (IFC [B] 1021.1)

**Proponent:** Paul Armstrong, P.E., CBO, City of El Monte representing the ICC Orange Empire Chapter Code Committee (paul@jaspacific.com)

#### Revise as follows:

**1021.1 (IFC [B] 1021.1) General.** Each story and occupied roof shall have the minimum number of exits, or access to exits, as specified in this section. The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at grade or a public way. Exits or access to exits from any story shall be configured in accordance with this section. A minimum of 50 percent of the required exits from ~~Each story above the second story of a building shall be an~~ ~~have a~~ ~~minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.~~

#### Exceptions:

1. *Interior exit stairways and interior exit ramps* are not required in *open parking garages* where the *means of egress* serves only the *open parking garage*.
2. *Interior exit stairways and interior exit ramps* are not required in outdoor facilities where all portions of the *means of egress* are essentially open to the outside.

**Reason:** The current provision is confusing. This is intended to make the requirement much clearer.

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

#### E129-12

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

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1021.1-E-Armstrong.doc

## E136 – 12

### 1021.3.1 (IFC [B] 1021.3.1)

**Proponent:** Jonathan Siu, City of Seattle Dept of Planning & Development representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov)

**Revise as follows:**

**1021.3.1 (IFC [B] 1021.3.1) Access to exits at adjacent levels.** Access to exits at other levels shall be by stairways or ramps. Where access to exits occurs from adjacent building levels, the horizontal and vertical exit access travel distance to the closest exit shall not exceed that specified in Section 1016.1. ~~Access to exits at other levels shall be from an adjacent story.~~ The path of egress travel to an exit shall not pass through more than one adjacent story.

**Reason:** This proposal is intended to clarify the requirement for exit accesses leading to an exit that is located on another story. The intent of the last sentence in Section 1021.3.1 is to prohibit having an occupant travel more than one story via an exit access stairway or ramp to reach an exit. However, as written, the language is confusing and can be read to say that all exits must be accessed from an adjacent story. We believe the requirement can be stated more clearly as we have proposed.

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

#### E136-12

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

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1021.3.1-E-Siu.doc