

IBC — Egress



2015 GROUP A PROPOSED CHANGES TO THE I-CODES MEMPHIS COMMITTEE ACTION HEARINGS

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2015 GROUP A – PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE – MEANS OF EGRESS

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TENTATIVE ORDER OF DISCUSSION 2015 PROPOSED CHANGES TO THE INTERNATIONAL BUILDING CODE (MEANS OF EGRESS)

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

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

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Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

406.4.1 Clear height. The clear height of each floor level in vehicle and pedestrian traffic areas shall be not less than 7 feet (2134 mm). ~~Vehicle~~~~The parking spaces, access aisles and pedestrian areas accommodating vehicle route serving~~ van-accessible parking shall comply with Section 1106.5.

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

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of *dwelling units* and *sleeping units* within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. *Stair* headroom in accordance with Section 1011.3.
5. Door height in accordance with Section 1010.1.1.
6. *Ramp* headroom in accordance with Section 1012.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas of public and private parking garages in accordance with Section 406.4.1.
8. Areas above and below *mezzanine* floors in accordance with Section 505.2.

1003.3 Protruding objects. Protruding objects on *circulation paths* shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum headroom of 80 inches (2032 mm) is provided over any ~~walking surface~~circulation paths, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a *means of egress* shall be reduced in height by protruding objects.

Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).

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

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

Exception: These requirements shall not apply to sloping portions of *handrails* between the top and bottom riser of *stairs* and above the *ramp* run.

1003.3.3 Horizontal projections. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finished floor shall not project horizontally more than 4 inches (102 mm) into the *circulation path*.

Exception: *Handrails* are permitted to protrude 4¹/₂ inches (114 mm) from the wall or guard.

1003.4 Floor~~Slip-resistant surface.~~ ~~Walking surfaces~~Circulation paths of the *means of egress* shall have a slip-resistant surface and be securely attached.

1012.5.2 Headroom. The minimum headroom in all parts of the *means of egress* ~~ramp~~ramp shall be not less than 80 inches (2032 mm) above the finished floor of the ramp run and any intermediate landings. The minimum clearance shall be maintained for the full width of the ramp and landing.

1208.2 Minimum ceiling heights. Occupiable spaces, *habitable spaces* and *corridors* shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) above the finished floor. Bathrooms, toilet rooms, kitchens, storage rooms and laundry rooms shall have a ceiling height of not less than 7 feet (2134 mm) above the finished floor.

Exceptions:

1. In one- and two-family *dwelling*s , beams or girders spaced not less than 4 feet (1219 mm) on center shall be permitted to project not more than 6 inches (152 mm) below the required ceiling height.
2. If any room in a building has a sloped ceiling, the prescribed ceiling height for the room is required in one-half the area thereof. Any portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the ceiling shall not be included in any computation of the minimum area thereof.
3. The height of *mezzanines* and spaces below *mezzanines* shall be in accordance with Section 505.1.
4. Corridors contained within a *dwelling unit* or *sleeping unit* in a Group R occupancy shall have a ceiling height of not less than 7 feet (2134 mm) above the finished floor.

Reason: The intent of this proposal is consistency in language and coordination with E10-12 for where headroom clearances are important/relevant and to what they are measured. This language would be consistent with Section 505.2, 1103.3 and 1106.5. The new text is coordinated with A117.1, and lets the parking lot designer know where additional headroom clearance is required.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

E 1-15 : 1003-KULIK3340

E 2-15

202(New), 1003.4, 1011.5.4, 1011.7.1, 1012.7.1, 1029.11.1, Chapter 35; (IFC[BE] 1003.4, 1011.5.4, 1011.7.1, 1012.7.1, 1029.11.1)

Proponent: Russell Kendzior, The National Floor Safety Institute (NFSI), representing National Floor Safety Institute (russsk@nfsi.org)

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

HIGH TRACTION. The physical property of a floor or walkway surface that is designed to mitigate slipping during normal human ambulation by providing a reasonably sufficient level of available contact friction.

Revise as follows:

1003.4 Floor surface. Walking surfaces of the *means of egress* shall have a ~~slip-resistant~~ high-traction surface ~~and be that is~~ securely attached. Walking surfaces that are subject to wet conditions shall have a high-traction surface that complies with ANSI/NFSI B101.1 or ANSI/NFSI B101.3.

1011.5.4.1 Nonuniform height risers. 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 *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~~ high-traction surface. Marking stripes shall have a width of not less than 1 inch (25 mm) but not more than 2 inches (51 mm).

1011.7.1 Stairway walking surface. The walking surface of treads and landings of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. ~~Finish floor~~ Walking surfaces shall have a high-traction surface that is securely attached.

Exceptions:

1. Openings in *stair* walking surfaces shall be a size that does not permit the passage of $1\frac{1}{2}$ -inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of $1\frac{1}{8}$ inches (29 mm) cannot pass through the opening.

1012.7.1 Ramp surface. The walking surface of *ramps* shall ~~be of slip-resistant materials~~ have a high-traction surface that is securely attached.

1029.11.1 Walking surface. The surface of *aisles*, stepped *aisles* and ramped *aisles* shall ~~be of slip-resistant materials~~ have a high-traction surface that is securely attached. The surface for stepped *aisles* shall comply with Section 1011.7.1.

Add new standard(s) as follows:

ANSI/NFSI B101.1-2005 "Test Method for Measuring Wet SCOF (static coefficient of friction) of Common Hard-Surface Floor Materials"

ANSI/NFSI B101.3-2012 "Test Method for Measuring Wet DCOF (dynamic coefficient of friction) of Common Hard-Surface Floor Materials"

Reason: Ambiguous Terminology

The term "Slip Resistant" is currently used in section 1003.4 "Floor Surface" as well as Section 1012.7.1 "Ramp surface" and applies to the list of sections named within this proposal to describe a safe walking surface however the term is not defined in the 2012 International Building Code nor is it defined by way of any nationally recognized industry consensus test standard (ie: ASTM, ANSI). Although commonly used in the past, the term Slip-Resistant is an ambiguous adjective which implies a safety benefit but is not defined by way of a measurable industry consensus test method and therefore is meaningless to those who seek to make their walkways safe (ie: property owners, architects, etc.). In short, because of the failure to properly define the term all walkways are by default perceived by property owners, architects, and end-users, etc., to be "Slip Resistant" even if they may not be safe for pedestrian foot traffic.

The phrase Slip Resistant should, be omitted from all the relevant sections of the 2012 International Building Code and replaced with the term "High-Traction" which is defined by way of two nationally recognized consensus test methods/standards specifically the ANSI/NFSI B101.1-2009 "Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials" and the ANSI/NFSI B101.3-2012 "Test Method for Measuring Wet DCOF of Common Hard-Surface Floor Materials" standards (attached). Both of these industry consensus test methods/standards speak directly to the subject of walkway safety and directly impacts the safety of all pedestrians especially those with disabilities. Therefore replacing the undefined term Slip Resistant with the well defined term High-Traction will better serve the general public's need for safe walking surfaces.

Furthermore, the term High-Traction should be added to Section 202 "Definitions" and should apply to the referenced sections included in this proposal. The

definition of the term High-Traction should be listed in Section 202 and defined as it is defined in the ANSI/NFSI B101.1-2009 standard as: "The physical property of a floor or walkway surface that is designed to mitigate slipping during normal human ambulation by providing a reasonably sufficient level of available contact friction." Finally, a reference to the ANSI/NFSI B101.1-200 standard should be cited in Section 202 of the 2015 International Building Code.

Reference to ANSI A137.1

Historically the International Building Code has referenced the ANSI A137.1 "Specifications for Ceramic Tile" standard, which the most recent version cited, is that of the 2008 version. In 2012 the ANSI A137.1 standard was revised whereby they abandoned their long standing reference to the ASTM C-1028 dry SCOF test method and now reference an industry specific, wet DCOF test method, one which was created by and for the ceramic tile industry. Subsequently, the ASTM C-1028 standard was withdrawn by the ASTM and is no longer a recognized test method.

Historically the subject of how to measure a floors slip resistance has been hotly debated to which there were two camps of thought, one, which supported SCOF "drag sled" testing as described in ASTM D-2047 (polishes) and ASTM C-1028 (withdrawn) standards and the other camp, which supported a dynamic version or DCOF testing. In 2006 the ANSI B101 committee on slip, trip and fall prevention was established and has since published five slip and fall prevention standards including an SCOF (ANSI/NFSI B101.1-2009) and a DCOF (ANSI/NFSI B101.3-2012) test method, both of which are not specific to any type of flooring material or industry but rather can be used on any type of hard surface walkway both in the laboratory (manufacturing) as well as in-situ.

NFSI vs. TCNA

The NFSI is a 501(c)-3 non-for-profit organization and is an ANSI Standard Developing Organization (SDO) which in 2006 established the ANSI B101 committee on "slip, trip and fall prevention." The NFSI's mission is "to aid in the prevention of slips, trips, and falls through education, research, and standards development." The Tile Council of North America (TCNA) which serves as the SDO of the A108 committee which authored the A137.1 standard is a for-profit industry trade association which according to their website "... was created with the sole purpose of expanding the ceramic tile market in the United States." In-short, the ANSI B101 committee author's walkway safety standards while the ANSI A108 committee authors ceramic tile manufacturing specifications.

ANSI A137.1-2012

According to Section 1.0 "Purpose" of the ANSI A137.1-2012 standard states that: "these specifications serve as a reference standard for buyers and specifiers of Standard Grade and Second Grade ceramic tile, Decorative Tile, and Specialty Tile. These specifications are also a guide to producers in maintaining quality control of the manufacture of such ceramic tile" therefore the standard is as it states "a guide to producers in maintaining quality control" of un-installed tile and does not purport to describe any safety specifically slip and fall prevention capabilities of ceramic tile.

Section 2.0 "Scope" of the ANSI A137.1-2012 further states that: "These Specifications describe the normally available sizes and shapes of ceramic tile: the physical properties of Standard Grade and Second Grade Ceramic Tile, Decorative Tile and Specialty Tile; the basis for acceptance and methods of testing prior to installation; the marking and certification of ceramic tile; and the definitions of terms employed in these specifications." The ANSI A137.1 standard only applies to un-installed ceramic tile and not installed floors. Uninstalled ceramic tile is not considered a floor until it's installed. By way of example, a wooden 2"x4" is simply that, a piece of wood measuring 2"x4" in size. Although commonly used to construct walls, a wooden 2"x4" is not a wall until it is installed as such. The same is true for uninstalled ceramic tile. It becomes a floor after its installed to which the A137.1 standard does not govern the characteristics of installed tile.

Safety managers, risk managers, property/facility managers, and all other parties whose responsibility is to insure the safety of their walkways are only concerned with installed floors and not uninstalled materials and require an in-situ test method to insure compliance. Therefore, because of the limitations of the ANSI A137.1 standard as a laboratory lab test for quality control purposes only that it should no longer be referenced within the International Building Code.

Furthermore, it is estimated that only 12.9% of all installed floorcoverings are ceramic tile and 1.1% is stone. In-fact, according to the most recent research*, more vinyl sheet & floor tile is in use (16% of the total square footage sold), than that of ceramic tile, stone and laminate flooring combined! The A137.1-2012 standard only applies to ceramic tile and is not applicable to the remaining 87% of hard surface flooring materials used by property owners.

In contrast, the scope statements of the ANSI/NFSI B101.1 and B101.3 standards provide specific test methods and defined traction ranges for both laboratory (un-installed) as well as in-situ (installed) flooring materials and applies to all types of hard surface flooring materials.

Financial Burden to Industry

Although the ANSI A137.1 standard has been cited in previous versions of the International Building Code, with the recent development of the ANSI B101 walkway safety standards which have been widely embraced by the flooring, floor care, legal and insurance industries. Given the broad use and industry acceptance of the ANSI B101 standards we are requesting that any reference to the A137.1 standard as it relates to the measurement of slip resistance be removed and replaced with references to the ANSI B101.1-2009 and ANSI B101.3-2012 standards respectively.

Since the publication of the ANSI/NFSI B101.1 standard in 2009, hundreds of flooring manufacturers products have voluntarily submitted to the NFSI for certification. A wide range of industries have adopted the ANSI/NFSI B101 standards and have come to rely upon the NFSI to perform independent slip resistance testing, all of which are done in compliance with the ANSI/NFSI B101.1 or B101.3 standards.

One example is that of the polished concrete industry who shortly after the publication of the ANSI/NFSI B101.3 standard publicly announced their support. The polished concrete industry, through its representative trade association the Concrete Polishing Association of America (CPAA) openly adopted the ANSI/NFSI B101.3 standard (see enclosed CPAA press release) to which the NFSI has been awarding certificates of compliance (NFSI Certification) to manufacturers of polished concrete systems for many years. The economic burden to the floorcovering and floor care industries to abandon the tried and true published ANSI B101 walkway safety standards would be financially burdensome.

Bibliography: 2013 "Statistical Report 13" as published in Floor Covering Weekly magazine, July 21, 2014

Cost Impact: Will not increase the cost of construction

There is no cost impact to this proposal since manufacturers of flooring materials are and have been measuring their products safety performance to the ANSI/NFSI B101.1-2005 and ANSI/NFSI B101.3-2012 standards for years.

Analysis: A review of the standard proposed for inclusion in the code, ANSI/NFSI B101.1-2009 and ANSI/NFSI B101.3-2012, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2015.

E 3-15

1003.4.1 (New), (IFC[BE] 1003.4.1(New))

Proponent: Eric Astrachan, Tile Council of North America, representing Tile Council of North America (eastrachan@tileusa.com); James Hieb, Marble Institute of America (Jhiebb@marble-institute.com); Nathaniel Mohler, Concrete Polishing Association of America (Nate.Mohler@cpaa-us.org); Jennifer Faller, Diamatic USA (Jennifer.faller@diamaticusa.com); Richard Bruns, National Terrazzo and Mosaic Association (rbruns@ntma.com)

2015 International Building Code

Add new text as follows:

1003.4 Floor surface. Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

1003.4.1 Hard Surface Flooring. Walking surfaces of the means of egress made of ceramic tiles, porcelain tiles, terrazzo, stone or polished concrete and subject to wet conditions shall have a slip-resistant surface complying with ANSI A137.1, Section 6.2.2.1.10 substituting the type of flooring where the word "tile" is used.

Reason: Currently, Section 1003.4 requires that walking surfaces of the means of egress be "slip resistant" with no method of measurement, quantitative threshold, or general principles to help the specifier, end-user, and code official. Given the Code's lack of criteria for "slip resistant," materials are sometimes being inappropriately specified, and accidents are occurring in areas of the means of egress. This can be especially dangerous for emergency responders who are entering a building for the first time, potentially under conditions with water and limited visibility (smoke).

The purpose of this revision is to provide slip resistance criteria for hard surface flooring used in interior walking surfaces of the means of egress. Section 6.2.2.1.10 of the ANSI A137.1-2012 standard for ceramic tile sets forth a quantitative minimum threshold, means of measurement, and general principles regarding slip resistance based on the consensus of a broad range of stakeholders, including the Construction Specifications Institute (CSI), Marble Institute of America (MIA), National Association of Homebuilders (NAHB), Underwriter Laboratories (UL), National Tile Contractors Association (NTCA), Tile Council of North America, and 52 additional stakeholders on the ASC-A108 Committee (for a total of 58). In addition to ceramic and porcelain tile, this Section of ANSI A137.1 is utilized and directly referenced within specifications for other types of hard surface flooring, including terrazzo, stone, and polished concrete.

This proposal to add the above language to the building code is supported by the Tile Council of North America (TCNA), executives of the Marble Institute of America (MIA - with a board vote to take place in the first quarter of 2015), the Executive Committee of the Concrete Polishing Association of America (CPAA) and their Subcommittee on slip resistance (with a board vote to take place in the first quarter of 2015), and the President of the National Terrazzo and Mosaic Association (NTMA - with a board vote to take place in the first quarter of 2015) and many other organizations.

When references to ANSI A137.1 Section 6.2.2.1.10 were proposed in 2012, the Means of Egress Code Committee spoke favorably regarding the criteria and encouraged the proponent to resubmit the proposal in 2015 when the referenced standard was more widely available in print.

Today, copies of ANSI A137.1 are easily accessible both in print and electronically, and all provisions pertinent to ANSI A137.1 Section 6.2.2.1.10 are available for free online via www.TCNAtile.com. Furthermore, these provisions are widely understood and specified throughout the architectural community with hard surface manufacturers/suppliers/installers providing the information needed by code officials as part of standard product submittals and information.

The section proposed to be referenced reads as follows:

6.2.2.1.10 Coefficient of Friction.

The coefficient of friction (COF) measurement provided in this standard is an evaluation of a tile surface under known conditions using a standardized sensor material prepared according to a specific protocol. As such it can provide a useful comparison of tile surfaces, but it does not predict the likelihood a person will or will not slip on a tile surface.

There are many factors that affect the possibility of a slip occurring on a tile surface including by way of example, but not in limitation, the following: the material of the shoe sole and the degree of its wear; the presence and nature of surface contaminants; the speed and length of stride at the time of a slip; the physical and mental condition of the individual at the time of a slip; whether the floor is flat or inclined, and how the tile surface is used and maintained; and the COF of the tile, how the tile is structured, and how drainage takes place if liquids are involved. Because many variables affect the risk of a slip occurring, the COF shall not be the only factor in determining the appropriateness of a tile for a particular application.

Unless otherwise specified, tiles suitable for level¹ interior spaces expected to be walked upon when wet shall have a wet DCOF of 0.42 or greater when tested using SLS solution as per the procedure in section 9.6.1. However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. The specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but not in limitation, type of use, traffic, expected contaminants, expected maintenance, expected wear², and manufacturers' guidelines and recommendations.

Some specifiers find it useful to compare dry DCOF measurements to wet DCOF measurements to assess the risk of a slip when transitioning from dry to wet conditions. If dry DCOF measurements using the BOT 3000 are desired, the testing procedure found in section 9.6.2 shall be followed. Alternatively, a dry static coefficient of friction (SCOF) measurement can be made per the ASTM C1028 test method.

When wet SCOF measurements of tiles previously tested per ASTM C1028 are desired for direct comparison to historical values, the C1028 test method shall be followed. While BOT 3000 wet SCOF measurements with a Neolite sensor and distilled water generally correlate overall with ASTM C1028 measurements, results on individual tiles may not correlate and therefore cannot be directly compared.

The presence on installed tiles of water (including standing water as can exist on floors which are not properly sloped for drainage or on exterior tiles immediately after a rain storm or on which snow is melting), oil, grease, and/or any other elements which reduce traction, creates slippery conditions where the risk of a slip cannot be completely eliminated. Tile installations with exposure to such elements require extra caution in product selection, use, and maintenance. The risk of a slip can be diminished but not eliminated in these installations by installing tiles with a structured/textured surface, mosaic tiles, or certain extruded unglazed quarry tiles. The specifier shall follow manufacturers' guidelines and recommendations for these products.

When tested using SLS solution as per the procedure in section 9.6.1, tiles with a wet DCOF of less than 0.42 (including by way of example, but not in limitation, polished tiles), shall only be installed when the surface will be kept dry when walked upon and proper safety procedures will be followed when cleaning the tiles.

1. Tiles appropriate for ramp applications shall be chosen for the specific properties and use of the ramp and require a wet DCOF greater than 0.42 if the ramp will be used under wet conditions. Specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but

not in limitation, type of use, traffic, grade of ramp, expected contaminants, expected maintenance, expected wear, and manufacturers' guidelines and recommendations.

2. *The COF of installed tiles can change over time as a result of wear and surface contaminants. In addition to regular cleaning, deep cleaning and traction-enhancing maintenance may be needed periodically to maintain DCOF values.*

The proposed reference is in the 2012 edition of ANSI A137.1. An update to this edition will be proposed for the Group B Administrative changes. This language is not in the 2008 edition of ANSI A137.1 that is currently referenced in the code for the definition for Porcelain tile.

Bibliography: [Handbook for Ceramic, Glass, and Stone Tile Installation] [TCNA] [2014] [Page 5-6]

[<http://www.tcnatile.com/trade-news/dcof-acutest.html>]

[Interiors and Sources][DCOF: Legal Liabilities, Stopping the Falls] [Elianne Halbersberg] [2013] [Page 58-60]

[<http://www.interiorsandsources.com/article-details/articleid/16530/title/stopping-the-falls.aspx>]

[Interiors and Sources][Stranger than Friction] [Robert Nieminen][11/2013] [Pages 54-55]

[<http://www.interiorsandsources.com/article-details/articleid/16571/title/stranger-than-friction.aspx>]

[Floor Focus][TILE FILES: What is friction, and how does it relate to slip resistance?] [Jim Neel] [10/2013] [Pages 74-75] [http://www.floordaily.net/flooring-news/jim_neel_discusses_coefficients_of_friction.aspx]

Cost Impact: Will not increase the cost of construction

Hard surface flooring that meets or exceeds the criteria of Section 6.2.2.1.10 of the ANSI A137.1-2012 standard is not different in price from hard surface flooring that is below the threshold criteria.

E 3-15 : 1003.4.1 (New)-
ASTRACHAN5126

E 4-15

1003.4.1 (New), (IFC[BE]1003.4.1 (New))

Proponent: Eric Astrachan, Tile Council of North America, representing Tile Council of North America (eastrachan@tileusa.com)

2015 International Building Code

Add new text as follows:

1003.4 Floor surface. Walking surfaces of the *means of egress* shall have a slip-resistant surface and be securely attached.

1003.4.1 Ceramic and Porcelain Tile. Walking surfaces of the means of egress made of ceramic tiles or porcelain tiles and subject to wet conditions shall have a slip-resistant surface complying with ANSI A137.1, Section 6.2.2.1.10.

Reason: Currently, Section 1003.4 requires that walking surfaces of the means of egress be "slip resistant" with no method of measurement, quantitative threshold, or general principles to help the specifier, end-user, and code official. Given the Code's lack of criteria for "slip resistant," materials are sometimes being inappropriately specified, and accidents are occurring in areas of the means of egress. This can be especially dangerous for emergency responders who are entering a building for the first time, potentially under conditions with water and limited visibility (smoke).

The purpose of this revision is to provide slip resistance criteria for ceramic tiles used in interior walking surfaces of the means of egress. Section 6.2.2.1.10 of the ANSI A137.1-2012 standard for ceramic tile sets forth a quantitative minimum threshold, means of measurement, and general principles regarding slip resistance based on the consensus of a broad range of stakeholders, including the Construction Specifications Institute (CSI), Marble Institute of America (MIA), National Association of Homebuilders (NAHB), Underwriter Laboratories (UL), National Tile Contractors Association (NTCA), and many more.

When this same revision was proposed in 2012, the Means of Egress Code Committee spoke favorably regarding the criteria and encouraged the proponent to resubmit the proposal in 2015 when the referenced standard was more widely available in print. Today, copies of ANSI A137.1 are easily accessible both in print and electronically, and all provisions pertinent to ANSI A137.1 Section 6.2.2.1.10 are available for free online via www.TCNAtile.com. Furthermore, these provisions are referenced in their entirety in the "TCNA Handbook for Ceramic, Glass, and Stone Tile Installation" (commonly known as the "TCA Handbook" and referenced in Section 9300 specifications), and are widely understood and specified throughout the architectural community. Additionally, manufacturers provide the information needed by code officials as part of standard product information.

The section proposed to be referenced is as follows:

6.2.2.1.10 Coefficient of Friction.

The coefficient of friction (COF) measurement provided in this standard is an evaluation of a tile surface under known conditions using a standardized sensor material prepared according to a specific protocol. As such it can provide a useful comparison of tile surfaces, but it does not predict the likelihood a person will or will not slip on a tile surface.

There are many factors that affect the possibility of a slip occurring on a tile surface including by way of example, but not in limitation, the following: the material of the shoe sole and the degree of its wear; the presence and nature of surface contaminants; the speed and length of stride at the time of a slip; the physical and mental condition of the individual at the time of a slip; whether the floor is flat or inclined, and how the tile surface is used and maintained; and the COF of the tile, how the tile is structured, and how drainage takes place if liquids are involved. Because many variables affect the risk of a slip occurring, the COF shall not be the only factor in determining the appropriateness of a tile for a particular application.

Unless otherwise specified, tiles suitable for level¹ interior spaces expected to be walked upon when wet shall have a wet DCOF of 0.42 or greater when tested using SLS solution as per the procedure in section 9.6.1. However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. The specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but not in limitation, type of use, traffic, expected contaminants, expected maintenance, expected wear², and manufacturers' guidelines and recommendations.

Some specifiers find it useful to compare dry DCOF measurements to wet DCOF measurements to assess the risk of a slip when transitioning from dry to wet conditions. If dry DCOF measurements using the BOT 3000 are desired, the testing procedure found in section 9.6.2 shall be followed. Alternatively, a dry static coefficient of friction (SCOF) measurement can be made per the ASTM C1028 test method.

When wet SCOF measurements of tiles previously tested per ASTM C1028 are desired for direct comparison to historical values, the C1028 test method shall be followed. While BOT 3000 wet SCOF measurements with a Neolite sensor and distilled water generally correlate overall with ASTM C1028 measurements, results on individual tiles may not correlate and therefore cannot be directly compared.

The presence on installed tiles of water (including standing water as can exist on floors which are not properly sloped for drainage or on exterior tiles immediately after a rain storm or on which snow is melting), oil, grease, and/or any other elements which reduce traction, creates slippery conditions where the risk of a slip cannot be completely eliminated. Tile installations with exposure to such elements require extra caution in product selection, use, and maintenance. The risk of a slip can be diminished but not eliminated in these installations by installing tiles with a structured/textured surface, mosaic tiles, or certain extruded unglazed quarry tiles. The specifier shall follow manufacturers' guidelines and recommendations for these products.

When tested using SLS solution as per the procedure in section 9.6.1, tiles with a wet DCOF of less than 0.42 (including by way of example, but not in limitation, polished tiles), shall only be installed when the surface will be kept dry when walked upon and proper safety procedures will be followed when cleaning the tiles.

- 1. Tiles appropriate for ramp applications shall be chosen for the specific properties and use of the ramp and require a wet DCOF greater than 0.42 if the ramp will be used under wet conditions. Specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but not in limitation, type of use, traffic, grade of ramp, expected contaminants, expected maintenance, expected wear, and manufacturers' guidelines and recommendations.*
- 2. The COF of installed tiles can change over time as a result of wear and surface contaminants. In addition to regular cleaning, deep cleaning and traction-enhancing maintenance may be needed periodically to maintain DCOF values.*

The proposed reference is in the 2012 edition of ANSI A137.1. An update to this edition will be proposed for the Group B Administrative changes. This language is not in the 2008 edition of ANSI A137.1 that is currently referenced in the code for the definition for Porcelain tile.

Bibliography: [Handbook for Ceramic, Glass, and Stone Tile Installation] [TCNA] [2014] [Pages 5-6]

<http://www.tcnatile.com/trade-news/dcof-acutest.html>

[Interiors and Sources][DCOF: Legal Liabilities, Stopping the Falls] [Elianne Halbersberg] [11/2013] [Pages 58-60]

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[Floor Focus][TILE FILES: What is friction, and how does it relate to slip resistance?] [Jim Neel] [10/2013] [Pages 74-75] http://www.floordaily.net/flooring-news/jim_neel_discusses_coefficients_of_friction.aspx

Cost Impact: Will not increase the cost of construction

Ceramic and porcelain tiles that meet or exceed the criteria of Section 6.2.2.1.10 of the ANSI A137.1-2012 standard are not different in price from tiles that are below the threshold criteria.

E 4-15 : 1003.4.1 (New)-
ASTRACHAN3424

E 5-15

Part I:

1004.1 (IFC[BE]1004.1)

Part II:

Chapter 3, 301, 301.1, 302, 302.1, 302.2 (New)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC-MEANS OF EGRESS COMMITTEE. PART II WILL BE HEARD BY THE IBC-GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Part I

2015 International Building Code

Revise as follows:

1004.1 Design occupant load. In determining *means of egress* requirements, the number of occupants for whom *means of egress* facilities are provided shall be determined in accordance with this section. The determination of occupant loads for the purposes of means of egress design is based on the function of the area, room or space under consideration as listed in Table 1004.1.2. The assigned function of the space establishes an occupant load factor based on typical usage.

Part II

2015 International Building Code

Revise as follows:

CHAPTER 3

USE AND OCCUPANCY CLASSIFICATION AND USE

SECTION 301 GENERAL SCOPE

301.1 ~~Scope-General~~ The provisions of this chapter shall control the classification of all buildings and structures as to ~~use~~occupancy and use. Different classifications of occupancy and use represent varying levels of hazard and risk to building occupants.

SECTION 302 OCCUPANCY CLASSIFICATION AND USE DESIGNATION

302.1 ~~Occupancy classification. General.~~ ~~Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. Occupancy classification is the formal designation of the primary purpose of the building, structure or portion thereof. Structures shall be classified into one or more of the occupancy groups listed in this section based on the nature of the hazards and risks to building occupants generally associated with the intended purpose of the building or structure. An area.~~ A room or space that is intended to be occupied at different times for different purposes shall comply with all of the applicable requirements that are applicable to each of the purposes for which the room or space will be occupied associated with such potential multi-purpose. Structures ~~with~~containing multiple occupancy groups~~occupancies or uses~~ shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically ~~provided for in this code~~listed in this section such structure shall be classified in the group that the occupancy most nearly resembles, ~~according to~~based on the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4.
7. Mercantile (see Section 309): Group M.
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4.
9. Storage (see Section 311): Groups S-1 and S-2.
10. Utility and Miscellaneous (see Section 312): Group U.

Add new text as follows:

302.2 Use designation. Occupancy groups contain subordinate uses having similar hazards and risks to building occupants. Uses include, but are not limited to, those functional designations listed within the occupancy group descriptions in this section. Certain uses require specific limitations and controls in accordance with the provisions of Chapter 4 and elsewhere in this code.

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Properly classifying the purpose of a given building or structure is the very important first step in the design or analysis process. The reason for this is that the various designations account for the inherent hazards and risks typically associated with the intended purpose. Based on those hazards and risks, appropriate limitations and controls are assigned to the building or structure. The International Building Code uses several specific terms to identify the purpose of the building or structure. Those are: occupancy classification, use and function. Occupancy classification and use are often confused and function is misunderstood.

The purpose of this code change is to simply formalize these terms and explain their relationship. This will assist code practitioners in properly establishing applicable code requirements and improve uniformity and continuity in the identification of appropriate provisions. Some of the current confusion is owed to the fact that the legacy codes used these terms, however, in different ways. For instance, BOCA used "use group" as the major designation with "occupancy" being the subordinate term. On the other hand, ICBO used "occupancy/division" as the major designation with "use" as the secondary term. The IBC was created using provisions from each of the legacy codes and the terms are often seen out of technical context.

This proposal will inform users of the IBC system of building classification and assist all concerned in the proper communication of applicable code requirements.

Cost Impact:

Part I: Will not increase the cost of construction
Provisions simply provide clarification of current requirements.

Part II: Will not increase the cost of construction
Provisions simply provide clarification of current requirements.

E 5-15 : 1004.1-KULIK5034

E 6-15

1004.1.1.1, 1026.4; (IFC[BE] 1004.1.1.1, 1026.4)

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

2015 International Building Code

Revise as follows:

1004.1.1.1 Intervening spaces or accessory areas. Where occupants egress from one or more rooms, areas or spaces through others, the design *occupant load* shall be the combined *occupant load* of interconnected accessory or intervening spaces. Design of egress path capacity shall be based on the cumulative portion of *occupant loads* of all rooms, areas or spaces to that point along the path of egress travel. The anticipated occupant load from adjacent rooms, areas or spaces shall be based on either the capacity of the means of egress components providing access to the space under consideration, or the design occupant load of the adjacent space, whichever is less.

1026.4 Refuge area. The refuge area of a *horizontal exit* shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original *occupant load* of the refuge area plus the *occupant load* anticipated from the adjoining compartment. The anticipated *occupant load* from the adjoining compartment shall be based on the capacity of the *horizontal exit doors* entering the refuge area, or the design occupant load of the adjoining compartment, whichever is less.

Reason: Cumulative occupant load provisions were clarified in the 2015 IBC. This proposal is intended to provide further clarification. Section 1004.1.1.1 states, "Design of egress path capacity shall be based on the cumulative portion of occupant loads of all rooms, areas or spaces to that point along the path of egress travel." If a room, area or space having multiple exits or exit access doorways has one exit access doorway leading through an adjoining or intervening room providing an egress path to an exit, the question arises as to what portion of the occupant load of the original space is included in the cumulative occupant load? Some may simply divide the occupant load of the space by the number of exits or exit access doorways to determine the contribution. Based on the distribution of the required capacity within the space under consideration, that may or may not be an appropriate number. This proposal clarifies that the anticipated occupant load to be included in the cumulative occupant load calculation is based on the actual capacity of the means of egress components providing access to the intervening room, area or space. This calculation technique is currently used in Section 1026.4 to determine the size of refuge areas serving horizontal exits. It was recognized that when determining the cumulative occupant load based on the capacity of egress doors, the resultant occupant load may actually exceed the design occupant load of the adjoining space. A single egress door can serve up to 160 occupants. If the design occupant load of the adjoining space was less than 160, the cumulative occupant loads based on capacity would be overly restrictive. Therefore, a design occupant load condition has been developed and has been added to both Sections 1004.1.1.1 and 1026.4 for purposes of practicality and uniformity. This method is an objective and consistent way of establishing contributing occupant loads from adjacent areas. Approval of this proposal would lead to more uniform interpretations and application of this fundamental IBC means of egress provision.

Cost Impact: Will not increase the cost of construction

This proposal is intended to provide clarification of current IBC provisions.

E 6-15 : 1004.1.1.1-KEITH4375

E 7-15

1004, 1004.1.3 (New); (IFC[BE] 1004, 1004.1.3 (New))

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

2015 International Building Code

Revise as follows:

SECTION 1004 OCCUPANT LOAD

1004.1 Design occupant load. *No change to text.*

~~1004.1.1~~**1004.2 Cumulative occupant loads.** *No change to text.*

~~1004.1.1.1~~**1004.2.1 Intervening spaces or accessory areas.** *No change to text.*

~~1004.1.1.2~~**1004.2.2 Adjacent levels for mezzanines.** *No change to text.*

~~1004.1.1.3~~**1004.2.3 Adjacent stories.** *No change to text.*

Add new text as follows:

1004.3 Multiple Function Occupant Load. Where functions with both gross and net, or different occupant load factors of gross or net are on the same floor they shall be included in the calculation of the design occupant load using the area of each function calculated independently.

Revise as follows:

~~1004.6~~**1004.4 Multiple occupancies.** *No change to text.*

~~1004.1.2~~**1004.5 Areas without fixed seating.** The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table ~~1004.1.2~~**1004.5**. For areas without *fixed seating*, the occupant load shall be not less than that number determined by dividing the floor area under consideration by the *occupant load* factor assigned to the function of the space as set forth in Table ~~1004.1.2~~**1004.5**. Where an intended function is not listed in Table ~~1004.1.2~~**1004.5**, the *building official* shall establish a function based on a listed function that most nearly resembles the intended function.

Exception: Where *approved* by the *building official*, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design *occupant load*.

TABLE ~~1004.1.2~~1004.5
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

No change to table or footnotes.

~~1004.2~~**1004.5.1 Increased occupant load.** The *occupant load* permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table ~~1004.1.2~~**1004.5**, provided that all other requirements of the code are met based on such modified number and the *occupant load* does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the *building official*, an *approved aisle*, seating or fixed equipment diagram substantiating any increase in *occupant load* shall be submitted. Where required by the *building official*, such diagram shall be posted.

~~1004.4~~**1004.6 Fixed seating.** For areas having *fixed seats* and *aisles*, the *occupant load* shall be determined by the number of *fixed seats* installed therein. The *occupant load* for areas in which *fixed seating* is not installed, such as waiting spaces, shall be determined in accordance with Section ~~1004.1.2~~**1004.5** and added to the number of *fixed seats*.

The *occupant load* of *wheelchair spaces* and the associated companion seat shall be based on one occupant for each *wheelchair space* and one occupant for the associated companion seat provided in accordance with Section 1108.2.3.

For areas having *fixed seating* without dividing arms, the *occupant load* shall be not less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The *occupant load* of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

~~1004.5~~**1004.7 Outdoor areas.** *No change to text.*

~~1004.3~~**1004.8 Posting of occupant load.** *No change to text.*

Reason: The purpose for adding Section 1004.3, Multiple function occupant load: The current table for determining the occupant load for a space or a building uses the term function. Since many of the activities noted in the table are not occupant specific that logic appears to be correct. However, there are differing ways to determine what the occupant load is based on the measurement by net or gross area. Both terms are defined in the code, and both are exclusive of each other (they don't overlap). However, within most buildings there are more than one function and quite often more than one occupancy. The application of Table 1004.1.2 does not provide guidance as to how to determine which load factor to use.

One very common area of confusion is often found in office buildings. The table indicates that for "business areas" that 100 sf. of gross area would provide the

basis for the occupant load. Gross floor area is by definition the entire building floor. So, a 10,000 sf. floor for business would have 100 occupants. However, within a typical office there are other functions as well, such as assembly. The code specifically anticipates this in Chapter 3 and notes that assembly space within an office, with an occupant load of less than 50 is allowed to be classified as a B occupancy, thus eliminating a "mixed-use" condition. Assembly occupant loads are measured either by fixed seats or by net area. That leaves the assembly function in the business occupancy with no direction as to what is intended by the code for calculation of its occupant load.

The question that is constantly raised by code users is what number should be used and what areas are they applied to? If the 100 sf. per person anticipates all the functional activities within a business function (stairs, hallways, restrooms, etc., etc.), then does it or doesn't it include the assembly functions? If it does, then the occupant load is simple to calculate. If it doesn't, then how do you determine what area to ascribe to the assembly space? Do you then subtract that area from the business space?

Using the simplest example of a 10,000 sf. office floor, with a 600 sf. conference room with no chairs, the occupant load could either be calculated by the gross number (100) based on the simultaneous use concept. Or should the net area for the assembly function could be deleted from the gross area. Assuming tables and chairs in the conference room, the occupant load for the space for that function would be 40, and the remaining office occupant load would be 94. The occupant load for design of the means of egress from the floor would then be 144.

The reason for reorganization: The current organization for this section is random. With this reorganization of Section 1004, Section 1004.2 through 1004.4 would be how spaces worked together, and Section 1004.5 through 1004.7 would be the specifics for calculating the occupant load of each space. This will also set up this section so that where specific spaces need unique criteria (e.g. the conference room proposal also submitted for consideration) there is a logical place to locate those sections. The final section, Section 1004.8, is for when that occupant load needs to be posted.

Cost Impact: Will not increase the cost of construction

There should be little impact as this is simply clarifying how to determine the occupant load for a floor with varying functions.

E 7-15 : 1004.1.3 (New)-COLLINS4481

E 8-15

Table 1004.1.2, 1004.1.3 (New); (IFC[BE] Table 1004.1.2, 1004.1.3 (New))

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

2015 International Building Code

Add new text as follows:

1004.1.3 Conference and meeting rooms in Group B. In Group B buildings, the occupant load factor for determining means of egress requirements for conference and meeting rooms with fewer than 50 occupants, shall be 100 gross square feet per person.

Revise as follows:

**TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Business areas	100 gross
<u>Conference and meeting rooms in business areas</u>	<u>See Section 1004.1.3</u>

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m², 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Reason: This change is proposed for two reasons: 1) The cumulative occupant load for meeting rooms based on 15 square feet per person can far exceed a reasonable number of actual occupants in Group B, particularly without simultaneous use of work areas and meeting areas. The change will provide a more accurate reflection of the number of occupants for means of egress requirements only. 2) In consideration of the above, this code has been troublesome for tenant improvement projects for business areas when egress requirements are significantly more stringent than shell and core projects. The underlying basis of design for egress requirements in Group B shell and core projects is 100 square feet per occupant and the inclusion of meeting room areas at 15 square feet per occupant has triggered existing stairs to be widened and elevators added to meet the means of egress requirements. This is not necessary to meet the intent of use.

Cost Impact: Will not increase the cost of construction

The impact should reduce the cost of construction. Under the current code additional elements of egress may be required that are not warranted.

E 8-15 : T1004.1.2-COLLINS4480

E 9-15

Table 1004.1.2, 1004.6 (New); (IFC[BE] Table 1004.1.2, 1004.6 (New))

Proponent: Dave Frable, representing US General Services Administration

2015 International Building Code

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Business area <u>Concentrated business use areas</u>	100 150 gross <u>See Section 1004.6</u>

(Portions of table not shown remain unchanged)

For SI: 1 square foot = 0.0929 m², 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Add new text as follows:

1004.6 Concentrated business use areas The occupant load factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data processing centers and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. The occupant load for concentrated business use areas shall be the actual occupant load, where approved by the code official, but not less than one occupant per 100 square foot gross of occupiable floor space.

Reason: The intent of this code change proposal is to revise the current maximum floor area allowance per occupant in Table 1004.1.2 for business occupancies from 100 ft²/occupant (gross) to 150 ft²/occupant (gross) for determining the means of egress requirements in business areas and to create a new occupant load sub-category for concentrated use areas in business occupancies having a higher density of occupants than would normally be expected in a typical business occupancy environment.

Our rationale is based on several past research studies that have concluded that the 100 ft²/occupant (gross) occupant load factor for business occupancies is very conservative which has led to requiring Group B occupancies and office buildings in general to have additional egress capacity and a greater number of exits to accommodate an "over-estimated" building population. We believe the increase from 100 ft²/occupant (gross) to 150 ft²/occupant (gross) for business occupancies is still a conservative figure; yet reasonable, based on recent changes in office building design as well as changes in the North American workplace and work style trends; such as work station configurations, flexible work schedules, telecommuting, work at home, etc.

The existing occupant load factor of 100 ft²/occupant (gross) for business occupancies first appeared in the 3rd edition of the Building Exits Code that was published in 1934. The occupant load factor of 100 ft²/occupant (gross) was specified for office, factory, and workrooms. All occupant load factors were based on the gross floor area of the building, such that no deduction was permitted for corridors, closets, restrooms, or other subdivisions. To our knowledge there is no formal record indicating the basis of the occupant load factors included in the 1934 Buildings Exits Code. However, it seems likely that the results from a National Bureau of Standards (NBS) [now referred to as National Institute of Standards and Technology (NIST)] study published in 1935 were the most likely basis of the occupant load factors adopted into the 1934 Code. However, since the initial NBS study in 1935, several other studies have been conducted to determine the occupant load factors for various occupancies. One common similarity of each of the studies was that all of the subsequent studies have concluded that the 100 ft²/occupant (gross) occupant load factor for business occupancies is conservative. Studies conducted between 1966 and 1992 have indicated that occupant load factors in business occupancies ranged from 150 ft²/occupant (gross) to 278 ft²/occupant (gross). In addition, a 1995 study of 23 Federal sector and private sector office buildings also indicated a mean occupant load factor of 248 ft²/occupant for all office buildings. Lastly, a recent project to study the appropriateness of the 100 ft²/occupant load factor for business occupancies has been undertaken by the NFPA Fire Protection Research Foundation. The study was conducted by WPI undergrad students. The recommendations of this study have indicated that it is reasonable to increase the occupant load factor to 150 ft²/occupant in business occupancies and to create a new occupant load sub-category for concentrated use areas in business occupancies.

Based on the points stated above and the occupant load factor ranges cited in recent studies, I believe it would be reasonable to increase the occupant load factor of 100 ft²/occupant (gross) in Table 1004.1.2 for determining the means of egress requirements in Business areas to 150 ft²/occupant (gross) and to create a new occupant load sub-category for concentrated use areas in business occupancies having a range between 50 ft²-100 ft²/occupant depending on the work environment configuration.

Cost Impact: Will not increase the cost of construction

The overall outcome of this code change should not increase the cost of construction in most situations.

E 9-15 : T1004.1.2-FRABLE5100

E 10-15

TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proponent: Raymond Grill, Arup, representing Arup (ray.grill@arup.com)

2015 International Building Code

Revise as follows:

**TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Business areas ^b	100 gross

(Portions of table not shown remain unchanged)

For SI: 1 square foot = 0.0929 m², 1 foot = 304.8 mm.

- a. Floor area in square feet per occupant.
- b. Uses incidental to the business use, such as conference rooms or break rooms, shall be included in the gross area calculation.

Reason: Incidental uses such as break rooms and conference rooms that are intended to be used by the occupants of the business use should not be loaded as if they were standalone assembly areas. Speculative office developments have regularly been designed for egress and plumbing fixtures based on the gross area of the floor. The increase in build to suit office projects should not increase the occupant loads of a building and require increased egress width and more plumbing fixtures.

A independant study performed by the Univeristy of Maryland and published by NIST (Evaluation of Survey Procedures for Determining Occupant Load Factors in Contemporary Office Buildings, Issued September 1996) reported on the evaluation of a broad range of types of office buildings. Quoting from the study abstract, "Buildings that are primarily composed of open plan office designs are found to have greater occupant load factors than buildings composed of well-compartmented office designs. County government office buildings are found to be slightly greater occupant load factors than federal government buildings. Federal government buildings have lesser occupant load factors than private office buildings. The mean occupant load factor found in the study for all of the buildings is 248 ft²/person."

Designers and reviewers who are unfamiliar with the origin and history of the code often over design or require over design when designing build to suit projects by counting conference rooms and break rooms to be considered as assembly uses with simultaneous occupancy with the office areas. This significantly increases the occupant load. The model codes historically had never been applied in this fashion and the occupant load study referenced above reinforces that is should not be applied in a manner that inappropriately increases the occupant load of the building.

Over design results in a waste of resources when we are collectively trying to achieve sustainable designs.

Cost Impact: Will not increase the cost of construction

This proposed code change will not increase the cost of compliance and could reduce the cost of code compliance.

E 10-15 : T1004.1.2-GRILL5198

E 11-15

TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proponent: Stephen Thomas, Colorado Code Consulting, LLC, representing International Association of Building Officials (sthomas@coloradocode.net)

2015 International Building Code

Revise as follows:

**TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Industrial areas	100 <u>300</u> gross

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m², 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Reason: The current occupant load factor for industrial areas has been around for decades. The Occupant load was appropriate for factories in the early 1900's. However, our factories are much different than they were back then. They have become more automated, requiring less factory workers. Therefore, I believe that the code should reflect how industrial areas are occupied today. Therefore, we have recommended that the occupant load factor be increased resulting in an overall lower occupant load for factories. The factor is based on storage areas and similar spaces.

Cost Impact: Will not increase the cost of construction

This change will reduce cost of construction. It will reduce the number of plumbing fixtures and exit required for such occupancies.

E 11-15 : T1004.1.2-THOMAS5294

E 12-15

TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proponent: Masoud Sabounchi, Representing Colorado Chapter of ICC , representing masoud sabounchi (masoud@acecode.com)

2015 International Building Code

Revise as follows:

**TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 ^b gross

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m², 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

b. For swimming pools that serve Group R-2 and R-3 occupancies, the occupant load factor for the pool deck shall be 30 square feet gross.

Reason: Apartment buildings have swimming pools and decks that serve the apartment building only. Application of occupant load factor of 1:15 results in occupant loads that are very high and not reflecting the use of these decks as amenity spaces for the apartment buildings and unlike a public pool deck. In most cases the calculated occupant loads on these decks is much higher than considering all apartment residents using the decks. The proposed use of the 1:30 occupant load factor is in concert with other nationally recognized codes and more closely reflects the anticipated occupant loads on these decks.

Cost Impact: Will not increase the cost of construction

This proposal will not increase cost of construction

E 12-15 : T1004.1.2-SABOUNCHI4396

E 13-15

1004.3; (IFC[BE] 1004.3)

Proponent: William Freer, representing New York State Office of Fire Prevention and Control (wfreer@dhses.ny.gov)

2015 International Building Code

Revise as follows:

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 doorway* from the room or space, for the intended configurations. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

Reason: Many assembly occupancies have become multi-purpose. In many cases these rooms or spaces have been posted for the maximum occupant load as if the space was wide open and being used for standing room only. In these cases the posting would allow for too many persons. Section 1029.5 of the Fire Code states that it is prohibited to overcrowd a building or portion thereof, but without the appropriate occupancy load being posted it would be impossible to enforce this section as intended.

Many jurisdictions have started to require multiple postings for rooms having multiple configurations. Unfortunately that is not currently in the code and may become confusing. By adding for the 'intended configuration' in the code it would confirm that the code enforcement official could require that correct signage was posted.

Cost Impact: Will not increase the cost of construction

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

E 13-15 : 1004.3-FREER3784

E 14-15

1004.5; (IFC[BE] 1004.5)

Proponent: Timothy Pate, representing Colorado Chapter Code Change Committee, representing City and County of Broomfield (tpate@broomfield.org)

2015 International Building Code

Revise as follows:

1004.5 Outdoor areas. *Yards, patios, occupied roofs, courts* and similar outdoor areas accessible to and usable by the building occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, *means of egress* requirements for the building shall be based on the sum of the *occupant loads* of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

Reason: This proposal will add the language "occupied roofs" to this section which will allow the code user to understand that occupied roofs which are open to the sky will also need to meet means of egress requirements. There was this same language added to the 2012 IBC Section 1021.1 which is now section 1006.3 in the 2015 IBC. This added language will also clarify that you would need to assign an occupant load based on the anticipated use and design exit system per that occupant load. There has been considerable confusion among building officials and designers on this issue and this should help tie this section to the language in section 1006.3.

Cost Impact: Will not increase the cost of construction

This proposal is only to help clarify the existing code requirements

E 14-15 : 1004.5-PATE4753

E 15-15

Part I:

1005.3.1, 1005.3.2

Part II:

402.6 (New), 403.2 (New), 407.4 (New), 408.3 (New), 704.2 (New), 1005.2 (New), 1012.4.3, 1107 (New), 1107.1 (New), 1203.4 (New), 1401.6.11, Table 1401.6.11(1) (New), 1401.6.11.1

THIS IS A 2 PART CODE CHANGE. PART I AND II WILL BE HEARD BY THE IBC-MEANS OF EGRESS COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THIS COMMITTEE.

Proponent: Dave Frable, representing US General Services Administration (dave.frable@gsa.gov)

Part I

2015 International Building Code

Revise as follows:

1005.3.1 Stairways. The capacity, in inches, of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairways* by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where *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.

Exceptions:

1. ~~For other than Group II and I-2 occupancies, the capacity, in inches, of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairways* 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.~~
1. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped aisles for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
2. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to the capacity factors in Section 1029.6.3 indicated for stepped aisles for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

1005.3.2 Other egress components. The capacity, in inches, 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.

Exceptions:

1. ~~For other than Group II and I-2 occupancies, the capacity, in inches, 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.~~
1. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
2. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to the capacity factors in Section 1029.6.3 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

Part II

2015 International Existing Building Code

Add new text as follows:

402.6 Means of egress capacity factors. Where an addition is made to an existing building or structure, the existing building or structure together with its additions shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the International Building Code for new construction in determining the minimum egress widths in an existing building or structure. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any existing building together with its additions if, in the opinion of the code official, they do not constitute a distinct hazard to life.

403.2 Means of egress capacity factors Alterations to any existing building shall not be subject to the egress width factors in

Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the code official, they do not constitute a distinct hazard to life.

407.4 Means of egress capacity factors An existing building undergoing a change of occupancy shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for a change of occupancy if, in the opinion of the code official, it does not constitute a distinct hazard to life.

408.3 Means of egress capacity factors A historic building shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the code official, they do not constitute a distinct hazard to life.

704.2 Means of egress capacity factors Alterations to any existing building shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the code official, they do not constitute a distinct hazard to life.

1005.2 Means of egress capacity factors An existing building undergoing a change of occupancy shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for a change of occupancy if, in the opinion of the code official, it does not constitute a distinct hazard to life.

Revise as follows:

1012.4.3 Egress **Means of egress capacity factors.** ~~Egress capacity~~

An existing building undergoing a change of occupancy shall ~~meet or exceed~~ not be subject to the ~~occupant load as specified~~ egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the ~~new~~ components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for a change of occupancy if, in the opinion of the code official, it does not constitute a distinct hazard to life.

Add new text as follows:

SECTION 1107 MEANS OF EGRESS

1107.1 Means of egress capacity factors. Where an addition is made to an existing building or structure, the existing building or structure together with its additions shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building or structure. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any existing building together with its additions if, in the opinion of the code official, they do not constitute a distinct hazard to life.

1203.4 Means of egress capacity factors A historic building shall not be subject to the egress width factors in Sections 1005.3.1 and 1005.3.2 of the *International Building Code* for new construction in determining the minimum egress widths in an existing building. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the code official, they do not constitute a distinct hazard to life.

Revise as follows:

1401.6.11 Means of egress capacity and number. Evaluate the means of egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of the *International Building Code*: 1003.7, 1004, ~~1005~~ **1005**, 1006, 1007, 1016.2, 1025.1, 1028.2, 1028.5, 1029.2, 1029.3, 1029.4 and 1030, except that for existing buildings the minimum width required by this Section can also be determined solely by the width for the required capacity in accordance with Table 1401.6.11(1). The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 405.

Under the categories and occupancies in Table ~~1401.6.11~~ **1401.6.11**(2), determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.11, Means of Egress Capacity, for means of egress and general safety.

Add new table as follows:

TABLE 1401.6.11(1)
EGRESS WIDTH PER OCCUPANT SERVED

<u>OCCUPANCY</u>	<u>Without sprinkler system and emergency voice/alarm communication system</u>		<u>With sprinkler system and emergency voice/alarm communication system^a</u>	
	<u>Stairways (inches pre occupant)</u>	<u>Other egress components (inches per occupant)</u>	<u>Stairways (inches per occupant)</u>	<u>Other egress components (inches per occupant)</u>
<u>Occupancies other than listed below</u>	<u>0.3</u>	<u>0.2</u>	<u>0.2</u>	<u>0.15</u>
<u>Hazardous: H-1, H-2, H-3, H-4</u>	<u>0.7</u>	<u>0.4</u>	<u>0.3</u>	<u>0.2</u>
<u>Institutional: I-2</u>	<u>N/A</u>	<u>N/A</u>	<u>0.3</u>	<u>0.2</u>

For SI: 1 inch = 25.4 mm. N/A = Not applicable.

a. Buildings equipped throughout with an automatic sprinkler system 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.

Revise as follows:

TABLE ~~1401.6.11~~ 1401.6.11(2)
MEANS OF EGRESS VALUES^a

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1, A-2, A-3, A-4, E, I-2	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

1401.6.11.1 Categories. The categories for means-of-egress capacity and number of exits are:

1. Category a—Compliance with the minimum required means-of-egress capacity or number of exits is achieved through the use of a fire escape in accordance with Section 405.
2. Category b—Capacity of the means of egress complies with Section ~~1004.1005~~ of the *International Building Code* or Table 1401.6.11(1), and the number of exits complies with the minimum number required by Section ~~1021.1006~~ of the *International Building Code*.
3. Category c—Capacity of the means of egress is equal to or exceeds 125 percent of the required means-of-egress capacity, the means of egress complies with the minimum required width dimensions specified in the *International Building Code* or Table 1401.6.11(1), and the number of exits complies with the minimum number required by Section 1006 of the *International Building Code*.
4. Category d—The number of exits provided exceeds the number of exits required by Section 1006 of the *International Building Code*. Exits shall be located a distance apart from each other equal to not less than that specified in Section ~~1015.21007~~ of the *International Building Code*.
5. Category e—The area being evaluated meets both Categories c and d.

Reason: The intent of this code change is to revise the egress capacity factors referenced in Sections 1005.3.1 and 1005.3.2 such that the concept of determining egress capacity for the components of the means of egress within a building is not a function of whether or not a building is protected by an automatic fire sprinkler system. Not all building emergencies that necessitate occupant egress either out of the building or within a building to a safe area are dependent on a fire sprinkler system and a evacuation voice/alarm communication system. In addition, revisions have also been incorporated into the IEBC to ensure existing buildings utilizing previously approved egress capacity factors are not significantly impacted by this code change.

The geometry of a building, its occupancy and related occupant load, travel distance to exits dictate, in large measure, the location of exits, the number of exits, the capacity of other egress components, and the capacity of exits and access thereto. As a consequence, the exits themselves influence the plan and layout of the entire means of egress system. The number of people that the means of egress system can accommodate is determined primarily by the

capacity (i.e., width) of the exits but it also is affected by the number of occupants each component within the exit access and exit discharge can accommodate. Therefore, exit stair capacity and the capacity factor for "other means of egress" components are stand-alone life safety fundamental concepts that need to be addressed properly, just as providing sprinkler protection and occupant notification via a voice/alarm communication system in building, to help ensure a reasonable level of safety in a building.

The number of occupants or occupant load for which a means of egress system must provide egress capacity is calculated. The occupant load is to reflect the maximum number of occupants anticipated to occupy the building rooms or spaces at any given time under all probable situations. The occupant load must not be based only on normal occupancy.

Currently, the base requirements in the IBC for determining egress capacity for exit stairways state that the egress capacity for exit stairways and means of egress components shall be based on a capacity factor of 0.3 inches/occupant and 0.2 inches/occupant respectively. However, the IBC has exceptions that permit a building that is equipped throughout by an automatic sprinkler system and an emergency alarm communication system to use a capacity factor of 0.2 inches/occupant for exit stairways and 0.15 inches/occupant for other means of egress components. The resulting action of these 2 exceptions can be demonstrated in the four scenarios described below:

Scenario 1; if the egress capacity of a 44 inch wide exit stair uses a capacity factor of 0.3 inches width/occupant, it would equate to 146 occupants for that stair. Therefore, if a floor has 2 similar configured exit stairways as stated above, Scenario 1 will limit the maximum allowable number of occupants on the floor to 292 occupants

Scenario 2; if the egress capacity of a 44 inch wide exit stair uses a capacity factor of 0.2 inches width/occupant, it would equate to 220 occupants for that stair. Therefore, if a floor has 2 similar configured exit stairways as stated above, Scenario 2 will limit the maximum allowable number of occupants on the floor to 440 occupants.

Scenario 3; if the egress capacity of a 36-inch door uses a capacity factor of 0.2 inches width/occupant, it would equate to 180 occupants egressing through that door.

Scenario 4; if the egress capacity of a 36-inch wide door uses a capacity factor of 0.15 inches width/occupant, it would equate to 240 occupants egressing through that door.

However, we strongly believe the exceptions permitted in the IBC do not take into account other types of life safety events not related to fire that have a comparable impact on occupants evacuating a building. For example, non-related fire emergencies such as, but not limited to, hazardous substance spills and leaks, suspicious packages, natural disasters, medical emergencies, etc. may necessitate all occupants, including those with mobility impairments, to take immediate action to evacuate a building in an efficient manner where evacuation time may be a critical factor in ensuring occupant safety. Therefore, reducing the exit stair capacity factor to 0.2 inches/occupant and reducing the capacity factor for "other egress components" to 0.15 inches/occupant may increase the overall occupant evacuation times which may impact occupant safety in these critical situations. In addition, reducing these core fundamental capacity factors in the means of egress may also impact occupant safety if the needed automatic sprinkler system and/or emergency voice/alarm communication system fails to operate.

Therefore, based on our substantiation, we believe the respective 2 exceptions should be deleted since in our opinion the current exceptions do not present any clear and substantial justification to reduce the exit stair capacity factor from 0.3 inches/occupant to 0.2 inches/occupant and the "other egress components" from 0.2 inches/occupant to 0.15 inches/occupant.

Cost Impact:

Part I: Will increase the cost of construction

This code change will probably increase construction costs to meet the new requirements but will enhance overall building safety during a building evacuation. However, there should be no cost impact on existing buildings.

Part II: Will increase the cost of construction

This code change will probably increase construction costs to meet the new requirements but will enhance overall building safety during a building evacuation. However, there should be no cost impact on existing buildings.

E 15-15 : 1005.3.1-FRABLE5123

E 16-15

1006.2.1, 1006.3; (IFC[BE] 1006.2.1, 1006.3)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

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. The portion of the occupant load from adjacent rooms, areas or spaces shall be based on the capacity of the means of egress components providing access to the space under consideration.

Exceptions:

1. The number of exits from foyers, lobbies, vestibules or similar spaces need not be based on cumulative occupant loads for areas discharging through such spaces, but the capacity of the exits from such spaces shall be based on applicable cumulative occupant loads.
2. 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).
3. *Care suites* in Group I-2 occupancies complying with Section 407.4.

1006.3 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. The *path of egress travel* to an *exit* shall not pass through more than one adjacent *story*. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required number of exits or access to exits serving that story.

Exception: Where the only access to required exits from a mezzanine is through an adjacent story, the entire occupant load of such mezzanine shall be added to the load of the adjacent story.

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>. Cumulative occupant load provisions were clarified in the 2015 IBC. There were several proposals initially submitted to address these provisions. For the final action hearings, proponents agreed to support one proposal: E15-12. E15 addressed the concerns by modifying Section 1004.1, Cumulative occupant loads.

This proposal is intended to enhance the functionality of these requirements by placing them in context with the applicable means of egress design requirements. For example, Section 1004.1.1.1 states, "Design of egress path capacity shall be based on the cumulative portion of the occupant loads of all rooms, areas or spaces to that point along the path of egress travel." This proposal places the same requirement at Section 1006.2.1 in the context of using capacity to determine the required number of exits or access to exits.

A new Exception 1 to Section 1006.2.1 has been added. This language was contained in proposal E16-12 and was lost in the consolidation. Nevertheless, it is a logical concern. Literally interpreted, a building with an occupant load of 4,000 and having four required exits with one of those exits having a foyer, lobby, vestibule or similar space would require four exits from such space based on the cumulative occupant load of 1,000. The number of exits from such space would be based on the occupant load of the space; however, the capacity of that exit(s) would be based on the cumulative occupant load served.

Perhaps the most important feature of the 2015 code change was that it clarified that cumulative occupant loads are not considered when calculating the required number of exits or access to exits serving an adjacent story. An exception clarifies that occupant loads from isolated mezzanines will be considered in determining the number of required exits from the adjacent story.

Some seasoned practitioners consult a specific code provision without reviewing the applicable general requirements when researching a given design condition. If for instance, a design professional or plans examiner is verifying the procedure for the determination of the required number of exits or access to exits, he or she will likely consult Section 1006 although many other general provisions potentially apply to the situation, to include Section 1004. This proposal is intended to be user friendly in that it restates important cumulative occupant load provisions in technical context without providing a generic cross-reference.

Approval of this proposal will improve the consistency in the determination and application of fundamental IBC means of egress provisions.

Cost Impact: Will not increase the cost of construction

None. Provisions simply provide clarification of current requirements.

Staff note: Section 1006.3 has a published errata. The proposal includes the errata as existing text.

E 16-15 : 1006.2.1-KULIK3684

E 17-15

1006.2.1, TABLE 1006.2.1; (IFC[BE] 1006.2.1, TABLE 1006.2.1)

Proponent: Lee Kranz, City of Bellevue, Washington, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Revise as follows:

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~~Exception:

- ~~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).~~
1. Care suites in Group I-2 occupancies complying with Section 407.4.

**TABLE 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL 30	
A ^c , E, M	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP	NP	75 ^a
R-2	10 <u>20</u>	NP	NP	125 ^a
R-3 ^e	10 <u>20</u>	NP	NP	125 ^a
R-4 ^e	10 <u>20</u>	75	75	125 ^a
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted

- a. 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.
- b. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- c. For a room or space used for assembly purposes having *fixed seating*, see Section 1029.8.
- d. For the travel distance limitations in Group I-2, see Section 407.4.
- e. ~~The length of common path of egress travel distance shall only apply~~ in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 *congregate living facility*.
- f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

Reason: Exception #1 of Section 1006.2.1 is essentially an exception to the maximum occupant load limits of 10 in Table 1006.2.1 for R-2 and R-3. Increasing the maximum occupant load from 10 to 20 in the table for R-2, R-3 and R-4 and deleting exception #1 is appropriate since all Group R occupancies require sprinkler protection per Section 903.2.8 (NFPA 13 and NFPA 13-R system) and the 125' common path limit in the exception is consistent with the table so the exception is no longer needed.

The occupant load limit for R-4 in the table is also proposed to be modified from 10 to 20. Section 310.6 limits R-4 occupancies to 16 residents but does not include "staff" so it is likely that the occupant load will be 17 or more.

The change in footnote e is intended to clarify the intent and make it easier to understand.

Cost Impact: Will not increase the cost of construction

This code change eliminates a redundant provision and will not affect the cost of construction.

E 17-15 : 1006.2.1-KRANZ3767

E 18-15

TABLE 1006.2.1; (IFC[BE] TABLE 1006.2.1)

Proponent: Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Revise as follows:

**TABLE 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL>30	
A ^c , E, M	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP 75	NP 75	75 ^a
R-2	10	NP 75	NP 75	125 ^a
R-3 ^e	10	NP 75	NP 75	125 ^a
R-4 ^e	10	75	75	125 ^a
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted

a. 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.

b. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.

c. For a room or space used for assembly purposes having *fixed seating*, see Section 1029.8.

d. For the travel distance limitations in Group I-2, see Section 407.4.

e. The length of *common path of egress travel* distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 *congregate living facility*.

f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

Reason: The purpose of this proposal is to allow a maximum common path of egress travel distance to be 75' for Group R-1, R-2 and R-3. Without this change, any addition to an existing non-sprinklered building would require two exits from any room without any allowance for the common path of egress travel distance. This travel distance is the same as what was permitted in the code before all Group R was required to be sprinklered.

Cost Impact: Will not increase the cost of construction
There is not change in requirements.

E 18-15 : T1006.2.1-CUEVAS4824

E 19-15

TABLE 1006.2.1; (IFC[BE] TABLE 1006.2.1)

Proponent: Kathleen Petrie, representing City of Seattle, Department of Planning and Development
(kathleen.petrie@seattle.gov)

2015 International Building Code

Revise as follows:

TABLE 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL >30	
A ^c , E, M	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP	NP	75 ^a
R-2	10	NP	NP	125 ^a
R-3 ^e	10	NP	NP	125 ^a
R-4 ^e	10	75	75	125 ^a
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted

- 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.
- Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- For a room or space used for assembly purposes having *fixed seating*, see Section 1029.8.
- For the travel distance limitations in Group I-2, see Section 407.4.

e. The length of *common path of egress travel* distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 *congregate living facility*.

~~f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.~~

Reason: This proposal deletes footnote 'f' in Table 1006.2.1 because it is unnecessary and adds confusion. Footnote 'f' currently limits the maximum common path of egress travel distance to 100 feet for open parking garages with an S-2 Occupancy. However, 100 feet is the maximum distance for any S Occupancy, so it is unnecessary to single out open parking garages. This footnote may also result in prompting the user to unnecessarily search for a requirement applying to enclosed parking garages.

Cost Impact: Will not increase the cost of construction

This proposal is a clarification of the requirement so there is no impact to the cost of construction

E 19-15 : T1006.2.1-PETRIE4005

E 20-15

1006.2.2.1, 1006.2.2.2 (New), 1006.2.2.2, 1010.1.10; (IFC[BE] 1006.2.2.1, 1006.2.2.2 (New), 1006.2.2.2, 1010.1.10)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

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 m²) 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.

Doors shall swing in the direction of egress travel, regardless of the occupancy load served. Doors shall be provided with panic hardware or fire exit hardware.

Add new text as follows:

1006.2.2.2 Electrical Equipment Space. Entrance to and egress from the working space for electrical equipment shall be in compliance with the *International Fire Code* and Sections 110.26 and 110.33 of NFPA 70, as applicable.

Doors shall swing in the direction of egress travel, regardless of the occupancy load served. Doors shall be provided with panic hardware or fire exit hardware.

Revise as follows:

~~1006.2.2.2~~**1006.2.2.3 Refrigeration machinery rooms.** Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two *exits* or *exit access doorways*. 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 the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access travel distance* is permitted in accordance with Section 1017.1.

Doors shall swing in the direction of egress travel, regardless of the *occupant load* served. Doors shall be tight fitting and self-closing. Doors shall be provided with panic hardware or fire exit hardware.

1010.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.

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

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Requirements for access and working space to and about electrical equipment is covered in the National Electrical Code, NFPA 70, and the International Fire Code. The requirements for electrical equipment rated 600 volts or less are covered in Section 110.26 of NFPA 70. The requirements for electrical equipment rated more than 600 volts are covered in Sections 110.32 and 110.33 of NFPA 70. These requirements are more detailed than what is currently in the building code, and apply to electrical equipment in all occupancies.

Section 2701.1 of the IBC requires electrical components, equipment, and systems to be designed and constructed in accordance with NFPA 70. By including a specific reference in Chapter 10 of the building code to the access and working space requirements in NFPA 70, registered design professionals will be aware to incorporate these requirements into the design of the building before starting construction.

The door requirements are added to current Sections 1006.2.2.1 and 1006.2.2.2 for consistency with these types of mechanical spaces.

Cost Impact: Will not increase the cost of construction

This code change proposal will not increase the cost of construction. This code proposal may actually decrease the cost of construction, because the design

of the building will include the requirements that are already required elsewhere in this code.

E 21-15

1006.2.2.2 (New); (IFC[BE] 1006.2.2.2 (New))

Proponent: Lee Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Add new text as follows:

1006.2.2.2 Electrical equipment rooms. Rooms containing electrical equipment shall be provided with the number of exit or exit access doorways in accordance with NFPA70 Article 110 where all of the following apply:

1. The electrical equipment is rated at 1,200 amperes or more.
2. The electrical equipment is over 6 feet (1829 mm) wide;
3. The electrical equipment contains overcurrent devices, switching devices or control devices.

(Renumber subsequent sections.)

Reason: This code change is needed to create consistency with the NEC. NEC Article 110.26 (C) (2) requires a 2nd exit when large electrical equipment (over 6 feet wide) exceeding 1,200 amperes where the equipment contains overcurrent devices, switching devices or control devices. Most building code reviewers are not aware of the need for the 2nd exit in the NEC and the requirement is often not identified until after construction begins when it is costly to modify the architectural design. Rather than requiring a second exit or exit access doorway, the proposal specifies that the number of exits or exit access doorways shall be in accordance with NEC Article 110. This approach was taken due to several exceptions contained in Article 110 exempting the second exit doorway and which would not be appropriate to duplicate in the IBC.

Similar provisions are located in Section 1010.1.10 to require panic hardware or fire exit hardware for electrical rooms with large electrical equipment.

Cost Impact: Will not increase the cost of construction

This code change will save money by reducing costly change orders when the NEC requirement for a 2nd exit is not caught during plan review.

E 21-15 : 1006.2.2.2 (New)-KRANZ4099

E 22-15

1006.2.2.2; (IFC[BE] 1006.2.2.2)

Proponent: Jeffrey Shapiro, International Institute of Ammonia Refrigeration, representing International Institute of Ammonia Refrigeration (jeff.shapiro@intlcodeconsultants.com)

2015 International Building Code

Revise as follows:

1006.2.2.2 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two *exits* or *exit access doorways*. 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 the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access* travel distance is permitted in accordance with Section 1017.1.

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

Reason: The proposed revision clarifies of how the code should currently be applied. The intent of this section is limited to regulating exit and exit access doors, but as currently written, the code incorrectly suggests that any door, even a door to an auxiliary space that doesn't lead to an exit, must swing in the direction of egress.

Cost Impact: Will not increase the cost of construction
The change has no impact on the cost of construction.

E 22-15 : 1006.2.2.2-SHAPIRO4702

E 23-15

1006.2.2.4, Table 1017.2, Table 1020.1; (IFC[BE] 1006.2.2.4, Table 1017.2, Table 1020.1)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1006.2.2.4 ~~Day-care~~ Group I-4 means of egress. ~~Day-care~~

Group I-4 facilities, rooms or spaces where care is provided for more than 10 children that are $2\frac{1}{2}$ years of age or less, shall have access to not less than two *exits* or *exit access doorways*.

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE^a

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250 ^b
I-1	Not Permitted	250 ^b
B	200	300 ^c
F-2, S-2, U	300	400 ^c
H-1	Not Permitted	75 ^d
H-2	Not Permitted	100 ^d
H-3	Not Permitted	150 ^d
H-4	Not Permitted	175 ^d
H-5	Not Permitted	200 ^c
I-2, I-3, I-4	Not Permitted	200 ^c
<u>I-4</u>	<u>150</u>	<u>200^c</u>

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to *exit access* travel distance requirements:

Section 402.8: For the distance limitation in malls.

Section 404.9: For the distance limitation through an atrium space.

Section 407.4: For the distance limitation in Group I-2.

Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.

Section 411.4: For the distance limitation in special amusement buildings.

Section 412.7: For the distance limitations in aircraft manufacturing facilities.

Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.

Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.

Section 1006.3.2: For buildings with one exit.

Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.

Section 1029.7: For increased limitation in assembly seating.

Section 3103.4: For temporary structures.

Section 3104.9: For pedestrian walkways.

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

d. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.1.

**TABLE 1020.1
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^c
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	Not Permitted	0.5
I-2 ^a , I-4	All	Not Permitted	0
<u>I-4</u>	<u>All</u>	<u>1</u>	<u>0</u>
I-1, I-3	All	Not Permitted	1 ^b

a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.

b. For a reduction in the *fire-resistance rating* for occupancies in Group I-3, see Section 408.8.

c. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.

Reason:

Section 903.2.6 Exception 2 allows for day cares to not be sprinklered and 903.2.6 allows for the building to not be fully sprinklered. This is a historical provision that has no incidence that would indicate that it should not be permitted. Therefore, there needs to be an option other than NP in travel distance and corridor ratings in non-sprinklered buildings for Group I-4 day care facilities. The provisions permitted were in past editions of the code.

IBC 308.6.1 Classification as Group E. A child day care facility that provides care for more than five but not more than 100 children 21/2 years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

IFC 903.2.6 (IBC [F] 903.2.6) Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

Exceptions:

1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1 Condition 1 facilities.

2. An automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door.

3. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge, and all floors below the level of exit discharge other than areas classified as an open parking garage.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is coordination and correlation of requirements in existing provisions.

E 24-15

1006.3; (IFC[BE] 1006.3)

Proponent: Stephen Thomas, representing Colorado Chapter (sthomas@coloradocode.net)

2015 International Building Code

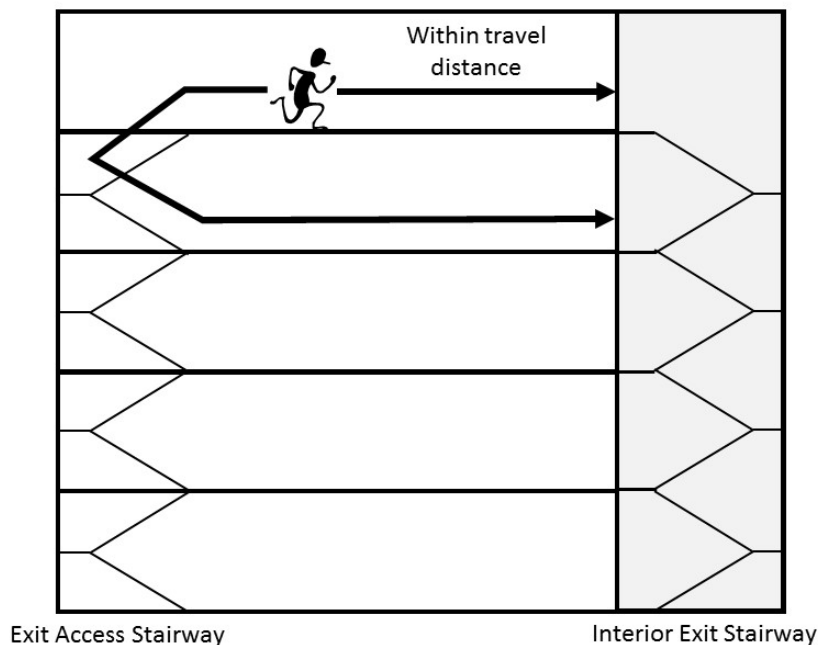
Revise as follows:

1006.3 Egress from stories or occupied roofs. The *means of egress* system serving any *story* or occupied roof shall be provided with the number of independent exits or access to independent exits based on the aggregate *occupant load* served in accordance with this section. The *path of egress travel* to an *exit* shall not pass through more than one adjacent *story*.

Reason: This section has been interpreted to allow a single exit in a multi-story building. The intent is to clarify that there must be independent exits in a building. The interpretation has been that if a person is on an upper floor of a building, they have to have access to at least 2+ exits which can end up being the same interior exit stairway on an adjacent story.

This is how it works. A 5 story building has one interior exit stairway. An occupant has to have access to two exits. The first exit is accessed at the 5th floor within the required travel distance. The second exit is then accessed by going down an exit access stairway complying with Section 1019.3, item 4 to the 4th floor, across the floor to the single interior exit stairway, thus providing access to "two exits". Please see diagram below.

This was not the intent of the change in the 2015 code from my involvement in the committee. If that single stairway is lost for some reason, there is no other way for people in the building to egress through a protected means of egress.



Cost Impact: Will not increase the cost of construction

This is a clarification to the code and will not increase the cost of construction.

Staff note: There is a published errata to Section 1006.3. The errata is indicated in this proposal as existing text.

E 24-15 : 1006.3-THOMAS4557

E 25-15

1006.3, 1006.3.1; (IFC[BE] 1006.3, 1006.3.1)

Proponent: Gregory Keith, Professional heuristic Development, representing The Boeing Company (grkeith@mac.com); Stephen Thomas (stthomas@coloradocode.net)

2015 International Building Code

Revise as follows:

1006.3 Egress from stories or occupied roofs. The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct exits or access to *exits* based on the aggregate *occupant load* served in accordance with this section. Where an exit access stairway provides access to an exit at another story, a single interior or exterior exit stairway having entrances at each story shall not serve as both required exits for a single story. The *path of egress travel* to an *exit* shall not pass through more than one adjacent *story*.

1006.3.1 Egress based on occupant load. Each *story* and occupied roof shall have the minimum number of ~~independent~~ separate and distinct exits, or access to *exits*, as specified in Table 1006.3.1. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.2. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any *story* or occupied roof shall be maintained until arrival at the *exit discharge* or a *public way*.

Reason: Section 1006.3.1 currently references "independent" exits. Independent can be a vague or judgemental term. The proposed "separate and distinct" language is more specific. Also, that terminology is currently used in the definition of common path of egress travel to identify a point where two exits or access to exits would be required.

Additionally, Section 1006.3 has been modified to include the qualifying requirement of "separate and distinct" as well. Conceivably, if both the entrance to an interior exit stairway at one story and the entrance to the same interior exit stairway at an adjacent story are both within the prescribed exit access travel distance limitations, it could be interpreted that the required number of exits requirement has been satisfied because the two entrances are "independent." To clarify the intent, a sentence has been added stating that a single interior exit stairway cannot serve as both exits from a given story. The separate and distinct terminology would require that there be a second formal exit available within established exit access travel limitations.

This proposal intends to amplify separate exit requirements. It is also intended to clarify that although required exits from a given story may be located at different building levels, the same interior exit stairway may not serve as satisfying multiple exit requirements. Obviously, if such interior exit stairway was compromised, the opportunity for a true alternate exit would be lost. Approval of this proposal increases occupant safety within the means of egress system.

Cost Impact: Will not increase the cost of construction

This proposal is intended to clarify current numbers of exits provisions.

Staff note: There is a published errata to Section 1006.3 and 1006.3.1. The errata is incorporated into this proposal as existing text.

E 25-15 : 1006.3-KEITH4704

E 26-15

1006.3; (IFC[BE] 1006.3)

Proponent: Rick Lupton, representing City of Seattle, Dept of Planning & Development (rick.lupton@seattle.gov)

2015 International Building Code

Revise as follows:

1006.3 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. The *path of egress travel* to an *exit* shall not pass through more than one adjacent *story*. Where a story is required to have two or more exits or access to exits, the rooms, areas, or spaces within that story shall have access to no less than two exits, except as otherwise provided in this code.

Reason: The code is not clear that where a story requires two or more exits (or access to exits) that all the rooms on that story require access to at least two exits, even if the room only requires one exit access -unless the room meets a specific exception such as direct egress to grade. The code change proposal clarifies the intent, while still enabling the single means of egress provisions for a space in Chapter 10 or elsewhere in the code, such as Section 402.8.3.

Cost Impact: Will not increase the cost of construction

No additional exits are required and so cost is not increased, though some designs may require further thought.

Staff note: There is a published errata to Section 1006.3. The errata is shown in the proposal as existing text.

E 26-15 : 1006.3-LUPTON5540

E 27-15

1006.3, 1006.3.1 (New); (IFC[BE] 1006.3, 1006.3.1 (New))

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Revise as follows:

1006.3 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. ~~The path of egress travel to an exit shall not pass through more than one adjacent story.~~

Add new text as follows:

1006.3.1 Adjacent story. The path of egress travel to an exit shall not pass through more than one adjacent story.

Exception: The path of egress travel to an exit shall be permitted to pass through more than one adjacent story in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. Exit access stairways and ramps in open parking garages that serve only the parking garage.
4. Exit access stairways and ramps serving open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7.
5. Exit access stairways and ramps 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.

Reason: The intent of this proposal is to coordinate Section 1006.3 and the allowance for exit access stairways in Section 1019.3. The 2nd sentence of Section 1006.3 currently says that the required number of exits must be available not more than one story above or below the exit you are on. The first part of this proposal is to put that requirement in its own section, Section 1006.3.1.

Section 1019.3 Exception 1, allows for open exit access stairways for two story buildings. However, there are several situations where the intent was for open exit access stairways to be utilized for more than one story, provided that the travel distance is met – within a 3 or 4 story dwelling, in atriums, in open air seating, and from balconies. It is also the intent to allow for open stairways for multiple stories within open parking garages, per Section 1019.3 and Section 1017.3. Exceptions to new Section 1006.3.1 would clarify where this is permitted.

The exceptions here are direct copies of the exceptions in Section 1019.3. If there are revisions to those exceptions in this cycle, there will be a public comment to revise the language here to be consistent.

Alternatives also discussed where one exception to Section 1006.3.1 with a reference to specific exceptions in the open exit access stairway provisions in Section 1019.3; or removal of the sentence now in Section 1006.3.1.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Unenclosed Exit Stairs. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website. <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is for clarification, therefore, there will be no additional requirements.

Staff note: There is a published errata to Section 1006.3. The errata is shown in the proposal as existing text.

E 27-15 : 1006.3-KULIK3645

E 28-15

1006.3.2, Table 1006.3.2(1) and Table 1006.3.2(2); (IFC[BE] 1006.3.2, Table 1006.3.2(1) and Table 1006.3.2(2))

Proponent: Wayne Jewell, Green Oak Charter Township, representing Green Oak Charter Township (wayne.jewell@twp.green-oak.mi.us); Dave Collins, representing the American Institute of Architects (dcollins@preview-group.com)

2015 International Building Code

Revise text as follows:

1006.3.2 Single exits. 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, number of dwelling units and ~~common path of egress~~ exit access travel distance does not exceed the values in Table 1006.3.2(1) or 1006.3.2(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 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.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.
4. Group R-3 and R-4 occupancies shall be permitted to have one exit or access to a single exit.
5. Individual single-story or multistory dwelling units shall be permitted to have a single exit or access to a single exit from the dwelling unit provided that both of the following criteria are met:
 - 5.1. The dwelling unit complies with Section 1006.2.1 as a space with one means of egress.
 - 5.2. 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 1006.3.2(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 EGRESSEXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane	R-2 ^{a, b}	4 dwelling units	125 feet
Fourth story above grade plane and higher	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 1030.

b. This table is used for R-2 occupancies consisting of *dwelling units*. For R-2 occupancies consisting of *sleeping units*, use Table 1006.3.2(2).

TABLE 1006.3.2(2)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESSEXIT ACCESS TRAVEL DISTANCE (feet)
	A, B ^b , E F ^b , M, U	49	75

First story above or below grade plane	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2 ^{a,c} , R-4	10	75
	S ^{b,d}	29	75
Second story above grade plane	B, F, M, S ^d	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

- 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 1030.
- 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 *exit access* travel distance of 100 feet.
- This table is used for R-2 occupancies consisting of *sleeping units*. For R-2 occupancies consisting of *dwelling units*, use Table 1006.3.2(1).
- The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet

Reason: Code change E127 from the last cycle had the last column heading of both tables as maximum exit access travel distance. Code Change E1 changed it to maximum common path of egress. Since using that terminology of common path of travel distances when dealing with a single exit building can create confusion, it is suggested to return the terminology back to exit access travel distance which removes confusion and is still technically correct for single exit buildings or those where common path of travel is applicable. This change would literally not change the intent of the requirement – which is to measure to the top of an exit stairway or down the stairway with an exit access stairway. In the definition of 'common path of egress travel' we state that the occupants have 'access to two exits or exit access doorways' - how does that occur in a single exit building? *Common Path of Travel* distances are discussed in Section 1006.2.1 and prescribed in Table 1006.2.1; which do differ from the distances in Tables 1006.3.2(2) for some occupancies.

Cost Impact: Will not increase the cost of construction

This change is an editorial change and eliminates confusion. If it works maybe that reduces the cost of construction as time will be saved (which has a cost) trying to figure out what the code is saying, therefore saves cost.

Staff note: There is an errata to Section 1006.3.2 Item 1. This errata is incorporated into the code change as existing text.

E 28-15 : 1006.3.2-JEWELL5394

E 29-15

Table 1006.3.2, 1030.1 (IFC[BE] Table 1006.3.2, 1030.1)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1006.3.2 Single exits. 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*, number of *dwelling units* and common path of egress travel distance does not exceed the values in Table 1006.3.2(1) or 1006.3.2(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 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*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 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 1006.3.2
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above or below grade plane	A, B ^b , E F ^b , M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2 ^{a,c} , R-4	10	75
	S ^{b,d}	29	75
Second story above grade plane	B, F, M, S ^d	29	75
Third story above grade plane and higher	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 1030.
- 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 *exit access* 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 1006.3.2(1).
- d. The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet

1030.1 General.

In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 and R-4 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in

accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: There is a conflict between Section 1006.3.2 Item 4 and Table 1006.3.2(2) due to multiple changes on the same section during the last cycle. Group R-4 are permitted to have multiple stories with one exit in the text, but limited to one story and 10 occupants in the table. Open exit access stairways are permitted in Group R-3 and R-4 in Section 1019.3 Item 3.

This will not negate the requirement for all bedrooms/sleeping units to have emergency escape windows in Section 1030.1. While Group R-4 should follow Group R-3 provisions, it is proposed to be added here to make sure it is applied.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This provides clarification in the current requirements.

Staff note: There is an errata to Section 1006.3.2 Item 1. This errata is incorporated into the code change as existing text.

E 29-15 : T1006.3.2-
BALDASSARRA4277

E 30-15

1008.2; (IFC[BE] 1008.2)

Proponent: David Kulina, representing Engel Architects (david@engelarch.com)

2015 International Building Code

Revise as follows:

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.
5. Occupancies in Group F and S not served by artificial illumination.

Reason: There is a significant minority of industrial and storage spaces that are either lit by sunlight (windows, daylight tubes, skylight, translucent panels, etc). These facilities are operated during daylight hours only, and so do not require artificial illumination. Therefore, if they have enough footcandles to adequately see the work being performed, they will have adequate light for egress.

Cost Impact: Will not increase the cost of construction

The costs will actually be decreased as unnecessary lights and emergency lights are eliminated.

This will encourage the use of natural lighting.

E 30-15 : 1008.2-KULINA4552

E 31-15

202(New), 1008.2.1.1(New), 1008.3, 1008.3.1, 1008.3.4, 1013.6.3, 1025.5; (IFC[BE] 1008.2.1.1(New), 1008.3, 1008.3.1, 1008.3.4, 1013.6.3, 1025.5)

Proponent: Charles Barlow, representing EverGlow NA, Inc. (cvbarlow@everglow.us)

2015 International Building Code

Add new definitions as follows:

SECTION 202 DEFINITIONS

DAYLIGHT RESPONSIVE CONTROL. A device or system that provides automatic control of electric light levels based on the amount of daylight in a space.

GENERAL LIGHTING. Lighting that provides a substantially uniform level of illumination throughout an area. General lighting shall not include decorative lighting or lighting that provides a dissimilar level of illumination to serve a specialized application or feature within such area.

OCCUPANT SENSOR CONTROL. An automatic control device or system that detects the presence or absence of people within an area and causes lighting, equipment or appliances to be regulated accordingly.

TIME SWITCH CONTROL. An automatic control device or system that controls lighting or other loads, including switching off, based on time schedules.

Revise as follows:

SECTION 1008 MEANS OF EGRESS ILLUMINATION

1008.1 Means of egress illumination. Illumination shall be provided in the *means of egress* in accordance with Section 1008.2. Under emergency power, means of egress illumination shall comply with Section 1008.3.

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

~~1008.3~~**1008.2.1 Emergency illumination power for illuminationsupply.** The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

Add new text as follows:

1008.2.1.1 Lighting controls. General lighting in the means of egress shall be permitted to use daylight responsive controls, occupant sensor controls and time switch controls. In rooms and spaces where emergency lighting is required in Sections 1008.3, 1008.3.1 and 1008.3.2, the lighting controls for the general means of egress lighting shall comply with all of the following:

1. The daylight responsive controls, occupant sensor controls and time switch controls are listed and evaluated to automatically energize the controlled lights upon device failure or loss of normal power.
2. For occupant sensor controls, the control is activated by any occupant movement in the area served by the controlled lights and illumination timers are set for a durations of 15 minutes minimum.
3. A daylight responsive control or occupant sensor control does not control lights required as a charging source for photoluminescent egress path markings in accordance with Section 1025.
4. A daylight responsive controls, occupant sensor controls or time switch controls does not control electrical power to, or illumination for exit signs in accordance with Section 1013.
5. A daylight responsive controls, occupant sensor controls or time switch controls does not control emergency egress lighting required in Section 1008.3.

Revise as follows:

~~1008.2.1~~**1008.2.2 Illumination level under normal power.** The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' fire alarm system:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of ramps shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems listed in accordance with UL 1994.

~~1008.2.2~~**1008.2.3 Exit discharge.** In Group I-2 occupancies where two or more exits are required, on the exterior landings required by Section 1010.6.1, means of egress illumination levels for the exit discharge shall be provided such that failure of any single lighting unit shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

~~1008.3.1~~**1008.3 General illumination of the means of egress under emergency power.** In the event of power supply failure in rooms and spaces that require two or more means of egress, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Aisles.*
2. *Corridors.*
3. *Exit access stairways and ramps.*

~~1008.3.2~~**1008.3.1 Buildings.** In the event of power supply failure in buildings that require two or more *means of egress*, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Interior exit access stairways and ramps.*
2. *Interior and exterior exit stairways and ramps.*
3. *Exit passageways.*
4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.1.
5. Exterior landings as required by Section 1010.1.6 for *exit doorways* that lead directly to the *exit discharge*.

~~1008.3.3~~**1008.3.2 Rooms and spaces.** In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.
4. Generator rooms.
5. Public restrooms with an area greater than 300 square feet (27.87 m²).

~~1008.3.4~~**1008.3.3 Duration and controls.** The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. Lights for the emergency illumination of the means of egress shall not be controlled by daylight responsive controls, occupant sensor controls or time switch controls. The installation of the emergency power system shall be in accordance with Section 2702.

~~1008.3.5~~**1008.3.4 Illumination level under emergency power.** Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of any single lighting unit shall not reduce the illumination level to less than 0.2 foot-candle (2.2 lux).

SECTION 1013 EXIT SIGNS

1013.6.3 Power source. Exit signs shall be illuminated at all times. Lights for the illumination of exit signs and the electrical power to the exit signs shall not be controlled by daylight responsive controls, occupant sensor controls or time switch controls. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

Exceptions:

1. *Approved* exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.
2. Group I-2 Condition 2 exit sign illumination shall not be provided by unit equipment battery only.

SECTION 1025 LUMINOUS EGRESS PATH MARKINGS

1025.5 Illumination. Where *photoluminescent* exit path markings are installed, they shall be provided with not less than 1 footcandle (11 lux) of illumination for not less than 60 minutes prior to periods when the building is occupied and continuously during occupancy. Lighting that is the charging source for photoluminescent egress path markings shall not be controlled by daylight responsive controls or occupant sensor controls.

Reason: The entire Section 1008 is being shown so that the reorganization for means of egress lighting sections and references are clear. The four definitions match those currently in the IECC for these types of controls.

The proper operation of (electrical) general lighting used to provide minimum illumination in the means of egress must not be compromised when operated under normal electrical power. In areas where emergency lighting is installed – aisles, corridors, exit access stairways and

ramps – the need for reliable (electrical) general lighting and electrical emergency lighting cannot be overestimated. This proposal seeks to impose minimum listing, testing and performance requirements on lighting controls if they are used in the means of egress in areas where electrical emergency lighting are required.

The overwhelming majority of emergency evacuations take place when the (electrical) general lighting is operating properly – providing a minimum of 1 ft-c of illumination when measured at floor level. In areas of the means of egress where (electrical) emergency lighting is required to be installed and maintained, these luminaires provide safe illumination during emergency evacuations. Proper illumination in exit stairs and exit access corridors has been shown to be so valuable to safe egress during emergency evacuations that code authorities now require (non-electrical) luminous egress path markings in the exit stairs of high rise buildings. Some local jurisdictions also require luminous egress path markings installed at the perimeter of exit passageways in public buildings, schools, healthcare facilities and hotels.

Lighting controls – daylight responsive controls, occupant sensor controls and time switch controls - currently installed in the areas of the means of egress of some buildings where electrical emergency lighting is required to be installed and maintained - are being used to reduce illumination levels below 1 footcandle at the walking surface when normal electrical power is available. If the egress capacity of a specific means of egress is required during periods of reduced or completely powered off illumination, the building owner is creating an unsafe condition. Worse, if the lighting controls fail to operate properly during an emergency evacuation, the remaining egress capacity may not be sufficient to safely and quickly evacuate the building.

To meet code requirements, the building owner should maintain minimum illumination levels where electrical emergency lighting is required to be installed and maintained at all times the specific means of egress is required, or he should use lighting control devices that meet the conditions above. The proper operation of emergency lighting must not be compromised when operated under normal power. Lighting controls and occupancy sensors currently installed in the means of egress of some buildings are causing the improper activation of emergency lighting when normal electrical power is still available. Although these lighting controls are likely improperly installed, there should be specific language in the building and fire codes that this is not allowed. In other facilities, lighting controls on luminaires used for emergency illumination in the means of egress control illumination levels during operation with normal power. In these buildings, there should be emergency luminaires in the means of egress without lighting controls or occupancy sensors to provide the minimum illumination levels required under emergency power.

The Commercial Energy Chapter of the IEC 2015 specifies the use of various lighting controls and interior lighting power allowances for commercial buildings. Paragraph C405.2 Lighting Controls (Mandatory) states that lighting controls are not required in areas required to be continuously illuminated, interior exit stairways, interior exit ramps and exit passageways. Yet, lighting controls are increasingly installed in these areas. Additionally, it is commonly thought that the requirement for these lighting controls is to power off the general lighting in these areas. The IEC allows for the dimming of lights. Minimum illumination levels required by the IBC 2015 and IFC 2015 in the means of egress can be easily accomplished with dimming controls.

There is NO specific code requirement that prohibits the use of lighting controls on electrical emergency lighting or electrical exit signs. There is NO specific code requirement that prohibits the use of lighting controls on (electrical) general lighting - where electrical emergency lighting is required to be installed and maintained - that might affect the normal operation of electrical emergency lighting or electrical exit signs. There is NO specific code requirement in Section 1008 Means of Egress Illumination that qualifies the use of lighting controls used to control general lighting in the means of egress – areas such as rooms and spaces where emergency lighting is required. There is NO specific code requirement for the use of lighting controls used to control (electrical) general lighting where photoluminescent egress path markings are installed.

Cost Impact: Will not increase the cost of construction

There should be no additional cost to the building owner. This proposal suggests that lighting controls – daylight responsive controls, occupant sensor controls and time switch controls - should not be used to save energy and money at the expense of life safety.

Traditionally, building and fire codes have required continuous and minimum illumination in the means of egress, for reasons of life safety. During periods when normal electrical power operates properly, this minimum illumination level is 1 ft-candle when measured at the walking surface. For periods when normal electrical power fails and emergency electrical power sources ONLY are available, the average illumination is 1 ft-c with a minimum of 0.6 ft-c along the path of egress where electrical emergency lighting is required to be installed and maintained. Power for electrically powered emergency lighting and exit signs is required to maintain required illumination levels for at least 90 minutes after the failure of (electrical) general lighting.

E 32-15

1008.2.2, 1008.3.5; (IFC[BE] 1008.2.2, 1008.3.5)

Proponent: John Williams, CBO, CBO, Chair, Adhoc Healthcare Committee, representing Adhoc Health Care Committee (AHC@iccsafe.org); Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1008.2.2 Exit discharge. In Group I-2 occupancies where two or more exits are required, on the exterior landings required by Section 1010.6.1, means of egress illumination levels for the exit discharge shall be provided such that failure of any single ~~lighting unit~~bulb or ballast shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

1008.3.5 Illumination level under emergency power. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of any single ~~lighting unit~~bulb or ballast shall not reduce the illumination level to less than 0.2 foot-candle (2.2 lux).

Reason: The proposed language would better define what constitutes a failure of a lighting unit.

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is a clarification of requirements; therefore there is no change in construction cost.

E 32-15 : 1008.2.2-WILLIAMS4242

E 33-15

1008.2.2, 1008.2.3 (New); (IFC[BE] 1008.2.2, 1008.2.3 (New))

Proponent: Daniel Nichols, New York State Division of Building Standards and Codes, representing New York State Division of Building Standards and Codes (dnichols@dos.state.ny.us)

2015 International Building Code

Revise as follows:

1008.2.2 Exit discharge-Group I-2. In Group I-2 occupancies where two or more exits are required, on the exterior landings required by Section 1010.6.1, means of egress illumination levels for the exit discharge shall be provided such that failure of any single lighting unit shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).₂

Add new text as follows:

1008.2.3 Exit Discharge.

Illumination shall be provided along the path of travel for the exit discharge from each exit to the public way.

Exceptions: Illumination for the exit discharge is not be required to the public way when the path of the exit discharge meets all of the following requirements:

1. The path of exit discharge is illuminated from the exit for a travel distance of 50 feet (15 240 mm) minimum or a distance of 1.5 times the total building height, whichever is greater.
2. A dispersal area shall be provided with all the following:
 - 2.1. The dispersal area is illuminate.
 - 2.2. The area is sized to accommodate not less than 5 square feet (0.46 m²) for each person using the exit discharge and wheelchair spaces in accordance with Section 1009.6.3.
 - 2.3. The dispersal area shall be located on the same lot and located at the end of the illuminated path of exit discharge.
 - 2.4. The area is permanently maintained and identified as an illuminated dispersal area.
 - 2.5. The area shall be provided with a safe and unobstructed path of travel from the building.

Reason: The purpose of this code change proposal is to limit the amount of light required for safe exiting from a building. On large parcels and when buildings are constructed on existing private campuses (i.e. business parks, college/university), the need to provide required lighting to the public way can be significant. In such locations, it is appropriate to provide a termination of illumination requirements (both continuous and emergency) at a safe distance from the building requiring egress.

IBC Section 1028.5 already permits the use of a safe dispersal area when access to a public way is cannot be provided. This proposal builds off of the same requirements found in 1028.5 to create a termination point of illumination without the requirement of not having access to a public way. The only two changes to the safe dispersal area is the addition of the wheelchair spaces to the total termination area sizing (matching the size and ratio of spaces from the area of refuge requirements) and the addition of a 150% safety factor to address buildings over 35 feet tall.

With an increased concern about energy usage and light pollution in some communities, having appropriate safeguards within the code that address building occupant safety and ways to minimize required illumination is mutually beneficial.

Cost Impact: Will not increase the cost of construction

The allowed reduction in illumination will provide a reduction in cost of construction since illumination requirements will be limited. This applies to both illumination provided under normal power and emergency power.

E 33-15 : 1008.2.2-NICHOLS5480

E 34-15

1009.1; (IFC[BE] 1009.1)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1009.1 Accessible means of egress required. Accessible *means of egress* shall comply with this section. Accessible spaces shall be provided with not less than one accessible *means of egress*. Where more than one *means of egress* are required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by not less than two accessible *means of egress*.

Exceptions:

1. Accessible *means of egress* ~~are not required to in existing buildings shall~~ be provided in existing buildings compliance with the *International Existing Building Code*.
2. One accessible *means of egress* is required from an accessible *mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.
3. In assembly areas with ramped *aisles* or stepped *aisles*, one accessible *means of egress* is permitted where the *common path of egress travel* is accessible and meets the requirements in Section 1029.8.

Reason: This blanket exception should be removed from the IBC for two reasons. First, with the change to Chapter 34 of the IBC during the last code change cycle, all existing building requirements are now located in the IEBC. Exception 2 to IEBC Section 410.6 and exception 2 to IEBC Section 705.1 already contain this language, so it is simply redundant to be placed in the IBC. Second, the exception has been misused as a reason for eliminating existing accessible means of egress. Buildings which have been constructed since the adoption of the accessible means of egress provisions in the IBC (and some legacy codes) should be required to maintain these accessible means of egress elements and sections within the IEBC support that concept. By making a blanket statement in the IBC that they are simply not required because the building is "existing" can be construed as meaning that the accessible means of egress are no longer needed. This confusion should be removed from the IBC and allow the IEBC to note how this is supposed to be addressed in existing buildings.

Cost Impact: Will not increase the cost of construction

The proposal changes nothing except where the references are to be found.

E 34-15 : 1009.1-BOECKER5614

E 35-15

1009.1 (IFC[BE] 1009.1)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1009.1 Accessible means of egress required. Accessible *means of egress* shall comply with this section. Accessible spaces shall be provided with not less than one accessible *means of egress*. Where more than one *means of egress* are required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by not less than two accessible *means of egress*.

Exceptions:

1. Accessible *means of egress* are not required to be provided in existing buildings.
- 2- ~~One accessible *means of egress* is required from an accessible mezzanine level in accordance with Section 1009.3, 1009.4 or 1009.5.~~
2. In assembly areas with ramped *aisles* or stepped *aisles*, one accessible *means of egress* is permitted where the common path of egress travel is accessible and meets the requirements in Section 1029.8.

Reason: Section 1009.1 Exception 2 should be deleted.

When originally proposed there was a conflict between accessible means of egress and mezzanine requirements. Accessible means of egress would have required mezzanines in non-sprinklered buildings to have two enclosed stairways with areas of refuge, wider stairways and two-way communication. Mezzanine requirements allowed for two open stairways. Requiring one enclosed stairway and one open stairway for an accessible mezzanine was considered a compromise.

The concept of where open stairways can serve as part of a means of egress has evolved. Mezzanine stairways are now specifically addressed in Section 1009.3 Exception 1. The proposed deletion in Section 1009.1 would make mezzanine requirements consistent with the accessible means of egress requirements for a two story building. For non-sprinklered buildings, both stairways would need to meet the 48" width provisions so that both stairways could be utilized for assisted rescue; but at the same time allow for both stairways to be open. For sprinklered buildings, due to the exceptions in Section 1009.3, the required stairway widths can remain 36" or 44" as applicable. The end result will be a clarification of the codes and an increase in options for assisted rescue; at the same time a decrease in construction costs from what would have been required under previous codes.

With Section 1009.1 Exception 2 removed, this will increase the level of safety for persons with disabilities and fire fighters because two options for accessible means of egress will be provided.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Unenclosed Exit Stairs. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This proposal offers design options that can reduce overall costs.

E 35-15 : 1009.1-KULIK3643

E 36-15

1009.2; (IFC[BE] 1009.2)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1009.2 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 1009.3 and 1023.
3. *Exit access stairways* complying with Sections 1009.3 and 1019.3 or 1019.4.
4. *Exterior exit stairways* complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. Elevators complying with Section 1009.4.
6. Platform lifts complying with Section 1009.5.
7. *Horizontal exits* complying with Section 1026.
8. *Ramps* complying with Section 1012.
9. *Areas of refuge* complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving exits at the *level of exit discharge*.

Exception: In existing buildings, the components shall comply with the applicable sections within the *International Existing Building Code*.

Reason: The added exception to Section 1009.2 makes it clear that if an accessible means of egress is provided within an existing building, the components acceptable for the accessible means of egress are the components acceptable according to the IEBC. For example, the ramp slope is permitted to be steeper for short rises to meet the access requirements of the IEBC. Those same elements should be allowed to be used for the accessible egress. It makes no sense to allow a slope of 1:8 for a 3 inch vertical rise for access to a space but then require a 1:12 slope if that is to be a part of the accessible means of egress. If the ramp is good for access it should be good for egress.

IEBC 410.8.5 Ramps. Where slopes steeper than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 410.8.5.

TABLE 410.8.5
RAMPS

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

Cost Impact: Will not increase the cost of construction
Using the IEBC provisions will not increase costs. It may decrease costs.

E 36-15 : 1009.2-BOECKER5669

E 37-15

1009.2

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Revise as follows:

1009.2 Continuity and components.

Each required accessible *means of egress* shall be continuous to a *public way*. The accessible means of egress shall provide a path of travel along an accessible route in accordance with Section 1009.2.1 through 1009.2.3. ~~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 1009.3 and 1023.
3. ~~Exit access stairways~~ complying with Sections 1009.3 and 1019.3 or 1019.4.
4. ~~Exterior exit stairways~~ complying with Sections 1009.3 and 1027 and serving levels other than the *level of exit discharge*.
5. ~~Elevators~~ complying with Section 1009.4.
6. ~~Platform lifts~~ complying with Section 1009.5.
7. ~~Horizontal exits~~ complying with Section 1026.
8. ~~Ramps~~ complying with Section 1012.
9. ~~Areas of refuge~~ complying with Section 1009.6.
10. ~~Exterior areas for assisted rescue~~ complying with Section 1009.7 serving exits at the *level of exit discharge*.

Add new text as follows:

1009.2.1. Accessible exit access. The path of travel for exit access shall be along an accessible route and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104
2. Platform lifts complying with Sections 1009.5 and 1109.7.
3. Exit access ramps complying with Section 1012.

Exception: Exit access stairways between stories and mezzanines and complying with Section 1009.3 and complying with either Section 1019.3 or 1019.4.

1009.2.2 Accessible exits. The path of travel within the exit shall be along an accessible route.

Exceptions:

1. Interior exit stairways complying with Sections 1009.3 and 1023.
2. Exterior exit stairways complying with Section 1009.3 and 1027 and serving levels other than the level of exit discharge.
3. Elevators complying with Section 1009.4 and 1109.6.
4. Exterior areas of assisted rescue complying with Section 1009.7 serving exits at the level of exit discharge.

1009.2.3 Accessible exit discharge. At the level of exit discharge the path of travel for the exit discharge shall be along an accessible route connecting the exit to the public way.

Exceptions:

1. The accessible route connects to an exterior area for assisted rescue complying with Section 1009.7.
2. The accessible route connects to an area of refuge complying with Section 1009.6.
3. The accessible route connects to a safe dispersal area in accordance with the exception to Section 1028.5.

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>. It is not the intent of this proposal to change the requirements for accessible means of egress, but rather to clarify what is expected. This is also updated with new terminology for exit access stairways and ramps.

Ideally everyone should be able to self-evacuate to a public way. However, there are many situations where people who cannot use stairways are on upper floors of buildings; or situations where the slope and size of the site does not allow for an accessible route all the way to a road that is permanently deeded and dedicated to the public (i.e., public way). The primary safety focus is to allow for an accessible route to a location where persons needing assistance and emergency responders can connect. These locations are part of the fire and safety evacuation plans and on building signage so both occupants and emergency responders will be informed.

All the exceptions are in recognition that an accessible route is not possible in some situations. Where a person with mobility impairment gets to a stairway, an elevator that has gone to fire department recall, or an exit discharge that is not accessible, alternative means of rescue or protection must be available. Protection and/or assistance is provided at stairways, elevators with standby power, horizontal exits, areas of refuge and exterior areas for assisted rescue. This is not an exception for access to the public way. This is an exception for an accessible route along the stairway or from the exterior area of assisted rescue. Elevators will be used with fire-department assistance - and are not permitted for self-evacuation during a fire emergency. Horizontal exits also allow for a safe place to wait within a facility till the fire department or other emergency responders can assist.

The following is the purpose of each subsection.

1009.2 - All means of egress must be continuous to a public way. If this route is accessible, than this would constitute an accessible means of egress.

1009.2.1 - Exit access is defined as –

EXIT ACCESS. That portion of a *means of egress* system that leads from any occupied portion of a building or structure to an *exit*.

The exit access is always required to be accessible. The three items listed are in the current text as Items 1, 6 and 8. If a platform lift is utilized, it has to have battery backup (1009.5) as well as meet the ASME A18.1 safety provisions (1109.7). This route can include exit access ramps. The exception, exit access stairways are listed in the current text as Item 3. The clarification of the exit access stairways only being allowed as part of the accessible means of egress when the serve changes in level of a story or from a mezzanine is consistent with Section 1009.3. Exit access steps within the same level are not permitted to serve as part of the accessible means of egress. Ramps or platform lifts would be required to provide an accessible means of egress.

1009.2.2 - Exit is defined as –

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* and *ramps*, *exit passageways*, *exterior exit stairways* and *ramps* and *horizontal exits*.

Accessible routes along exits could be exit passageways, exit ramps, exterior exit doorways at the level of exit discharge and horizontal exits (current item 7). Since this list is in the definition, it does not need to be repeated in the text. The exceptions are where people who cannot use the stairways to evacuation can wait for assistance; exit stairways (interior and exterior) and elevators with standby power. Areas of refuge (Item 9) are not listed because they are a requirement directly associated with the exit stairway or elevators in Sections 1009.3 and 1009.4. Depending on their location, they could be part of the exit access or exit. Listing them in both places would be confusing.

1009.2.3 - Exit discharge is defined as –

EXIT DISCHARGE. That portion of a *means of egress* system between the termination of an *exit* and a *public way*.

The accessible route at the level of exit discharge is along the exit discharge can include ramped or level surfaces outside the building. If an accessible route is not possible to the public way, the options are an area of refuge(current item 9), an exterior area of assisted rescue (current Item 10) or a safe dispersal area (permitted in 1028.5).

This proposal was originally brought up as a point of discussion because the current language for exterior areas of assisted rescue has been incorrectly interpreted to say asking people to wait 10 feet away from the building is acceptable, and then a separation is not required. Since you are asking persons with mobility impairments to wait at that location for assistance rather than continually move to the public way, 10 feet is not an acceptable alternative. The 50 feet with safe dispersal area is a system that has worked for assembly facilities for a number of years.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

E 37-15 : 1009.2-KULIK3333

E 38-15

1009.2.1; (IFC[BE] 1009.2.1)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1009.2.1 Elevators required. In buildings where a required accessible floor story or occupied roof is four or more *stories* above or below a *level of exit discharge*, not less than one required accessible *means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.

Reason: The language is proposed to be changed to clarify that an occupiable roof must be included where determining the elevator requirement. The existing text is interpretive at best. The proposal makes it clear that if a four story building has a roof garden area which the occupants can use, then the elevator to that roof level must be a part of the accessible means of egress.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification. This is how it should be and should have been applied.

E 38-15 : 1009.2.1-BOECKER5545

E 39-15

1009.3, 1009.4 (IFC[BE] 1009.3, 1009.4)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1009.3 Stairways. In order to be considered part of an accessible means of egress, a stairway between stories shall comply with Section 1109.3.1 through 1009.3.3~~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 an area of refuge complying with Section 1009.6.~~

1009.3.1 Exit access stairways. Exit access stairways that connect levels in the same story are not permitted as part of an accessible means of egress.

Exceptions~~Exception:~~ 1. Exit access stairways providing means of egress from mezzanines are permitted as part of an accessible means of egress.

1009.3.2 Stairway width. Stairways shall have a clear width of 48 inches (1219 mm) minimum between handrails.

Exceptions:

1. 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.
2. The clear width of 48 inches (1219 mm) between handrails is not required for stairways accessed from a refuge area in conjunction with a horizontal exit.

1009.3.3 Area of refuge. Stairways shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from an area of refuge complying with Section 1009.6.

Exceptions:

1. Areas of refuge are not required at exit access stairways where two-way communication is provided at the elevator landing in accordance with Section 1009.8.
2. Areas of refuge are not required at stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at stairways serving open parking garages.
4. Areas of refuge are not required for smoke-protected assembly seating areas complying with Section Sections 1029.6.2 and 1029.6.3.
5. Areas of refuge are not required at stairways in Group R-2 occupancies.
6. Areas of refuge are not required for stairways accessed from a refuge area in conjunction with a horizontal exit.

1009.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with Section 1009.4.1 and 1009.4.2.

1009.4.1 Standby power. The elevator shall have the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Chapter 27 and Section 3003.

1009.4.2 Area of refuge. The elevator shall be accessed from an area of refuge complying with Section 1009.6.

Exceptions:

1. Areas of refuge are not required at the elevator in open parking garages.
2. Areas of refuge are not required in buildings and facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at elevators not required to be located in a shaft in accordance with Section 712.
4. Areas of refuge are not required at elevators serving smoke protected seating areas complying with ~~Section~~Sections 1029.6.2 and 1029.6.3.
5. Areas of refuge are not required for elevators accessed from a refuge area in conjunction with a horizontal exit.

Reason: In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Unenclosed Exit Stairs. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

The intent of this proposal is for editorial clarification. The current text in Section 1009.3 has exceptions to each of three basic requirements; therefore it is long and can be confusing. (During the 2012 IBC development cycle the CTC Unenclosed Exit committee proposed adding the last sentence to Section 1009.3 and exception 1.) Sections 1009.3 and 1009.4 have been subdivided in order to clarify the requirements and when the exceptions are applicable. The exception for Group R-2 is not relocated. Since all Group R-2 are required to be sprinklered, they can use the sprinkler exception, so it is redundant.

The reference to Section 1029.6.3 was added to clarify that areas of refuge are not needed in assembly seating where the seating is open to the outside air as well as smoke protection assembly seating that is protected mechanically.

Cost Impact: Will not increase the cost of construction

This proposal is a clarification of provisions. There will be no change in construction requirements.

Staff note: ASME A17.1 is also referred to as CSA B44.

E 39-15 : 1009.3.2 (NEW)-KULIK3646

E 40-15

1009.7.2; (IFC[BE] 1009.7.2)

Proponent: Lawrence Lincoln, representing Utah Chapter of ICC (larry.lincoln@slcgov.com)

2015 International Building Code

Revise as follows:

1009.7.2 Separation. Exterior walls separating the exterior area of assisted rescue from the interior of the building shall have a minimum *fire-resistance rating* of 1 hour, rated for exposure to fire from the inside. The fire-resistance-rated exterior wall construction shall extend horizontally 10 feet (3048 mm) beyond the landing on either side of the landing or equivalent fire-resistance-rated construction is permitted to extend out perpendicular to the exterior wall 4 feet (1220 mm) minimum on the side of the landing. The *fire-resistance-rated* construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower. Openings within such *fire-resistance-rated* exterior walls shall be protected in accordance with Section 716.

Exception: Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: It seems unreasonable for the IBC to mandate more passive fire protection for a mobility impaired occupant 'that is already located outside of the building' (at the area of assisted rescue) than it does for a mobility impaired occupant that is 'within a building'. IBC section 1009.3 exception #5 allows for the elimination of area of refuge in stairways and IBC section 1009.4 exception #2 allows for the elimination of area of refuge to access elevators when the building is equipped throughout with an automatic fire sprinkler system. On the other hand, a mobility impaired person located at the exterior area of assisted rescue stair landing (already located outside of the building) is afforded the protection of 1-HR fire-resistance rated exterior wall construction and protection of openings as put forth by section 1009.7.2 whether the building is equipped with an automatic sprinkler system or not. This fire sprinkler exception is both logical and reasonable.

Cost Impact: Will not increase the cost of construction
Will not increase the cost of construction.

E 40-15 : 1009.7.2-LINCOLN4114

E 41-15

1009.7.2, 1009.7.4 (IFC[BE] 1009.7.2, 1009.7.4)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1009.7.2 Separation. Exterior walls separating the exterior area of assisted rescue from the interior of the building shall have a minimum *fire-resistance rating* of 1 hour, rated for exposure to fire from the inside. The fire-resistance-rated exterior wall construction shall extend horizontally a minimum of 10 feet (3048 mm) beyond the landing on either side of the landing or equivalent fire-resistance-rated construction is permitted to extend out perpendicular to the exterior wall a minimum of 4 feet (1220 mm) minimum on the side of the landing. The *fire-resistance-rated* construction shall extend vertically from the ground to a ~~point~~ minimum of 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower. Openings within such *fire-resistance-rated* exterior walls shall be protected in accordance with Section 716.

1009.7.4 Stairways. Stairways that are part of the *means of egress* for the exterior area for assisted rescue shall provide a clear minimum width of 48 inches (1220 mm) between *handrails*.

Exception: The minimum clear width of 48 inches (1220 mm) between *handrails* is not required at *stairways* serving buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: The requirements for the wall separation and stairway width for an exterior area for assisted rescue should be minimum requirements, not absolute dimensions.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

E 41-15 : 1009.7.2-KULIK3335

E 42-15

1009.8; (IFC[BE] 1009.8)

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Building Code

1009.8 Two-way communication. A

Where elevators are provided as part of an accessible means of egress, a two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the level of exit discharge.

Exceptions:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.

Reason: Current code requires two-way communication for elevator landings in all buildings two stories or greater, regardless of the design for accessible means of egress. This proposal attempts to tie the requirement for two-way communication to only serve when elevators are provided as a part of the accessible egress.

Section 1009.2.1 only requires elevators to be part of the accessible means of egress when the building has a required accessible floor that is four or more stories above or below the level of exit discharge. In buildings that are less than these limits, the accessible means of egress may be provided by other means, such as stairs, ramps, and other components permitted by Section 1009.2, such that any elevators in such a building are not required to be constructed in accordance with Section 1009.4. Due to the standby requirements in Section 1009.4, designers may choose to not provide accessible egress via the elevator, when permitted to by Section 1009.2.1, instead designing the accessible egress via other components. There is concern that placing the two-way communication in every elevator will lead occupants away from the actual means of egress.

This change is intended to associate the elevator two-way communication system from 1009.8 to elevators that are constructed in accordance with Section 1009.4 to be a part of the accessible route, where such accessible elevators are either required by Section 1009.2.1, and optioned by the designer in accordance with Section 1009.2.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction as the proposal may lead to less installations of two-way communication systems.

E 42-15 : 1009.8-DIGIOVANNI3845

E 43-15

1009.8; (IFC[BE] 1009.8)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1009.8 Two-way communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at ~~the each~~ landing serving each elevator or bank of elevators ~~on each required by Section 1009.2.1 to serve as part of the accessible floor that is one or more stories above or below the level~~means of exit discharge.

Exceptions:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>. Code proposal does not change the existing requirements in the Code. Some users of the Code have interpreted that the literal text of Section 1009.8 also applies to any floor that is accessible to the handicap because the elevator(s) has been provided for convenience of the occupants of the building, even though it was not required by Section 1009.2.1.

If the elevators are required to be an accessible means of egress under Section 1009.2.1, then the additional elevator requirements under Section 1009.4 are also required (i.e. special emergency operation and signaling per ASME A17.1, standby power, and accessed from an area of refuge). Because of these extra life safety design features for the handicap for such elevators being a required accessible means of egress under the Code, the requirement for two-way communication is also required for their elevator landings on the floor.

However, there are buildings with elevators that are accessible to the handicap because they have elevators, but such elevators are not required accessible means of egress under Section 1009.2.1. As such, the elevator landings are not required to comply with the additional requirements under Section 1009.4. Providing two-way communications at such elevator landing that are not required to meet the requirements for a required accessible means of egress makes no sense and would provide a false sense of security.

In summary, this code proposal is only intended as a clarification of the existing requirement for placement of two-way communication at elevators landings that are required by the Code to be a required accessible means of egress.

Cost Impact: Will not increase the cost of construction

Clarification of the existing code requirement. Therefore, could be a cost saving.

E 43-15 : 1009.8-KULIK3670

E 44-15

1009.8; (IFC[BE] 1009.8)

Proponent: Masoud Sabounchi, Representing Colorado Chapter of ICC , representing masoud sabounchi (masoud@acecode.com)

2015 International Building Code

1009.8 Two-way communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the *level of exit discharge*.

Exceptions:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.
6. Two-way communication systems are not required in Group I-2 Condition 2 occupancies.

Reason: Group I-2 Condition 2 includes facilities that provide nursing and medical care on a 24 hour basis. These facilities have life-safety and fire protection system as well as staffing that allow defend in place emergency procedures. Providing 2-way communication at elevator landings in a hospital building and having physically challenged individuals go to an elevator lobby/landing and wait for evacuation by emergency responders creates conflict with the emergency evacuation plan of the facility where occupants are relocated from one smoke compartment to another.

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

E 44-15 : 1009.8-SABOUNCHI4366

E 45-15

1009.8; (IFC[BE] 1009.8)

Proponent: John Williams, CBO, CBO, Chair Adhoc Healthcare Committee, representing Adhoc Health Care Committee (AHC@iccsafe.org); Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1009.8 Two-way communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the *level of exit discharge*.

Exceptions:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.
6. Two-way communication systems are not required in Group I-2 facilities.

Reason: It is important to note that this is not the two way communication system typically utilized by the fire department. That system is defined in the IFC and will remain as required.

A two way communication system is part of accessible means of egress and required to allow for persons with disabilities to contact emergency responders. In Group I-2 facilities the strategy for emergencies is defend in place, with trained staff. Most of the patients will be considered persons with disabilities, and their safety will be addressed through the fire and safety evacuation plans with staff assistance. Therefore, the need for the two way communication system is addressed by an alternative means and would not be used in these types of facilities. Since this was not added to the code in 2009, deleting this issue would not be conflict with what is referenced in the 2010 ADA Standard for Accessible Design.

This system could also be confused as being used for medical emergencies or as a general information phone.

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The deletion of two way communication system will be a saving in initial construction and maintenance/monitoring of the system.

E 45-15 : 1009.8-WILLIAMS4233

E 46-15

1009.8; (IFC[BE] 1009.8)

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

2015 International Building Code

Revise as follows:

1009.8 Two-way communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the *level of exit discharge*.

Exceptions:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.
6. Two-way communication systems are not required in Group I-3 facilities.

Reason: It is important to note that this is not the two way communication system typically utilized by the fire department. That system is defined in the IFC and will remain as required.

A two way communication system is part of accessible means of egress and required to allow for persons with disabilities to contact emergency responders. In Group I-3 facilities the strategy for emergencies is defend in place, with trained staff. Therefore, the need for the two way communication system is addressed by an alternative means and would not be used in these types of facilities. There is also a high chance of vandalism in these facilities. Since this was not added to the code in 2009, deleting this issue would not be conflict with what is referenced in the 2010 ADA Standard for Accessible Design.

Cost Impact: Will not increase the cost of construction

The deletion of two way communication system will be a saving in initial construction and maintenance/monitoring of the system.

E 46-15 : 1009.8-DAVIDSON4227

E 47-15

1010.1.1, 1010.1.1.1; (IFC[BE] 1010.1.1, 1010.1.1.1)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). ~~Clear openings~~ The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41¹/₂ inches (1054 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. ~~Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than 41¹/₂ inches (1054 mm).~~ The minimum clear height of door openings shall be ~~not less than~~ 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 dwelling and sleeping units that are not required to be an Accessible unit, Type A unit or Type B unit, the minimum and maximum width shall not apply to door openings that are not part of the required *means of egress* ~~in Group R-2 and R-3 occupancies.~~
2. In Group I-3, door openings to resident sleeping units that are not required to be and Accessible units in Group I-3 occupancies shall have a minimum clear opening width of ~~not less than~~ 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum clear opening width.
4. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. Door openings within a *dwelling unit* or *sleeping unit* shall ~~be not less than~~ have a minimum clear opening height of 78 inches (1981 mm) in height.
6. In dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, exterior door openings ~~in dwelling units and sleeping units,~~ other than the required *exit* door, shall ~~be not less than~~ have a minimum clear opening height of 76 inches (1930 mm) in height.
7. In other than Group R-1 occupancies In Groups I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible, Type A or Type B units, the minimum clear opening widths shall not apply to interior egress doors ~~within a dwelling unit or sleeping unit that is not required to be an Accessible unit, Type A unit or Type B unit.~~
8. Door openings ~~required to be accessible~~ within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
9. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm) nominal.
10. In Group R-1 dwelling units or sleeping units not required to be Accessible units, The minimum width shall not apply to doors for non-accessible showers or saunas compartments.
11. The minimum width shall not apply to the doors for non-accessible toilet seats.

1010.1.1.1 Projections into clear width. There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

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

Reason: In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

The intent of a large portion of this change is consistent use of the terminology (e.g., minimum clear opening width/height) throughout this section. There is also the intent of putting the modifier first within the specific requirements (Group I-2, ambulatory care) and the exceptions. The maximum door width sentence is relocated to be after all the minimum door width requirements and to coordinate with the order of requirements in IFC 1104.7.

Exceptions 1, 2, 6 and 7 cannot be used in Accessible, Type A or Type B units; that would conflict with ICC A117.1, ADA and FHA. Also in Exception 7: dwelling units and sleeping units in Group I-2 and I-3 have specific criteria elsewhere in this section, and the ADA does not allow Group R-1 units to use this

exception, therefore, the more specific limitation to allow this in Group I-1, R-2, R-3 and R-4.

Exception 8 is revised to be consistent with the language used for Type B dwelling units in ICC A117.1.

Code change E52-12 added exception 10 as part of the coordination with ADA 224.1.2. Questions that has risen are: Is the intent to require 32" clear width shower stall doors in all showers Group I-1, R-2, R-3 and R-4 or multi-stall shower rooms? Is the intent to require 32" clear width shower doors in the 2nd bathrooms in Accessible units that are not required to have clearances? Elimination first part of the sentence would not change the allowances for Accessible hotel rooms, and would eliminate the question.

Exception 11 is proposed to be added to address a similar question for doors on toilet stalls. The width of 32" is especially a problem with IPC since the stall is only required to be 30" wide.

The ICC Fire Code Action Committee supports this proposal and will be submitting a Group B a correlative language change proposed to IFC Section 1104.7.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

E 47-15 : 1010.1.1-KULIK3338

E 48-15

1010.1.1; (IFC[BE] 1010.1.1)

Proponent: John Woestman, representing Builders Hardware Manufacturers Association (BHMA)
(jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). ~~The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal.~~ *Means of egress* doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than $41\frac{1}{2}$ inches (1054 mm). The height of door openings shall be not less than 80 inches (2032 mm).

Exceptions:

1. The minimum ~~and maximum~~ width shall not apply to door openings that are not part of the required *means of egress* in Group R-2 and R-3 occupancies.
2. Door openings to resident *sleeping units* in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
- ~~4. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.~~
4. Door openings within a *dwelling unit* or *sleeping unit* shall be not less than 78 inches (1981 mm) in height.
5. Exterior door openings in *dwelling units* and *sleeping units*, other than the required *exit* door, shall be not less than 76 inches (1930 mm) in height.
6. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a *dwelling unit* or *sleeping unit* that is not required to be an *Accessible unit*, *Type A unit* or *Type B unit*.
7. Door openings required to be *accessible* within *Type B units* shall have a minimum clear width of 31.75 inches (806 mm).
8. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm).
9. In Group R-1 *dwelling units* or *sleeping units* not required to be *Accessible units*, the minimum width shall not apply to doors for showers or saunas.

Reason: This proposal deletes the maximum width requirement for swinging doors.

From the 2012 IBC Commentary: The maximum width for a means of egress (swinging) door leaf in a swinging door is 48 inches (1219 mm) because larger doors are difficult to handle and are of sizes that typically are not fire tested.

We somewhat agree with this statement in the 2012 IBC Commentary. However, it is the width plus the height and the construction of the door (i.e. weight) which results in a door which may be difficult to open and / or close. Our perspective is the performance requirements in IBC Section 1010.1.3 and the Chapter 11 Accessibility requirements effectively result in the design and installation of appropriately- sized doors.

Regarding fire tested (i.e. fire-rated) doors – the solution is simple – install fire-rated doors which meet the previously mentioned performance requirements.

From a different perspective, NFPA 101 has not had a requirement for maximum swinging door leaf width since the 1997 edition, stating there is insufficient reason to limit the maximum width of a door leaf provided the door is maintained in good working order.

Also proposing to delete the 4th exception to this section, as this exception would no longer be need or appropriate.

Cost Impact: Will not increase the cost of construction
No cost implications could be identified.

E 48-15 : 1010.1.1-WOESTMAN5528

E 49-15

1010.1.1 (IFC [BE] 1010.1.1)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. *Means of egress* doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than $41\frac{1}{2}$ inches (1054 mm). The height of door openings shall be not less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required *means of egress* in Group R-2 and R-3 occupancies.
2. Door openings to resident *sleeping units* in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
4. ~~Width~~The width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. The width of door leaves in bi-parting power-operated doors that comply with Section 1010.1.4.2 shall not be limited
6. Door openings within a *dwelling unit* or *sleeping unit* shall be not less than 78 inches (1981 mm) in height.
7. Exterior door openings in *dwelling units* and *sleeping units*, other than the required *exit* door, shall be not less than 76 inches (1930 mm) in height.
8. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a *dwelling unit* or *sleeping unit* that is not required to be an *Accessible unit*, *Type A unit* or *Type B unit*.
9. Door openings required to be *accessible* within *Type B units* shall have a minimum clear width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm).
11. In Group R-1 *dwelling units* or *sleeping units* not required to be *Accessible units*, the minimum width shall not apply to doors for showers or saunas.

Reason: The proposed revisions are intended to improve clarity and consistency of the language of these sections of the code, and appear to be essentially editorial. The maximum width of power-operated doors which comply with IBC Section 1010.1.4.2 should not be limited as these doors are either fully automatic or power-assisted, and must comply with all the requirements of Section 1010.1.4.2 including the safety requirements incorporated in the BHMA standards referenced in 1010.1.4.2. This revision addresses a potential conflict between the IBC and the relatively few power-operated swinging doors currently being installed which exceed 48" inches in width.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
Editorial changes only. No technical changes intended.

E 49-15 : 1010.1.1-KULIK3671

E 50-15

1010.1.1; (IFC[BE] 1010.1.1)

Proponent: Barry Greive, representing Target Corporation (barry.greive@target.com)

2015 International Building Code

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. *Means of egress* doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than $41\frac{1}{2}$ inches (1054 mm). The height of door openings shall be not less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required *means of egress* in Group R-2 and R-3 occupancies.
2. Door openings to resident *sleeping units* in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
4. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. Door openings within a *dwelling unit* or *sleeping unit* shall be not less than 78 inches (1981 mm) in height.
6. Exterior door openings in *dwelling units* and *sleeping units*, other than the required *exit* door, shall be not less than 76 inches (1930 mm) in height.
7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a *dwelling unit* or *sleeping unit* that is not required to be an *Accessible unit*, *Type A unit* or *Type B unit*.
8. Door openings required to be *accessible* within *Type B units* shall have a minimum clear width of 31.75 inches (806 mm).
9. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm).
10. In Group R-1 *dwelling units* or *sleeping units* not required to be *Accessible units*, the minimum width shall not apply to doors for showers or saunas.
11. Where a pair of double acting doors without a latch, mullion or stop is installed, both leaves shall be considered to determine the minimum clear opening width of 32 inches (813 mm).

Reason: This code change is necessary to address the issue of double acting / impact / saloon and traffic doors being regulated as double doors with a manually operated edge or surface-mounted bolts for locking. Double acting doors are used in many applications from Retail, Warehouses, Factories and Restaurants. These doors do not have a latch, closer or mullion that could impede the function of the doors. Any person who needs to utilize the full 32 inches of clear width required in the code can easily push through both doors simultaneously which will provide the proper clearance needed. These types of doors in no way impact egress or accessibility, therefore they do not need to meet the provision of "at least one leaf being 32 inches". In many situations these doors are installed in 4 or 5 foot openings. This also allows for more architectural flexibility in the design of buildings.

Cost Impact: Will not increase the cost of construction

This will not increase the cost of construction, it could actually save money since specialty doors are not needed nor would the size of the opening need to be altered.

E 50-15 : 1010.1.1-GREIVE4937

E 51-15

1010.1.2.1; (IFC[BE] 1010.1.2.1)

Proponent: Chadley Root, Park City Utah, representing Utah Chapter ICC (chad.root@parkcity.org)

2015 International Building Code

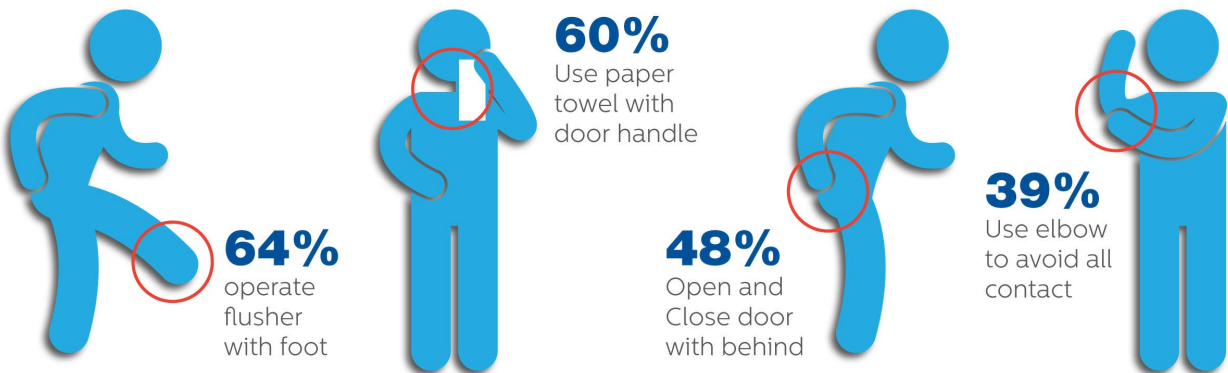
Revise as follows:

1010.1.2.1 Direction of swing. Pivot or side-hinged swinging doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons or a Group H occupancy and doors serving public restrooms.

Reason: This proposal is for Health and Safety of the general public. This code change is for health and safety with the increase of population comes more communicable diseases, throughout history there have been plagues that have killed off numbers of people. In bathrooms/restrooms bodily fluids are present all over. It makes no sense to health and safety to wash your hands and clean yourself up to be required to pull open a door that someone else just opened with there hands that they just sneezed, spit, wiped there nose or wiped themselves without washing their hands and also just grasped the bathroom door to pull open.

Doors that swing outward from the bathroom can be opened with feet, arms, or the back this would eliminate the requirement of grabbing onto a door knob that was just opened by a person that failed to wash their hands after wiping or exposing bodily fluids to their hands.

HOW DO YOU AVOID GERMS IN A PUBLIC RESTROOM?



Source Bradley Corp. Healthy Hand Washing Survey

Bibliography: Flores GE, Bates ST, Knights D, Lauber CL, Stombaugh J, et al. (2011) Microbial Biogeography of Public Restroom Surfaces. PLoS ONE 6(11): e28132. doi:10.1371/journal.pone.0028132

<http://www.webmd.com/news/20111021/bacteria-hard-to-avoid-in-public-bathrooms>

<http://www.npr.org/blogs/health/2011/11/23/142720314/scientists-bag-small-game-in-bathroom-germ-safari>

Flores GE, Bates ST, Knights D, Lauber CL, Stombaugh J, et al. (2011) Microbial Biogeography of Public Restroom Surfaces. PLoS ONE 6(11): e28132. doi:10.1371/journal.pone.0028132

Cost Impact: Will increase the cost of construction

New construction that was designed by a professional \$0-\$200

E 51-15 : 1010.1.2.1-ROOT4363

E 52-15

1010.1.4.1.1, 1010.1.4.1.2; (IFC[BE] 1010.1.4.1.1, 1010.1.4.1.2)

Proponent: Dale Gigandet, Boon Edam Inc., representing Boon Edam Inc. (dgt@boonedam.us)

2015 International Building Code

Revise as follows:

1010.1.4.1.1 Egress component. A revolving door used as a component of a *means of egress* shall comply with Section 1010.1.4.1 and the following three conditions:

1. Revolving doors shall not be given credit for more than 50 percent of the minimum width or required egress capacity.
2. Each revolving door shall be credited with ~~a~~an egress capacity based on not more than a 50-person occupant load or, where 9 feet (2745 mm) in diameter or greater, a revolving door assembly shall be credited with an egress capacity based on the clear opening width provided when collapsed or situated into an egress position.
3. Each revolving door shall provide for egress in accordance with BHMA A156.27 ~~with~~when a *breakout* force of not more than 130 pounds (578 N) is applied to the wings within 3 inches (75 mm) of the outer edge.

1010.1.4.1.2 Other than egress component. A revolving door used as other than a component of a *means of egress* shall comply with Section 1010.1.4.1. The *breakout* force of a revolving door not used as a component of a *means of egress* shall not be more than 180 pounds (801 N) applied to the wings within 3 inches (75 mm) of the outer edge.

Exception: A *breakout* force in excess of 180 pounds (801 N) is permitted if the collapsing force is reduced to not more than 130 pounds (578 N) when not less than one of the following conditions is satisfied:

1. There is a power failure or power is removed to the device holding the door wings in position.
2. There is an actuation of the *automatic sprinkler system* where such system is provided.
3. There is an actuation of a smoke detection system that is installed in accordance with Section 907 to provide coverage in areas within the building that are within 75 feet (22 860 mm) of the revolving doors.
4. There is an actuation of a manual control switch, in an approved location and clearly identified, that reduces the *breakout* force to not more than 130 pounds (578 N).

Reason: The proposed change reflects NFPA 101, Life Safety Code (2015 Ed.) and current accepted practice for calculating egress capacity, and gives credit for larger door opening that provide clear unobstructed width for emergency egress.

Bibliography: Reference NFPA 101 Life Safety Code (2015 ed.), Sections 7.2.1.10.2 and 7.2.1.10.3.

Cost Impact: Will not increase the cost of construction

No material or labor costs increases will occur as the result of the proposed changes. The changes reflect the text included in the NFPA 101 Life Safety Code (2015 edition).

E 52-15 : 1010.1.4.1.1-GIGANDET3468

E 53-15

1010.1.4.1.2; (IFC[BE] 1010.1.4.1.2)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.4.1.2 Other than egress component. A revolving door used as other than a component of a *means of egress* shall comply with Section 1010.1.4.1. The *breakout* force of a revolving door not used as a component of a *means of egress* shall not be more than 180 pounds (801 N).

Exception: A *breakout* force in excess of 180 pounds (801 N) is permitted if the ~~collapsing~~breakout force is reduced to not more than 130 pounds (578 N) when not less than one of the following conditions is satisfied:

1. There is a power failure or power is removed to the device holding the door wings in position.
2. There is an actuation of the *automatic sprinkler system* where such system is provided.
3. There is an actuation of a smoke detection system that is installed in accordance with Section 907 to provide coverage in areas within the building that are within 75 feet (22 860 mm) of the revolving doors.
4. There is an actuation of a manual control switch, in an approved location and clearly identified, that reduces the *breakout* force to not more than 130 pounds (578 N).

Reason: This proposal fixes an oversight on my part. The requirements for revolving doors were revised / updated for the 2015 IBC, including a definition of "breakout" and the use of that term which took the place of the term "collapsing". I missed this revision during the code development cycle for the 2015 IBC, and ICC staff suggested this was more than an editorial fix. Hence this proposal.

Cost Impact: Will not increase the cost of construction
Editorial fix.

E 53-15 : 1010.1.4.1.2-
WOESTMAN5530

E 54-15

202, 1010.1.4.2; (IFC[BE] 1010.1.4.2), Chapter 35

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

LOW-ENERGY POWER-OPERATED DOOR. Swinging, sliding, or folding door which opens automatically upon an action by a pedestrian such as pressing a push plate or waving a hand in front of a sensor. The door closes automatically, and operates with decreased forces and decreased speeds (see "Power-assisted door" and "Power-operated door").

1010.1.4.2 Power-operated doors. Where *means of egress* doors are operated or assisted by power, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit *means of egress* travel or closed where necessary to safeguard *means of egress*. The forces required to open these doors manually shall not exceed those specified in Section 1010.1.3, except that the force to set the door in motion shall not exceed 50 pounds (220 N). The door shall be capable of swinging open from any position to the full width of the opening in which such door is installed when a force is applied to the door on the side from which egress is made. Power-operated swinging doors, power-operated sliding doors and power-operated folding doors shall comply with BHMA A156.10. Power-assisted swinging doors and low-energy power-operated swinging doors shall comply with BHMA A156.19. Low energy power-operated sliding doors and low energy power-operated folding doors shall comply with BHMA A156.38.

Exceptions:

1. Occupancies in Group I-3.
2. Horizontal sliding doors complying with Section 1010.1.4.3.
3. For a biparting door in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32-inch (813 mm) single-leaf requirement of Section 1010.1.1, provided a minimum 32-inch (813 mm) clear opening is provided when the two biparting leaves meeting in the center are broken out.

Add new standard(s) as follows:

BHMA A156.38-2014 Low Energy Power Operated Sliding and Folding Doors

Reason: The Builders Hardware Manufacturers Association (BHMA), an ANSI accredited standard development organization, received ANSI approval last year of A156.38-2014 Low Energy Power Operated Sliding and Folding Doors. This new standard has mandatory performance and safety requirements for low energy power operated sliding and folding doors, and "rounds out" this section of the IBC to now include most types of power operated doors. The standards currently referenced in this section are BHMA A156.10 Power Operated Pedestrian Doors (for swinging, sliding, and folding doors) and BHMA A156.19 Standard for Power Assist and Low Energy Operated Doors (for swinging doors). The proposed deletion of "swinging" in IBC Section 1010.1.4.2 considers the configurations of power-operated doors, as they may be swinging, sliding, or folding.

Cost Impact: Will not increase the cost of construction

No cost implications. Manufacturers of low energy power-operated sliding or folding doors are voluntarily complying with this standard.

Analysis: A review of the standard proposed for inclusion in the code, BHMA A156.38, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2015.

E 54-15 : 1010.1.4.2-WOESTMAN5532

E 55-15

709.5, 1010.1.4.2; (IFC[BE] 1010.1.4.2)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

709.5 Openings. Openings in a *smoke barrier* shall be protected in accordance with Section 716.

Exceptions:

1. In Group I-1 Condition 2, Group I-2 and ambulatory care facilities, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 709.5.1, the doors shall not be required to be protected in accordance with Section 716. The doors shall be close fitting within operational tolerances, and shall not have a center mullion or undercuts in excess of $\frac{3}{4}$ inch (19.1 mm), louvers or grilles. The doors shall have head and jamb stops, and astragals or rabbets at meeting edges. Where permitted by the door manufacturer's listing, positive-latching devices are not required.
2. In Group I-1 Condition 2, Group I-2 and *ambulatory care facilities*, special purpose horizontal sliding, accordion or folding doors installed in accordance with Section 1010.1.4.3 and protected in accordance with Section 716.

1010.1.4.2 Power-operated doors. Where *means of egress* doors are operated or assisted by power, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit *means of egress* travel or closed where necessary to safeguard *means of egress*. The forces required to open these doors manually shall not exceed those specified in Section 1010.1.3, except that the force to set the door in motion shall not exceed 50 pounds (220 N). The door shall be capable of swinging open from any position to the full width of the opening in which such door is installed when a force is applied to the door on the side from which egress is made. Power-operated swinging doors, power-operated sliding doors and power-operated folding doors shall comply with BHMA A156.10. Power-assisted swinging doors and low-energy power-operated swinging doors shall comply with BHMA A156.19.

Exceptions:

1. Occupancies in Group I-3.
2. ~~Horizontal~~ Special purpose horizontal sliding, accordion or folding doors complying with Section 1010.1.4.3.
3. For a biparting door in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32-inch (813 mm) single-leaf requirement of Section 1010.1.1, provided a minimum 32-inch (813 mm) clear opening is provided when the two biparting leaves meeting in the center are broken out.

Reason: This proposal updates references to IBC 1010.1.4.3. Special purpose horizontal sliding, accordion or folding doors as the name of this section and related text were revised for the 2015 IBC and IFC. Most of the references to 1010.1.4.3 were updated for the 2015 IBC and IFC. These were not.

Cost Impact: Will not increase the cost of construction
No technical changes.

E 55-15 : 1010.1.4.2-WOESTMAN5512

E 56-15

202 (New), 1010.1.4.4 (New); (IFC[BE] 1010.1.4.4 (New))

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA)
(jwoestman@kellencompany.com)

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

CONTROL VESTIBULE A space with a door locking arrangement of two doors interconnected such that the first door must close or lock before the second door is openable and unlocked.

Add new text as follows:

1010.1.4.4 Control vestibule. Doors in the means of egress configured as a control vestibule shall provide for emergency egress and shall be subject to approval by the code official.

Reason: Control vestibules (interlocked doors) are being installed. The code currently is silent regarding requirements for doors in the means of egress configured as a control vestibule. The configuration of control vestibules which provide for ingress control (access control) is outside the scope of the IBC. However, egress MUST be provided for, and how egress is provided with control vestibules should be subject to approval by the AHJ.

Cost Impact: Will not increase the cost of construction
No cost increase. Control vestibules are not required by the code.

E 56-15 : 1010.1.4.4 (New)-
WOESTMAN5535

E 57-15

Part I:

202 (New), 1010.1.4.4 (New), 1010.1.4.4.1 (New); (IFC[BE] 1010.1.4.4 (New), 1010.1.4.4.1 (New))

Part II:

202 (New), 406 (New), 406.1 (New), 406.2 (New), 406.2.1 (New), 704.2 (New), 704.2.1 (New)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC-MEANS OF EGRESS COMMITTEE. PART II WILL BE HEARD BY THE IEBC COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

Part I

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

CREDENTIAL. A tangible object, knowledge, or human physical characteristic required for locking and unlocking. A key to operate a lock cylinder; a magnetic card to swipe in a magnetic card reader; knowledge of a specific code for keypad operations; and a fingerprint for a fingerprint scanner; are examples of credentials, and their potential uses.

Add new text as follows:

1010.1.4.4 Group E classrooms. In Group E occupancies, classroom doors shall be lockable from within the classroom without opening the classroom door. All the following conditions shall apply:

1. The classroom door shall be unlockable and openable from within the classroom and shall comply with Section 1010.1.9.
2. The classroom door shall be unlockable and openable from outside the classroom by the use of a key or other credential.

1010.1.4.4.1 Remote operation of locks. Remote operation of locks complying with Section 1010.1.4.4 shall be permitted.

Part II

2015 International Existing Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

CREDENTIAL. A tangible object, knowledge, or human physical characteristic required for locking or unlocking. A key to operate a lock cylinder; a magnetic card to swipe in a magnetic card reader; knowledge of a specific code for keypad operations; and a fingerprint for a fingerprint scanner; are examples of credentials, and their potential uses.

Add new text as follows:

SECTION 406 MEANS OF EGRESS

406.1 General. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the International Building Code than the existing building or structure was prior to the alteration.

406.2 Existing occupancy Group E classrooms. In Group E occupancies, existing classroom doors shall be lockable from within the classroom without opening the classroom door. All the following conditions shall apply:

1. The classroom door shall be unlockable and openable from within the classroom and shall comply with Section 1010.1.9. of the International Building Code.
2. The classroom door shall be unlockable and openable from outside the classroom by the use of a key or other credential.

406.2.1 Remote operation of locks. Remote operation of locks complying with 406.2 shall be permitted.

704.2 Group E occupancy classroom. In Group E occupancies, classroom doors shall be lockable from within the classroom without opening the classroom door. All the following conditions shall apply:

1. The classroom door shall be unlockable and openable from within the classroom and shall comply with Section 1010.1.9. of the International Building Code.
2. The classroom door shall be unlockable and openable from outside the classroom by the use of a key or other credential.

704.2.1 Remote operation of locks. Remote operation of locks complying with 704.2 shall be permitted.

Reason:

Part I: Many jurisdictions have taken measures to address the high priority concern of safety of occupants in K-12 classrooms in the event of a threatening situation. While well-intended and likely to have a degree of positive impact, these actions create disparate requirements from jurisdiction to jurisdiction, and some actions may inadvertently compromise certain aspects of life safety while attempting to address others.

This proposal for the IBC provides requirements which balance the challenges of providing protection for students and teachers in the classroom with that of free and immediate egress at all times without use of keys, tools, or special knowledge.

In addition to the security concerns, classroom doors are required to meet accessibility requirements which include door operating hardware configuration and location, door hardware operational forces, and a smooth surface of the bottom 10" of the push side of the door.

Door locksets with "classroom security function" are readily available today at the same cost as traditionally-used "classroom function" door locksets. The most common configuration of a classroom security function lockset is the ability to lock the door from inside the classroom with a key preventing entry to the classroom; and for egress, the door may be unlatched and opened from inside the classroom without a key by rotating the lever handle. On the outside of the classroom, consistent with tradition, the door may be locked with a key, and unlocked and opened with a key.

This code change proposal will require all Group E classroom doors to be lockable from the inside of the classroom preventing entry to the classroom, without the need to open the door. This proposal does not prescribe specifically how the door is to be lockable from inside the classroom.

Additional requirements are the door is to be unlockable and readily openable inside the classroom without the use of a key or special knowledge or effort, as required in IBC Section 1010.1.9. Subsections of 1010.1.9 include requirements for hardware height (between 34 and 48 inches above the floor), and for hardware configuration (for doors required to be accessible, which would be almost all classroom doors, the door operating hardware shall not require tight grasping, tight pinching or twisting of the wrist to operate). An additional requirement of this proposal is the classroom door is to be unlockable and openable from outside the classroom by a key or other lock credential.

Part II: Many jurisdictions have taken measures to address the high priority concern of safety of occupants in K-12 classrooms in the event of a threatening situation. While well-intended and likely to have a degree of positive impact, these actions create disparate requirements from jurisdiction to jurisdiction, and some actions may inadvertently compromise certain aspects of life safety while attempting to address others.

This proposal for the IEBC provides guidance which balances the challenges of providing protection for students and teachers in the classroom with that of free and immediate egress at all times without use of keys, tools, or special knowledge.

In addition to the relatively recent demand to protect students and teachers from outside-the-classroom threats, many classroom doors are required to function as fire-rated doors (opening protectives); and fire-rated doors are required to be always self-latching when closed to ensure the doors perform its fire protection function in the event of a fire. Additionally, classroom doors are required to meet accessibility requirements which include door operating hardware configuration and location, door hardware operational forces, and a smooth surface of the bottom 10" of the push side of the door.

This code change proposal will not require existing Group E classroom doors to be lockable from the inside of the classroom without the need to open the door. This proposal does provide guidance if modifications are made to the door in an effort to control access to the classroom.

This proposal does not prescribe specifically how the door is to be lockable from inside the classroom.

Additional requirements are the door is to be unlockable and readily openable inside the classroom without the use of a key or special knowledge or effort, as required in IBC Section 1010.1.9. Subsections of IBC 1010.1.9 include requirements for hardware height (between 34 and 48 inches above the floor), and for hardware configuration (for doors required to be accessible, which would be almost all classroom doors, the door operating hardware shall not require tight grasping, tight pinching or twisting of the wrist to operate). An additional requirement of this proposal is the classroom door is to be unlockable and openable from outside the classroom by a key or other lock credential.

If the door locking hardware is under consideration for replacement, door locksets with "classroom security function" are readily available today at essentially the same cost as traditionally-used "classroom function" door locksets. The most common configuration of a classroom security function lockset is the ability to lock the door from inside the classroom with a key preventing entry to the classroom; and for egress, the door may be unlatched and opened from inside the classroom without a key by rotating the lever handle. On the outside of the classroom, consistent with tradition, the door may be locked with a key, and unlocked and opened with a key.

Cost Impact:

Part I: Will not increase the cost of construction

No cost impact. Door locksets with the classroom security function are the same cost as traditionally specified door hardware locksets (with the classroom function).

Part II: Will not increase the cost of construction

This proposal does not require retrofitting of existing doors with new hardware. If door locking hardware replacement is being considered, the requirements of this proposal provide guidance.

E 57-15 : 1010.1.4.4 (New)-
WOESTMAN5537

E 58-15

202(New), 1010.1.2, 1010.1.4.5 (New); (IFC[BE] 1010.1.2, 1010.1.4.5 (New))

Proponent: Joseph Hetzel, representing Door & Access Systems Manufacturers Association
(Jhetzel@thomasamc.com)

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

HIGH SPEED DOOR. A non-swinging door with a minimum opening rate of 32 inches per second, a minimum closing rate of 24 inches per second, and an automatic closing device.

Add new text as follows:

1010.1.4.5 High speed doors In other than Groups A, E and H occupancies, high speed door assemblies permitted to serve as a component of a means of egress in accordance with Exception 10 to Section 1010.1.2 shall comply with at least one of the following criteria:

1. The door shall be openable by a simple method from either side of the opening without special knowledge or effort. The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion.
2. The door assembly shall have an integrated standby power supply, shall be electrically supervised, and shall open to a minimum height of 80 inches (2.03 m) within 10 seconds after activation of the operating device.
3. The door panels shall be capable of being broken out manually in the event of power failure by a simple method from both sides without special knowledge or effort. A minimum 32-inch (813 mm) wide by 80-inch (2.03 m) high opening shall be capable of being provided when the door panels are broken out. The force required to break out the door panels shall not exceed 30 pounds (133 N).

Revise as follows:

1010.1.2 Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an *occupant load* of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single *dwelling unit* in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1010.1.4.1.
6. In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies complying with Section 1010.1.4.3.
7. Power-operated doors in accordance with Section 1010.1.4.2.
8. Doors serving a bathroom within an individual *sleeping unit* in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a *means of egress* from spaces with an *occupant load* of 10 or less.
10. In other than Group A, E and H occupancies, high speed doors complying with Section 1010.1.4.5.

Reason: High speed doors, typically designed as nonswinging doors, have been successfully installed as egress doors. They are often used in locations where pivoted or side-hinged swinging doors are not present.

In order to be found compliant with the IBC other than using the Alternative Methods provisions, high speed doors should be included as an Exception to side-hinged or swinging doors. The exclusion from Groups A, E and H is consistent with the limitation currently applied to using delayed egress locking systems.

The definition proposed for the term "high speed door" is similar in description of action to the definition of the term as contained in the International Energy Conservation Code.

The three options are commonly and successfully used by the high speed door industry where such doors are a component of a means of egress. The requirements in each option are similar to those listed in Section 1010.1.4.3 for special purpose horizontal sliding, accordion and folding door assemblies. Each option is viable in itself, but only one is needed from a cost/benefit standpoint.

Cost Impact: Will not increase the cost of construction
None.

E 59-15

1010.1.4.5 (New), 1030.4; (IFC[BE] 1010.1.4.5 (New), 1030.4)

Proponent: Jeffrey Stone, Retired, representing self (JStone7@tampabay.rr.com)

2015 International Building Code

Add new text as follows:

1010.1.4.5 Protection devices for emergency escape and rescue openings In Group R-2 and R-3 occupancies, the temporary installation or closure of storm shutters, panels and other approved hurricane protection devices shall be permitted over emergency escape and rescue openings during the threat of a storm. Such devices shall not be required to comply with the operational constraints of Section 1030.4. When such protection is installed or closed, at least one means of egress from the dwelling unit shall be required.

Revise as follows:

1030.4 Operational constraints. *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*. Where such bars, grilles, grates or similar devices are installed in existing buildings, *smoke alarms* shall be installed in accordance with Section 907.2.11 regardless of the valuation of the *alteration*.

Exception: Security and hurricane devices shall be permitted to be installed over emergency escape and rescue openings in accordance with Section 1010.1.4.5.

Reason: Opening protection is of major importance during a hurricane event. The proposed modification will assist in safeguarding the public during high wind events. The intent for requiring such openings is to provide an opening of adequate size for the ingress of firefighters wearing full bunker gear and self-contained breathing apparatus. The opening size stipulated is still based on the ability of a fully bunkered firefighter to reach into the window and perform a rescue or to climb into the room. The provisions as currently contained in the code create a conflict between two life safety issues: escape during a fire emergency and structural integrity during a high wind event.

While it is acknowledged there is a risk of fire during a hurricane, structural integrity must be considered the greatest concern. Clearly the damage wrought by hurricanes is wind damage, not fire damage. The provisions related to escape and rescue from bedrooms are based on a scenario where occupants are sleeping and a fire starts in another part of the house. The occupant awakens and finds the fire has blocked access to the primary means of egress. During a hurricane, it is doubtful that the occupants will be sleeping. We also acknowledge the potential for the opening protection to be installed a day or two in advance of a storm and to remain in place a day or two after the storm. However, storm protection devices are not closed or installed unless there is a serious threat of a storm approaching. Should entry by firefighters become necessary, tools to allow rapid entry from outside the structure are available on responding vehicles.

Bibliography: 2013 Florida Building Code (Draft).

Cost Impact: Will not increase the cost of construction

This proposal will not impose an increase to construction or enforcement costs.

E 59-15 : 1008.1.4.5 (New)-STONE5222

E 60-15

1010.1.9.3 (New); (IFC[BE] 1010.1.9.3 (New))

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Add new text as follows:

1010.1.9.3 Monitored or recorded egress. Where electrical systems which monitor or record egress activity are incorporated, the locking system shall comply with Sections 1010.1.9.6, 1010.1.9.7, 1010.1.9.8, 1010.1.9.9 or 1010.1.9.10.

Reason: Monitored egress is where an active device requiring credentials is used to monitor who is egressing. The active device could be a card reader, keypad, iris scan, finger scan, etc. A monitored egress device could be utilized on any of the five "special locking arrangements" of Sections 1010.1.9.6, 1010.1.9.7, 1010.1.9.8, 1010.1.9.9 or 1010.1.9.10 provided the functions of that specific locking arrangement are retained and maintained. Examples: a keypad could be installed next to an electromagnetically locked egress door; a card reader could be installed next to a delayed egress door; or a keypad installed in the approach area of a sensor release door. The special locking arrangement would need to fully comply with its requirements.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a system to monitor or record egress.

E 60-15 : 1010.1.9.3 (New)-KULIK3673

E 61-15

1010.1.9.3 (New); (IFC[BE] 1010.1.9.3 (New))

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Add new text as follows:

1010.1.9.3 Monitored or recorded egress. Where electrical systems which monitor or record egress activity are incorporated, the locking system shall comply with Sections 1010.1.9.6, 1010.1.9.7, 1010.1.9.8, 1010.1.9.9 or 1010.1.9.10 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Reason: Monitored egress is where an active device requiring credentials is used to monitor who is egressing. The active device could be a card reader, keypad, iris scan, finger scan, etc. A monitored egress device could be utilized on any of the four "special locking arrangements" of Sections 1010.1.9.6, 1010.1.9.7, 1010.1.9.8, or 1010.1.9.9 provided the functions of that specific locking arrangement are retained and maintained. Examples: a keypad could be installed next to an electromagnetically locked egress door; a card reader could be installed next to a delayed egress door; or a keypad installed in the approach area of a sensor release door. The special locking arrangement would need to fully comply with its requirements.

The BHMA members, while conducting a final review of the Building Code Action Committee (BCAC) proposal on the same topic realized the proposed language without the "or shall be readily openable . . ." phrase could be interpreted as requiring one of the special locking arrangements of 1010.1.9.7, 1010.1.9.8, or 1010.1.9 if a monitored egress system is installed. This added phrase helps to clarify a monitored egress system may also be installed where doors are readily openable, as required in 1010.1.9. We apologize for not catching this nuance in adequate time to offer this suggestion to the BCAC during one of the BCAC meetings.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a system to monitor or record egress.

E 61-15 : 1010.1.9.3 (New)-
WOESTMAN5543

E 62-15

1010.1.9.3; (IFC[BE] 1010.1.9.3)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.9.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked.
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 2.3. The use of the key-operated locking device is revokable by the *building official* for due cause.
3. Where egress doors are used in pairs, *approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
4. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
6. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof provided that when accessing the roof from the building the locks do not automatically lock preventing re-entry into the building from the roof.

Reason: Questions are being asked of BHMA members as to what is allowed and / or required for locking of doors to roofs not intended to be occupied. This proposal attempts to address these questions.

The intent of this proposal is to allow doors to roofs not intended to be occupied to be locked preventing access into the building from the roof, especially for security reasons. However, in an effort to prevent locking out an authorized person who goes to the roof from inside the building, this proposal includes a requirement for the door to not automatically lock behind this person.

This proposal does not address locking of doors preventing access to the roof. Also, egress from occupied roofs is addressed in Section 1006.3.

Cost Impact: Will not increase the cost of construction

No costs unless doors providing access to the roof are desired to be locked. If these doors are to be locked, this proposal provides guidance for selecting locking hardware.

E 62-15 : 1010.1.9.3-WOESTMAN5544

E 63-15

1010.1.9.3; (IFC[BE] 1010.1.9.3)

Proponent: Lee Kranz, City of Bellevue, WA, representing The City of Bellevue Washington

2015 International Building Code

Revise as follows:

1010.1.9.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked.
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 2.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
3. Where egress doors are used in pairs, *approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
4. Doors from individual *dwelling or sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
6. Required egress doors serving outdoor areas, other than egress courts, having an occupant load of 300 or less where occupants must use one or more exits or exit access doors to egress through the building are permitted to be equipped with key-operated or thumb-turn lever locking devices. The locking device shall be installed and operated in accordance with all of the following:
 - 6.1. For other than Group R occupancies, the locking device shall be readily distinguishable as locked.
 - 6.2. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided in the wall separating the inside of the building from the outdoor area to allow visual confirmation to determine if there are occupants using the outdoor area. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The center of the glazed opening shall be located 48 inches (1220 mm) to 60 inches (1525 mm) above the finished floor level.
 - 6.3. For other than Group R occupancies, a readily visible durable sign is posted on the interior side on or adjacent to the required egress door or doors serving the outdoor area stating: THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED. The letters on the sign shall be not less than 1 inch (25 mm) high on a contrasting background.
 - 6.4. The door hardware shall not be capable of locking or unlocking except by the use of a key or thumb-turn lever.
 - 6.5. The use of key-operated or thumb-turn lever locking devices is revocable by the building official for due cause.

Reason: All outdoor areas that are accessible to and usable by the building occupants, where people must use one or more required exits or exit access doors to re-enter the building, are considered for means of egress purposes to be the same as any occupied room in the building and therefor be provided with free egress at all times. Doors serving outdoor areas must remain unlocked at all times to permit safe egress. To insure security for their building or tenant space, owners and tenants typically want to have locks to be installed on required egress doors serving outdoor areas, even on levels above and below the level of exit discharge. This proposal addresses the issue by allowing these required egress doors to be locked for security purposes as long as all of the listed conditions are met. The proposed code change will apply to all outdoor areas where occupants must egress through the building, including those located at the level of exit discharge and those above or below the level of exit discharge. Group R occupancies are not required to provide distinguishable locks or interior signage as required for all other occupancies.

Important required elements include:

1. a vision panel that would allow someone on the inside of the building to see if there are people using the outside area to reduce the potential for doors serving outdoor areas to be locked,
2. signage on the interior side indicating that the door(s) must remain unlocked when people are using the outdoor area, and
3. the requirement to use door hardware that will prevent the door from accedently locking when someone goes outside.

Cost Impact: Will not increase the cost of construction

Locks are being placed on doors serving outdoor areas illegally. This proposal provides an avenue to install the locks legally as long as certain conditions are met. It should not impact the cost of construction.

E 64-15

1010.1.9.5.1 (IFC[BE] 1010.1.9.5.1)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Delete without substitution:

~~1010.1.9.5.1 (IFC[BE] 1010.1.9.5.1) Closet and bathroom doors in Group R-4 occupancies. In Group R-4 occupancies, closet doors that latch in the closed position shall be openable from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.~~

Reason: This is proposed to be deleted because it is an inconsistent requirement. If there is a concern that a person receiving custodial care might lock themselves in a bathroom or closet, this should be required in Group I-1, not just Group R-4. Also, this should not be a overall minimum code requirement, but more an option for a facility to provide where needed. Literally this would applied to storage closets that are not used by residents and closets that you would not walk into at all.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This is eliminating a requirement for locks.

E 64-15 : 1010.1.9.5.1-
BALDASSARRA4278

E 65-15

1010.1.9.6; (IFC[BE] 1010.1.9.6)

Proponent: Johnna Grizzard, Chesterfield County (Virginia) Department of Building Inspection, representing Virginia Building and Code Officials Association (grizzardj@chesterfield.gov)

2015 International Building Code

Revise as follows:

1010.1.9.6 Controlled egress doors in Groups I-1 and I-2. Electric locking systems, including electro-mechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment or where there is a risk of child abduction from nursery and obstetric areas. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:

- ~~1. The door locks shall unlock on actuation result of the automatic sprinkler system or automatic fire detection system. A key-operated switch or other manual device is provided adjacent to each door equipped with the locking device. Such switch or other device, when operated, shall result in direct interruption of power to the lock--independent of the control system electronics. All clinical staff shall have the keys or other means necessary to operate the locking systems.~~
- ~~2. The door locks shall unlock on loss of power controlling the lock or lock mechanism. Loss of power to the lock or locking system shall automatically unlock the doors.~~
- ~~3. The door locking system shall be installed to have the capability of being unlocked by a switch, keypad, or other approved device located at the fire command center, a nursing station or other approved location. The switch shall directly break power to the lock. All clinical staff shall have the keys, codes or other means necessary to release the locking systems.~~
4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an exit.
5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the *International Fire Code*.
- ~~6. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems.~~
7. Emergency lighting shall be provided at the door.
8. The door locking system units shall be listed in accordance with UL 294.

Exceptions:

- ~~1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.~~
- ~~2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.~~

Reason: As currently written, these systems could be designed and installed such that they are totally dependent upon digitally programmed "request to exit" control functions. Loss of power to the control system, programming error, or loss of input-output digital signals could prevent the system from releasing.

Where systems are designed to prevent egress from occupied areas, they must be designed with an absolutely positive releasing function only possible by "direct interruption of power to the lock—independent of the control system electronics" (2015 IBC 1010.1.9.8). Similar code language has been used under previous "Special Locking Device" code provisions and is currently used under "Sensor Release of Electrically Locked Egress Doors," Section 1010.1.9.9, "Electromagnetically Locked Egress Doors," Section 1010.1.9.9.

While the code provisions must be adaptable to meet safety and security concerns while enabling the utilization of rapidly changing technology, the basic premise of code development has been providing safe egress for building occupants.

In I-1 and I-2 occupancies, trained staff is always present. So, modifying from the public-accessible special locking locking system bypass required by other egress-controlled conditions (e.g. delayed egress, sensory-release of electromagnetically locked egress doors), to staff-operated, key-secured bypass mechanisms that meet the performance provisions of proposed Items 1 – 7 provides occupant safety while providing greater flexibility to address security concerns.

Strike Item 1: Automatically releasing exit/egress upon fire protection system activation may not provide improved life safety. Releasing the entire locking system upon activation of sprinkler system or fire alarm activation in areas not immediately affecting secured areas could create a greater occupant safety hazard than providing staff-assisted egress or controlled relocation of occupants to protected areas.

Often in I-1/I-2 occupancies, there are secured and unsecured wings/sections. By requiring the doors to unlock upon activation of the fire sprinkler and fire detection system, doors in secured areas could be unlocked even if they are not affected by the event. For example, the sprinkler system piping would have to be subdivided so that there is a different waterflow alarm for each wing. This would provide a defend-in-place design where secured areas would not be unlocked if there was an event on the other side of the floor or building. In other words, based on the current Item 1, the "security zones" would need to coincide with the smoke zones and sprinkler waterflow zones in order to prevent the entire building from unlocking. This would require complicated fire alarm system programming and possibly expensive changes to the sprinkler, smoke-management, and fire alarm designs.

This provision would not prohibit the locking device(s) to unlock upon activation of the fire sprinkler or fire detection system activation, but would remove the requirement to do so while adding the requirement for a device at each door that would manually interrupt power to the lock.

New Item 1: All locking mechanisms preventing passive egress require power to the locking mechanism when locked in order to meet the definition of "fail safe." Locking mechanisms that require power to release the lock function are defined as "fail secure," and are therefore not permitted to be installed in a

means of egress. This new provision assures that the power to the lock must be removed without requiring any dependency on "request to exit" digital programming or input signal processing. The provision permitting the use of a keyed switch maintains occupant security and safety directly under the control of trained staff. Where installed correctly to "direct interruption of power to the lock—independent of the control system electronics," the reliability of this circuitry exceeds all other integrated circuit configurations such as digitally-controlled fire alarm system interface.

Revised Item 2: This provision requires egress-controlled locks to be "fail safe." The locking system could be provided with standby power such as a UPS or generator circuit. Hospitals and larger I-1 facilities utilize a generator(s) to power life safety systems, and the locking systems could be integrated into the emergency standby power circuits.

"System" is included in "loss of power to the locking system," because by definition loss of power to a "fail safe" locking mechanism shall release the lock. The important issue is actually loss of power to the locking system. If the lock was tied without power the system may not perform digitally programmed input-output release functions. This language is consistent with Item 2 of "Sensor Release of Electrically Locked Egress Doors," Section 1010.1.9.8 and Item 4 of "Electromagnetically Locked Egress Doors," Section 1010.1.9.9.

Revised Item 3: This provision is significantly different than Item 1, because this item permits the use of a "request to exit" device that is dependent upon digital programming or input signal processing. While a digital device requires system power and programmed input-output logic to perform unlocking functions, which does not meet the definition of "fail safe," this provision provides greater flexibility without requiring a continuous power circuit. Specific areas immediately affected by the hazard could be released while other non-affected areas requiring security or occupant containment could be maintained. This circuit configuration is consistent with typical installations found in special locking systems installed in I-1/I-2 occupancies under current and previous code editions.

Delete Exception 1: This is sufficiently addressed under application provisions "clinical needs of persons receiving care require their containment."

The qualifying conditions to utilize the referenced locking provisions should be sufficient to strictly limit application of restricted egress-only hardware to areas requiring high priority for occupant safety and security.

This exception greatly reduces life safety by omitting the requirement for controlled egress arrangements in areas such as memory care wings from meeting the performance criteria in Items 1-7. With the proposed Items 1-7, means of egress and security can be achieved.

Delete Exception 2: This is relocated to the code section above to be included in the application provisions: "where there exists a risk of child abduction from nursery and obstetric areas."

This exception greatly reduces life safety by omitting the requirement for controlled egress arrangements in areas such as nursery and obstetric areas from meeting the performance criteria in Items 1-7. With the proposed Items 1-7, means of egress and security can be achieved.

Cost Impact: Will not increase the cost of construction

This proposed code modification should actually reduce costs. Providing a key or secure-switch mechanism located adjacent to the door to interrupt a low-voltage circuit would be a minor expense. Permitting digitally controlled release devices to be located remotely provides system design flexibility, which reduces cost. Deleting presently mandated digitally controlled release devices should be a significant cost reduction.

E 65-15 : 1010.1.9.6-GRIZZARD5404

E 66-15

1010.1.9.7; (IFC[BE] 1010.1.9.7)

Proponent: James Peterkin, representing Self (jpeterki@heery.com)

2015 International Building Code

Revise as follows:

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E and H in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907.

Exception: Delayed egress locking systems shall be permitted to be installed on doors serving courtrooms within a Group A occupancies that are in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.1.9.7.1 Delayed egress locking system. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the *automatic sprinkler system* or *automatic fire detection system*, allowing immediate, free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.
5. The egress path from any point shall not pass through more than one delayed egress locking system.

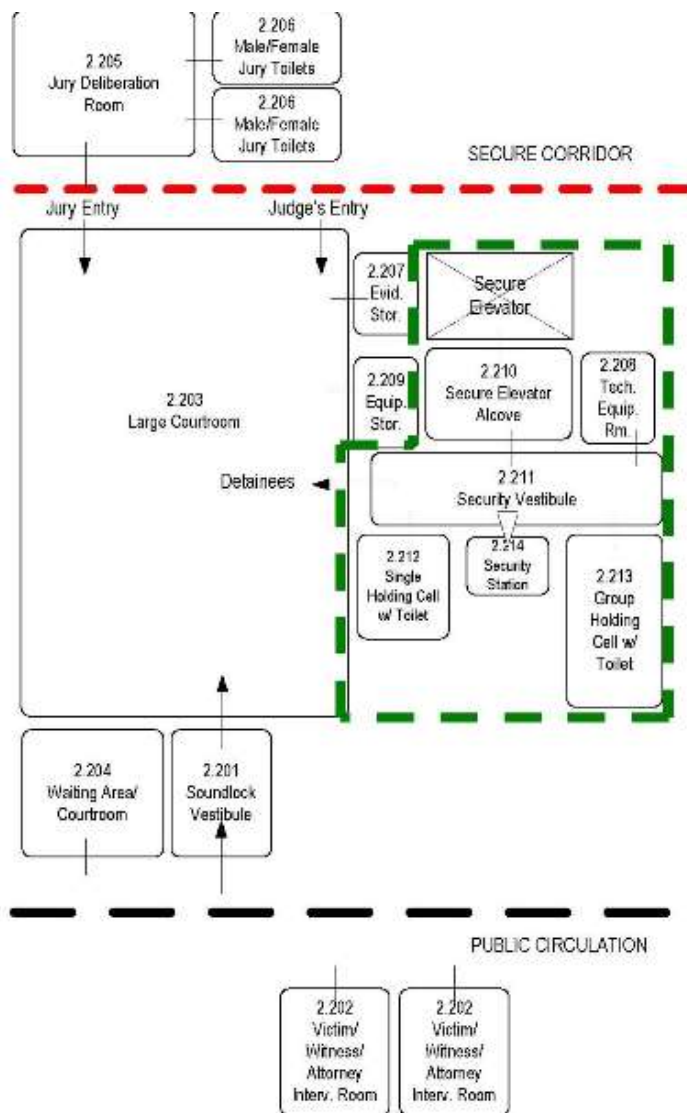
Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.
6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
 - 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.3. The sign shall comply with the visual character requirements in ICC A117.1.

Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

Reason: A courthouse is a unique building type that is designed with three separate and distinct circulation systems – one for the public, one for the judiciary/secure staff, and one for in-custody inmates. The three circulation systems are segregated and they only meet in a single location, the courtrooms. The public enter the courtroom from the public corridor, the judges and court staff enter from the rear secure staff corridor and the prisoners enter from the holding area at the side. Because these groups must be kept separate for security reasons, it is necessary to lock the doors where these groups interface to prevent intermixing.

Standard courtroom design provides free egress for the public out the back of the courtroom with enough egress capacity to handle the entire occupant load of the courtroom. Doors leading to the prisoner interface are locked and fail secure, which is allowed by code. Since the courtrooms have an occupant load greater than 50 (up to approximately 120), these rooms are considered an "assembly occupancy" and require a second means of egress.

Industry practice has been to utilize the exit in the front of the courtroom as the second means of egress. This egress generally also serves as the entrance/egress for the judge and court staff. (Please refer to the attached functional diagram).



Large Courtroom Functional Diagram

To maintain the security separation of occupants, it is industry practice to equip this second means of egress with a delayed egress device which prevents any unauthorized person from gaining access to the secure staff areas.

A courtroom, unlike many other assembly occupancies, is a controlled environment. A bailiff is located within the courtroom when occupied by the public and/or prisoners. The bailiff, along with other court personnel, is equipped with a security access card that can override the delay.

As a precedent, all United States Federal courthouses are designed in this manner because the General Services Administration (the federal organization responsible for federal buildings/courthouses) has ruled that the Life Safety Code takes precedence over the building code with regards to egress requirements.

Another Assembly where it is common to see the use of delayed egress, even though prohibited by code, is airport terminals. Airport terminals are considered an Assembly Occupancy like the courtrooms, but the use of delayed egress devices are common in these buildings also because of security concerns.

Cost Impact: Will not increase the cost of construction

It is common to see these devices used within courthouses. Allowing this will not increase the cost of construction.

E 66-15 : 1010.1.9.7-PETERKIN5243

E 67-15

1010.1.9.7; (IFC[BE] 1010.1.9.7)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E and H in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907.

Exception: Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have a maximum occupant load of 10 and that are in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.1.9.7.1 Delayed egress locking systems. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the *automatic sprinkler system* or *automatic fire detection system*, allowing immediate, free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.
Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.
5. The egress path from any point shall not pass through more than one delayed egress locking system.
Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.
6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
 - 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.3. The sign shall comply with the visual character requirements in ICC A117.1.
Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

Reason: Several requests to address the needs of small educational occupancies to help prevent wandering / elopement, especially for the very young, and for special needs students. This BHMA proposal is an alternate to the BCAC approach to addressing this need for small educational occupancies via a new exception versus a modification to existing language.

The BHMA members, while conducting a final review of the Building Code Action Committee (BCAC) proposal on the same topic realized an alternative approach to allowing Group E occupancies to use delayed egress locking systems may be worth considering. We apologize for not offering this suggestion to the BCAC during one of the BCAC meetings.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a delayed egress locking system.

E 67-15 : 1010.1.9.7-WOESTMAN5549

E 68-15

1010.1.9.7; (IFC[BE] 1010.1.9.7)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Revise as follows:

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving ~~any occupancy except Group A, E and H~~ Groups B, F, I, M, R, S and U occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907.

Exception: Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have an occupant load of 10 or fewer and that are in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907..

1010.1.9.7.1 Delayed egress locking system. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate, free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and other approved locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

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

5. The egress path from any point shall not pass through more than one delayed egress locking system.

Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
 - 6.1 For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15[30] SECONDS.
 - 6.2 For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.3 The sign shall comply with the visual character requirements in ICC A117.1.

Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

Reason: This proposal is in response to several requests to address the needs of small educational occupancies to help prevent wandering / elopement, especially for the very young, and for special needs students.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a delayed egress locking system.

E 69-15

1010.1.9.7 (IFC[BE] 1010.1.9.7)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E and H in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907. The locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the *automatic sprinkler system* or *automatic fire detection system*, allowing immediate, free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

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

5. The egress path from any point shall not pass through more than one delayed egress locking system.

Exception-Exceptions:

1. In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.
2. In Group I-1 or I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
 - 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
 - 6.3. The sign shall comply with the visual character requirements in ICC A117.1.**Exception:** Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

Reason: In Item 5, the new exception is proposed to be revised to include Group I-1 occupancies to allow up to two delayed egress systems. As in Group I-2, Group I-1 occupancies may need more than one delayed egress system. For example, if the Group I-1 occupancy is on the 2nd floor, or higher, in a building, a delayed egress system may be needed on the door to the exit stairway on that floor. And a second delayed egress locking system may be needed at the door to the exterior on the ground floor. In Group I-1 and I-4 an additional delayed egress locking system may be highly desirable to help reduce wandering or elopement by occupants.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will increase the cost of construction

This is a design option that would allow two delayed egress locking systems in the means of egress, which would increase costs, but it is not a requirement.

E 70-15

1010.1.9.8; (IFC[BE] 1010.1.9.8)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.9.8 Sensor release of electrically locked egress doors. The electric locks on sensor released doors located in a *means of egress* in buildings with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 any occupancy except Group H and entrance doors to tenant spaces in occupancies in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 any occupancy except Group H are permitted where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to the lock or locking system shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—*independent of other electronics*—and the doors shall remain unlocked for not less than 30 seconds.
4. Activation of the building *fire alarm system*, where provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building *automatic sprinkler system or fire detection system*, where provided, shall automatically unlock the doors. The doors shall remain unlocked until the *fire alarm system* has been reset.
6. The door locking system units shall be listed in accordance with UL 294.

Reason: This proposal revises the occupancy groups to allow this locking arrangement to be used in all occupancies except occupancy Group H. Code officials and specifiers have asked why this door locking option is allowed in only the currently listed occupancy groups. No reason is known other than the current allowed occupancies in Section 1010.1.9.8 are consistent with those in Section 1010.1.9.9, which a separate proposal revises.

Just a reminder, this locking arrangement facilitates immediate egress by sensing the approaching occupant and unlocking the electric lock on the door. In many applications, the occupant is unaware the door is electrically locked as the electrical locks unlock prior to the occupant reaching the door.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a delayed egress locking system.

E 70-15 : 1010.1.9.8-WOESTMAN5554

E 71-15

1010.1.9.8 (IFC[BE] 1010.1.9.8)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1010.1.9.8 Sensor release of electrically locked egress doors. The

Sensor release of electric locks shall be permitted on ~~sensor-released~~ doors located in ~~a~~ the means of egress in buildings with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 ~~and entrance doors to tenant spaces in occupancies in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 are permitted~~ where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the electric locking system to unlock.
2. The ~~door~~ electric locks shall be arranged to unlock by a signal from or loss of power to the sensor.
3. Loss of power to the lock or locking system shall automatically unlock the ~~door~~ electric lock.
4. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the electric lock—independent of other electronics—and the ~~door~~ electric lock shall remain unlocked for not less than 30 seconds.
5. Activation of the building *fire alarm system*, where provided, shall automatically unlock the ~~door~~ electric lock, and the ~~door~~ electric lock shall remain unlocked until the fire alarm system has been reset.
6. Activation of the building *automatic sprinkler system* or *fire detection system*, where provided, shall automatically unlock the ~~door~~ electric lock. The ~~door~~ electric lock shall remain unlocked until the *fire alarm system* has been reset.
7. The door locking system units shall be listed in accordance with UL 294.

Reason: Update 1010.1.9.8 to improve clarity and consistency in the language. The changing language is proposed to eliminate redundancy in this section. With revisions to the first sentence, text late in that sentence is redundant as entrance doors to tenant spaces are commonly in the means of egress. It is uncommon that tenant doors are not in the means of egress.

The revisions to the numbered items is to clarify the required functions of the electric locking system. In Item 1, the added text describes what the sensor is required to do upon detecting an approaching occupant. The revisions in the other items clarify requirements for this electrical locking system.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

No cost impact. No technical revisions to these shall be permitted locking systems.

E 71-15 : 1010.1.9.8-KULIK4070

E 72-15

1010.1.9.9, 1010.1.10; (IFC [BE] 1010.1.9.9, 1010.1.10)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1010.1.9.9 ~~Electromagnetically~~Door hardware release of electrically locked egress doors. ~~Doors~~Door hardware release of electric locking systems shall be permitted on doors in the means of egress with any occupancy except in Group H in buildings with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 shall be permitted to be locked with an electromagnetic locking system where equipped with hardware that incorporates a built-in switch and where installed and operated in accordance with all of the following:

1. The door hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The door hardware is capable of being operated with one hand and shall comply with Section 1010.1.9.5.
3. Operation of the door hardware directly interrupts the power to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the electric locking system automatically unlocks the door.
5. Where *panic* or *fire exit hardware* is required by Section 1010.1.10, operation of the *panic* or *fire exit hardware* also releases the ~~electromagnetic~~electric lock.
6. The locking system units shall be listed in accordance with UL 294.

1010.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be ~~electromagnetically~~electronically locked in accordance with Section 1010.1.9.9.

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

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

This "special locking arrangement" allows for immediate egress with one-handed operation of the door hardware. Code officials and specifiers have asked why this option is allowed in only these occupancies. No reason is known other than the current allowed occupancies in Section 1010.1.9.9 match those in Section 1010.1.9.8.

Further, revisions clarify this section of the code to address required functions of all types of electrical locking systems which are operated (i.e. unlocked) by operation of the door hardware such as panic hardware, fire exit hardware, or door knobs or levers (where panic or fire exit hardware is not required or not utilized). Electromagnetic locks are the most common type of electrical locks, but not the only type of electric locking hardware which may be selected by the designer, specifier, and / or building owner or occupant.

Regardless of the type of electrical locking system, this section permits and requires the door hardware to be device which causes the electrical lock to unlock immediately, allowing egress.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install these shall be permitted locking systems.

E 72-15 : 1010.1.9.9-KULIK3681

E 73-15

1010.1.9.10 (IFC[BE] 1010.1.9.10)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org); Edward Kulik, Chair, Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1010.1.9.10 Locking arrangements in buildings within correctional facilities. In ~~occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S~~ buildings within correctional and detention facilities, doors in *means of egress* serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked where equipped with egress control devices that shall unlock manually and by not less than one of the following means:

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

Reason: This section was brought to the attention of the CTC Care committee because Group I-1 services are provided in jails, however, they were not in this list of locking arrangements for correctional facilities. Rather than add Group I-1 to this growing list, it seems more appropriate to state that this type of locking should be allowed in all portions of a correctional facility. In addition, this list of Groups is inconsistent with how correctional facilities is defined in Section 308.5. If this system should not be allowed in certain types of jails, it should be regulated by the Condition, not a list of possible uses.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This proposal is a clarification of requirements.

E 73-15 : 1010.1.9.10-
BALDASSARRA4289

E 74-15

1010.1.9.11; (IFC[BE] 1010.1.9.11)

Proponent: John Terry, State of New Jersey- DCA, representing State of New Jersey - Department of Community Affairs- Division of Codes and Standards (jterry@dca.nj.gov)

2015 International Building Code

Revise as follows:

1010.1.9.11 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,~~ *Stairway exit* 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 stairway* where permitted in Section 1006.3.2.
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 stairway* where permitted in Section 1006.3.2.

Reason: As currently written, the 2015 IBC allows stairway doors to be locked from the side opposite egress on stories one through four in Exception 3 of Section 1010.1.9.11 and in high rise buildings (typically seven stories and higher) in Section 403.5.3. By deleting the limitation on the the number of stories in this section, stair doors on the fifth and sixth stories would be allowed to be locked from the non-egress side consistent with doors on all other floors.

Cost Impact: Will not increase the cost of construction
This proposal will have no impact on the cost of construction.

E 74-15 : 1010.1.9.11-TERRY3401

E 75-15

1010.1.9.11; (IFC[BE] 1010.1.9.11)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.9.11 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~~ or less, 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. In other than high-rise buildings, in stairways serving 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.
5. *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 stairway* where permitted in Section 1006.3.2.
6. *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 stairway* where permitted in Section 1006.3.2.

Reason: For means of egress doors in stairways and corresponding stairway re-entry requirements, the IBC has a gap in this section of the code in conjunction with IBC Section 403.5.3: Not addressed in the exceptions to 1010.1.9.11 are stairways serving more than four stories and not a high-rise building. In this proposal, as a starting point for discussion and resolution, we are suggesting the same requirements as in Exception 3. However, consideration of a stairway communication system, as required for high-rise buildings in 403.5.3.1, may be considered for Exception 4. The change in exception 3 is strictly editorial to make the distinction between Exceptions 3 and 4 clear.

BHMA invites participation by stakeholders in refining this proposal.

It should be noted proposed Exception 4 would also apply to buildings of more than four stories with any number of stories below grade which is not a high-rise building. Perhaps buildings with multiple stories below grade should be included in the discussion regarding this proposed code change.

For reference, the definition for a high-rise building from IBC Chapter 2:

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Cost Impact: Will increase the cost of construction

This proposal has the potential to increase costs of construction. Because the IBC currently has a gap in explicit requirements for doors in stairways serving more than four stories and not a high-rise building, the requirements which may be approved for the 2018 IBC as a result of this proposal may be different than interpretations applied based on the 2015 IBC.

E 75-15 : 1010.1.9.11-WOESTMAN5555

E 76-15

1008.3.3, 1010.1.9.12 (New); (IFC[BE] 1008.3.3, 1010.1.9.12 (New))

Proponent: Lee Kranz, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Add new text as follows:

1010.1.9.12 Electronic locking devices on elevator lobby doors. In Group B occupancies, exit access doors within secured elevator lobbies are permitted to be locked with electronic locking devices that operate with items such as a card key, a security code or other security clearance locking devices in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The locking system shall be installed and operated in accordance with all the following:

1. Loss of power to the locking system automatically unlocks the door.
2. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—independent of other electronics—and the doors shall remain unlocked for not less than 30 seconds.
Exception: A manual unlocking device is not required in elevator lobbies provided with direct access to an exit doorway and a two-way communication system is installed in the elevator lobby in accordance with Section 1009.8.
3. Activation of the building alarm system shall automatically unlock the doors and the doors shall remain unlocked until the fire alarm system has been reset.
4. Activation of the building automatic sprinkler system or fire detection system shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
5. Emergency egress lighting shall be provided in the secured elevator lobby at the door.
6. The door locking system units shall be listed in accordance with UL 294.
7. The use of electronic locking devices is revocable by the building official for due cause.

Revise as follows:

1008.3.3 Rooms and spaces. In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.
4. Generator rooms.
5. Public restrooms with an area greater than 300 square feet (27.87 m²).
6. Secured elevator lobbies where exit access doors are locked with an electronic device in accordance with Section 1010.1.9.12.

Reason: In order to maintain adequate security in office buildings, access to required exits may be limited by securing doors to some areas of the building. With the increasing need for office building security we are seeing the growing use of electronic locking devices on doors along the exit pathway. Many of these installations are being done without a permit and are later discovered by Fire Prevention Officers on their annual inspections. The use of electronic locking devices on elevator lobby exit access doors is a reality that must be addressed in the code for office and technology buildings. To maintain an unobstructed and undiminished path of exit travel, criteria for acceptance of these locking devices must be established to preserve the level of building safety intended by the International Building Code.

Cost Impact: Will not increase the cost of construction

Lobby doors locks are being installed without the benefit of a permit. This proposal will legitimize the use of security door locking systems thereby saving money by eliminating the need for retrofit after the original unpermitted installation.

Staff note: The number of means of egress from an elevator lobby is addressed in Section 3006.4.

E 76-15 : 1010.1.9.12 (New)-
KRANZ3765

E 77-15

1010.1.10; (IFC[BE] 1010.1.10)

Proponent: William Koffel, representing WonDoor (wkoffel@koffel.com)

2015 International Building Code

1010.1.10 Panic and fire exit hardware. ~~Doors~~

Swinging doors serving a Group H occupancy and swinging doors_serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.

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

Reason: UL 305 is the standard by which panic and fire exit hardware is typically listed. UL 305 applies to outward-opening doors and as such does not apply to the special doors addressed in Section 1010.1.4. However, some have interpreted the current text in 1010.1.10 to require panic hardware or fire exit hardware on special doors, such as special purpose horizontal sliding, accordian or folding doors. The proposed text clarifies that panic and fire exit hardware is required for pivoted or side-hinged swinging doors.

Cost Impact: Will not increase the cost of construction
The proposal clarifies existing code text.

E 77-15 : 1010.1.10-KOFFEL4840

E 78-15

1010.1.10; (IFC[BE] 1010.1.10)

Proponent: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com)

2015 International Building Code

Revise as follows:

1010.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be ~~electromagnetically~~electrically locked in accordance with Section 1010.1.9.8 or 1010.1.9.9.

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

Reason: Revised 2nd exception allows doors in the means of egress of Group A or E occupancy with an occupant load of 50 or more to be equipped with doors complying with IBC Section 1010.1.9.8 Sensor release of electrically locked doors. These door locking systems permitted by 1010.1.9.8 are required to detect an occupant approaching the door and cause the electrical locking system to unlock the door, allowing egress. These locking arrangements facilitate immediate egress by sensing the approaching occupant and unlocking the electric lock on the door. In many applications, the occupant is unaware the door is electrically locked as the electrical locks unlock prior to the occupant reaching the door.

Cost Impact: Will not increase the cost of construction

No cost impact unless the building owner chooses to install a sensor release of electrically locked doors locking system.

E 78-15 : 1010.1.10-WOESTMAN5556

E 79-15

1010.1.10; (IFC[BE] 1010.1.10)

Proponent: Lee Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Revise as follows:

1010.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.
3. Doors serving Group A occupancies with an occupant load of 100 or fewer and accessory to Group B occupancies are not required to be provided with panic hardware or fire exit hardware.

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

Reason: The new exception #1 allows smaller Group A occupancies, such as conference rooms, which are accessory to Group B occupancies, such as office spaces, not to have panic hardware. In these mixed occupancies panic hardware on all doors serving the Group A occupancy, including all doors on the egress path, is not practical or needed. Typically the people using the conference room are the same people who occupy the office spaces.

Cost Impact: Will not increase the cost of construction

The new exception will reduce the cost of construction by exempting panic hardware in some cases. Panic hardware is typically more expensive than regular door hardware.

E 79-15 : 1010.1.10-KRANZ4315

E 80-15

1010.1.10, 1010.1.10.1(New); (IFC[BE] 1010.1.10, 1010.1.10.1(New))

Proponent: Ross Barrick, representing self (inspections@pldi.net)

2015 International Building Code

Revise as follows:

1010.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.

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

Add new text as follows:

1010.1.10.1 Electric rooms and working spaces. Exit and exit access doors serving electrical rooms and working spaces shall swing in the direction of egress travel and shall be equipped with panic hardware or fire exit hardware where such rooms or working spaces contain one or more of the following:

1. Equipment operating at more than 600 volts, nominal.
2. Equipment operating at 600 volts or less, nominal and rated at 800 amperes or more, and where the equipment contains overcurrent devices, switching devices or control devices.

Exception: Panic and fire exit hardware is not required on exit and exit access doors serving electrical equipment rooms and working spaces where such doors are not less than twenty-five feet (7.6 m) from the nearest edge of the electrical equipment.

Reason: This submittal to 2015 (2018) International Building Code® (IBC®) 1010.1.10, with proposed additional wording and deletion of existing wording, is offered to align the 2015 (2018) IBC® and the 2014 NFPA 70® National Electrical Code® (2014 NEC®), and therefore create uniformity.

The additional words "and working spaces" will incorporate other areas of a structure where electrical equipment is installed. Not all electrical equipment is installed in dedicated rooms, as it may be installed in an area of a room in which other equipment, other than electrical equipment, is installed, and that room has access to and egress from doors. The 2014 NEC® considers twenty-five (25) feet (7.6m) a safe distance from electrical equipment in the event of an arc-flash, as the concern is to allow an injured worker to safely and quickly exit the room or working space without having to turn knobs or pull doors. This wording will create uniformity and better clarity between the 2015 (2018) IBC® and 2014 NEC®.

The additional words "operating at more than 600 volts, nominal, and equipment operating at 600 volts or less, nominal, and" will incorporate the two (2) nominal voltages listed in 2014 NEC® Article 110, Requirements for Electrical Installations. "Over 600 volts, nominal" does not have a minimum ampere rating in the 2014 NEC®, unlike "under 600 volts, nominal" with the ampere rating, so the distinction should be made between between the nominal voltages.

The ampere rating has been reduced from 1200 amperes to 800 amperes, for equipment operating under 600 volts, nominal, in 2014 NEC®. This change from 1200 amperes to 800 amperes would again create uniformity and clarity between the 2015 (2018) IBC® and 2014 NEC®.

The words "over 6 feet (1829mm) wide", are not in the 2008 NEC®, 2011 NEC®, and 2014 NEC®. The elimination of these words would create uniformity and clarity between the 2015 (2018) IBC® and 2014 NEC®.

The 2014 NEC® uses the term "listed panic hardware". The 2015 IBC® addresses the "listed" requirement in 1010.1.10.1, so it appears that the "listed requirement" has been adequately addressed, and therefore no proposed change to 1010.1.10.1 is submitted.

The submitted wording for the code change(s) is consistent with NFPA 70® 2014 NEC® Handbook sections and commentary as code text. In consideration of their copyright, all credit for code text pertaining to electrical is given to NFPA®. This statement is made in association with my Standard Copyright Form acceptance/acknowledgement.

Bibliography: NFPA 70® 2014 Handbook National Electrical Code® Handbook Thirteenth Edition International Electrical Code® Series
NFPA® No.: 70HB14 ISBN (book): 978-1-455-90544-7 Library of congress Card Control No.: 2013941415

Authors: Mark W. Earley, Christopher D. Coache, Mark Cloutier, Gil Moniz

Published: 2013

Page 42 Article 110 Requirements for Electrical Installations II. 600 Volts, Nominal, or Less 110.26 Spaces About Electrical Equipment (C) Entrance to and Egress from Working Space (3) Personnel Doors *ie: 110.26 (C) (3)*

www.nfpa.org

Cost Impact: Will increase the cost of construction

The cost to construction may be increased if there is an entrance to or egress from door(s), that is less than twenty-five feet from the nearest edge of the equipment. That door(s) would require panic hardware or fire exit hardware, based on 2015 (2018) IBC 1010.1.10.1. This only pertains to the "working space" area, as the doors in dedicated room(s) for electrical equipment already require the panic/fire exit hardware.

The panic hardware for a single-door could cost +/- \$250.00 plus labor and the panic hardware for a 2-door (double-door)(vertical rod type) installation could cost +/- \$430.00 plus labor. These cost estimates are based on: Commercial Standard Duty, Aluminum, Fire Rated, ADA Compliant, ANSI/BHMA A156.3 Grade 1, "Rim Exit Device", as found on the Grainger website:

http://www.grainger.com/category/exit-devices/door-hardware/hardware/ecatalog/N-mew?cm_sp=CS_Products-_-Hardware-_-ExitDevices

Actual cost would be related to individual preferences used in "Structure Design Specifications", as provided for each construction project.

E 80-15 : 1010.1.10-BARRICK4996

E 81-15

1010.3, 1010.3.2 (New), 1010.3.1, 1010.3.2; (IFC[BE] 1010.3, 1010.3.2 (New), 1010.3.1, 1010.3.2)

Proponent: Dave Frable, representing US General Services Administration

2015 International Building Code

Revise as follows:

1010.3 Turnstiles and Similar Devices Turnstiles or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required *means of egress*, except where permitted in accordance with Sections 1010.3.1, 1010.3.2 and 1010.3.3.

Exception: 1010.3.1 Capacity. Each turnstile or similar device shall be credited with a capacity based on not more than a 50-person occupant load where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost and on the manual release by an employee in the area.
2. Such devices are not given credit for more than 50 percent of the required egress capacity or width.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has not less than 16 1/2 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and not less than 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

1010.3.1.1 Clear width. Where located as part of an accessible route, turnstiles shall have not less than 36 inches (914 mm) clear at and below a height of 34 inches (864 mm), not less than 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

Add new text as follows:

1010.3.2 Security access turnstiles Security access turnstiles that inhibit travel in the direction of egress utilizing a physical barrier shall be permitted to be considered as a component of the means of egress, provided that all the following criteria are met:

1. The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 903.3.1.1.
 2. Each security access turnstile lane configuration has a minimum clear passage width of 22 inches (560 mm).
 3. Any security access turnstile lane configuration providing a clear passage width of less than 32 inches (810 mm) shall be credited with a maximum egress capacity of 50 persons.
 4. Any security access turnstile lane configuration providing a clear passage width of 32 in. (810 mm) or more shall be credited with a maximum egress capacity as calculated in accordance with Section 1005.
 5. Each secured physical barrier shall automatically retract or swing to an unobstructed open position in the direction of egress, under each of the following conditions:
 - 5.1. Upon loss of power to the turnstile or any part of the access control system that secures the physical barrier.
 - 5.2. Upon actuation of a readily accessible and clearly identified manual release device that results in direct interruption of power to each secured physical barrier, remains in the open position for not less than 30 seconds.

The manual release device shall be positioned at one of the following locations:

 - 5.2.1. The manual release device is located on the egress side of each security access turnstile lane.
 - 5.2.2. The manual release device is located at an approved location where it can be actuated by an employee assigned to the area at all times that the building is occupied.
 - 5.3. Upon actuation of the building fire alarm system, if provided, the physical barrier remains in the open position until the fire alarm system is manually reset.
- Exception:** Actuation of a manual fire alarm boxes.
- 5.4. Upon actuation of the building automatic sprinkler or fire detection system, and for which the physical barrier remains in the open position until the fire alarm system is manually reset.

Revise as follows:

~~1010.3-1~~**1010.3.3 High turnstile.** Turnstiles more than 39 inches (991 mm) high shall meet the requirements for revolving doors or the requirements of Section 1010.3.2 for security access turnstiles.

~~1010.3-2~~**1010.3.4 Additional door.** Where serving an *occupant load* greater than 300, each turnstile that is not portable shall have a side-hinged swinging door that conforms to Section 1010.1 within 50 feet (15 240 mm).

Exception: A side-hinged swinging door is not required at security access turnstiles that comply with Section 1010.3.2.

Reason: Manufacturers of turnstile devices have expanded into the security access control market and currently have products that have physical barrier leaves that restrict access into and out of buildings. These devices can vary in height and sophistication to address building security concerns that may not meet safety requirements related to the means of egress. Typically, these turnstile devices are located at building entrances and elevator lobbies. The current requirements for turnstiles apply historically to the "three arm" waist-high turnstiles for entertainment or transportation venues and do not apply to the new installations. Currently, the building official is left to evaluate these new modern turnstiles to determine compliance with the egress requirements in the IBC. The intent of the revision is to provide guidance on evaluating these new modern turnstiles. Turnstiles on the market can be as narrow as 22 inches. For turnstiles that are less than 32 inches, there are additional capacity issues that need to be considered. The fail safe provisions for overriding the turnstile

access restrictions are derived from existing code provisions (e.g., delayed egress locks and forces to open doors).



Cost Impact: Will increase the cost of construction

The intent of this code change is to provide additional requirements for new modern turnstiles used for security access in buildings. This code change will probably increase construction costs due to these new requirements; however, the new requirements will enhance overall building safety when these security access turnstiles are installed in a building.

E 81-15 : 1010.3-FRABLE5105

E 82-15

1011.6; (IFC[BE] 1011.6)

Proponent: Gregory Keeler, representing Self (design_tech@windstream.net)

2015 International Building Code

Revise as follows:

1011.6 Stairway landings. There shall be a floor or landing at the top and bottom of each *stairway*. The width of landings shall be not less than the width of *stairways* served. Every landing shall have a minimum width measured perpendicular to the direction of travel equal to the width of the *stairway*. Where the *stairway* has a straight run the depth ~~need not exceed~~ shall be a minimum of 48 inches (1219 mm). Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. Where *wheelchair spaces* are required on the *stairway* landing in accordance with Section 1009.6.3, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

Exception: Where *stairways* connect stepped *aisles* to cross *aisles* or concourses, *stairway* landings are not required at the transition between *stairways* and stepped *aisles* constructed in accordance with Section 1029.

Reason: The current code language does not establish a minimum depth/run for a landing due to the permissive language. This proposal will stipulate the minimum depth/run.

Cost Impact: Will not increase the cost of construction

There could be a very slight increase in construction costs if the current language isn't interpreted as establishing a minimum landing depth/run.

E 82-15 : 1011.6-KEELER4710

E 83-15

1011.4; (IFC[BE] 1011.4)

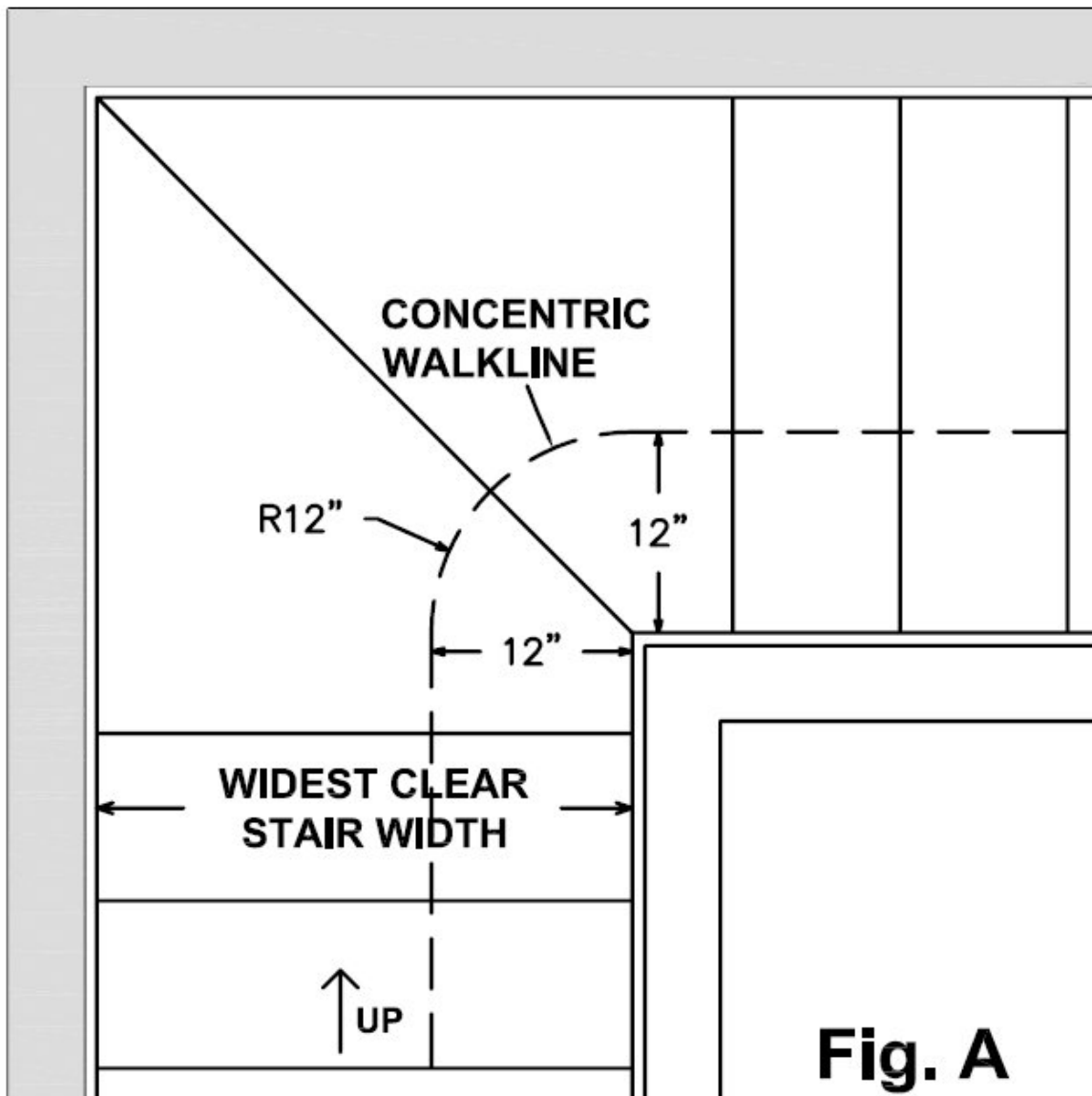
Proponent: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org)

2015 International Building Code

Revise as follows:

1011.4 Walkline. The walkline across *winder* treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the *winders are narrower*. Where the winders continue beyond the turn within the straight segments of a flight the walkline shall continue parallel to the side of the stair where the winders are narrower. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear *stair* width at the walking surface of the *winder*. Where *winders* are adjacent within the *flight*, the point of the widest clear *stair* width of the adjacent *winders* shall be used.

Reason: The current code does not adequately address how the walkline is located where winders continue beyond the corner of a turn. (see figure A) A portion of the winder treads often extend into the straight segments of the flight where the walkline is not concentric to the turn but parallel to the side of the stairway. This change provides the needed clarification to accurately determine the walkline location.



Cost Impact: Will not increase the cost of construction

This proposal only clarifies the code and will require no additional resources affecting the cost of construction.

E 83-15 : 1011.4-COOPER5237

E 84-15

1011.10; (IFC[BE] 1011.10)

Proponent: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org)

2015 International Building Code

Revise as follows:

1011.10 Spiral stairways. *Spiral stairways* are permitted to be used as a component in the *means of egress* only within *dwelling units* or from a space not more than 250 square feet (23 m²) in area and serving not more than five occupants, or from *technical production areas* in accordance with Section 410.6.

A *spiral stairway* shall have a ~~7¹/₂ - 6³/₄~~ inch (~~19¹/₂ - 171~~ mm) minimum clear tread depth at a point 12 inches (305 mm) from the ~~narrow edge~~ walkline. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9¹/₂ inches (241 mm). The minimum stairway clearwidth at and below the handrail shall be 26 inches (660 mm).

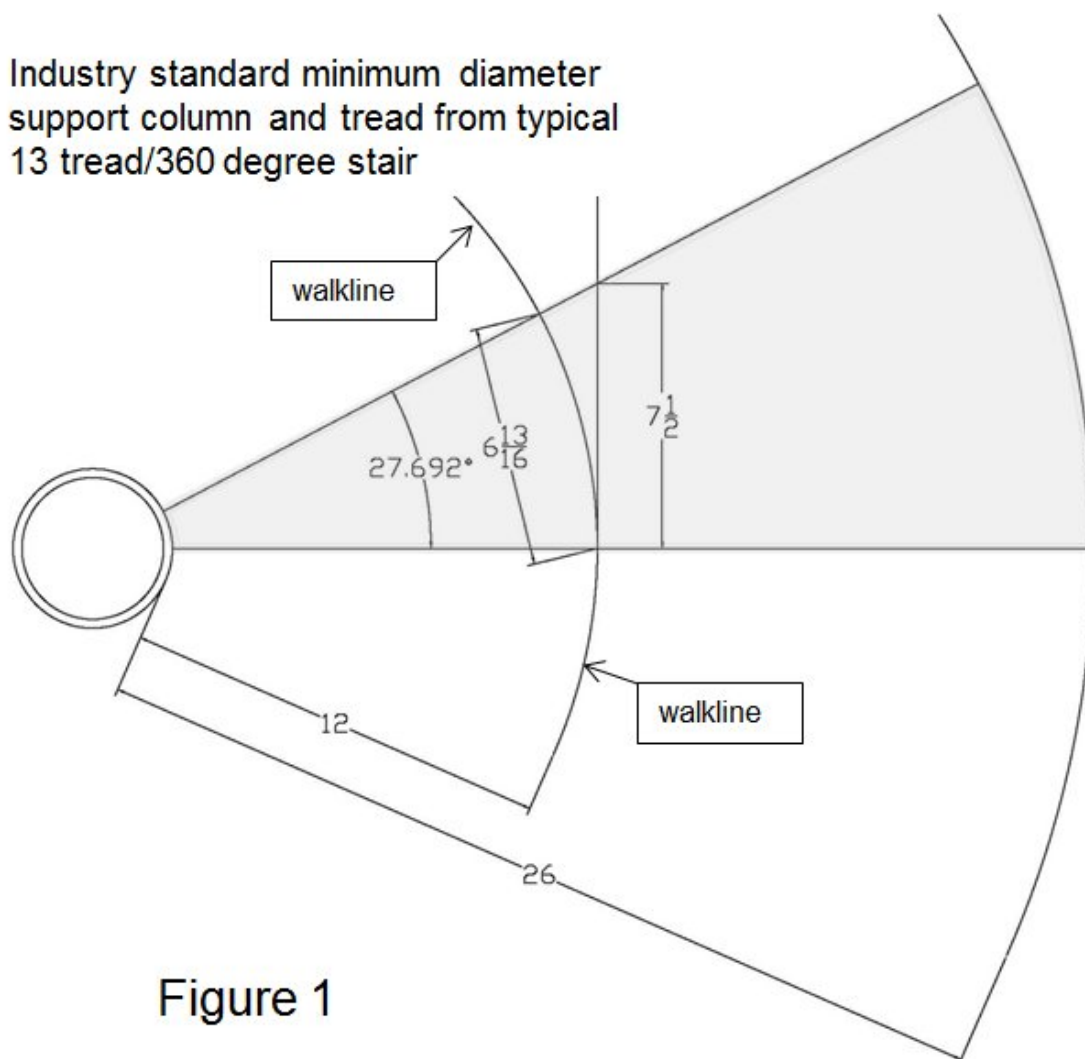
Reason: We will try again in this cycle to prevent the elimination of spiral stairways!

A similar proposal was submitted in the last cycle that was misunderstood and inappropriately disapproved.

Prior to the addition of **1011.4 Walkline** and related changes in **1011.5.2 Riser height and tread depth**, the tread depth of both rectangular treads and winder treads was measured "square to the leading edge". This measurement method and the 7¹/₂ inch tread depth for spiral stairs predates the ICC codes. Since that time the method for measuring spiral stair tread depth, in the code, has changed with the definition of winder. Spiral treads are winder treads as defined in the code.

Winder. A tread with nonparallel edges

Winder tread depth is measured "...between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline...". The change in the method of measurement results in a smaller dimension, for the same tread, that is ³/₄ inch smaller intread depth as illustrated in figure 1. The figure also illustrates the elements of spiral stair tread geometry. What is critical to understand is that if the code is not changed, each tread in the typical spiral stairway would need to be increased by ³/₄ inch from the longstanding accepted practice.



Caption: This standard layout assures accommodation of the required headroom as the stair passes under the typical platform at the top of the stairway.

Why does the spiral tread depth need to be increased?

The proposed dimension change from 7½ to 6¾ inches results in no change and preserves what has been the industry standard for the manufacture of spiral stairways since the legacy codes. Not to stir the pot but the spiral stairway code survived the long debate and compromise on tread depth without change for good reason. Spiral stairways were discussed in the debate and remain unchanged, in the code because of their recognized benefit of saving space in certain limited situations. One of the limited areas is within residential dwelling units. A similar proposal changing the tread depth from 7½ inches to 6¾ inches was approved in the 2015 cycle of the IRC. Why not continue to coordinate? There is no substantiation for the action taken in the last cycle to change this long standing standard, and gravely restrict manufactures.

On what grounds should spiral stairs be eliminated?

Not approving this proposal will result in undue costs for the limited number of stairs that will comply with code when the riser height can be maximized. Please keep in mind that no substantiation was presented of the need for increased tread depth in spiral stairways. In fact spiral stairs actually have deeper treads than most stairs, adjacent to the handrail on the outside where the user walks. The currently required, additional ¾ inches of tread depth increase, inadvertently approved in the last cycle, and changed in the long accepted standard for a typical 360 degree stairway will add more than one and one third treads to each 13 tread stairway rotation. This will increase the rotation by more than 36 degrees or 10% making it impossible in most situations to achieve the required headroom of 78 inches. **Unchanged the IBC will all but eliminate spiral stairways. Please approve this proposal.**

Cost Impact: Will not increase the cost of construction

In fact as proven in the supporting statement above, this proposal will drastically reduce the cost of construction by not eliminating space saving spiral stairs from most applications where the intent of the code is to allow their use. Space saved = \$ saved.

E 84-15 : 1011.10-COOPER5239

E 85-15

1011.11, 1014.1; (IFC[BE] 1011.11, 1014.1)

Proponent: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org)

2015 International Building Code

Revise as follows:

1011.11 Handrails. ~~Stairways~~Flights of stairways shall have *handrails* on each side and shall comply with Section 1014. Where glass is used to provide the *handrail*, the *handrail* shall comply with Section 2407.

Exceptions:

1. ~~Stairways~~Flights of stairways within dwelling units and flights of spiral stairways are permitted to have a *handrail* on one side only.
2. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require *handrails*.
3. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require *handrails*.
4. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require *handrails*.

1014.1 Where required. *Handrails* serving flights of stairways, *ramps*, stepped *aisles* and ramped *aisles* shall be adequate in strength and attachment in accordance with Section 1607.8. *Handrails* required for flights of stairways by Section 1011.11 shall comply with Sections 1014.2 through 1014.9. *Handrails* required for *ramps* by Section 1012.8 shall comply with Sections 1014.2 through 1014.8. *Handrails* for stepped *aisles* and ramped *aisles* required by Section 1029.15 shall comply with Sections 1014.2 through 1014.8.

Reason: Other than required handrail extensions, handrails are not required at the outside periphery of landings. However long before we get to **1014.6 Handrail extensions**, the use of the defined term "stairways" in sections **1011.11** and **1014.1**, supports the interpretation that handrails are required at landings because by definition a stairway includes landings.

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.

The problem becomes more apparent when we look at **1014.4 Continuity**. Unlike continuity in the IRC there is no limit related to the flight. Confusion is created when 1014.4 is considered with the other handrail section references to stairways as revised in the proposal above. This is a particular problem when considering residential applications.

This proposal provides a simple solution by substituting the correct term "flights of stairways" for "stairways" and clarifies the intent of the code. The term flights of stairways is used throughout the code and in particular within **1014.6 Handrail extensions**.

Cost Impact: Will not increase the cost of construction

This proposal requires no additional resources and therefore does not affect the cost of construction.

E 85-15 : 1011.11-COOPER5254

E 86-15

1011.16 (IFC[BE] 1011.16)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1011.16 Ladders. Permanent ladders shall not serve as a part of the *means of egress* from occupied spaces within a building. Permanent ladders shall be constructed in accordance with Section 306.5 of the *International Mechanical Code*. Permanent ladders shall be permitted to provide access to the following areas:

1. Spaces frequented only by personnel for maintenance, repair or monitoring of equipment.
2. Nonoccupiable spaces accessed only by catwalks, crawl spaces, freight elevators or very narrow passageways.
3. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands.
4. Elevated levels in Group U not open to the general public.
5. Nonoccupied roofs that are not required to have *stairway* access in accordance with Section 1011.12.1.
6. ~~Ladders shall be constructed~~ Where permitted to access equipment and appliances in accordance with Section 306.5 of the *International Mechanical Code*.

Reason: Section 306.5 of the IMC provides guidance on where ladders can be used to access equipment and for the technical criteria to construct the ladder (see the reason of the original change for text). The concern is the exact wording of Section 1009.18, Item 6. The list in Section 1011.6 is locations where ladders can be used. Item 6 is revised to limit the reference to where the ladders are permitted in IMC Section 306.5. How ladders are to be constructed is moved to the base paragraph so it is clear what technical requirements are to be followed where a ladder is provided in any of the 6 locations.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This proposal is a clarification of current requirements.

E 86-15 : 1011.16-KULIK3666

E 87-15

1013.2; (IFC[BE] 1013.2)

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Building Code

Revise as follows:

1013.2 Floor-level exit signs in Group R-1. Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5.

The bottom of the sign shall be not less than 10 inches (254 mm) nor more than ~~12~~ 18 inches (~~305~~ 455 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.

Reason: The base code provides just a 2-inch tolerance for where the bottom of required low-energy exit signs must be located. This 2-inch window is often challenging for designers and property owners due to field conditions or desired interior finish and trim. For example, several high-end resort properties have installed 12-inch tall base boards in the exit access corridors of the hotels. The base code requirement that the bottom of the sign be located within 10- to 12-inches above the floor level would create issues for these facilities.

The proposed amendment is to allow the bottom of the required low-level exit signs to be located between 10- and 18- inches of the floor level. The additional 6 inches provides sufficient 'wiggle room' for designers and owners. Further, there is no impact on the level of life safety of the occupants of the Group R-1 occupancies since the low-level exit signs will still be visible below a smoke layer from a fire (in the zone in which the occupants would presumably be crawling.)

NFPA 101 (Life Safety Code), Section 7.10.1.6 permits the bottom of low-level exit signs to be installed between 6- and 18-inches above the floor level. Therefore, there is another code standard that allows the bottom of the low-level exit signs to be installed up to 18 inches above the floor level. Although NFPA 101, Section 7.10.1.6 permits the bottom of the low-level exit signs to be as low as 6-inches above the floor level, this proposal does not change the base IBC's requirement that the bottom of the low-level exit signs be within 10-inches above the floor level because ICC A117.1, Section 404.2.9 requires door surfaces within 10 inches of the floor to be a smooth surface for the full width of the door. There is no reason to have the low-level exit sign installed on the door must be at least 10 inches above the floor level in order to comply with ICC A117.1.

This proposal address unique designs or systems not anticipated in the code. Further, this proposal is consistent with the upper bounds permitted by another national code (NFPA 101 Life Safety Code).

Cost Impact: Will not increase the cost of construction

The proposal provides for more flexibility in how to meet the requirements for floor level exit signs.

E 87-15 : 1013.2-DIGIOVANNI5857

E 88-15

1013.4, 1111.3; (IFC[BE] 1013.4)

Proponent: Timothy Pate, City and County of Broomfield, representing the Colorado Chapter ICC Code Change Committee, representing City and County of Broomfield (tpate@broomfield.org)

2015 International Building Code

Revise as follows:

1013.4 Raised character and braille exit signs. A

Where exit signs are required by Section 1013.1, a sign stating EXIT in visual characters, 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 *interior exit stairway or ramp*, *an exterior exit stairway or ramp*, an *exit passageway* and the *exit discharge*.

1111.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown.

1. Each assembly area required to comply with Section 1108.2.7 shall provide a sign notifying patrons of the availability of assistive listening systems. The sign shall comply with ICC A117.1 requirements for visual characters and include the International Symbol of Access for Hearing Loss.
Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.
2. At each door to an *area of refuge*, an exterior area for assisted rescue, an ~~egress~~ *interior exit stairway or ramp*, *an exterior exit stairway or ramp*, *exit passageway* and *exit discharge doors where exit signs are required by Section 1013.1*, signage shall be provided in accordance with Section 1013.4.
3. At *areas of refuge*, signage shall be provided in accordance with Section 1009.11.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section 1009.11.
5. At two-way communication systems, signage shall be provided in accordance with Section 1009.8.2.
6. In *interior exit stairways* and *ramps*, floor level signage shall be provided in accordance with Section 1023.9.
7. Signs identifying the type of access provided on amusement rides required to be *accessible* by Section 1110.4.8 shall be provided at entries to queues and waiting lines. In addition, where *accessible* unload areas also serve as *accessible* load areas, signs indicating the location of the *accessible* load and unload areas shall be provided at entries to queues and waiting lines. These directional sign characters shall meet the visual character requirements in accordance with ICC A117.1.

Reason: I believe that the existing code language requires raised character and braille exit signs installed at every exit discharge door even when only one is required and regular exit signs are not required. I believe that the intent is to only require the raised character and braille exit signs to be installed at exit discharge doors when exit signs are required as per Section 1013.

This proposed change will modify the 2 different sections that have these requirements

I also modified language in section 1013.4 to clarify that the raised character and braille exit signs are only required at doors into the vertical exit enclosures - stairways or ramps.

Cost Impact: Will not increase the cost of construction

This would potentially decrease cost for jurisdictions who have taken the interpretation to be requiring the Braille exit signs at these additional locations.

E 89-15

1013.4, 1111.3; (IFC[BE] 1013.4)

Proponent: Dominic Marinelli, representing United Spinal Association (DMarinelli@accessibility-services.com)

2015 International Building Code

Revise as follows:

1013.4 Raised character and braille exit signs. A sign stating EXIT in visual characters, raised characters and braille and complying with *ICC A117.1* shall be provided adjacent to each door to an *area of refuge* providing direct access to a stairway, an exterior area for assisted rescue, an *exit stairway* or *ramp*, an *exit passageway* and the *exit discharge*.

1111.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown.

1. Each assembly area required to comply with Section 1108.2.7 shall provide a sign notifying patrons of the availability of assistive listening systems. The sign shall comply with ICC A117.1 requirements for visual characters and include the International Symbol of Access for Hearing Loss.
Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.
2. At each door to an *area of refuge* providing direct access to the stairway, an exterior area for assisted rescue, an ~~egress~~ *exit stairway*, *exit passageway* and *exit discharge*, *signage shall be provided in accordance with Section 1013.4*.
3. At *areas of refuge*, signage shall be provided in accordance with Section 1009.11.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section 1009.11.
5. At two-way communication systems, signage shall be provided in accordance with Section 1009.8.2.
6. In *interior exit stairways* and *ramps*, floor level signage shall be provided in accordance with Section 1023.9.
7. Signs identifying the type of access provided on amusement rides required to be *accessible* by Section 1110.4.8 shall be provided at entries to queues and waiting lines. In addition, where *accessible* unload areas also serve as *accessible* load areas, signs indicating the location of the *accessible* load and unload areas shall be provided at entries to queues and waiting lines. These directional sign characters shall meet the visual character requirements in accordance with ICC A117.1.

Reason: The intent is coordination with the a revision to the next edition of the ICC A117.1 standard for tactile exit signage, Section 504.10.

The point of the tactile exit signage is to let a visually impaired person know what door they should enter to exit the building. When a stairway is accessed through an area of refuge, this signage is appropriate. Where the area of refuge is at the front of an elevator with standby power, this is not appropriate. Many lobbies have double doors with hold open devices, so there is also the question about where would be the correct location for this signage. This change in language will effectively not require the tactile exit signage at an elevator lobby.

Cost Impact: Will not increase the cost of construction
This is a possible reduction in signage.

E 89-15 : 1013.4-ROETHER5713

E 90-15

1013.6.3; (IFC[BE] 1013.6.3)

Proponent: John Williams, CBO, Chair, representing Adhoc Health Care Committee (AHC@iccsafe.org)

2015 International Building Code

Revise as follows:

1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27. Group I-2 Condition 2 exit sign illumination shall not be provide by unit equipment batteries only.

ExceptionsException:

1. *Approved* exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.
- 2- ~~Group I-2 Condition 2 exit sign illumination shall not be provided by unit equipment battery only.~~

Reason: This exception is a requirement for Group I-2 that exceeds the base paragraph requirements. It is proposed to be moved to the main paragraph to make it a requirement. As an exception it would be a choice. This requirement was added by E103-12 AMPC.

A correlative change is planned for the Group B cycle to IFC Chapter 11.

1104.5.1 Emergency power duration and installation. Emergency power for means of egress illumination shall be provided in accordance with Section 604. In other than Group I-2, emergency power shall be provided for not less than 60 minutes for systems requiring emergency power. ~~In Group I-2, essential electrical systems shall comply with Sections 1105.5.1 and 1105.5.2.~~

~~1105.5 Means of egress. In addition to the means of egress requirements in Section 1104, Group I-2 facilities shall meet the means of egress requirements in Section 1105.5.1 through 1105.5.8.~~

~~1105.5.1 Exit signs and emergency illumination. The power system for exit signs and emergency illumination for the means of egress shall provide power for not less than 90 minutes and consist of storage batteries, unit equipment or an on-site generator.~~

~~1105.5.2 Emergency power for operational needs. The essential electrical system shall be capable of supplying services in accordance with NFPA 99.~~

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is a movement of requirements only, therefore, there is no change in cost.

E 90-15 : 1013.6.3-WILLIAMS4229

E 91-15

1014.9; (IFC[BE] 1014.9)

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Building Code

Revise as follows:

1014.9 Intermediate handrails. *Stairways* shall have intermediate *handrails* located in such a manner that all portions of the *stairway* minimum width or required capacity are within 30 inches (762 mm) of a handrail. On monumental *stairs*, *handrails* shall be located along the most direct path of egress travel.

Exception: Stairways less than 88 (2235 mm) inches in width are not required to have an intermediate handrail.

Reason: Section 1011.2 requires stair widths of at least 44". Exception 1 allows 36 inch widths serving occupant loads of less than 50. Table 1020.2 requires minimum corridor widths of 44 inches, with 36 inches for occupancies of less than 50, and within a dwelling unit. 24 inches is allowed to access mechanical and electrical equipment.

The existing language in the case of a 61-75 inch wide stair would reduce the usable exit width to less than 36 inches. While this does not present an issue with intermediate handrails for stairs 88 inches and wider, it does cause concern for path widths in stairs greater than 60 inches and less than 88 in., (Stairs between 72 and 88 inches are not included in this argument since 36 inch paths are reserved for low occupancy areas, which the areas we are referencing are not).

This exception would allow for base code to allow for stairs 88 inches in width or greater, while avoiding paths less 44 inches within the stairs smaller than 88 inches.

Cost Impact: Will not increase the cost of construction

This proposal would result in a decrease of construction costs by not requiring as many intermediate handrails as currently required by code.

E 91-15 : 1014.9-DIGIOVANNI3848

E 92-15

1015.3 (IFC[BE] 1015.3)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1015.3 Height.

Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles* , from the line connecting the leading edges of the tread *nosings* .
3. On *ramps* and ramped *aisles* , from the *ramp* surface at the *guard* .

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress* , required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces ~~or adjacent fixed seating~~.
2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* also serves as a *handrail* on the open sides of *stairs* , the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. The *guard* height in assembly seating areas shall comply with Section 1029.16 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail also serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosing* .

Reason: The purpose of this proposal is coordination between the IBC and IRC. The phrase 'or adjacent fixed seating' was in exception 1 to coordinate with the provisions for guard height in the IRC. Previous edition of the IBC and IRC required guards to be placed adjacent to fixed seating that occurs on areas such as decks where the seat and guard are built integral with the deck. At those locations the guard height was measured from that seat. The requirement to measure from the fixed seating has been removed from the IBC and IRC.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Climbable Guards. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will increase the cost of construction

This proposal could result in a reduction of the required guard height. This is coordination with the IRC.

E 92-15 : 1015.3-KULIK3331

E 93-15

1015.3; (IFC[BE] 1015.3)

Proponent: Thomas Dalton, representing Self

2015 International Building Code

Revise as follows:

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the *guard*.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within and serving individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces or adjacent *fixed seating*.
2. For occupancies in Group R-3, and within and serving individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within and serving individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* also serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. The *guard* height in assembly seating areas shall comply with Section 1029.16 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail also serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosing*.

Reason: Changing this section of the code will treat all types of long term residential occupancies with the same risk factors for falls and accessibility the same. Treating the exterior staircase serving individual condominium units differently from interior staircases within those units is not consistent in this type of occupancy.

Cost Impact: Will not increase the cost of construction

This change could decrease the cost of construction by reducing the amount of material and speeding up production by standardizing both the interior and exterior guards.

E 93-15 : 1015.3-DALTON3984

E 94-15

1015.3; (IFC[BE] 1015.3)

Proponent: Jay Wallace, The Boeing Company, representing The Boeing Company (jay.s.wallace@boeing.com)

2015 International Building Code

Revise as follows:

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the *guard*.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces or adjacent *fixed seating*.
2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* also serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. The *guard* height in assembly seating areas shall comply with Section 1029.16 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail also serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosings*.
6. In Group F occupancies, where *exit access stairways* serve three stories or less and such stairs are not open to the public, where the top of the guard also serves as a handrail, the top of the guard shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Reason: Federal OSHA requirements restrict industrial stairway guard height to a maximum of 34"; it also intends that the top rail will be used as a handrail. The IBC range for handrails is 34 to 38 inches but also requires a guard at 42". This proposal attempts to find a reasonable middle ground making at least one solution acceptable to both IBC and OSHA requirements for non-egress stairways in factory type settings.

Factory workers are often required to carry out full range of motion activities and access work areas in tight spaces and sometimes maneuver into awkward positions. Their work often requires them to be more mobile and more athletic than their office sitting counterparts enabling them to negotiate a set of stairs with greater agility. They become very familiar with their workplace and like many of us, may spend more time on the job than they do at home.

The IBC recognizes that familiarity is a component of safe stairway design as reduced guard height and the use of the top guard rail as a handrail is already allowed for Group R-3 and in individual dwelling units of R-2 (see Exception 3 of this same section) where occupants normally experience extended time and acquire familiarity with stairway construction details in contrast to those in other Group R occupancies where visitors and residents are usually temporary. Granted, occupants in Group R occupancies may consume alcohol and other substances which could impair their ability to negotiate a set of stairs but such behavior is typically not allowed in Group F occupancies.

The three floor limit proposed is borrowed from Exception 3 to maintain the same level of safety as has been previously approved for use in the code. Exception 3 uses the term story stating that the exception is limited to 3 stories in height. This proposal limits floors to three instead of stories because the term floor in Group F correlates better with stories in Group R. In Group F, stairways could run between stories or within a single story to multiple levels of mezzanines or platforms located further above the ground floor than intended.

The focus of this proposal is on Factory workers on exit access stairways. These stairs are not intended nor required for emergency egress. They are not shared with other occupancies such as Group B or Group S which may be associated with a Group F. However, there is the reality that maintenance service may be required in these factory areas and so this proposal recognizes that maintenance service personnel may use the stairs. This distinct group of users is also highly accustomed to the facility and able to negotiate such construction details with ease.

This proposed change resolves conflicting requirements between OSHA and the IBC by applying an acceptable solution already approved for other occupancies where occupants experience similar long term exposure and familiarity.

Cost Impact: Will not increase the cost of construction

For the condition this proposal addresses, the IBC requires a 42 inch high guard and a handrail between 34 and 38 inches high. Construction cost is inherently less when the handrail and guard are one and the same.

E 95-15

1015.6 (IFC[BE] 1015.6, IMC[BE] 304.11), 1015.7, (IFC[BE] 1015.7, IMC[BE] 304.12 (New))

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

1015.6 Mechanical equipment, systems and devices. *Guards shall be provided where various components that require service appliances and equipment within the scope of this code, including but not limited to HVAC equipment, refrigeration equipment, exhaust fans, energy recovery equipment, pollution control units, smoke control fans, solar thermal equipment, are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of such components. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.*

Exception: *Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from the roof edge or open side of the walking surface.*

1015.7 Roof access. *Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.*

Exception: *Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from the roof edge or open side of the walking surface.*

2015 International Mechanical Code

Revise as follows:

[BE] 304.11 Guards. *Guards shall be provided where various components that require service appliances and roof hatch openings are equipment within the scope of this code, including but not limited to HVAC equipment, refrigeration equipment, exhaust fans, energy recovery equipment, pollution control units, smoke control fans, solar thermal equipment, are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of components that require service. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard 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*.*

Exception: *Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire lifetime of the roof covering. The devices shall be re-evaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.*

Add new text as follows:

[BE] 304.12 Roof access. *Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.*

Exception: *Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from the roof edge or open side of the walking surface.*

Reason: There are two purposes for this proposal - both dealing with clarification and coordination.

The change last cycle to "various components that require service" has made the intent ambiguous. What are various components? The current text may be appropriate for the IBC but it is inadequate for the IMC. The text needs to spell out what equipment is expected to require service in the context of a mechanical code. There could be some type of equipment that does not require periodic service and instead would simply be replaced at the end of its life, however, the PMG CAC cannot determine what equipment that would be. Even a direct-drive permanently lubricated toilet exhaust fan installed on a roof would eventually need to be cleaned. It is assumed that solar thermal equipment requires cleaning and servicing. If the appliance or equipment ends up being close to the roof edge, then protection from falling by means of a guard is warranted. If guards are undesirable for aesthetic or expense reasons, then the appliances and equipment should not be put close to the roof edge; simple solution.

Moving roof hatches into its own section will make the IMC and IBC/IFC match. Since this section is controlled by the IBC MOE committee now, this can be

viewed as editorial only. There is no intent to change requirements. There is a companion proposal to revise the exception. If that proposal is approved, the exception should also be revised from the new IMC Section 304.12.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

E 95-15 : 1015.6-KULIK5052

E 96-15

1015.6 (IFC[BE] 1015.6), 1015.7 (IFC[BE] 1015.6), IMC [BE] 304.11

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1015.6 Mechanical equipment, systems and devices. *Guards* shall be provided where various components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The *guard* shall extend not less than 30 inches (762 mm) beyond each end of such components. The *guard* shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

Exception: *Guards* are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are ~~affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from the roof edge or open side of the walking surface installed.~~

1015.7 Roof access. *Guards* shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The *guard* shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

Exception: *Guards* are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are ~~affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from the roof edge or open side of the walking surface installed.~~

2015 International Mechanical Code

[BE] 304.11 Guards. Guards shall be provided where various components that require service and roof hatch openings are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of components that require service. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard 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*.

Exception: Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are ~~affixed for use during the entire lifetime of the roof covering. The devices shall be re-evaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces installed.~~

Reason: Section 306.5.1 of the IMC requires work platforms with guards for equipment and appliances installed on roofs with a slope 3 in 12 and greater, thus, the exception to Section 304.11 appears to apply only to roofs that are flat and up to 2 in 12 slope. The problem derives from the language referring to placement of anchors along hip or ridge lines and along roof edges. This language is not necessary for the application of the exception. Each building roof system and the equipment upon that roof system that might require access will be different and the anchors needed along with their locations will differ as well. As presently worded there has been some confusion on application and the location requirements spaced every ten feet require unnecessary expense. This proposal eliminates confusion by deleting the unnecessary language leaving the application of the referenced standard to be applied on a case by case basis to fit the specific activities that may occur on the individual roof.

There is another change from this committee to split IMC 304.11 to make it consistent with the IRC that copies this exception. It is the intent of this committee for these changes to be coordinated.

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Cost Impact: Will not increase the cost of construction

This proposal will decrease the cost of construction in those cases where fall arrest anchorage devices would be installed instead of guards by providing increased flexibility in locating the anchors.

E 97-15

1017.2, 1017.2.3 (New); (IFC[BE] 1017.2, 1017.2.3 (New))

Proponent: Vickie Lovell, InterCode Incorporated, representing Fire Safe North America (vickie@intercodeinc.com)

2015 International Building Code

Revise as follows:

1017.2 Limitations. *Exit access* travel distance shall not exceed the values given in Table 1017.2 except where limited by Section 1017.2.3.

Add new text as follows:

1017.2.3 Groups A, B, E and R decrease. In Groups A, B, E and R occupancies, assigned Risk Categories III and IV in Table 1604.5 and of Types IIB, IIIB and VB construction shall be limited to the travel distances in Table 1017.2 for buildings without sprinkler systems where such buildings are any of the following:

1. Assigned a Seismic Design Category C or D in Table 1613.3.5(1).
2. Located in a flood hazard area established in accordance with Section 1612.3.
3. Located in a hurricane-prone region.

Reason: As hazard events, both naturally-occurring and man-made, are increasing in number and severity in the United States and around the world, the resilience of communities and the individual buildings within those communities is becoming of vital importance.

A National Institute of Building Sciences Publication (May, 2014) entitled "Moving Forward: Findings and Recommendations", states that "while a long history of building codes has laid the foundation for addressing the impacts of natural and man-made hazards, changes in the frequency and severity of events have brought new challenges — challenges requiring the engagement and support of policymakers. While building codes serve as the minimum requirements for life-safety in the building stock, basic life-safety protections do not fully address building performance requirements to achieve resilience."

Mitigation includes, among other things, fortifying buildings so that they are less likely to be severely damaged or completely destroyed during or immediately after a disaster. It is the key to recovery after a disaster. Mitigation allows individuals and communities to lessen post-disaster disruption and rebuild more quickly. States and cities have started implementing more stringent requirements in specific geographic areas they have designated as higher-risk. The purpose of this series of code changes proposed by Fire Safe North America is to encourage the debate in the code development process to identify what constitutes resilient buildings, and begin to identify issues that will become the basis for "new minimum requirements" for increased building resiliency.

Responding to the challenge of mitigating damage and resilient buildings is an admittedly complex topic. Fire Safe North America proposals are intended to reduce the total reliance of a community and its firefighters on automatic sprinkler systems in disaster-prone areas of the country where the water supply and/or power are likely to be interrupted, or are likely to have water supply system operational issues. The proposals, if approved, will fortify the building code requirements for the most vulnerable buildings to fire - Type IIB, IIIB, and VB construction, which are also classified as Risk Category III and IV in Table 1604.5, and in high-risk, disaster prone regions. The proposals modify the following code requirements in such buildings:

1. Reduce allowable area limits
2. Protect the path of egress by limiting travel distances
3. Protect the path of egress by protecting corridors
4. Require higher fire resistance ratings for occupancy separations
5. Require higher fire resistance ratings for building elements

These proposals are intended to be conservative so as to promote community resiliency and disaster mitigation by protecting essential buildings with both sprinkler protection AND fire resistance rated compartmentation. These proposals may be fairly considered to be the proverbial "belt-and suspenders" approach, requiring both sprinkler protection and increased fire resistance rated compartmentation in specific buildings in high risk areas for disasters.

Historically, the code has been written using the general assumption that automatic sprinklers will operate satisfactorily and there will be suitable power for such building operations. Code users design and build assuming that firefighters will be able to respond at their normal efficiencies. In some parts of the country, buildings impacted by disasters may remain without reliable water and/or power for a considerable period of time, well after the occurrence of the disaster. History has shown that increased incidents of fires after a disaster can be more destructive to life and property than the disaster itself. Total reliance on an uninterrupted power and water supply may not be an acceptable risk. It may also be an unacceptable risk to assume that firefighters will be able to respond at their normal efficiencies.

For example, more than 15% of the U.S. population lives in potential major earthquake areas. 41 states and territories have moderate to high risk. There is a real likelihood of power and water supplies being interrupted following a major seismic event, along with the potential for multiple simultaneous structure fires and also building-to-building fire spread. In October 17, 1989, a 7.1 earthquake in Santa Cruz Mountains was responsible for 26 fires in San Francisco, 60 miles from epicenter. There were 67 documented breaks in water mains which effectively eliminated water pressure in the area. On January 19, 1994, a 6.8 earthquake centered in Northridge, CA. There were approximately 100 fire ignitions, 30 to 50 of those were considered significant. The water supply systems in the area were damaged causing low pressure in water distribution. On January 17, 1995, a 6.8 (approx.) earthquake near Kobe, Japan caused 90 fires to start within minutes. 85 spread to adjacent buildings and 10 approached or reached conflagration status. 1,700 water line breaks occurred within a couple of hours. There were 7,000 buildings destroyed by fire alone.

In 1997, the Red River flooded Grand Forks, North Dakota, causing \$3.7 billion in flood losses, and displaced thousands of families and businesses. Similar data of increased fire incidents are available in other flood and hurricane-prone areas.

Undoubtedly, this will increase the cost of construction in these specific buildings. However, a recent FEMA's 2010 report "Mitigation's Value to Society" statement described how mitigation is an investment that needs to be made. A recent study by the NIBS Multihazard Mitigation Council (MMC) identified that each dollar spent on mitigation saves an average of \$4.00 in disaster recovery.

Links:

<http://www.dhss.ny.gov/oem/mitigation/documents/mitigations-value-to-society.pdf>

The two-volume NIBS MMC study report is available for free download at:

<http://www.nibs.org/index.php/mmc/projects/nhms>

Cost Impact: Will increase the cost of construction

This code change proposal will increase the cost of construction for some building types.

E 97-15 : 1017.2-LOVELL5288

E 98-15

1017.2.2 (IFC[BE] 1017.2.2)

Proponent: Joe McELvaney, representing self (mcelvaney@cox.net)

2015 International Building Code

Revise as follows:

1017.2.2 Group F-1 and S-1 increase. The maximum *exit access* travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following conditions are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height.
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm).
3. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
4. High Pile combustible storage areas greater than 500,000 square feet (46,450 square meters) are provided with additional fire protection in accordance with the *International Fire Code*, Table 3206.2, footnote g.

Reason: High pile combustible storage have some special fire code requirements that would apply to these type of occupancies where the travel distance is 400 feet. Once the travel distance is above 300 feet the odds increase that the storage area may be over 500,000 sq. ft.. Once the storage area is greater than 500,000 sq. ft. the fire code official can ask for additional fire protection based on IFC Table 3206.2 footnote g.

By adding this information to the IBC it will alert the design professional that additional fire protection may be required per IFC Table 3206.2 footnote g., Hence the design professional should talk with the fire code official to determine what may be required.

This new text may help in reducing the number of change orders and open a line of communication with the design professional and fire code official for this large building.

Cost Impact: Will not increase the cost of construction

No cost increase, already required per the IFC Table 3206.2 footnote g

E 98-15 : 1017.2.2-MCELVANEY3291

E 99-15

1017.2.3 (New); (IFC[BE] 1017.2.3 (New))

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Building Code

Add new text as follows:

1017.2.3 Corridor increases. *Exit access* travel distances specified in Table 1017.2 shall be increased an additional 100 feet (30 480 mm) where the final portion of the *exit access* is within a corridor with minimum fire-resistance rating of 1 hour. The length of such *corridor* shall not be less than the amount of increase taken.

Reason: Larger buildings that have significant footprints are difficult to design with the travel distances outlined in Table 1017.2 without some increases allowed, such as the corridor increase.

Adding a maximum 100 foot increase to the travel distances outlined in Table 1017.2 would apply to those corridors constructed with a minimum one-hour fire resistance rating. Many of the occupancies that this proposal would apply to are allowed to have a non-fire resistive rated corridor under the sprinkler system provisions of Table 1020.1. The provisions for corridor increases would only apply if the corridor is provided with a minimum one-hour fire-resistive rating thereby providing a greater level of protection than currently required by code.

This proposal is not less restrictive than the current code as added protection is provided to the exit route if the 100 foot travel distance increase is applied. In fact, this proposal would provide an incentive to designers to use rated corridors. Please note that the wording of this proposal is essentially based on Section 1004.2.5.2.3 of the 1997 edition of the Uniform Building Code (UBC), and that many existing facilities have been constructed with this corridor increase provision. Also, this proposal has been adopted in Southern Nevada for several code cycles.

Cost Impact: Will not increase the cost of construction

This proposal provides for an option, and does not increase any requirements of the base code, so there is no cost impact associated with this proposal.

E 99-15 : 1017.2.3 (New)-
DIGIOVANNI3849

E 100-15

202, 1017.3; (IFC[BE[1017.3)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

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 of each room, area or space~~ to that point where the occupants have separate and distinct access to two exits or exit access doorways.

1017.3 Measurement. Exit access travel distance shall be measured from the most remote point ~~within a story of each room, area or space~~ along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an *exit*.

Exception: 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*.

Reason: This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>. The definition of "common path of egress travel" was modified for the 2015 Edition of the IBC. The intent of the change was to clarify the common path of egress travel and exit access travel distance are measured in the same way. The terminus of each is different, but the route is the same. This logic was based on the last sentence of the 2012 IBC definition, "Common paths of travel shall be included within the permitted travel distance." and the language in 2012 Section 1016.3, "Exit access travel distance shall be measured from the most remote point within a story..."

If applied literally, it could be interpreted such that the common path of egress travel need be considered from only one point (the most remote) on a given story. Obviously, all potential paths of egress travel need to be considered when establishing occupant remoteness for the purposes of determining multiple exit or exit access doorway requirements. Clarifying that the path of travel originating from any room, area or space should be evaluated when determining common paths of egress travel will eliminate literal interpretations of the current definition. Additionally, the reference to a single story has been eliminated. Section 1006.3 allows for access to exits at an adjacent level. Common path of egress travel requirements could potentially apply to a multi-level design condition.

For purposes of consistency, Section 1017.3 has been modified to indicate that exit access travel distance is measured from all remote points within the means of egress system. The "story" approach is a little simplistic and does not represent the level of detail necessary to properly design or analyze a means of egress system. Additionally, when accessing an exit at an adjacent level, the exit access travel distance at both stories, to include the exit access stairways, is calculated. The single story reference could be misleading. Approval of this modification will clarify the definition of common path of egress travel for the benefit of all users.

Cost Impact: Will not increase the cost of construction
Provisions simply provide clarification of current requirements.

Staff note: There is a published errata to the definition for Common Path of Egress Travel. The errata is incorporated into the definition as existing text.

E 100-15 : 1017.3-KULIK3669

E 101-15

1018.6 (New); (IFC[BE] 1018.6 (New))

Proponent: Bryan Romney, University of Utah, Salt Lake City, Utah, representing self (bryan.romney@fm.utah.edu)

2015 International Building Code

Add new text as follows:

1018.6 Aisle measurement The clear width for aisles and aisle accessways shall be measured to walls, edges of seating and tread edges except for permitted projections.

Exception: The clear width of aisles and aisle accessways adjacent to seating at tables shall be permitted to be measured in accordance with Section 1029.12.1.

Reason: The code requirements for seating at tables for all occupancy groups and uses were relocated from the 2009 IBC Section 1017.4 to Section 1028.10.1 under the ASSEMBLY section in the 2012 IBC. Code Change Proposal E140-09/10 was approved to relocate Seating at tables to Section 1028. In the 2015 IBC this requirement was modified and relocated to Section 1029.12.1, still under the ASSEMBLY section.

The reason for this proposed change is to establish the requirements for seating at tables in Section 1018 AISLES which can only be found in Section 1029.12.1. Occupancy groups other than Assembly such as Groups B and M certainly have aisles with seating located at desks, counters, and tables which need to be regulated. It is neither logical nor possible to regulate seating at tables for non-assembly occupancy groups or uses if the requirements are located in Section 1029 ASSEMBLY.

For example, research laboratories (Group B occupancy) typically have benches and seating on double and single loaded aisles. Without this proposed change to the code, there is no direct requirement to regulate aisle widths because seating at tables and benches is located in the Assembly section 1029.

Group M occupancies also have aisles with seating at tables which need to be regulated. Section 1029 Assembly occupancies is not the place to look for these requirements.

Cost Impact: Will not increase the cost of construction

This is simply a clarification of the requirements for seating at tables for all occupancy groups and uses

E 101-15 : 1018.6 (New)-ROMNEY3598

E 102-15

202, 1006.3, 1006.3.1, 1017.3.1, 1019.2(New), 1019.3, 1019.4, 1023.2; (IFC[BE] 1006.3, 1006.3.1, 1017.3.1, 1019.2(New), 1019.3, 1019.4, 1023.2)

Proponent: Gregory Keith, Professional heuristic Development, representing The Boeing Company (grkeith@mac.com); Stephen Thomas (stthomas@coloradocode.net) Colorado Code Consulting, LLC, representing self

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

EXIT ACCESS STAIRWAY. ~~A stairway with the~~An enclosed or unenclosed exit access portion of the means component that defines and provides a path of egress system travel.

1006.3 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*, or combination thereof, based on the ~~aggregate cumulative~~ *occupant load* served in accordance with this section. ~~The path of egress travel to an exit shall not pass through more than one adjacent story.~~

1006.3.1 Egress based on occupant load. Each ~~story and~~ or occupied roof shall have the minimum number of independent *exits*, or access to *exits*, or combination thereof, as specified in Table 1006.3.1. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.2. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any *story* or occupied roof shall be maintained until arrival at the *exit discharge* or a *public way*.

1017.3.1 Exit access stairways and ramps. Travel distance on unenclosed portions of 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.

Add new text as follows:

1019.2 Construction. Where exit access stairways and ramps are required to be enclosed by other provisions of this section, they shall comply with the provisions of Section 1023.

Revise as follows:

~~1019.2~~**1019.3 All occupancies.** *Exit access stairways* and *ramps* that serve floor levels within a single story are not required to be enclosed.

~~1019.3~~**1019.4 Occupancies other than Groups I-2 and I-3.** 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.~~

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. 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 an individual *dwelling unit* or *sleeping unit* or *live/work unit*.
3. *Exit access stairways* serving and contained within a Group R-3 *congregate residence* or a Group R-4 facility ~~are not required to be enclosed.~~
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving open-air seating complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* serving the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.

~~1019.4~~**1019.5 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.

1023.2 Construction. Enclosures for *interior exit stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit stairway* and *ramp* 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 *interior exit stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. *Interior exit stairways* and *ramps* shall have a *fire-resistance rating* not less than the floor assembly penetrated, but need not exceed 2 hours.

Exceptions~~Exception:~~

1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.
- ~~2. *Interior exit stairways* within an atrium enclosed in accordance with Section 404.6.~~

Reason: Code change proposal E5-09/10 formalized the technical relationship between interior exit stairways and exit access stairways. Previously, the issue was confused by a number of exceptions to former exit enclosure provisions. This proposal is intended to further clarify the applicable provisions and accomplish some necessary technical adjustments.

First, the Section 202 definition of exit access stairway has been modified so as to be consistent with the terminology used in the definitions of two other exit access components: aisles and corridors.

Section 1006.3 has been modified to clarify that combinations of exits or access to exits at other building levels may be used to satisfy multiple exit requirements. That is, a story may have two exits, two exit access stairways or ramps leading to exits at other building levels (within exit access travel distance limitations), or one of each. Also, the term "aggregate" occupant loads has been changed to "cumulative" so as to be consistent with the provisions of Section 1004.1.1. The last sentence of Section 1006.3, which limits exit access travel to only one adjacent story, is deleted. This provision was not a part of ICC Code Technology Committee proposal E5. This issue goes to the heart of the original intent of E5. Fire and smoke migration limits have been long identified in the IBC and former legacy codes. They define acceptable atmospheric boundaries under specific design conditions. It is only logical that horizontal and vertical travel within prescribed limitations should be allowed to include that number of stories permitted by any applicable design condition as described in Section 1019.3.

2009 IBC exit enclosure provisions contained numerous exceptions that allowed for extended travel on unenclosed stairways. Examples include atriums, single family residences and open parking garages. The retention of the current adjacent story restriction will simply proliferate exceptions that will return to the former technical status quo. One such exception has already been approved for inclusion in 2015 IBC Section 1023.2 that addresses the atrium design condition. A package of exceptions addressing multi-story residential occupancies has been submitted for consideration during this code development cycle. Approval of this proposal will render that submittal as unnecessary.

It should be noted that removal of the current single adjacent story restriction will not allow for carte blanche multi-story access to exits. The default requirement at Section 1019.3 is that all exit access stairways be enclosed. That section contains a list of eight conditions where unenclosed exit access stairways are permitted. The first is the most commonly used and allows for two story open stairways in other than Group I-2 and I-3 occupancies. This provision inherently complies with the single adjacent story limitation. The remaining seven items are specific in nature and their tenability limits have long been contained in the IBC. To circumnavigate the adjacent story travel restriction, exceptions have been approved or are proposed for six of the seven design conditions. So effectively, removal of the provision will have virtually no effect on means of egress design. Elimination of the growing list of exceptions in favor of a comprehensive base requirement is the preferred method of addressing the design condition.

Section 1006.3.1 has been modified to recognize combinations of exits or access to exits so as to be consistent with Section 1006.3.

An important change has been made to Section 1019, exit access stairways. The technical requirements for interior exit stairways (an exit component) are easily established. Typically, all interior exit stairways are enclosed with fire resistance-rated construction and they extend to the exterior of the building. With exit access stairways, there are two issues. One is their purpose as a means of egress component. Also of concern are building fire and smoke migration limits. Recent IBC editions had clarified that it is permissible to access exits at other building levels by way of exit access stairways or ramps. The general architectural need is to have an unenclosed exit access stairway(s) within a given portion of the building having common tenancy. Historical fire and smoke migration limits, however, limit the number of open stories that an unenclosed exit access stairway can serve. Numbers of stories greater than these limits would require the enclosure of exit access stairways based on shaft protection requirements.

The resultant 2012 IBC system was logical and clarified previous requirements. That said, it overlooked means of egress occupant expectation concerns and some theoretical technical issues. First, there is no requirement for an enclosed exit access stairway to extend to the exterior of the building. Such a stairway may terminate at any building level. Additionally, there is no requirement to maintain exit access stairway rating continuity similar to that required for rated corridors. It is believed that due to occupant conditioning, that there is the expectation that when a person enters an enclosed stairway, that they are in a relatively safe area that will lead to the exterior of the building. Another complication is that travel to exits at other building levels is permitted where the exit access travel distance does not exceed that allowed. An enclosed exit access stairway may allow for acceptable travel limitations; however, remaining portions of the same enclosure would exceed requirements. The point being that occupants are not aware of when they should leave the exit access stairway enclosure--an exit access component--so as to meet exit access travel distance requirements.

The original purpose of the exit access stairway concept was to allow for unenclosed, non-rated interior stairways within building spaces so as to allow for occupant circulation and access to exits at other building levels. To meet occupant expectations and increase fire and life safety, shaft enclosure requirements are proposed to be replaced by interior exit stairway construction requirements. This also resolves the extended travel within an exit access component issue because occupants would be entering a formal exit component.

This apparent upgrade is less impactful than might be thought. Construction requirements for interior exit stairways and enclosed exit access stairways are virtually identical. The primary difference occurs with opening and penetration protection requirements. Obviously, interior exit stairway opening and penetration provisions are better suited to protect occupants in the means of egress as opposed to present utility protection concerns.

Approval of this proposal would add balance to current IBC means of egress provisions and react to likely occupant expectation of enclosed interior stairways. Approval will result in functional and understandable provisions and increase the level of occupant safety.

Cost Impact: Will increase the cost of construction

Although the opening protection requirements for interior exit stairways are apparently more stringent, they may or may not actually be more expensive than shaft protection requirements.

E 103-15

202, 1019.3; (IFC[BE] 1019.3)

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

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

ATRIUM. An opening connecting two or more *stories* other than unenclosed exit access stairways and ramps that do not connect more than four stories, 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.

1019.3 Occupancies other than Groups I-2 and I-3. 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.

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. 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 an individual *dwelling unit* or *sleeping unit* or *live/work unit*.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. ~~In other than Group B and M occupancies, this~~ This provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving open-air seating complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* serving the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.

Reason: The purpose of this proposal is to update the definition of atrium to include unenclosed exit access stairways and ramps and to modify the permitted number of stories an unenclosed exit access stairway or ramp can connect before additional fire protection features must be provided.

Prior to the 2012 edition of the IBC unenclosed exit access stairways were simply called unenclosed stairways and they were only permitted to connect more than two stories within a building if they were not part of a means of egress system or were located within an atrium. In other words they were restricted to being an extra stairway. It was not common to have an extra unenclosed stairway other than one located within an atrium.

2009 IBC

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 changes for the 2012 IBC these stairways and ramps became "unenclosed exit access stairways and ramps", part of the egress system. The same number of stories could be connected, up to 4 stories for all Groups other than B and M which are unlimited, and the unenclosed exit access stairways and ramps are now part of the egress system. Occupants are expected to use them in evacuating/egressing from the floor or building. That was a major technical change and one that encourages increased useage in design.

Since the 2006 edition of the IBC the definition of atrium and the allowance for unenclosed stairs has overlapped. (Prior to the 2006 edition of the IBC there were specific exceptions for smoke control for these types of unenclosed stairways). From a fire protection standpoint they conflict with each other. If applied together you can have the unenclosed stairway, but if you connect three or more stories you needed smoke control.

What this proposal does is add "unenclosed exit access stairways and ramps that do not connect more than four stories" to the methods of openings in floor construction not defined as an atrium and modifying Section 1919.3, Item 4 to limit the unenclosed exit access stairs and ramps to 4 stories. With these changes the two concepts are coordinated for application of the IBC and to provide for a level of safety for occupants traversing down an unenclosed exit access stairway or ramp, potentially towards the source of the fire and into the products of combustion.

Cost Impact: Will increase the cost of construction

I chose will increase the cost of construction only because of the limitation of 4 stories imposed upon the B and M Group stairways and ramps. However, it is my belief that increae is minimal or not at all since it doesn't increase contstruction cost, it simply limits an architectural feature that is typically unnecessary in code complaint design.

E 103-15 : 1019.3-DAVIDSON5281

E 104-15

1019.3 (IFC [BE] 1019.3)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1019.3 Occupancies other than Groups I-2 and I-3. 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.

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. 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 an individual dwelling unit or sleeping unit or live/work unit.*
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving open-air seating complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* ~~serving 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.

Reason: This exception previously read as follows. "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." The revision last cycle had an unintended consequence. The current text can be read differently without 'between'. It could be read to allow open stairways serving the main assembly floor to be open exit access stairways.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Unenclosed Exit Stairs. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This proposal is a clarification of provisions. There is no change in requirements.

E 104-15 : 1019.3-KULIK3644

E 105-15

1020.1; (IFC[BE] 1020.1)

Proponent: Vickie Lovell, InterCode Incorporated, representing Fire Safe North America (vickie@intercodeinc.com)

2015 International Building Code

Revise as follows:

1020.1 Construction. *Corridors* shall be fire-resistance rated in accordance with Table 1020.1. The *corridor* walls required to be fire-resistance rated shall comply with Section 708 for *fire partitions*.

In addition, corridors in buildings of Types IIB, IIIB, and VB construction and assigned Risk Categories III and IV in Table 1604.5, other than Group I, shall have a fire resistance rating of not less than 1 hour where such buildings are any of the following:

1. Assigned a Seismic Design Category C or D in Table 1613.3.5(1).
2. Located in a flood hazard area established in accordance with Section 1612.3.
3. Located in a *hurricane-prone regions*.

Exceptions:

1. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required *means of egress* doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A *fire-resistance rating* is not required for *corridors* contained within a *dwelling unit* or *sleeping unit* in an occupancy in Groups I-1 and R.
3. A *fire-resistance rating* is not required for *corridors* in *open parking garages*.
4. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group B that is a space requiring only a single *means of egress* complying with Section 1006.2.
5. *Corridors* adjacent to the *exterior walls* of buildings shall be permitted to have unprotected openings on unrated *exterior walls* where unrated walls are permitted by Table 602 and unprotected openings are permitted by Table 705.8.

Reason: As hazard events, both naturally-occurring and man-made, are increasing in number and severity in the United States and around the world, the resilience of communities and the individual buildings within those communities is becoming of vital importance.

A National Institute of Building Sciences Publication (May, 2014) entitled "Moving Forward: Findings and Recommendations", states that "while a long history of building codes has laid the foundation for addressing the impacts of natural and man-made hazards, changes in the frequency and severity of events have brought new challenges — challenges requiring the engagement and support of policymakers. While building codes serve as the minimum requirements for life-safety in the building stock, basic life-safety protections do not fully address building performance requirements to achieve resilience."

Mitigation includes, among other things, fortifying buildings so that they are less likely to be severely damaged or completely destroyed during or immediately after a disaster. It is the key to recovery after a disaster. Mitigation allows individuals and communities to lessen post-disaster disruption and rebuild more quickly. States and cities have started implementing more stringent requirements in specific geographic areas they have designated as higher-risk. The purpose of this series of code changes proposed by Fire Safe North America is to encourage the debate in the code development process to identify what constitutes resilient buildings, and begin to identify issues that will become the basis for "new minimum requirements" for increased building resiliency.

Responding to the challenge of mitigating damage and resilient buildings is an admittedly complex topic. Fire Safe North America proposals are intended to reduce the total reliance of a community and its firefighters on automatic sprinkler systems in disaster-prone areas of the country where the water supply and/or power are likely to be interrupted, or are likely to have water supply system operational issues. The proposals, if approved, will fortify the building code requirements for the most vulnerable buildings to fire - Type IIB, IIIB, and VB construction, which are also classified as Risk Category III and IV in Table 1604.5, and in high-risk, disaster prone regions. The proposals modify the following code requirements in such buildings:

1. Reduce allowable area limits
2. Protect the path of egress by limiting travel distances
3. Protect the path of egress by protecting corridors
4. Require higher fire resistance ratings for occupancy separations
5. Require higher fire resistance ratings for building elements

These proposals are intended to be conservative so as to promote community resiliency and disaster mitigation by protecting essential buildings with both sprinkler protection AND fire resistance rated compartmentation. These proposals may be fairly considered to be the proverbial "belt-and suspenders" approach, requiring both sprinkler protection and increased fire resistance rated compartmentation in specific buildings in high risk areas for disasters.

Historically, the code has been written using the general assumption that automatic sprinklers will operate satisfactorily and there will be suitable power for such building operations. Code users design and build assuming that firefighters will be able to respond at their normal efficiencies. In some parts of the country, buildings impacted by disasters may remain without reliable water and/or power for a considerable period of time, well after the occurrence of the disaster. History has shown that increased incidents of fires after a disaster can be more destructive to life and property than the disaster itself. Total reliance on an uninterrupted power and water supply may not be an acceptable risk. It may also be an unacceptable risk to assume that firefighters will be able to respond at their normal efficiencies.

For example, more than 15% of the U.S. population lives in potential major earthquake areas. 41 states and territories have moderate to high risk. There is a real likelihood of power and water supplies being interrupted following a major seismic event, along with the potential for multiple simultaneous structure fires and also building-to-building fire spread. In October 17, 1989, a 7.1 earthquake in Santa Cruz Mountains was responsible for 26 fires in San Francisco, 60 miles from epicenter. There were 67 documented breaks in water mains which effectively eliminated water pressure in the area. On January 19, 1994, a 6.8 earthquake centered in Northridge, CA. There were approximately 100 fire ignitions, 30 to 50 of those were considered significant. The water supply systems

in the area were damaged causing low pressure in water distribution. On January 17, 1995, a 6.8 (approx.) earthquake near Kobe, Japan caused 90 fires to start within minutes. 85 spread to adjacent buildings and 10 approached or reached conflagration status. 1,700 water line breaks occurred within a couple of hours. There were 7,000 buildings destroyed by fire alone.

In 1997, the Red River flooded Grand Forks, North Dakota, causing \$3.7 billion in flood losses, and displaced thousands of families and businesses. Similar data of increased fire incidents are available in other flood and hurricane-prone areas.

Undoubtedly, this will increase the cost of construction in these specific buildings. However, a recent FEMA's 2010 report "Mitigation's Value to Society" statement described how mitigation is an investment that needs to be made. A recent study by the NIBS Multihazard Mitigation Council (MMC) identified that each dollar spent on mitigation saves an average of \$4.00 in disaster recovery.

Links:

<http://www.dhses.ny.gov/oem/mitigation/documents/mitigations-value-to-society.pdf>

The two-volume NIBS MMC study report is available for free download at:

<http://www.nibs.org/index.php/mmc/projects/nhms>

Cost Impact: Will increase the cost of construction

This code change proposal will increase the cost of construction for some building types.

E 105-15 : 1020.1-LOVELL5278

E 106-15

Table 1020.2; (IFC[BE] Table 1020.2)

Proponent: John Williams, CBO, Chair, representing Adhoc Health Care Committee (AHC@iccsafe.org)

2015 International Building Code

**TABLE 1020.2
MINIMUM CORRIDOR WIDTH**

OCCUPANCY	MINIMUM WIDTH (inches)
Any facilities not listed below	44
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24
With an occupant load of less than 50	36
Within a <i>dwelling unit</i>	36
In Group E with a <i>corridor</i> having an occupant load of 100 or more	72
In corridors and areas serving stretcher traffic in occupancies where patients receive outpatient medical care, that causes the patient to be incapable of self-preservation <u>ambulatory care facilities</u>	72
Group I-2 in areas where required for bed movement	96

For SI: 1 inch = 25.4 mm.

Reason: The intent of this proposal is coordination of this table with the defined term for ambulatory care facilities

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This is a clarification; therefore, there is no change in cost.

Staff note: There is a published errata to Table 1020.2. The errata has been incorporated into the table as existing text.

E 106-15 : T1020.2-WILLIAMS4230

E 107-15

1020.4 (IFC[BE] 1020.4)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1020.4 Dead ends. Where more than one *exit* or *exit access 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 Condition 2, 3 or 4, 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*.

Reason: Single exit building do not have dead end corridors, therefore this should be removed. Group R-4 are permitted to have single exits per Section 1006.3.2 Item 4.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This is eliminating an erroneous requirement.

E 107-15 : 1020.4-BALDASSARRA4279

E 108-15

1020.4; (IFC[BE] 1020.4)

Proponent: Ronald Geren, representing Self (ron@specsandcodes.com)

2015 International Building Code

Revise as follows:

1020.4 Dead ends. Where more than one *exit* or *exit access 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 Condition 2, 3 or 4, 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*.
4. 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, a dead-end *corridor* shall not be limited in length where the length of the dead-end *corridor* is less than 6.25 times the least width of the dead-end *corridor*.

Reason: This proposal parallels the logic of Exception 2 and 3.

Exception 3 allows a nonsprinklered building to extend a dead-end corridor beyond 20 feet if the corridor is wider than 8 feet ($8' \times 2.5 = 20'$). However, a sprinkler system will allow a dead-end corridor to extend up to 50 feet for the occupancy groups indicated in Exception 2. But, for a sprinklered building to go beyond the 50-foot limitation, the dead-end corridor would need to be wider than 20 feet per Exception 3 ($20' \times 2.5 = 50'$).

Thus, if a dead-end corridor that is wider than 8 feet can extend beyond 20 feet in a nonsprinklered building (Exception 3), then a dead-end corridor that is also wider than 8 feet in a sprinklered building should also be allowed to go beyond 50 feet ($8' \times 6.25 = 50'$).

Cost Impact: Will not increase the cost of construction

The proposed exception is an option for designers and its use would have no negative impact on material or labor costs; it will more likely have a positive impact on cost by adding more flexibility for designer in means of egress design.

E 108-15 : 1020.4-GEREN5148

E 109-15

1021.4; (IFC[BE] 1021.4)

Proponent: Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Revise as follows:

1021.4 Location. Exterior egress balconies shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the egress balcony to the following:

1. Adjacent *lot lines*.
2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: Exterior egress balconies shall be permitted to have a minimum fire separation distance of 5 feet (1524 mm), where the exterior edge of the egress balcony has openings protected and limited in accordance with Section 705.8

Reason: It is not practical to provide 10' setbacks for buildings. With this exception, balconies will be similar to corridors, which do not have specific fire separation distance limitations.

Cost Impact: Will not increase the cost of construction
This is a design option.

E 109-15 : 1021.4-CUEVAS4829

E 110-15

1023.3.1; (IFC[BE] 1023.3.1)

Proponent: Raymond Grill, Arup, representing Arup (ray.grill@arup.com)

2015 International Building Code

Revise as follows:

1023.3.1 Extension. Where *interior exit stairways* and *ramps* are extended to an *exit discharge* or a *public way* by an *exit passageway*, the *interior exit stairway* and *ramp* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than that required for the *interior exit stairway* and *ramp*. A *fire door* assembly complying with Section 716.5 shall be installed in the *fire barrier* to provide a *means of egress* from the *interior exit stairway* and *ramp* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door* assembly are prohibited. Penetrations of the *fire barrier* are prohibited.

Exceptions:

1. Penetrations of the *fire barrier* in accordance with Section 1023.5 shall be permitted.
2. Separation between an *interior exit stairway* or *ramp* and the *exit passageway* extension shall not be required where there are no openings into the *exit passageway* extension.
3. Separation between an interior exit stairway or ramp and the exit passageway extension shall not be required when the interior exit stair and the exit passageway extension are pressurized in accordance with Section 909.20.5.

Reason: Pressurized stairs often discharge through an exit passageway. The exit passageway is also typically required to be pressurized since it is a continuation of the pressurized stair enclosure. The system providing pressurization of the stair and passageway is typically the same system. Technical compliance would require separate systems if a separation is required to be maintained. The introduction of a door and fire barrier between the exit passageway and the stair creates an obstruction to airflow which inhibits the pressurization of the stair and passageway. The provision of a separation does not provide any added safety and could also impede egress.

Cost Impact: Will not increase the cost of construction

This code change will reduce the cost of construction where pressurized stairs discharge through an exit passageway extension. The door and fire barrier between the exit passageway extension and the stair would not be required.

E 110-15 : 1023.3.1-GRILL5191

E 111-15

1023.4; (IFC[BE] 1023.4)

Proponent: Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay)
(hmaiel@gmail.com)

2015 International Building Code

Revise as follows:

1023.4 Openings. *Interior exit_stairway* and *ramp* opening protectives shall be in accordance with the requirements of Section 716.

Openings in *interior exit_stairways* and *ramps* other than unprotected exterior openings shall be limited to those ~~necessary_~~
required for *exit access* to the enclosure from normally occupied spaces and for egress from the enclosure.

Elevators shall not open into *interior exit_stairways* and *ramps*.

Reason: The word "necessary" is subjective. However, the word "required" is more definitive and has been used throughout the code consistently.

Cost Impact: Will not increase the cost of construction

This code change proposal will not increase cost of construction.

E 111-15 : 1023.4-MAIEL4690

E 112-15

1023.5; (IFC[BE] 1023.5)

Proponent: William Koffel, representing Firestop Contractors International Association (wkoffel@koffel.com)

2015 International Building Code

Revise as follows:

1023.5 Penetrations. Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and security systems and electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent *interior exit stairways* and *ramps*.

Exception: Membrane penetrations shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.3.2.

Reason: Building security systems, including cameras in stairways, are becoming more prevalent. If properly protected, a limited number of penetrations for security systems will not result in an unacceptable level of safety. NFPA 101-2015 requires stairway video monitoring in high-rise buildings having an occupant load of 4,000 or more persons.

Cost Impact: Will not increase the cost of construction

The proposed language addressed a limitation in the code regarding security systems being able to penetrate exit enclosures. If anything, the cost of construction will be decreased by allowing an acceptable way for installing such systems.

E 112-15 : 1023.5-KOFFEL4844

E 113-15

1023.5, 1024.6; (IFC[BE] 1023.5, 1024.6)

Proponent: William King, City of Alexandria, representing Virginia Building Code Officials Association
(william.king@alexandriava.gov)

2015 International Building Code

Revise as follows:

1023.5 Penetrations. Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for equipment and ductwork necessary for independent ventilation or pressurization, ~~sprinkler piping~~ *fire protection systems*, ~~standpipe two-way communication systems~~, electrical raceway for fire department communication systems and electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent *interior exit stairways* and *ramps*.

~~**Exception:** Membrane penetrations shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.3.2.~~

1024.6 Penetrations. Penetrations into or through an *exit passageway* are prohibited except for equipment and ductwork necessary for independent pressurization, ~~sprinkler piping~~ *fire protection systems*, ~~standpipe two-way communication systems~~, electrical raceway for fire department communication and electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent *exit passageways*.

~~**Exception:** Membrane penetrations shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section 714.3.2.~~

Reason: The purpose of these two code sections are to protect the integrity of the exit enclosure and allow for safe egress for the occupants. The current exceptions, first included in the 2012 IBC, as written put the integrity of the exit enclosure at risk.

The reason statement for the creation of this exception in the 2012 code stated:

"As currently written, a pull station next to a door into the stair, fire hose cabinets, fire extinguisher cabinets, request-to-exit devices related to access control locks, notification appliances, etc., are not permitted on the outside of the exit enclosure. This exceptions needs to clarify the intent of Sections 1022.4 and 1023.6".

The commentary for this section of the code states the following:

"The intent is to maintain the integrity of the enclosure for the exit access stairway."

"The exception allows for electrical boxes, "Exit" signs or fire alarm pull stations to be installed on the outside of the enclosure provided that the boxes are installed so that the required fire-resistance rating is not reduced."

The exception as it currently exists is significantly broader than just addressing those items. Using the exception, any and all items can penetrate the membrane of an exit enclosure without limitation to size or quantity as long as they are part of a tested penetration. This puts the exit enclosure at significant risk and degrades the overall safety afforded by an exit enclosure. As the code continues to reduce the times in which a rated exit enclosure is provided, the protection of these enclosures becomes even more critical to the safety of the building's occupants.

The current proposal looks to remove the blanket allowance for any system to be placed in the exit enclosure assembly. The inclusion of additional items in the main text of the section is designed to address the items noted as the basis for the original code change, but would keep the rated exit enclosure wall from being used as a chase for plumbing, fuel gas, med gas, low voltage wiring and any of the other myriad of hazards the current exception would allow.

Cost Impact: Will increase the cost of construction

This change would not allow the rated exit enclosure wall to be used as a chase for building services. This may require an additional chase to be constructed.

E 113-15 : 1023.5-KING3314

E 114-15

1023.11; (IFC[BE] 1023.11)

Proponent: Christopher Moran, Jensen Hughes, representing Airport Traffic Control Tower Technical Working Group (cmoran@jensenhughes.com); Eric Rosenbaum, Jensen Hughes, representing Airport Traffic Control Tower Fire/Life Safety Technical Working Group (erosenbaum@jensenhughes.com)

2015 International Building Code

Revise as follows:

1023.11 Smokeproof enclosures. Where required by Section 403.5.4-~~or~~, 405.7.2, or 412.3.2, *interior exit stairways* and *ramps* shall be *smokeproof enclosures* in accordance with Section 909.20.

Reason: Section 412.3.2 requires smokeproof enclosures for air traffic control tower stairs and refers to section 1023.11 but section 1023.11 does not reference back to 412.3.2 as it does for high-rise buildings (403.5.4) and underground buildings (405.7.2). This change is proposed to reduce potential confusion from the lack of the reference statement in 1023.11. The current code requirement from 412.3.2 is included below for reference.

412.3.2 Stairways. Stairways in airport traffic control towers shall be in accordance with Section 1011. Stairways shall be smokeproof enclosures complying with one of the alternatives provided in Section 909.20.

Exception: Stairways in airport traffic control towers are not required to comply with Section 1011.12.

Cost Impact: Will not increase the cost of construction

This proposal only reduces potential confusion and clarifies the intent of the code. No cost impact is associated with this change.

E 114-15 : 1023.11-MORAN5073

E 115-15

1023.12 (New), 1024.8 (New), 1026.5 (New); (IFC[BE] 1023.12 (New), 1024.8 (New), 1026.5 (New))

Proponent: Lee Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Add new text as follows:

1023.12 Standpipes. Standpipes and standpipe hose connections shall be provided in accordance with Sections 905.3 and 905.4.

1024.8 Standpipes. Standpipes and standpipe hose connections shall be provided in accordance with Sections 905.3 and 905.4.

1026.5 Standpipes. Standpipes and standpipe hose connections shall be provided in accordance with Sections 905.3 and 905.4.

Reason: Placing references to Sections 905.3 and 905.4 standpipe requirements for interior exit stairways & ramps (Section 1023), exit passageways (Section 1024) and horizontal exits (Section 1026) will help designers and reviewers to include this requirement early in the building design process. During the means of egress design process, the requirement for standpipes for interior exit stairways/ramps, exit passageways and horizontal exits are frequently overlooked and may have significant cost impacts to correct later during construction. Including the standpipe references will make the design team aware of the requirement early in the design process and help insure cost impacts are considered at the appropriate time.

Cost Impact: Will not increase the cost of construction

This code change will save money by providing a reminder to designers and plan reviewers to check for the need for standpipes when the design includes interior exit stairways or ramps, exit passageways and horizontal exits.

E 115-15 : 1023.12 (New)-KRANZ3768

E 116-15

403.5.5, 1025; (IFC[BE] 1025)

Proponent: Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Delete without substitution:

~~403.5.5 Luminous egress path markings. Luminous egress path markings shall be provided in accordance with Section 1025.~~

~~SECTION 1025 LUMINOUS EGRESS PATH MARKINGS~~

Revise as follows:

~~1025.1~~ **403.5.5 General.** *Approved* luminous egress path markings delineating the exit path shall be provided in *high-rise buildings* of Group A, B, E, I, M, and R-1 occupancies in accordance with Sections ~~1025.1~~ 403.5.5 through ~~1025.5~~ 403.5.5.4.

Exception: Luminous egress path markings shall not be required on the *level of exit discharge* in lobbies that serve as part of the exit path in accordance with Section 1028.1, Exception 1.

~~1025.2~~ **403.5.5.1 Markings within exit components.** Egress path markings shall be provided in *interior exit stairways, interior exit ramps and exit passageways*, in accordance with Sections ~~1025.2.1~~ 403.5.5.1.1 through ~~1025.2.6~~ 403.5.5.1.6.

~~1025.2.1~~ **403.5.5.1.1 Steps.** *No change to text*

~~1025.2.2~~ **403.5.5.1.2 Landings.** *No change to text*

~~1025.2.3~~ **403.5.5.1.3 Handrails.** *No change to text*

~~1025.2.4~~ **403.5.5.1.4 Perimeter demarcation lines.** *No change to text*

~~1025.2.4.1~~ **403.5.5.1.4.1 Floor-mounted demarcation lines.** *No change to text*

~~1025.2.4.2~~ **403.5.5.1.4.2 Wall-mounted demarcation lines.** *No change to text*

~~1025.2.4.3~~ **403.5.5.1.4.3 Transition.** *No change to text*

~~1025.2.5~~ **403.5.5.1.5 Obstacles.** *No change to text*

~~1025.2.6~~ **403.5.5.1.6 Doors within the exit path.** Doors through which occupants must pass in order to complete the exit path shall be provided with markings complying with Sections ~~1025.2.6.1~~ 403.5.5.1.6.1 through ~~1025.2.6.3~~ 403.5.5.1.6.3.

~~1025.2.6.1~~ **403.5.5.1.6.1 Emergency exit symbol.** *No change to text*

~~1025.2.6.2~~ **403.5.5.1.6.2 Door hardware markings.** *No change to text*

~~1025.2.6.3~~ **403.5.5.1.6.3 Door frame markings.** *No change to text*

~~1025.3~~ **403.5.5.2 Uniformity.** *No change to text*

~~1025.4~~ **403.5.5.3 Self-luminous and photoluminescent.** *No change to text*

~~1025.5~~ **403.5.5.4 Illumination.** *No change to text*

Reason: These requirements best fit in Section 403 where other "High Rise" requirements are found.

Cost Impact: Will not increase the cost of construction
There is not change in requirements.

E 116-15 : 1025-CUEVAS4830

E 117-15

1025.1; (IFC[BE] 1025.1)

Proponent: John Williams, CBO, CBO, Chair, Adhoc Healthcare Committee, representing Adhoc Health Care Committee (AHC@iccsafe.org); Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1025.1 General. *Approved* luminous egress path markings delineating the exit path shall be provided in *high-rise buildings* of Group A, B, E, ~~H-1, I-3, I-4~~, M, and R-1 occupancies in accordance with Sections 1025.1 through 1025.5.

Exception: Luminous egress path markings shall not be required on the *level of exit discharge* in lobbies that serve as part of the exit path in accordance with Section 1028.1, Exception 1.

Reason: The intent of this proposal is to delete Group I-2 from the facilities that require luminous egress path markings. Hospitals and nursing homes have trained staff that operate with a defend-in-place strategy for fires. The emergency generators are continually monitored and maintained, so the change of the emergency egress lighting required in the means of egress (Section 1008) failing is extremely minimal. Requiring egress path marking in the stairways in high-rise hospitals and nursing homes is a redundant feature that is costly and unnecessary. In addition, the hospitals will have the emergency lighting on their emergency generator, not just battery power. For the stripes to be utilized, both the general means of egress lighting and the emergency lighting has to have failed.

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The deletion of luminous egress markings will be a saving in initial construction, maintenance cost of the markings and a savings in energy if the lights do not have to stay on.

E 117-15 : 1025.1-WILLIAMS4232

E 118-15

1025.1 (IFC[BE] 1025.1)

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1025.1 General. *Approved* luminous egress path markings delineating the exit path shall be provided in *high-rise buildings* of Group A, B, E, H-1, I-2, I-3, M, and R-1 occupancies in accordance with Sections 1025.1 through 1025.5.

Exception: Luminous egress path markings shall not be required on the *level of exit discharge* in lobbies that serve as part of the exit path in accordance with Section 1028.1, Exception 1.

Reason: The intent of this proposal is to delete Group I-4 from the facilities that require luminous egress path markings. The current provisions appear to have been written for single occupancy buildings in mind. While there could be a day care in a high rise building, there is no justification for the presence of a small Group I-4 in a building to require photoluminescent stripes throughout.

Perhaps additional clarification is needed for mixed use buildings and when luminous egress path markings should be required, however, that is outside the scope of the CTC Care committees, so nothing is proposed at this time.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This will eliminate a requirement for luminous egress path markings in buildings that had a day care but were not one of the use groups named.

E 118-15 : 1025.1-BALDASSARRA4290

E 119-15

1025.1; (IFC[BE] 1025.1)

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

2015 International Building Code

Revise as follows:

1025.1 General. *Approved* luminous egress path markings delineating the exit path shall be provided in *high-rise buildings* of Group A, B, E, ~~+~~ I-1, I-2, I-4, M, and R-1 occupancies in accordance with Sections 1025.1 through 1025.5.

Exception: Luminous egress path markings shall not be required on the *level of exit discharge* in lobbies that serve as part of the exit path in accordance with Section 1028.1, Exception 1.

Reason: The intent of this proposal is to delete Group I-3 from the facilities that require luminous egress path markings. Jails have trained staff that operate with a defend-in-place strategy for fires. The emergency generators are continually monitored and maintained, so the change of the emergency egress lighting required in the means of egress (Section 1008) failing is extremely minimal. Requiring egress path marking in the stairways in high-rise jails is a redundant feature that is costly and unnecessary.

Cost Impact: Will not increase the cost of construction

The deletion of luminous egress markings will be a saving in initial construction, maintenance cost of the markings and a savings in energy if the lights do not have to stay on.

E 119-15 : 1025.1-DAVIDSON4226

E 120-15

1025.2.5; (IFC[BE] 1025.2.5)

Proponent: Manny Muniz, representing self (Mannymuniz.mm@gmail.com)

2015 International Building Code

Revise as follows:

1025.2.5 Obstacles. Obstacles at or below 6 feet 6 inches (1981 mm) in height and projecting more than 4 inches (102 mm) into the egress path shall be outlined with markings not less than 1 inch (25 mm) in width comprised of a pattern of alternating equal bands, of luminous material and black, with the alternating bands not more than 2 inches (51 mm) thick and angled at 45 degrees (0.79 rad). Obstacles shall include, but are not limited to, standpipes, hose cabinets, wall projections and restricted height areas. However, such markings shall not conceal any required information or indicators including but not limited to instructions to occupants for the use of standpipes.

Exception: The minimum width of 1 inch (25 mm) shall not apply to markings listed in accordance with UL 1994.

Reason: Sections 1025.2.1 steps, 1025.2.3 handrails, and 1025.2.4 perimeter demarcation lines, all provide an exception to the minimum width of 1 inch when the step, handrail and perimeter demarcation lines are listed in accordance with UL 1994, a performance standard. This exception should also apply to Section 1025.2.5 for obstacle markings as the performance has been evaluated and validated by UL 1994.

Cost Impact: Will not increase the cost of construction

This exception will simply provide an equivalent method of compliance similar to what is already provided for in 1025.2.1, 1025.2.3 and 1025.2.4.

E 120-15 : 1025.2.5-MUNIZ5706

E 121-15

1025.4, 1025.4.1(New). 1025.4.1.1(New), 1025.4.1.2(New), 1025.4.1.3(New); (IFC[BE] 1025.4, 1025.4.1(New). 1025.4.1.1(New), 1025.4.1.2(New), 1025.4.1.3(New))

Proponent: Lee Devito, FIREPRO Incorporated, representing FIREPRO Incorporated
(ldevito@fireproincorporated.com)

2015 International Building Code

Revise as follows:

1025.4 Self-luminous and photoluminescent. Luminous egress path markings shall be permitted to be made of any material, including paint, ~~provided that an electrical charge is not required to maintain the required luminance.~~ Such materials shall include, but not be limited to, ~~self-luminous materials and photoluminescent materials and electroluminescent materials.~~ Materials shall comply with either of the following standards:

1. UL 1994.
2. ASTM E 2072, except that the charging source shall be 1 footcandle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 milicandelas per square meter at 10 minutes and 5 milicandelas per square meter after 90 minutes.

Add new text as follows:

1025.4.1 Electroluminescent materials. Electroluminescent materials shall be powered by at least two independent and reliable power supplies in accordance with Sections 1025.4.1.1 and 1025.4.1.2 and supervised in accordance with Section 1025.4.1.3.

1025.4.1.1 Primary power source. The primary power supply shall be a branch circuit supplying no other loads and shall be supplied from a commercial light and power source, or an equivalent source acceptable to the authority having jurisdiction.

1025.4.1.2 Secondary power source. The secondary power source shall automatically provide power to the electroluminescent system within 10 seconds whenever the primary power supply fails to provide the minimum voltage required for proper operation.

1025.4.1.3 Supervision. Electroluminescent materials shall be supervised by the building fire alarm control system, and the fire alarm control system shall provide a supervisory signal when a supervisory condition occurs. Supervisory conditions shall be loss of power to the electroluminescent system and breakage of the electroluminescent materials.

Reason: The intent of the Building Code is described in Section 101.3 Intent:

The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

The key information in the Section 101.3 Intent is to provide "minimum requirements".

ASTM E 2072 establishes a minimum requirement for photometric requirements for newly applied photoluminescent safety materials used to provide supplemental markings of escape routes. It requires that ten minutes after it is activated that it have a photopic luminance of 20.0 millicandelas per square meter at ten minutes and 2.8 millicandelas per square meter at sixty minutes.

The deterioration of the light level of photoluminescent materials essentially establishes a time limit for the lighting from luminous path marking equipment of sixty minutes as the minimum requirement. Additionally, ASTM E 2072 specification does not cover potentially diminished performance due to wear and tear or aging, so the actual operating time may vary.

Where the building code establishes minimum requirements, the building owner may wish to go beyond the minimum requirements and establish a higher design standard. With the requirement that the egress path marking product can only be self-luminous materials and photoluminescent materials, minimum path marking illumination time is set at 60 minutes, and because of the deterioration of the photoluminescent material it also sets the maximum illumination time as also 60 minutes.

The National Institute of Standards and Technology, Technology Assessment of the U.S. Department of Commerce published the report "NIST Response to the World Trade Center Disaster", Federal Building and Fire Safety Investigation of the World Trade Center Disaster, Part IV - Life safety on April 5, 2005. Based on interviews with responding personnel it was determined that it took 125 minutes for firefighters carrying equipment and not wearing PPE 125 minutes to climb 58 floors, and for firefighters carrying no equipment and not wearing PPE it took 90 minutes to climb to the 58th floor. Using photoluminescent material for the luminous egress path markings, the light developed by the photoluminescent material will be depleted in the observed climbing time.

The building owner may desire to have the luminous path marking equipment operate for a longer time frame. That may be because the building owner's desires to have the capability to provide longer egress path lighting if the building egress may take longer than sixty minutes, or that there is a desire to provide longer lighting for the firefighters and emergency responders. Because of their deterioration properties, photoluminescent materials may not be able to provide a longer time frame for illumination that may be appropriate for the building owners desires.

Electrical systems provide the building management with more flexibility with the operation of the exit path marking systems. Using a commercial power source the egress path marking system can be illuminated continuously. Also, battery backup can be adjusted so that when the commercial power is eliminated the batteries can provide an operating time much longer than the sixty minutes that would be provided by photoluminescent material. This can be selected at the time of the system design by the building owner.

Electrical systems do not need backup lighting which will allow building managers to control the building lighting systems in the egress path.

Furthermore, energy savings and Green/LEEDS requirements (for example through the use of motion sensor lighting) may be further achieved with electroluminescent materials, as separate continuously operational light sources for photoluminescent systems are not required for charging the proposed electroluminescent systems.

A later section of this code, 1024.5 Illumination, requires that means of egress path marking systems that use independent illumination for charging of

photoluminescent exit path markings is required to be operational for at least 60 minutes prior to periods when the building is occupied. Electro luminescent exit path markings would not require this, relieving the energy usage burden on the building.

Electrical systems can be operated at any time since they have available power and they are protected with battery standby support. Therefore, the building management can utilize the electrical systems when ever there is an alarm activity or other situation in the buildig, whether the building power is available or not. Selfluminous and photoluminescent materials only provide lighting when the background lighting is limited.

Electrical systems are supervised so the building management will know that there is a problem. Self-luminous materials and photoluminescent materials are not supervised, so they can be damaged or removed and no one is notified until a manual check is performed on the system. Whereas, the path marking systems are required in some high-rise building , manual inspection will be time consuming and possibly burdonsosme, which may mean that self-luminous or photoluminescent systems may not be inspected.

The management can utilize the flexibility of the electrical system to provide further information on the availability or disruption of an egress path. Potentially by not turning on the egress path marking system in an egress path that has been interrupted, it can allow the evacuees to change the egress path they are using.

Code Impact: If an adoptive organization does not agree with the use of electroluninescent technology, then through an amendment policy they can delete those sections that relate to electroluminescent technology. This allows adoptive organizations the opportunity to allow electroluninescent technology.

Bibliography: "NIST Response to the World Trade Center Disaster", Federal; Building and Fire Safety Investigation of the World Trade Center Disaster, Part IV - Life safety on April 5, 2005, pages 33 & 34

Cost Impact: Will not increase the cost of construction

The requirement for path marking already exists, therefore there would be no additional cost impact. This approach provides an option that allows building owners to choose equivalent systems that provide more features for the end user.

E 121-15 : 1025.4-DEVITO3601

E 122-15

1025.4; (IFC[BE] 1025.4)

Proponent: Manny Muniz, representing self (Mannymuniz.mm@gmail.com)

2015 International Building Code

Revise as follows:

1025.4 Self-luminous and photoluminescent. Luminous egress path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not be limited to, *self-luminous* materials and *photoluminescent* materials. Materials shall ~~comply~~ be listed in accordance with either of the following standards:

1. UL 1994.
2. ASTM E 2072, except that the charging source shall be 1 footcandle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 milicandelas per square meter at 10 minutes and 5 milicandelas per square meter after 90 minutes.

Reason: Section 1025.4 only requires that materials comply with UL 1994 or ASTM E 2072, not that they actually be listed. When materials are only tested (no listing) for compliance with a test standard, the test samples can be submitted directly to the test agency by the manufacturer with no follow up Quality Control inspections, thus making it unclear as to what was actually tested and what is being manufactured and sold.

By contrast, materials that are tested and listed must be randomly selected by the testing lab to insure the integrity of the test results and requires follow up Quality Control inspections to insure that what is manufactured and sold is what was originally tested.

Underwriters Laboratory confirmed that "As you've noted, a test certificate can be issued without any subsequent product surveillance, leaving open the question of whether the installed product actually matches the tested product. For many products, an AHJ really has few tools to validate this. Listing programs are not foolproof but they do provide a pretty significant upgrade in confidence that someone other than a fox is watching the hen house."

Cost Impact: Will not increase the cost of construction

Regardless of whether an item is listed or not, the cost of the test is the same.

E 122-15 : 1025.4-MUNIZ5601

E 123-15

1026.4; (IFC[BE] 1026.4)

Proponent: Ronald Geren, RLGA Technical Services, LLC, representing Self (ron@specsandcodes.com)

2015 International Building Code

Revise as follows:

1026.4 Refuge area. The refuge area of a *horizontal exit* shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original *occupant load* of the refuge area plus the *occupant load* anticipated from the adjoining compartment. The anticipated *occupant load* from the adjoining compartment shall be based on the capacity of the *horizontal exit doors* entering the refuge area, but not more than the total occupant load of the adjoining compartment.

Reason: If the total occupant load of the compartment egressing through the horizontal exit is less than the capacity of the horizontal exit door, the maximum capacity of the refuge area should not be more than the legal capacity of the compartment egressing.

For example, a standard 36-inch-wide door has a clear width of 33 inches. At 0.20" per occupant, the capacity of the door is 165 occupants. For sprinklered buildings at 0.15" per occupant, the load is even greater at 220 occupants. So, if the total occupant load on one side of the horizontal exit door is less than 165 for a nonsprinklered building, or less than 220 occupants for a sprinklered building, then the refuge area on the other side should only be required to accommodate the design occupant load and not the capacity of the door in the horizontal exit.

Cost Impact: Will not increase the cost of construction

The proposed change will actually relax the requirement. Thus, building owners can maximize the use of the floor area for their buildings without having to make floor areas usable for refuge areas in order to accommodate more occupants than the area is legally permitted to have.

E 123-15 : 1026.4-GEREN5149

E 124-15

1026.4.1; (IFC[BE] 1026.4.1)

Proponent: John Williams, CBO, Chair, representing Adhoc Health Care Committee (AHC@iccsafe.org)

2015 International Building Code

Revise as follows:

1026.4.1 Capacity. The capacity of the refuge area shall be computed based on a *net floor area* allowance of 3 square feet (0.2787 m²) for each occupant to be accommodated therein. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Groups I-1, I-2 and I-3 occupancies and Group B ambulatory care facilities shall comply with Section 407.5.1, 408.6.2, 420.4.1 and 422.3.2 as applicable.

Exceptions: ~~The *net floor area* allowable per occupant shall be as follows for the indicated occupancies:~~

- ~~1. Six square feet (0.6 m²) per occupant for occupancies in Group I-3.~~
- ~~2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.~~
- ~~3. Thirty square feet (2.8 m²) per occupant for nonambulatory occupancies in Group I-2.~~

Reason: This proposal clarifies the capacity requirements for horizontal exit refuge areas for defend in place occupancies. Currently, the requirements for defend in place occupancies are located in the exception, rather than being located in the body of the text. Since the exception would be more restrictive than the section, we are suggesting moving the requirements by reference into the main body of the text. In addition, by a reference back to the refuge area capacities in Chapter 4, the provisions will always stay coordinated.

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is a reference to more specific requirements already in the code.

E 124-15 : 1026.4.1-WILLIAMS4244

E 125-15

1027.5; (IFC[BE] 1027.5)

Proponent: Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Revise as follows:

1027.5 Location. *Exterior exit stairways and ramps* shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway or ramps*, including landings, to:

1. Adjacent *lot lines*.
2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: Exterior exit stairways and ramps shall be permitted to have a minimum fire separation distance of 5 feet (1524 mm), where a solid masonry or concrete wall is provided at the adjacent lot line or assumed property line. The wall shall be a minimum of 6 feet (1830 mm) in height and at least the same width as the exterior exit stairway or ramp.

Reason: It's not practical to provide 10'-0" setback for stairs. The stairs usually come out of the building and exit next to the building. If stairs have to have 10' setback, the buildings themselves have to have 13'-14' setback. The exception provides equivalent protection.

Cost Impact: Will not increase the cost of construction
This is a design option.

E 125-15 : 1027.5-CUEVAS4831

E 126-15

1027.5, 1027.6; (IFC[BE] 1027.5, 1027.6)

Proponent: Ali Fattah, City of San Diego Development Services Department, representing City of San Diego (afattah@sandiego.gov)

2015 International Building Code

Revise as follows:

1027.5 Location. *Exterior exit stairways and ramps* shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway or ramps*, including landings, to:

1. Adjacent *lot lines*.
2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: Exterior exit stairways and ramps serving individual dwelling units of Group R-3 shall have a minimum fire separation distance of 5 feet.

1027.6 Exterior exit stairway and ramp protection. *Exterior exit stairways and ramps* shall be separated from the interior of the building as required in Section 1023.2. Openings shall be limited to those necessary for egress from normally occupied spaces. Where a vertical plane projecting from the edge of an *exterior exit stairway or ramp* and landings is exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the exterior wall shall be rated in accordance with Section 1023.7.

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 not 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 exitramp* or balcony that connects two remote *exterior exit stairways* or other *approved exits* with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the openings not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the open-ended *corridor* of the building is not required for *exterior exit stairways or ramps*, provided that Items 3.1 through 3.5 are met:
 - 3.1. The building, including open-ended *corridors*, and *stairways and ramps*, shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 3.2. The open-ended *corridors* comply with Section 1020.
 - 3.3. The open-ended *corridors* are connected on each end to an *exterior exit stairway or ramp* complying with Section 1027.
 - 3.4. The *exterior walls* and openings adjacent to the *exterior exit stairway or ramp* comply with Section 1023.7.
 - 3.5. 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 m²) 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.
4. In Group R-3 occupancies not more than 4 stories in height, exterior exit stairways and ramps serving individual dwelling units are not required to be separated from the interior of the building where the exterior exit stairway or ramp discharges directly to grade.

Reason: The proposed code change to Section 1027.5 adds an exception to limit the fire separation distance to 5 ft for an R-3 occupancy. The proposed exception # 4 to Section 1027.6 exempts an exterior exit stairway on up to a 4 story R-3 from being separated from the interior of a building. A four story R-3 should be the upper limit since the type of construction will have to be increased from type if more than 4 stories in height. The IBC regulates Group R-3 occupancies, typically one dwelling or two dwellings units located within the same building when the building configuration is not within the scope of the International Residential Code. So Group R-3 occupancies more than three stories above grade plane and group R-3 occupancies with 2 units using a common means of egress are required to comply with the IBC. Additionally, Townhouses that have a height of more than three stories above grade plane, and townhouses with only one side open to a public way also need to comply with the IBC.

The IBC in many instances exempts R-3 occupancies from means of egress requirements more appropriate for buildings with larger occupant loads and buildings with multiple tenant spaces/units sharing a common means of egress system.

- For example Section 1028.4.2 Exception # 2 exempts exit courts serving Group R-3 occupancies from exterior wall and opening protection requirements regardless of the occupant load served.
- Similarly Section 1019.3 Exception 2 exempts exit access stairways and ramps in Group R-3 occupancies from requirements that include enclosure requirements. Interior exit stairways within Group R-3 and within individual units classified as R-2 are not classified as exits since they are permitted to be exit access stairways per Section 1019.
- Another example is Section 1027.6 exception # 1 allows the exterior exit stairway not be protected from the interior of the buildings other than Group

R1 and R2 and 2 stories in height. The exception recognizes a lesser hazard.

As a consequence it does not make sense to require a fire separation distance of 10 ft adjacent to an exterior stairway serving an individual unit in a Group R-3 occupancy. Additionally since stairways serving Group R-3 occupancies and individual units in Group R-2 are exempt from interior stairway enclosure requirements it makes no sense to separate the exterior stairway from the interior of the unit.

Cost Impact: Will not increase the cost of construction

This code change adds clarity to the code and codifies current practice of not requiring a separation from the dwelling unit. Additionally the reduced side yard increases buildable area.

E 126-15 : 1027.5-FATTAH4665

E 127-15

1028.1; (IFC[BE] 1028.1)

Proponent: William Koffel, Koffel Associates, Inc., representing Self (wkoffel@koffel.com)

2015 International Building Code

1028.1 General. *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas on the level of discharge provided all of the following conditions are met:
 - 1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit door* and such exit path of travel 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*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped 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. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided all of the following conditions are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* 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 a *fire partition* constructed in accordance with Section 708.
 - 2.4. The area is used only for *means of egress* and *exits* directly to the outside.
Exception: The maximum transmitted temperature rise is not required.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

Reason: Proposal E140-07/08 revised the text of the 2006 Edition of the IBC to require that the exit be visible from the discharge of the exit enclosure instead of the path of travel being visible and identifiable. The Commentary to the 2006 Edition of the IBC had similar language regarding the exit being visible. As the original proponent of the language in this section, I challenged the Commentary language and ICC Staff acknowledged that the Commentary was in error. The Proponent of E140-07/08 described a scenario wherein the "path winds through various areas on the level of exit discharge." It should be noted that the same path would be taken by an occupant who is on the level of exit discharge at the point the stair discharges. The path is the exit access route for that occupant. If the path is acceptable as part of the exit access from that level, why is it not also acceptable for an occupant who discharges the stair into a space that is protected with an automatic sprinkler system.

The current Code text is overly restrictive by requiring that the exterior exit door itself be readily visible from the stair discharge. The current language essentially eliminates any arrangement in which the stair would discharge into a corridor unless once one enters the corridor they can immediately see the exterior door from that point. The key performance is that the occupant can effectively identify the path of travel to be taken upon arrival at the level of exit discharge.

The Proponent of E140-07/08 cited no incidents in with the existing Code text at the time presented any problems in effectively egressing from the building despite that text existing in previous codes for decades.

Cost Impact: Will not increase the cost of construction

By providing additional flexibility, the proposal will result in a reduction in the cost of construction for projects attempting to utilize the provisions.

E 128-15

403.5.1, 1028.1, 1028.2; (IFC[BE] 1028.1, 1028.2)

Proponent: Ali Fattah, City of San Diego Development Services Department, representing City of San Diego

2015 International Building Code

Revise as follows:

1028.1 General. *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas on the level of discharge provided all of the following conditions are met:
 - 1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with 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*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped 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*.
 - 1.5. Where two or more required interior exit stairways or ramps provide means of egress from the same story and discharge through the same story at the level of exit discharge, the exit discharge doors from such interior exit stairways or ramps 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 doorways from such interior exit stairway or ramp.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided all of the following conditions are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* 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 a *fire partition* constructed in accordance with Section 708.
 - 2.4. The area is used only for *means of egress* and *exits* directly to the outside.

Exception: The maximum transmitted temperature rise is not required.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

1028.2 Exit discharge width or capacity and separation. The minimum width or required capacity of the *exit discharge* shall be not less than the minimum width or required capacity of the *exits* being served. Where more than one exit is required, the path of travel for the exit discharge shall be arranged to comply with the required separation determined in Section 1007.

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 stairways* shall be counted as one *interior exit stairway*. Where two or more interior exit stairways egress through interior areas on the level of exit discharge, the required separation for the exit discharge shall be in accordance with Section 1028.

Reason: Code change # E7-12/13 submitted by the ICC Code Technology Committee added exception # 1.4 to Section 1027.1 Exception 1 (now 1028.1 Exception 1)

The reason statement of the code change on page E-58 of the code change monograph states " 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."

The ICC Code Technology Committee code change does not address maintaining separation of exits when Section 1028.1 Exception 1 permits more than one interior exit stairway to discharge through areas of the story on the level of exit discharge. Condition 1.5 is added to exception # 1 to be consistent with the code's intent that unprotected paths be separated, this condition ensures that the doorways are adequately separated to prevent both from being compromised, this condition may occur in public assembly buildings where 4 or more exits are required or large buildings where travel distance needs to be limited with exits. Egress elements can be compromised by more than fire, they can be compromised by falling debris, fire fighting operations, etc..

Section 1028.2 is modified to address separation of the means of in the exit discharge. The exit discharge includes elevated courts on podium style buildings with multiple buildings atop of a large base, exit courts, and while not called exit discharge ground floor lobbies through which interior exit stairways pass to reach the public way or exterior exit discharge. While the IBC does not consider multiple fire scenarios egress paths that converge when exterior exit doorways from an exit passageway or exit enclosure terminate adjacent to an exterior exit doorway. The means of egress requirements in Chapter 10 of the IBC have their origins in the NFPA 101 life safety. Section 7.7.3.1 of the 2015 Life Safety Code requires that means of egress in the exit discharge be separated. Without the proposed change to Section 1028.2 the IBC will continue to allow converging paths for example when a rear exit discharges to a rear yard that accesses a public way on a side opposite the court via a perpendicular exit court and the path converges with the front exit from a building when arriving at the public way. Another example is where multiple stairways terminate at a ground floor and are served by one group of lobby doors.

Section 1028.2 currently only requires the width be maintained and exterior exit discharge elements are required to be protected from a building and in some cases from adjacent lot lines. It can be assumed that the IBC does not believe that the exit discharge is as safe as the public way, whether it be within the ground floor lobby of a high rise building or the 6 ft wide exit court serving 300 occupants from an auditorium or theater. The Life Safety Code recognizes this omission and addresses exit separation do to the hazards that exist in the exit discharge.

Cost Impact: Will not increase the cost of construction

This code change may increase the cost of construction of narrow sites by limiting the size and intensity of the development to require only 1 exit or to reduce the footprint of a building. this code change is necessary to improve public safety.

E 128-15 : 1028.1-FATTAH4700

E 129-15

1028.4, 1028.4.1; (IFC[BE] 1028.4, 1028.4.1)

Proponent: Jon Siu, representing City of Seattle Department of Planning & Development (jon.siu@seattle.gov)

2015 International Building Code

Revise as follows:

1028.4 Egress courts. *Egress courts* serving as a portion of the *exit discharge* in the *means of egress* system shall comply with the requirements of Sections 1028.4.1 ~~and 1028.4.2 through 1028.4.3.~~

1028.4.1 Width or capacity.

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

Exception: Encroachments complying with Section 1005.7. 1028.4.2 1028.3.2 Construction and openings.

1028.4.2 Reduction in width. Where an *egress court* exceeds the minimum required width and the width of such *egress court* is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the *egress court* along the path of egress travel. The width of the *egress court* shall not be less than the required capacity.

Exception: The reduction in width is not required to be gradual where the width of the walking surface at any point of the exit court is not less than 1.5 times the required capacity.

(Renumber subsequent sections)

Reason: This proposal is intended to provide an alternative to the "funnel" required in exit courts. There are many cases where an exit discharges into a very wide plaza, which then has a stair or gate at one end that leads to the public way. Under the current provisions in the code, a guard of unspecified length would have to be provided to reduce the width gradually. This is regardless of the width of the plaza, the number of occupants, or the actual width of the stair or gate. Our understanding is the intent is to reduce the hazards of crushing or bottlenecks at a sudden change of width, but the hazard should be low if the actual width provided is substantially larger than required for the number of occupants.

The code also appears to assume the entire width of the exit court is a walking surface that can be used for egress purposes. In our experience, this is rarely the case. Many times, landscaping is required in side yards where the exit courts are located. The landscaping can be vegetation that is planted at the ground level, or for the plazas mentioned above, may be in raised planters. This proposal makes sure a real exit capacity is maintained when the funnel is eliminated, by specifying the walking surface must be wide enough to accommodate the required extra capacity.

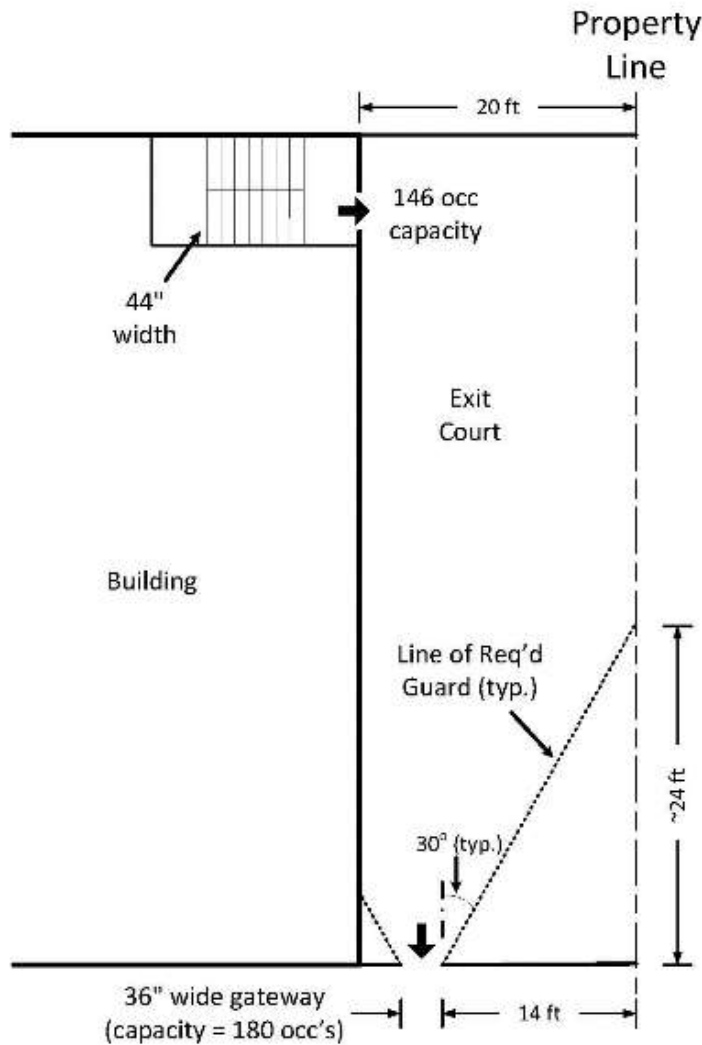


Figure 1.A

Figure 1.A shows an example of how the current code can be interpreted. A stair with the minimum 44-inch width required by the code (capacity = $44/0.3 = 146$ occupants) discharges into a 20-foot wide exit court. The exit court has a 36-inch wide gateway at the front property line (capacity = $36/0.2 = 180$ occupants). The current code can be interpreted to require the width to be reduced by guards at 30 degrees as shown in the figure. If one interprets the code to say that the guard must extend from the reduced section (the 36" gateway) to the widest point of the court (20'), and taking into account a 3-foot offset of the gateway, the result is a guard that extends to a point approximately 24 feet from the front property line.

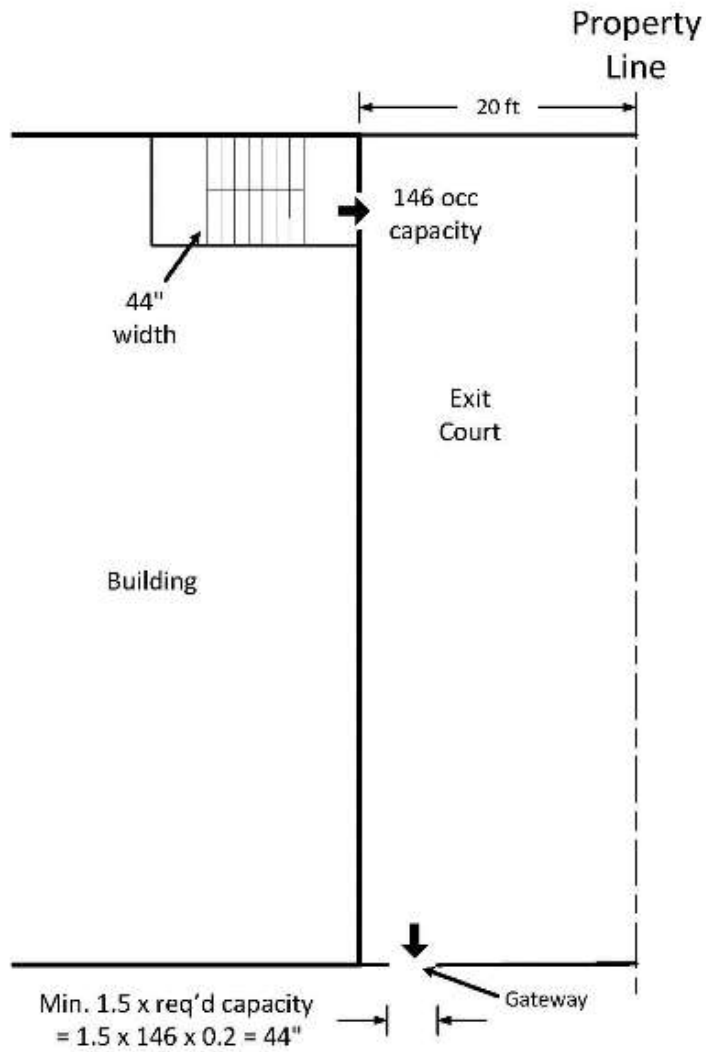


Figure 1.B

Figure 1.B shows the results if the designer opts for alternative being proposed. The gateway is now required to be 44 inches wide, but the guard is no longer required.

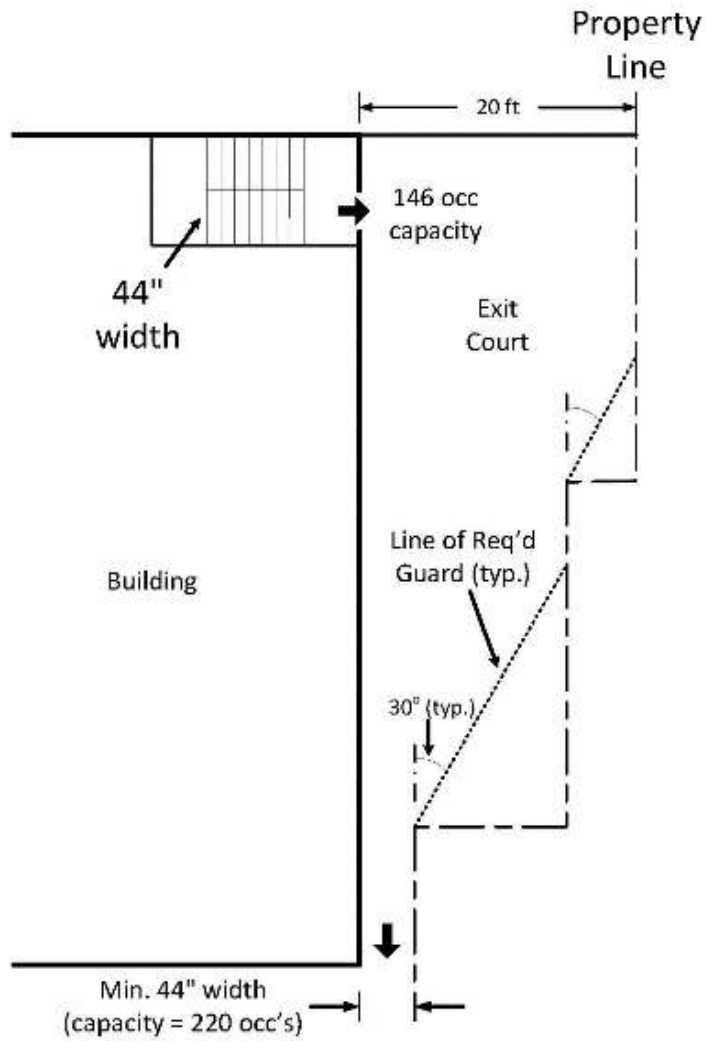


Figure 2.A

Figure 2.A depicts an exit court that reduces in width along its length and opens directly to the public way (no gateway). The same occupant load is being served by the exit court as in Figure 1.A. In this case, the code dictates a minimum 44 inch width for the exit court. The current code would clearly require the guards as shown.

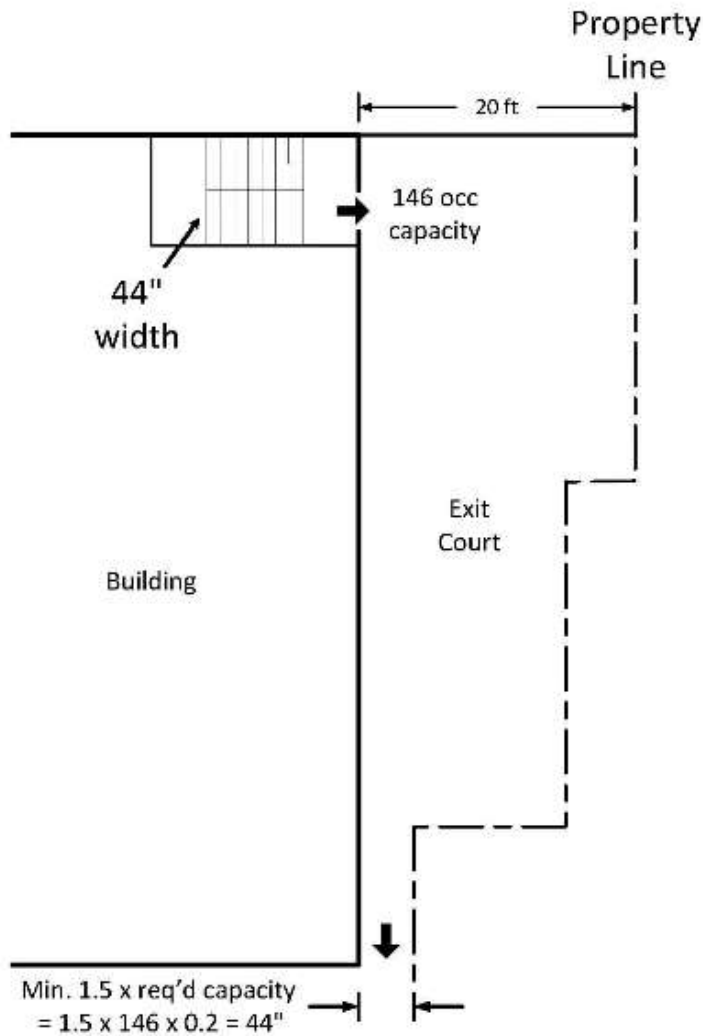


Figure 2.B

Figure 2.B shows that the minimum 44 inch exit court width required by the code would also satisfy the proposed 1.5 times the capacity requirement.

It is notable that a gradual reduction is not required anywhere else, regardless of occupant load, or required capacity. A hotel ballroom or a nightclub can have sudden changes of width at the doors, but a funnel is not required. It is therefore questionable as to what hazard in an exit court the currently required guards are addressing, and whether they are needed at all. While we would not object to eliminating the guards entirely, should it be felt there is a hazard being addressed by the guards, this proposal at least gives designers an option.

Cost Impact: Will not increase the cost of construction

Because this proposal provides an alternative to an existing code requirement, the cost of construction will not change. However, in many cases, this will reduce the cost of construction in jurisdictions that have been enforcing these "funnel" provisions.

E 129-15 : 1028.4.1-TRAXLER3475

E 130-15

1028.4.1; (IFC[BE] 1028.4.1)

Proponent: Lee Kranz, City of Bellevue, Wa, representing Washington Association of Building Officials Technical Code Development Committee

2015 International Building Code

Revise as follows:

1028.4.1 Width or capacity. The required capacity of *egress courts* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm), except as specified herein. *Egress courts* serving Group R-3 and U occupancies shall be not less than 36 inches (914 mm) in width. The required capacity and width of *egress courts* shall be unobstructed to a height of 7 feet (2134 mm).

Exception: Encroachments complying with Section 1005.7.

~~Where an *egress court* exceeds the minimum required width and the width of such *egress court* is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the *egress court* along the path of egress travel. The width of the *egress court* shall not be less than the required capacity.~~

Reason: This proposal deletes an outdated and unused code requirement for egress courts. The concept of using a 36" tall guardrail to "herd" occupants toward the exit when the egress court exceeds the minimum required width is absurd and does nothing to improve the safety of occupants. Can you imagine a building owner's response when an architect shows this on a design development plan? The guard would effectively eliminate portions of the egress court exceeding the minimum required width from use by occupants. Why would anyone ever design the court to be larger than the minimum required width only to install a guardrail to prevent it's use? This is an obsolete regulation and needs to be deleted.

Cost Impact: Will not increase the cost of construction

This will save money by reducing the need to install a useless guardrail in oversized egress courts.

E 130-15 : 1028.4.1-KRANZ4316

E 131-15

1028.5; (IFC[BE] 1028.5)

Proponent: Daniel Nichols, New York State Division of Building Standards and Codes, representing New York State Division of Building Standards and Codes (dnichols@dos.state.ny.us)

2015 International Building Code

Revise as follows:

1028.5 Access to a public way. The *exit discharge* shall provide a direct and unobstructed access to a *public way*.

Exception: Where access to a *public way* cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area ~~shall be of a size~~ is sized to accommodate not less than 5 square feet (0.46 m²) for each person using the exit discharge and wheelchair spaces in accordance with Section 1009.6.3.
2. The area shall be located on the same lot ~~not less than~~ at a distance of 50 feet (15 240 mm) minimum or a distance of 1.5 times the total building height, whichever is greater, away from the building requiring egress.
3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

Reason: This proposal is to provide improved protection and availability to a safe dispersal area.

The change in condition #1 is to size the safe dispersal area to address those with physical disabilities. The additional space that is being proposed matches the same space requirements as found in Section 1009.6.3 for area of refuge. Since the exit discharge needs to consider accessible means of egress when more than one means of egress is required (1009.1), it is appropriate to size the safe dispersal area accordingly. The addition of "occupant load of the exit discharge" is to make it clear what the basis of the area size and wheelchair spaces.

The change in condition #2 is to add an additional requirement to the distance a safe dispersal area needs to be away from a building. A 50 foot distance is not appropriate for taller buildings since falling debris from firefighting operations (such as break out windows for post-fire ventilation required in high-rise buildings in Section 403), hazards due to exterior fire spread, and building collapse would not adequately provide a safe area. The proposal adds the requirement of 150% of the building height to address this safety issue; a number that is used in firefighting operations to determine the collapse zone of a building.

A safe dispersal area is taking a full building exit model and replacing the last portion with a defend-in-place model due to site constraints. This proposal will provide needed safety features that are currently not addressed in this exception.

Cost Impact: Will increase the cost of construction

The increase in cost or construction will occur only when this section is elected to be used by the code user. The only increase in cost would be the increased distance and area needed to be provided the proposed additional requirements.

E 131-15 : 1028.5-NICHOLS5723

E 132-15

202(New), 1005.3.1, 1005.3.2, 1009.3, 1009.4, 1019.3, 1029.6, 1029.6.3, 1029.7, 1029.8, 1029.8.1, 1029.9.5, 1029.12.2.1, Table 1029.12.2.1, 1029.12.2.2 (IFC[BE] 1005.3.1, 1005.3.2, 1009.3, 1009.4, 1019.3, 1029.6, 1029.6.3, 1029.7, 1029.8, 1029.8.1, 1029.9.5, 1029.12.2.1, Table 1029.12.2.1, 1029.12.2.2)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

OPEN-AIR ASSEMBLY SEATING. Seating served by *means of egress* that is not subject to smoke accumulation within or under a structure and is open to the atmosphere.

Revise as follows:

SECTION 202 DEFINITIONS

SMOKE-PROTECTED ASSEMBLY SEATING. Seating served by *means of egress* that is not subject to smoke accumulation within or under a structure for a specified design time by means of passive design or by mechanical ventilation.

1005.3.1 Stairways. The capacity, in inches, of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairways* by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where *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.

Exceptions:

1. For other than Group H and I-2 occupancies, the capacity, in inches, of *means of egress stairways* shall be calculated by multiplying the *occupant load* served by such *stairways* 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.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped aisles for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with ~~outdoor-smoke-protected~~*open-air assembly seating* shall be permitted to the capacity factors in Section 1029.6.3 indicated for stepped aisles for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

1005.3.2 Other egress components. The capacity, in inches, 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.

Exceptions:

1. For other than Group H and I-2 occupancies, the capacity, in inches, 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.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with ~~outdoor-smoke-protected~~*open-air assembly seating* shall be permitted to the capacity factors in Section 1029.6.3 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

1009.3 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 an *area of refuge* complying with Section 1009.6. *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*.

2. 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.
3. The clear width of 48 inches (1219 mm) between *handrails* is not required for *stairways* accessed from a refuge area in conjunction with a *horizontal exit*.
4. *Areas of refuge* are not required at *exit access stairways* where two-way communication is provided at the elevator landing in accordance with Section 1009.8.
5. *Areas of refuge* are not required at *stairways* in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
6. *Areas of refuge* are not required at *stairways* serving *open parking garages*.
7. *Areas of refuge* are not required for *smoke-protected or open-air assembly seating* areas complying with ~~Section~~Sections 1029.6.2 and 1029.6.3.
8. *Areas of refuge* are not required at *stairways* in Group R-2 occupancies.
9. *Areas of refuge* are not required for *stairways* accessed from a refuge area in conjunction with a *horizontal exit*.

1009.4 Elevators. In order to be considered part of an accessible *means of egress*, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from an *area of refuge* complying with Section 1009.6.

Exceptions:

1. *Areas of refuge* are not required at the elevator in *open parking garages*.
2. *Areas of refuge* are not required in buildings and facilities equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. *Areas of refuge* are not required at elevators not required to be located in a shaft in accordance with Section 712.
4. *Areas of refuge* are not required at elevators serving *smoke-protected or open-air assembly seating* areas complying with ~~Section~~Sections 1029.6.2 and 1029.6.3.
5. *Areas of refuge* are not required for elevators accessed from a refuge area in conjunction with a *horizontal exit*.

1019.3 Occupancies other than Groups I-2 and I-3. 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.

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. 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 an individual dwelling unit or sleeping unit or live/work unit.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving *smoke-protected or open-air assembly seating* complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* serving the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.

1029.6 Capacity of aisle for assembly. The required capacity of *aisles* shall be not less than that determined in accordance with Section 1029.6.1 where *smoke-protected assembly seating* is not provided and with Section 1029.6.2 ~~or 1029.6.3~~ where *smoke-protected assembly seating* is provided and with Section 1029.6.3 where open-air assembly seating is provided.

1029.6.3 Outdoor ~~smoke-protected~~ Open-air assembly seating. ~~The~~

In open-air assembly seating the required capacity in inches (mm) of *aisles* shall be not less than the total *occupant load* served by the egress element multiplied by 0.08 (2.0 mm) where egress is by stepped *aisle* and multiplied by 0.06 (1.52 mm) where egress is by level *aisles* and ramped *aisles*.

Exception: The required capacity in inches (mm) of *aisles* shall be permitted to comply with Section 1029.6.2 for the number of seats in the ~~outdoor open-air~~ *smoke-protected assembly seating* where Section 1029.6.2 permits less capacity.

1029.7 Travel distance. ~~Exits and aisles shall be so located that the~~ The *exit access* travel distance to an *exit door* shall be not greater than 200 feet (60-960 mm) measured along the line of travel in nonsprinklered buildings. Travel distance shall be not more than 250 feet (76-200 mm) in sprinklered buildings comply with Section 1017. Where *aisles* are provided for seating, the distance shall be measured along the *aisles* and *aisle accessways* without travel over or on the seats.

Exceptions:

1. ~~In facilities with smoke-protected assembly seating, the total exit access travel distance shall be not greater than 400 feet (122 m). That portion of the total permitted exit access travel distance from each seat to the nearest entrance to a vomitory or concourse shall not exceed 200 feet (60 960 mm). The portion of the total permitted exit access travel distance from the entrance to the vomitory or concourse to a stairway, ramp or walk on the exterior of the building following shall not exceed 200 feet (60 960 mm):~~
 - 1.1. ~~The closest riser of an exit access stairway.~~
 - 1.2. ~~Open-air~~ The closest slope of an exit access ramp.
 - 1.3. An exit.
2. ~~In facilities with open-air assembly seating, the of Type III, IV or V construction, the exit access travel distance from each seat to one of the building exterior following shall not exceed 400 feet (122 m):~~
 - 2.1. ~~The closest riser of an exit access stairway.~~ The
 - 2.2. The closest slope of an exit access ramp.
 - 2.3. An exit.
3. In facilities with open-air assembly seating of Type I or II construction, the exit access travel distance shall not be limited in facilities of Type I or II construction.

1029.8 Common path of egress travel. The *common path of egress travel* shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two *exits*.

Exceptions:

1. For areas serving less than 50 occupants, the *common path of egress travel* shall not exceed 75 feet (22 860 mm).
2. For ~~smoke-protected~~ or open-air assembly seating, the *common path of egress travel* shall not exceed 50 feet (15 240 mm).

1029.8.1 Path through adjacent row. Where one of the two paths of travel is across the *aisle* through a row of seats to another *aisle*, there shall be not more than 24 seats between the two *aisles*, and the minimum clear width between rows for the row between the two *aisles* shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between *aisles*.

Exception: For ~~smoke-protected~~ or open-air assembly seating there shall be not more than 40 seats between the two *aisles* and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat.

1029.9.5 Dead end aisles. Each end of an *aisle* shall be continuous to a cross *aisle*, foyer, doorway, vomitory, concourse or *stairway* in accordance with Section 1029.9.7 having access to an *exit*.

Exceptions:

1. Dead-end *aisles* shall be not greater than 20 feet (6096 mm) in length.
2. Dead-end *aisles* longer than 16 rows are permitted where seats beyond the 16th row dead-end *aisle* are not more than 24 seats from another *aisle*, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.
3. For ~~smoke-protected~~ or open-air assembly seating, the dead end *aisle* length of vertical *aisles* shall not exceed a distance of 21 rows.
4. For ~~smoke-protected~~ or open-air assembly seating, a longer dead-end *aisle* is permitted where seats beyond the 21-row dead-end *aisle* are not more than 40 seats from another *aisle*, measured along a row of seats having an *aisle* accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.

1029.12.2.1 Dual access. For rows of seating served by *aisles* or doorways at both ends, there shall be not more than 100 seats per row. The minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.3 inch (7.6 mm) for every additional seat beyond 14 seats where seats have backrests or beyond 21 where seats are without backrests. The minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For ~~smoke-protected~~ or open-air assembly seating, the row length limits for a 12-inch-wide (305 mm) *aisle* accessway, beyond which the *aisle* accessway minimum clear width shall be increased, are in Table 1029.12.2.1.

**TABLE 1029.12.2.1
SMOKE-PROTECTED OR OPEN-AIR ASSEMBLY AISLE ACCESSWAYS**

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED OR OPEN-AIR ASSEMBLY SEATING	MAXIMUM NUMBER OF SEATS PER ROW PERMITTED TO HAVE A MINIMUM 12-INCH CLEAR WIDTH AISLE ACCESSWAY	
	Aisle or doorway at both ends of row	Aisle or doorway at one end of row only

	Seats with backrests	Seats without backrests	Seats with backrests	Seats without backrests
Less than 4,000	14	21	7	10
4,000	15	22	7	10
7,000	16	23	8	11
10,000	17	24	8	11
13,000	18	25	9	12
16,000	19	26	9	12
19,000	20	27	10	13
22,000 and greater	21	28	11	14

For SI: 1 inch = 25.4 mm.

1029.12.2.2 Single access. For rows of seating served by an *aisle* or doorway at only one end of the row, the minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.6 inch (15.2 mm) for every additional seat beyond seven seats where seats have backrests or beyond 10 where seats are without backrests. The minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For *smoke-protected* or *open-air assembly seating*, the row length limits for a 12-inch-wide (305 mm) *aisle accessway*, beyond which the *aisle accessway* minimum clear width shall be increased, are in Table 1029.12.2.1.

Reason: In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Unenclosed Exit Stairs. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

The intent of this proposal is to provide terminology consistent with the rest of Chapter 10 regarding exit access travel distance (Section 1017) and open-air and outdoor smoke-protected seating. Currently the term outdoor smoke protected assembly seating and open-air assembly seating appear to be used interchangeably. Also, sometime smoke-protected assembly seating is used to mean just indoors, and sometimes indoors and outdoors.

There is no intent for any technical changes to the provisions from what was permitted in the 2012 IBC and previous editions.

There are three terms being used:

- Smoke protected assembly seating - Section 410.3.5, Table 903.2.11.6, 909.16, 1005.1, 1005.3.2, 1009.3, 1009.4, 1029.6, 1029.6.2, Table 1029.6.2, 1029.6.2.1, 1029.6.2.2, 1029.6.2.3, 1029.7, 1029.8.1, 1029.9.5, 1029.12.2.1, 1029.12.2.1
- Outdoor smoke protected assembly seating - 1005.3.1, 1005.3.2, 1029.6.3
- Open-air assembly seating - Sections 905.3.2, 1019.1, 1029.7

Definitions: The revisions for 'smoke-protected assembly seating' and the new definition for 'open-air assembly seating' are intended to separate the two types of systems that provide smoke protection for assembly seating. The definition and the revisions throughout the proposal will coordinate the use of the terms.

Section 1029.6: This scoping section currently used the term smoke-protected to mean both indoor and outdoor.

Sections 1029.6.3 and 1005.3.2: Change outdoor smoke-protected seating to open-air seating. In addition, Section 1029.6.3 only includes the separation in the title and not the text.

Section 1029.7: In the current text of the main paragraph, the sentence for non-sprinklered building and sprinklered building requirements are confusing and inconsistent. The 200 and 250 feet exit access travel distances are already in Table 1017.2. The current text only says how to measure the travel distance in the sentence dealing with non-sprinklered buildings, not sprinklered buildings. Measuring along the natural and unobstructed path of travel is addressed in Section 1017.3; therefore, only the specific language regarding the seating is needed. A reference back to Section 1017 will allow for consistency over time and pick up all the technical criteria for exit access travel distance.

The exceptions are reworded for consistency and correct code terminology. In addition, there is a concern over consistent interpretation. The exception's current text has terminology that could be interpreted as always measuring travel distance to the building exit at grade. Where there are provisions for smoke protection, or where there are facilities that are open to the exterior, historically these facilities have allowed for open stairway where the means of egress is

open to the outside.

The 2012 IBC included an exception to Section 1016.3 (now Section 1017.3) that allowed exit access travel distance to be measured to the top of an open exit access stairway or ramp in outdoor seating. This was deleted by E7-12 with the explanation in the reason that this was more appropriately addressed in this section.

Sections 1029.8, 1029.8.1 and 1029.9.5, 1029.12.2.1, 1029.12.2.2, 1009.3, 1009.4 – add 'open-air' to clarify that both smoke protection options are viable in these code sections.

Section 1019.3 Exception 7 is revised to be consistent with the allowances in Section 1029.7, which addresses other than just open air seating.

Cost Impact: Will not increase the cost of construction

This proposal is a clarification of provisions. There will be no change in the cost of construction.

E 132-15 : 1005.3.2-KULIK3641

E 133-15

1029.6.2; (IFC[BE] 1029.6.2)

Proponent: Daniel Nichols, representing New York State Division of Building Standards and Codes
(dnichols@dos.state.ny.us)

2015 International Building Code

Revise as follows:

1029.6.2 Smoke-protected assembly seating. The required capacity in inches (mm) of the aisle for *smoke-protected assembly seating* shall be not less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1029.6.2. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. ~~A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1029.6.2 for smoke-protected assembly seating.~~

Exception: For outdoor *smoke-protected assembly seating* with an *occupant load* not greater than 18,000, the required capacity in inches (mm) shall be determined using the factors in Section 1029.6.3.

Reason: The requirements for smoke-protected assembly seating currently require a life safety evaluation by NFPA 101. These requirements have been updated in 2015 edition of NFPA 101; with further modification under NFPA TIA 101-15-3. This proposal request the elimination of the life safety evaluation for several reasons:

Section 12.4.1.1 is the general requirements for the life safety evaluation. Item #3 requires an annual filing and approval by the AHJ. This is not appropriate within the construction requirements of the IBC.

Section 12.4.1.2 is a list of conditions for assessment; including the need to assess conditions related to earthquakes, hazardous materials within and near the facility, medical emergencies, hazardous materials, and relationships between various facility stakeholders. Whereas these are important items to overall occupant safety, there is little or no correlation between them and an allowance to utilize the narrower dimensions of aisles in assembly seating as regulated in IBC Section 1029.6.2

Section 12.4.1.3.1 requires the design team to provide all building systems documentation to the AHJ prior to the issuance of a building permit, per Section 12.4.1.4. This sounds like a good idea, but the requirements of 12.4.1.4 requires the submission of items including specific event floor plans (including exhibits), smoke control design documentation that is in conflict with the smoke control provisions of IBC Section 1029.6.2.1, and a loading diagram for the stage gridiron. Several items are either in conflict of the requirements of IBC 1029.6.2 or are not relevant to assembly seating design.

Section 12.4.1.3.2 requires a facility management plan per 12.4.1.5 (labeled in the section as a life safety management document). There are several items within the list that have no bearing on assembly seating aisle widths; such as contact information for venue personnel, first aid treatment plans, food safety plans, and terrorism operating protocols.

It is very clear that the update to NFPA 101 is comprehensive. However, it does cover hazards outside of fire and life safety provided in the purpose and scope of the IBC and has little bearing on the diminishment of assembly seating aisles. In short, the information within the life safety evaluation does not provide any additional requirements to the actual measurement of the aisle widths for smoke protected seating.

Finally, the International Fire Code is the appropriate place for emergency plans. Chapter 4 makes an emergency plan enforceable during the use of smoke protected assembly seating; not just during the filing of a building permit. IFC Chapter 4 is very comprehensive and requires these plans for all assembly occupancies and public gatherings.

Bibliography: NFPA 101- 2015 edition Section 12.4.1 (as modified by NFPA 101 TIA 15-3)

Cost Impact: Will not increase the cost of construction

This proposal is to remove requirements related to emergency plan filing prior to the issuance of a building permit

E 133-15 : 1029.6.2-NICHOLS5757

E 134-15

1029.9.1 (IFC[BE] 1029.9.1)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1029.9.1 Minimum aisle width. The minimum clear width for *aisles* shall comply with one of the following:

1. Forty-eight inches (1219 mm) for stepped *aisles* having seating on ~~each side~~ both sides.
Exception: Thirty-six inches (914 mm) where the stepped *aisles* serve less than 50 seats.
2. Thirty-six inches (914 mm) for stepped *aisles* having seating on only one side.
Exception: Twenty-three inches (584 mm) between a stepped aisle handrail and seating where a stepped *aisle* does not serve more than five rows on one side.
3. Twenty-three inches (584 mm) between a stepped *aisle* handrail or *guard* and seating where the stepped *aisle* is subdivided by a mid-aisle *handrail*.
4. Forty-two inches (1067 mm) for level or ramped *aisles* having seating on both sides.
Exceptions:
 1. Thirty-six inches (914 mm) where the *aisle* serves less than 50 seats.
 2. Thirty inches (762 mm) where the *aisle* serves less than 15 seats and does not serve more than 14 seats as part of an accessible route.
5. Thirty-six inches (914 mm) for level or ramped *aisles* having seating on only one side.
Exception: ~~For other than ramped *aisles* that serve as part of an accessible route, 30~~ Thirty inches (762 mm) where the ramped *aisle* serves less than 15 seats and does not serve more than 14 seats as part of an accessible route.

Reason: In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website. <http://www.iccsafe.org/cs/CTC/Pages/default.aspx> This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

The intent of this proposal is consistency in language. E87-12 added the language as a reminder for the accessible route to the exception for Item 5, but missed the same concern in Item 4 exception 2. The accessible route provisions require 36" width and are required by Section 1009 and 1104 to the wheelchair spaces for ingress and egress. The reminder should be in both locations. If it is felt that this is already addressed, it should be removed from the exception in Item 5.

The strike out of 'ramped' in the exception to item 5 is because this item deals with both ramped and level aisles. The limitation of this option to 'ramped' aisles was a mistake in E87-12. Level aisles are less hazardous than ramped aisles. Changing the language to 'serve less than 15 seats' instead 'does not serve more than 14 seats' is not a technical change. It is for consistency with the language in the other exceptions.

There will be a Group B corresponding code change proposal to IFC Section 1104.23 to provide consistency and so that existing requirements are not more restrictive than new. The ICC Fire Code Action Committee (FCAC) supports this proposal and will be submitting the Group B proposal that follows:

IFC 1104.23 Minimum aisle width. The minimum clear width of aisles shall ~~be~~ comply with one of the following:

1. Forty-two inches (1067 mm) for ~~aisle stairs~~ stepped aisles having seating on ~~each~~ both sides.
Exception: Thirty-six inches (914 mm) where the stepped aisle serves less than 50 seats.
2. Thirty-six inches (914 mm) for stepped aisles having seating on only one side.
Exceptions:
 1. Thirty inches (760 mm) for catchment areas serving not more than 60 seats.
 2. Twenty-three inches (584 mm) between a stepped aisle handrail and seating where a stepped an aisle does not serve more than five rows on one side.
3. Twenty inches (508 mm) between a stepped aisle handrail or guard and seating where the aisle is subdivided by the handrail.
4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.
Exceptions:
 1. Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
 2. Thirty inches (762 mm) where the aisle serves less than 15 seats and does not serve as part of an accessible route.
5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.
Exception: Thirty inches (760 mm) for catchment areas serving not more than 60 seats and does not serve as part of an accessible route.
6. In Group I-2, where aisles are used for movement of patients in beds, aisles shall comply with Section 1105.5.8.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

E 134-15 : 1029.9.1-KULIK3617

E 135-15

1029.10.1, 1029.10.2, 1029.10.2.1, 1029.10.2.2, 1029.10.3; (IFC[BE] 1029.10.1, 1029.10.2, 1029.10.2.1, 1029.10.2.2, 1029.10.3)

Proponent: Ed Roether, representing Ed Roether Consulting (ed@edroetherconsulting.com)

2015 International Building Code

Revise as follows:

1029.10 Transitions. Transitions between *stairways* and stepped *aisles* shall comply with either Section 1029.10.1 or 1029.10.2.

1029.10.1 Transitions ~~and to~~ stairways that maintain stepped aisle riser and tread dimensions. Stepped *aisles*, transitions and *stairways* that maintain the stepped aisle riser and tread dimensions shall comply with Section 1029.13 as one *exit access* component.

1029.10.2 Transitions to stairways that do not maintain stepped aisle riser and tread dimensions. Transitions ~~to between stairways from and~~ stepped *aisles* ~~with having different~~ riser and tread dimensions ~~that differ from the stairways~~ shall comply with Sections 1029.10.2.1 through 1029.10.3.

1029.10.2.1 Stairways and stepped aisles in a straight run. ~~Transitions where the stairway is~~ Where *stairways* and stepped aisle are in a straight run from the stepped aisle the transition shall have one of the following:

1. A minimum depth of 22 inches (559 mm) where the treads on the descending side of the transition have greater depth ~~and~~.
2. A minimum depth of 30 inches (762 mm) where the treads on the descending side of the transition have lesser depth.

1029.10.2.2 Stairways and stepped aisles that change direction from stepped aisles. Transitions where the *stairway* changes direction from the stepped *aisle* shall have a minimum depth of 11 inches (280 mm) or the stepped *aisle* tread depth, whichever is greater, between the stepped *aisle* and *stairway*.

1029.10.3 Transition marking. A distinctive marking stripe shall be provided at each *nosing* or leading edge adjacent to the transition. Such stripe shall be ~~not less than a minimum of~~ 1 inch (25 mm), and ~~not more than a maximum of~~ 2 inches (51 mm), wide. The edge marking stripe shall be distinctively different from the stepped *aisle* contrasting marking stripe.

Reason: This section was extensively revised last cycle. The intent of this proposal is to provide minor revisions to clarify the language relating to the transitions between stepped aisle and stairways.

Cost Impact: Will not increase the cost of construction
This is a clarification only.

E 135-15 : 1029.10.1-ROETHER5825

E 136-15

1029.11, 1029.11.1, 1029.11.2, 1029.13, 1029.13.3 (New), 1029.13.3.1 (New), 1029.13.3.2 (New)

Proponent: Gregory Cahanin, Cahanin Fire & Code Consulting (firemc2@tampabay.rr.com)

2015 International Building Code

Revise as follows:

1029.11 Construction. ~~Aisles~~ Aisle accessways, level aisles, stepped *aisles* and ramped *aisles* shall be built of materials consistent with the types permitted for the type of construction of the building.

Exception: Wood *handrails* shall be permitted for all types of construction.

1029.11.1 Walking surface materials. The surface of aisle accessways, level aisles, stepped *aisles* and ramped *aisles* shall be of slip-resistant materials that are securely attached. The surface for stepped *aisles* shall comply with Section 1011.7.1.

1029.11.2 Outdoor conditions. Outdoor ~~aisles~~ aisle accessways, level, stepped ~~aisles~~ and ramped *aisles* and outdoor approaches to ~~aisles~~ level, stepped ~~aisles~~ and ramped *aisles* shall be designed so that water will not accumulate on the walking surface.

1029.13 Assembly aisle walking surfaces. Ramped ~~Walking surfaces of ramped aisles~~ shall comply with Sections 1029.13.1 through 1029.13.1.3. ~~Stepped~~ Walking surfaces of stepped aisles shall comply with Sections 1029.13.2 through 1029.13.2.4. Walking surfaces of aisle accessways shall comply with Sections 1029.13.3 through 1029.13.3.2.

Add new text as follows:

1029.13.3 Aisle accessway. Aisle accessway cross slope is measured perpendicular to the direction of travel along the aisle accessway. Aisle Accessways serving seating in rows shall have a maximum cross slope not exceeding one unit vertical in five units horizontal (20-percent slope).

1029.13.3.1 Aisle accessway to aisle transition. Where the aisle accessway transitions to an aisle and there is an elevation change there shall be a sloped transition located in the aisle accessway. Transition slope is measured in the direction of travel along the aisle accessway. The maximum slope of the transition shall not exceed one unit vertical in five units horizontal (20-percent).

1029.13.3.2 Transition contrast marking stripe. Where the elevation change exceeds 3/16-inch (4.8 mm) between aisle accessways and aisles the transitions shall be indicated with a distinctive marking stripe at the edge of the transition slope along the aisle. Such stripes shall have a width of not less than 1-inch (25 mm) but not more than 2-inches (51 mm).

Reason: An Aisle Accessway is defined as being distinctively different than an aisle while also being a part of the means of egress. Aisles have a maximum slope under Section 1029.13.1 of 12.5-percent or one in eight. Aisle accessway walking surfaces do not have a stated maximum slope or cross slope. To allow for a seating area sloped floor in a venue, the aisle accessway cross slope must be permitted to match or exceed the aisle slope. Line of sight for legitimate stage seating areas in many instances requires a slope greater than that stated in the IBC for aisles and this proposal allows for a slope up to 20-percent. Outdoor seating areas in amphitheaters are often in the range of 17 to 20-percent and have been found acceptable walking surfaces. For indoor seating some maximum slope should be defined as a part of the code since aisle accessways are part of the means of egress and the cross slope perpendicular to the aisle forming the aisle accessway must be defined because it is distinctly different than the 2-percent maximum for ramps. The proposed change also dictates that when the aisle accessway is not the same slope or elevation as the aisle there must transition to the ramped or stepped aisle. the sloped and marked transition where there is an elevation change is similar to the provisions for edge marking on stairs and ramps as newly revised in the previous edition.

The organization of the current provisions do not specify the requirements for aisle accessways, so it was difficult to determine where to add this requirement. The provisions in Section 1029.12, while entitled aisle accessways, also deals with the clear width of aisles in seating at tables. It appears that the best place to locate this slope issue would be under Section 1029.13 Assembly aisle walking surfaces, because that is where slope of the aisles is defined for fixed seating.







Cost Impact: Will not increase the cost of construction

There is no cost impact to this proposal since it defines a design consideration that to this point has remained vague.

E 136-15 : 1029.11-CAHANIN5637

E 137-15

1029.11(New), 1029.11.1(New), 1029.11.2(New); (IFC[BE] 1029.11(New), 1029.11.1(New), 1029.11.2(New))

Proponent: Ed Roether, representing Ed Roether Consulting (ed@edroetherconsulting.com)

2015 International Building Code

Add new text as follows:

1029.11 Stepped aisles at vomitories. Stepped aisles that change direction at vomitories shall comply with 1029.11.1 Transitions between a stepped aisle above a vomitory and stepped aisle to the side of vomitory shall comply with 1029.11.2.

1029.11.1 Stepped aisles that change direction at vomitories. Stepped aisle treads where the stepped aisle changes direction at a vomitory shall have a minimum depth of 11 inches (280 mm) or the stepped aisle tread depth, whichever is greater. The height of a stepped aisle tread above a transition at a vomitory shall comply with Section 1029.13.2.2.

1029.11.2 Stepped aisle transitions at the top of vomitories. Transitions between the stepped aisle above a vomitory and stepped aisles to the side of a vomitory shall have a minimum depth of 11 inches (280mm) or the stepped aisle tread depth, whichever is greater.

(Renumber subsequent sections)

Reason: The intent of this proposal is to provide language addressing the most common concerns with stepped aisles around vomitories.

Cost Impact: Will not increase the cost of construction
Attempting to clarify the language.

E 137-15 : 1029.11.1 (New)-
ROETHER5823

E 138-15

1029.13.2.1; (IFC[BE] 1029.13.2.1)

Proponent: Ronald Geren, RLGA Technial Services, LLC, representing Self (ron@specsandcodes.com)

2015 International Building Code

Revise as follows:

1029.13.2.1 Treads. Tread depths shall be not less than 11 inches (279 mm) and shall have dimensional uniformity.

~~Exception~~Exceptions:

1. The tolerance between adjacent treads shall not exceed $\frac{3}{16}$ inch (4.8 mm).
2. Where *aisle accessways* provide access to stepped *aisles*, the tread depth at the transitions shall be not less than the required width of *aisle accessways*. Treads with nonuniform depths shall be indicated with a distinctive marking stripe on each tread *nosing* or leading edge adjacent to the nonuniform tread. Such stripe shall be not less than 1 inch (25 mm), and not more than 2 inches (51 mm), wide. The edge marking stripe shall be distinctively different from the contrasting marking stripe.

Reason: Section 1029.13.2.1 requires treads within a stepped aisle to have a uniform depth; but based on sightlines and row lengths (which affect aisle accessway widths), the number of risers and a uniform tread depth may place a step within the transition from aisle accessway to aisle. This can cause a tripping hazard. This proposal ensures that the full width of the required aisle accessway is provided at an aisle and that no steps encroach into this area. Section 1029.13.2.2 allows nonuniform risers, but allowing the treads to be deeper where aisle accessways enter the aisle may permit more uniform riser heights. A stair safety study conducted by Cornell University has identified riser height variation as a significant contributing factor to falls on stairs. Variations in tread depth does not even make the list. Although the study involved residential stairs, stairs are stairs regardless of the building type.

Bibliography: *Stair Safety: Causes and Prevention of Residential Stair Injuries*, Cornell Cooperative Extension; Department of Design & Environmental Analysis, Cornell Univeristy, Accessed 1/9/15, Page 2,
<http://www.human.cornell.edu/dea/outreach/upload/Stair-Safety-2-2.pdf>

Cost Impact: Will not increase the cost of construction

This proposal will only adjust the arrangment of steps within an aisle, but should not affect material or labor costs for installation.

E 138-15 : 1029.13.2.1-GEREN5150

E 139-15

1029.16.3; (IFC[BE] 1029.16.3)

Proponent: Scott Dornfeld, City of Delano, MN, representing Myself (sdornfeld@delano.mn.us)

2015 International Building Code

Revise as follows:

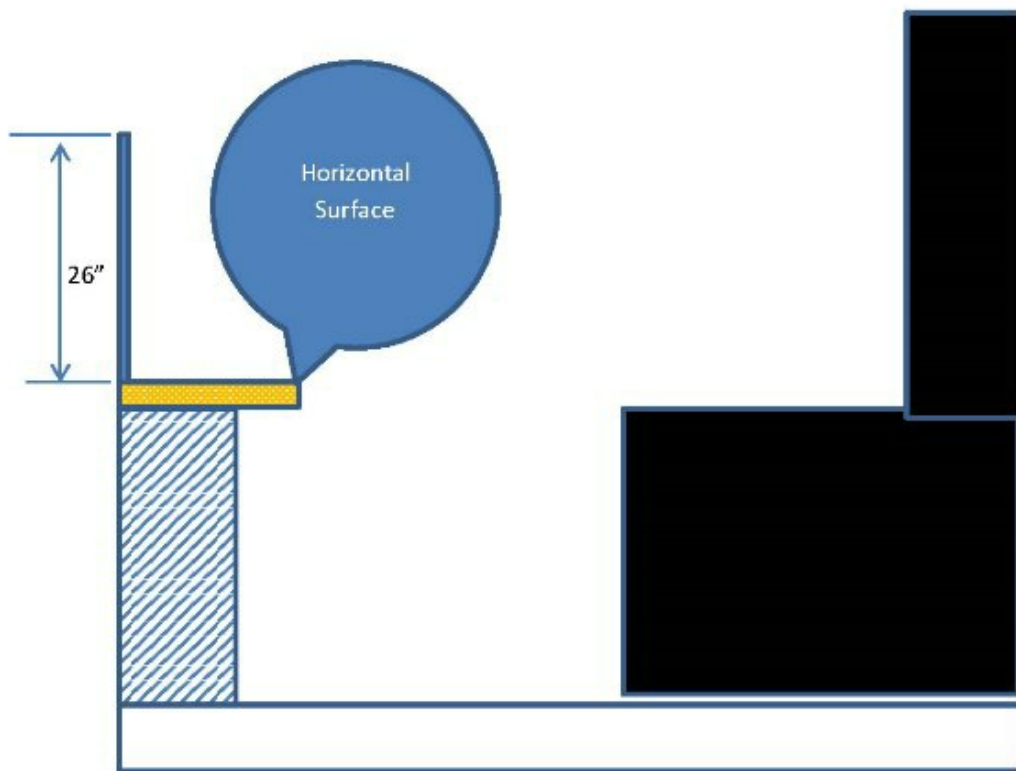
1029.16.3 Sightline-constrained guard heights. Unless subject to the requirements of Section 1029.16.4, a fascia or railing system in accordance with the *guard* requirements of Section 1015 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. Where a dining or drinking surface is provided above the floor in front of the seating, the 26 inches (660 mm) guard height shall be measured from the top of the dining or drinking surface to the top of the guard.

Reason: The purpose of this code change is to add a new requirement to ensure that the intended level of protection provided by guards at affected assembly venues is maintained. This proposed code is consistent with other barrier requirement found in the IBC such as swimming pool barrier requirements that do not allow barriers that are easily climbable and that effectively reduce the intended level of protection.

The code change would prohibit the installation of a climbable horizontal surface or require that a compliant guard be installed with the 26" required dimension being measured from the top of the horizontal surface to the top of the guard. The proposed does not represent a significant modification for the public in these assembly venues. Typically all of the seats that are not located adjacent to the rail do not have a horizontal area above the walking surface; therefore the change will not detract from the public enjoyment of the venue.

This code change will end the practice of trading protection of the public in order to provide a minor convenience for a limited number of seats in the venue. If the designer chooses to incorporate a horizontal surface above the walking surface; then a clear glass guard can be provided that will extend 26" above that horizontal surface.

Refer to the figure which shows how the effective level of protection is compromised by the installation of a horizontal surface.



IBC sec. 1029.16.3

Cost Impact: Will increase the cost of construction

The increase cost for the extra rail height will be minimum and is necessary for public safety. There would be no increase if the designer decides not to add the dining and drinking surface.

E 140-15

1030.1; (IFC[BE] 1030.1)

Proponent: Paul Tidwell, representing Utah Chapter ICC (ptidwell@saratogaspringscity.com)

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies on stories with a one exit or access to one exit in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: The requirements of 1030 are driven by the footnotes in tables 1006.3.2(1) and 1006.3.2(2) which is an indirect path. By stating "on stories with a one exit or access to one exit" in the first sentence of the charging statement the code user can quickly identify the requirements.

Cost Impact: Will not increase the cost of construction

This is a code clarification only, it does not change the requirements.

E 140-15 : 1030.1-TIDWELL4036

E 141-15

1030.1; (IFC[BE] 1030.1)

Proponent: Jeffrey Shapiro, National Multifamily Housing Council, representing National Multifamily Housing Council

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, ~~provisions shall be made for emergency escape and rescue openings shall be provided in the following occupancies:~~

1. Group R-2 occupancies located in accordance with only one exit or access to only one exit as permitted by Tables 1006.3.2(1) and 1006.3.2(2) and
2. Group R-3 occupancies.

Basements and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: The proposal is simply a clarification of the current requirements. As currently worded, it is unclear in Section 1030 that emergency escape and rescue openings are only required for Group R-2 occupancies that are located on stories with a single exit. That is what the references to Tables 1021.2(1) and 1021.2(2) convey, but forcing the reader to go back to 1021.2 to determine this makes interpreting and applying Section 1030 unnecessarily cumbersome, given that most R-2 occupancies have 2 exits and are not required to comply with Section 1030.

Cost Impact: Will not increase the cost of construction

The proposal is simply a clarification of current provisions and does not increase the cost of construction.

E 141-15 : 1030.1-SHAPIRO5519

E 142-15

1030.1; (IFC[BE] 1030.1)

Proponent: Stephen Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter
(sthomas@coloradocode.net)

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, ~~provisions shall be made for emergency escape and rescue openings shall be provided~~ in Group R-2R-3 occupancies ~~in accordance with~~, and where required by footnote a of Tables 1006.3.2(1) and 1006.3.2(2) ~~and for~~ Group R-3R-2 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: The revision to this section has created a lot of confusion among code users as to when emergency escape and rescue openings are required. The purpose of this revision is to clarify the requirement by rearranging the language and providing a clearer requirement for emergency escape and rescue openings.

Cost Impact: Will not increase the cost of construction

This change is a clarification of the requirements. There is no cost impact of this change.

E 142-15 : 1030.1-THOMAS4456

E 143-15

1030.1; (IFC[BE] 1030.1)

Proponent: Jay Hyde, representing Sacramento (jhyde@mognot.com)

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way* or to a covered porch, deck, balcony or egress balcony that opens directly on to a yard, court or public way and provides a minimum 36-inch wide by minimum 80-inch high path of travel to the edge or guard.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard, court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: Consistency: the 2015 International Residential Code, Section R310.2.4 permits emergency escape and rescue openings under decks and porches. It also permits restricted height of 36-inches. The restricted height does not appear to be appropriate under multi-family conditions where several units may require emergency escape and rescue at the same time, therefore the Code Change Proposal specifically incorporates the minimum corridor width specified for a dwelling unit (Table 1020.2) and the minimum height for a door (Section 1010.1.1.1).

Cost Impact: Will not increase the cost of construction

This is design issue that permits a particular design, no construction work is mandated.

E 143-15 : 1030.1-HYDE5280

E 144-15

Table 1006.3.2(2), 1030.1; (IFC[BE] Table 1006.3.2(2), 1030.1)

Proponent: Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3R occupancies. Basements and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. Groups R-1 and R-2 occupancies are not required to provide emergency and escape openings where they comply with all of the following:
 - 1.1. Each story has access to two or more means of egress.
 - 1.2. The building is constructed of Type I, Type II, Type IIIA or Type IV construction.
 - 1.3. The building is equipped throughout with an approved automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.3.2.
2. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
3. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
4. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard*, *court* or exterior *exit balcony* that opens to a *public way*.
5. Basements without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

TABLE 1006.3.2(2)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above or below grade plane	A, B ^b , E F ^b , M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1 ^a , R-2 ^{a,c} , R-4	10	75
	S ^{b,d}	29	75
Second story above grade plane	B, F, M, S ^d	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as ~~Group~~ Groups R-1 and 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 1030.

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 *exit access* 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 1006.3.2(1).

d. The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet

Reason: The intent is to at require emergency escape and rescue openings in all Group R occupancies. Exception 1 will exempt Group R-1 and R-2 occupancies except for Type IIIB and Type V construction and Group R-1 and R-2 with one exit. Exception 2 was found in the 2009 IBC. This could be used by a hotel with balconies that open into an atrium with smoke protection rather than balconies that open to the outside. Group R-3 and Group R-4 would still be required to have emergency escape and window openings. That would not change.

The change to add emergency escape windows for Group R-1 in Table 1006.3.2(2) for single exit buildings is correlative.

Cost Impact: Will increase the cost of construction

This would be an increase for Group R-1 and R-2 buildings of Type IIIB and V construction.

E 144-15 : 1030.1-CUEVAS4873

E 145-15

1030.1; (IFC[BE] 1030.1)

Proponent: Jeffrey Shapiro, International Code Consultants, representing International Code Consultants

2015 International Building Code

Revise as follows:

1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
4. Within individual dwelling and sleeping units in Groups R-2 and R-3, where the buildings is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:
 - 4.1. One means of egress and one emergency escape and rescue opening
 - 4.2. Two means of egress.

Reason: This Section has very limited application, only applying to Group R-3 and a small number of Group R-2 occupancies that have only one exit per story. It does not apply to Group R-1 or any Group I occupancy, all of which are permitted to have sleeping rooms in basements and stories of sprinklered buildings, even those with a single exit per Tables 1006.3.2(1) and 1006.3.2(2). The reason for not applying a similar allowance to Group R-3 and single exit Group R-2 is not evident considering that other occupancies pose a more significant life-safety risk.

Nevertheless, rather than seeking full equivalency with these other occupancies when sprinklers are provided, this proposal seeks only a partial credit for basements, with the hope of finding common ground with parties who have previously argued against a general exception for means of escape in fully sprinklered buildings. This proposal maintains at least one basement escape window or door or an additional means of egress in addition to the primary means of egress. Plus, it is important to remember that both sprinklers and hard-wired interconnected smoke alarms are required to qualify for the proposed exception.

This combination of sprinklers and smoke alarms is well established by the NFPA 101 - Life Safety Code as a basis for eliminating all required means of escape openings from sprinklered one- and two-family dwellings, hotels, motels, apartments and similar uses. In addition, the states of New Hampshire and Virginia have amended their statewide code adoptions by eliminating all requirement for means of escape openings when sprinklers are provided. Minnesota adopted a similar amendment, but the allowance was limited to exempting all basement escape windows (these were IRC amendments, but the logic conveys to the IBC discussion).

There are many reasons for adding this exception to the IBC. First, 16 states have legislatively preempted adoption of residential sprinkler requirements for one- and two-family dwellings, and in some cases, townhouses. Recognizing that some homes and townhouses may be built under the IBC (perhaps where IRC height limits are exceeded or where the IRC isn't adopted), it is important to provide code incentives to strongly encourage the installation of sprinkler systems. It is also fair to offer these incentives to builders and homebuyers in other states. Second, passing this exception in the IBC will remove the question of IBC-IRC correlation as a basis for arguing against a similar change that will be proposed to the IRC in the Group B code cycle. Third, there is less benefit to a basement means of escape because the dynamics of a basement fire differ from fires above grade. In a non-sprinklered fire event, it might be possible for an occupant to be rescued or escape using an above-grade window because the lower portion of the window may initially draw fresh air. However, a basement window well will quickly fill with smoke and heated gases if there's an uncontrolled fire in the basement, and the importance of fire sprinklers in providing extra egress time cannot be overstated. Likewise, by the time firefighters arrive, rescuing an occupant from a developed basement fire through a means of escape window or using such window as an escape route for a firefighter seems highly unlikely. Firefighter safety is far better assured by sprinklers.

Looking at the value of this incentive, the cost savings associated with eliminating even one basement escape window and the associated ladder and window well is significant. Combine that with the benefit of eliminating leakage and maintenance issues and tripping/fall hazards that may be associated with window wells, and the incentive grows. Finally, recognize the enormous benefit that this change will offer for homebuyers, who will gain the option of finishing a rough-in basement without the constraint of laying out sleeping rooms based on existing window locations or having to add windows to an existing basement. This single incentive might be valuable enough to encourage voluntary sprinkler installations, and still, the level of safety will exceed what is required by the IBC for similar occupancies and by NFPA 101.

Cost Impact: Will not increase the cost of construction

The proposal adds an option to the code. There is no requirement to utilize this option; however, if it is used, the cost of construction may decrease.

E 146-15

1030.1.1(New), 1030.4; (IFC[BE] 1030.1.1(New), 1030.4)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Add new text as follows:

1030.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

Revise as follows:

~~1030.4~~**1030.5 Operational constraints.** ~~Bars, grilles, covers and screens. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.~~

Bars, grilles, ~~grates~~covers, screens or similar devices are permitted to be placed over *emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings*, provided that the minimum net clear opening size complies with Section ~~1030.2~~1030.1.1 through 1030.4 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*. Where such bars, grilles, ~~grates~~covers, screens or similar devices are installed in existing buildings, *smoke alarms* shall be installed in accordance with Section 907.2.11 regardless of the valuation of the *alteration*.

(Renumber the following sections:)

~~1030.5~~**1030.4 Window wells.** *(No change to text.)*

~~1030.5.1~~**1030.4.1 Minimum size.** *(No change to text.)*

~~1030.5.2~~**1030.4.2 Ladders or steps.** *(No change to text.)*

Reason: In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled Child Window Safety. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

2015 IRC Section R310.1.1 specifically notes that devices complying with ASTM F2090 do not jeopardize compliance with the emergency escape and rescue provisions. A similar requirement is needed in the IBC.

Note that the requirements for bars, grilles, covers and screens are addressed in IRC R310.4. This proposal splits and relocates the requirements to be consistent with what is in the IRC for emergency and escape windows operational constraints. The relocation of the provisions for window wells is to allow for the window size requirements to be grouped together for reference in the same manner as the IRC.

R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

R310.4 Bars, grilles, covers and screens. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided that the minimum net clear opening size complies with Sections R310.1.1 to R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that required for the normal operation of the escape and rescue opening.

Cost Impact: Will not increase the cost of construction

The proposal is coordination with IRC allowances for emergency escape windows and allows for another design option.

E 146-15 : 1030.4-KULIK3326

E 147-15

Part I:

1030.4 (IFC[BE]1030.4)

Part II:

406, 406.4 (New), 701.4 (New)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC-MEANS OF EGRESS COMMITTEE. PART II WILL BE HEARD BY THE IEBC COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

Part I

2015 International Building Code

Revise as follows:

1030.4 Operational constraints. *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*. Where such bars, grilles, grates or similar devices are installed in existing buildings, they shall not reduce the net clear opening of the *emergency escape and rescue openings* and *smoke alarms* shall be installed in accordance with Section 907.2.11 regardless of the valuation of the *alteration*.

Part II

2015 International Existing Building Code

SECTION 406

GLASS REPLACEMENT WINDOWS AND REPLACEMENT WINDOW EMERGENCY ESCAPE OPENINGS

Add new text as follows:

406.4 Emergency escape and rescue openings. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with the code that was in effect at the time of construction and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed, they shall not reduce the net clear opening of the emergency escape and rescue openings and smoke alarms shall be installed in accordance with Section 907.2.11 of the International Building Code regardless of the valuation of the alteration.

701.4 Emergency escape and rescue openings. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with the code that was in effect at the time of construction and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed, they shall not reduce the net clear opening of the emergency escape and rescue openings and smoke alarms shall be installed in accordance with Section 907.2.11 of the International Building Code regardless of the valuation of the alteration.

Staff note: Emergency escape and rescue openings provisions are also included in Sections 406.3 and 702.5.

Reason: The emergency escape and rescue provisions within IBC section 1030.4 includes requirements that speak to installations that may take place on an existing building, yet no such provision is found within the IEBC. It is appropriate to have such a reference within the IEBC.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact:

Part I: Will not increase the cost of construction

The proposal is coordination with IRC allowances for emergency escape windows and allows for another design option.

Part II: Will not increase the cost of construction

The proposal is coordination with IRC allowances for emergency escape windows and allows for another design option.

E 148-15

[BE] 1031.4

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Fire Code

Revise as follows:

[BE] 1031.4 Exit signs. Exit signs shall be installed and maintained in accordance with the building code that applied at the time of construction and the applicable provisions in Section 1013.104. Decorations, furnishings, equipment or adjacent signage that impairs the visibility of exit signs, creates confusion or prevents identification of the *exit* shall not be allowed.

Reason: Current language has been interpreted to require existing buildings to install new components to meet the provisions of Section 1013. In effect, the current code acts as a retroactive provision. Retroactive requirements should be contained in Chapter 11. This revision requires that the building have exit signs in accordance with the applicable code of record and in accordance with the applicable requirements from Section 1104. This is more appropriate for dealing with existing buildings.

Cost Impact: Will not increase the cost of construction
There is no increase in requirements

E 148-15 : [BE] 1031.4-
DIGIOVANNI5858

E 149-15

1103.2.4, 1106.5

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1103.2.4 Utility buildings. Group U occupancies are not required to comply with this chapter other than the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.
2. ~~Private~~Group U private garages or carports that contain required *accessible* parking.

1106.5 Van spaces. For every six or fraction of six *accessible* parking spaces, at least one shall be a van-accessible parking space.

Exception: In Group R-2 and R-3 occupancies, van-accessible spaces located within Group U private garages that serve Type B units shall be permitted to have vehicular routes, entrances, parking spaces and access aisles with a minimum vertical clearance of 7 feet (2134 mm).

Reason: The definitions and requirements for private garages was revised in the 2015 IBC. This proposal will coordinate Sections 1103.2.4 and 1106.3 with how the term is used in Section 406.3. This will also help clarify the original intent that these exceptions were intended for small garages, not larger garages that are for residents only. The latter interpretation would be a conflict with federal accessibility requirements.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

E 149-15 : 1103.2.4-KULIK3336

E 150-15

1103.2.14

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Revise as follows:

1103.2.14 Walk-in coolers and freezers. Walk-in ~~coolers~~cooler and ~~freezers intended for~~freezer equipment accessed from employee ~~use only~~work areas are not required to comply with this chapter.

Reason: The current language could be misread to allow for giant coolers where employees work all day or where they are large enough to allow fork lifts. The revised language would be clarify that this intended to address a walk-in cooler equipment provided off a restaurant commercial kitchen. It is not intended to allow for a walk-in refrigerated room that was part of a facility such as a meat packing plant. 'Employee work area' is a defined term.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

E 150-15 : 1103.2.14-KULIK3337

E 151-15

1104.4

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1104.4 Multistory buildings and facilities. At least one *accessible route* shall connect each *accessible story*, ~~and~~ mezzanine and occupiable roof in multilevel buildings and *facilities*.

Exceptions:

1. An *accessible route* is not required to ~~stories, and mezzanines~~ and occupiable roof that have an aggregate area of not more than 3,000 square feet (278.7 m²) and are located above and below *accessible* levels. This exception shall not apply to:
 - 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces used for the sales or rental of goods and where at least one such tenant space is located on a floor level above or below the *accessible* levels;
 - 1.2. *Stories* or *mezzanines* containing offices of health care providers (Group B or I);
 - 1.3. Passenger transportation facilities and airports (Group A-3 or B); or
 - 1.4. Government buildings.
2. ~~Stories, or~~ mezzanines or occupiable roofs that do not contain *accessible* elements or other spaces as determined by Section 1107 or 1108 are not required to be served by an *accessible route* from an *accessible* level.
3. In air traffic control towers, an *accessible route* is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one *story* or *mezzanine* with an *occupant load* of five or fewer persons that does not contain *public use* space, that *story* or *mezzanine* shall not be required to be connected by an *accessible route* to the *story* above or below.

Reason: The added phrase "occupiable roof" is proposed. As written, the current text would exclude anything that is not a story or mezzanine. Because "story" is defined as the space between a floor and ceiling/roof above, an occupiable roof of a hotel with a large swimming pool or a roof garden for an apartment or office would not be included as requiring an accessible route. If these roof areas contain elements which must be accessible, they should be included in the requirement for access to those levels. Simply because a space does not have a roof but otherwise functions as a part of the building, it should not be excluded from access.

During the prior code cycle the term "floor" was changed to "story." consequently, the ability to easily address the occupiable roof was lost. This proposal will restore the original intent.

Cost Impact: Will not increase the cost of construction

This is a clarification. The revised language is only addressing what should already be the case.

E 151-15 : 1104.4-BOECKER5548

E 152-15

1104.4

Proponent: David Kulina, representing Engel Architects (david@engelarch.com)

2015 International Building Code

Revise as follows:

1104.4 Multistory buildings and facilities. At least one *accessible route* shall connect each *accessible story* and *mezzanine* in multilevel buildings and *facilities*.

Exceptions:

1. An *accessible route* is not required to *stories* and *mezzanines* that have an aggregate area of not more than 3,000 square feet (278.7 m²) and are located above and below *accessible* levels. Such aggregate area shall not include spaces already exempted by Section 1103.2. This exception shall not apply to:
 - 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces used for the sales or rental of goods and where at least one such tenant space is located on a floor level above or below the *accessible* levels;
 - 1.2. *Stories* or *mezzanines* containing offices of health care providers (Group B or I);
 - 1.3. Passenger transportation facilities and airports (Group A-3 or B); or
 - 1.4. Government buildings.
2. *Stories* or *mezzanines* that do not contain *accessible* elements or other spaces as determined by Section 1107 or 1108 are not required to be served by an *accessible route* from an *accessible* level.
3. In air traffic control towers, an *accessible route* is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one *story* or *mezzanine* with an *occupant load* of five or fewer persons that does not contain *public use* space, that *story* or *mezzanine* shall not be required to be connected by an *accessible route* to the *story* above or below.

Reason: The intent of the 3000 square foot rule was to grant relief from accessibility requirements for areas of limited size. Frequently, the 3000 square foot barrier is broken because a building may have 2000 square foot of mechanical space on top of a 1500 square foot mezzanine. In the case of large factories and warehouses, the total number of equipment areas may be greater than 3000 square feet by themselves, thus all other spaces would have to be made accessible.

Cost Impact: Will not increase the cost of construction

This change will result in cost savings by alleviating the need for lifts and elevators to access limited area floor levels.

E 152-15 : 1104.4-KULINA4556

E 153-15

1105.1, 1105.1.1 (New), TABLE 1105.1.1 (New)

Proponent: Joseph Hetzel, representing DASMA (Jhetzel@thomasamc.com)

2015 International Building Code

Revise as follows:

1105.1 Public entrances. In addition to *accessible* entrances required by Sections ~~1105.1.1~~ 1105.1.2 through ~~1105.1.7~~ 1105.1.8, at least 60 percent of all *public entrances* shall be *accessible*.

Exceptions:

1. An *accessible* entrance is not required to areas not required to be *accessible*.
2. Loading and *service entrances* that are not the only entrance to a tenant space.

Add new text as follows:

1105.1.1 Automatic Doors. For buildings or facilities having occupant loads greater than or equal to that specified in Table 1105.1.8, at least one accessible public entrance shall be either a power-operated door or a low-energy power-operated door.

**TABLE 1105.1.1
PUBLIC ENTRANCE WITH POWER-OPERATED DOOR**

<u>OCCUPANCY</u>	<u>MINIMUM OCCUPANT LOAD</u>
<u>I-1, I-2</u>	<u>50</u>
<u>A-1, A-2, A-3, A-4</u>	<u>300</u>
<u>R-1</u>	<u>300</u>
<u>B, E, M, R-2</u>	<u>500</u>

(Renumber subsequent sections.)

Reason:

- The proposed language is conceptually based on code language currently in existence, and successfully used, in the province of Ontario, Canada.
- It is widely accepted that automatic doors in general enhance overall accessibility.
- The occupancies cited as requiring power-operated doors are associated with locations where either a high degree of public use would be anticipated, or a serious need exists among the population using a particular occupancy.
- The Table is needed in Section 1105, where accessible entrances are governed.
- Occupant loads have been determined as follows:
 - Groups A and I-2: From Table 1604.5, where these Groups are classified as Risk Category III described as "buildings and other structures that represent a substantial hazard to human life in the event of failure".
 - Other Groups in proposed Table 1105.1.8: From Table 1006.3.1, which states that three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1000, and four shall be provided with an occupant load greater than 1000.
- The thresholds have been chosen so as not to place a disproportional economic burden on smaller occupancies such as small assembly buildings or strip mall businesses.
- The thresholds also assume that a minimum of 0.4% of the population will be in need of accessibility at any given time for the specified occupancies. The anticipated accessibility need should exceed this estimate a large enough percentage of time to constitute a critical mass of facilities needing power-operated doors when meeting the established thresholds.
- The population requiring accessibility commonly needs accommodations to enter assembly, business, mercantile, hotel/motel, and institutional facilities as part of their everyday life.

Cost Impact: Will increase the cost of construction

The code change proposal will increase the cost of construction, which will be offset by the significant enhancement of accessibility and the side benefit of increased public convenience.

E 154-15

1106.5

Proponent: Kathleen Petrie, representing City of Seattle, Department of Planning and Development
(kathleen.petrie@seattle.gov)

2015 International Building Code

Revise as follows:

1106.5 Van spaces. For every six or fraction of six *accessible* parking spaces, at least one shall be a van-accessible parking space.

Exception: In Group U *private garages* that serve Group R-2 and R-3 occupancies, van-accessible spaces ~~located within private garages~~ shall be permitted to have vehicular routes, entrances, parking spaces and access aisles with a minimum vertical clearance of 7 feet (2134 mm).

Reason: As currently written, this section provides governs van accessible spaces within garages of R-2 or R-3 occupancy spaces. Garages are U occupancies not R occupancies, so this exception is actually directed toward the U occupancy that is accessory to the residential occupancy.

Cost Impact: Will not increase the cost of construction

This modification does not impact how a structure is constructed, so costs are not increased or decreased

E 154-15 : 1106.5-PETRIE3480

E 155-15

1107.5.1, 1107.5.1.1, 1107.5.1.2, 1107.6.2.2, 1107.6.2.2.1, 1107.6.2.2.2, 1107.6.2.3, 1107.6.2.3.1, 1107.6.2.3.2

Proponent: Daniel Nichols, New York State Division of Building Standards and Codes, representing New York State Division of Building Standards and Codes (dnichols@dos.state.ny.us)

2015 International Building Code

Revise as follows:

1107.5.1 Group I-1. *Accessible units* and *Type B units* shall be provided in Group I-1 occupancies in accordance with Sections 1107.5.1.1 and 1107.5.1.2.

1107.5.1.1 Accessible units. In Group I-1 Condition 1, at least 4 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. In Group I-1 Condition 2, at least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

1107.5.1.2 Type B units. In structures with four or more *dwelling units* or *sleeping units intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit* and shall meet the additional following requirements.

1. Door intended for user passage required to comply with ICC A117.1 Section 1004.5.2 shall also comply with the clear width and maneuvering clearances required by Sections 404.2.2 and 404.2.3 of ICC A117.1.
2. At least one toilet and bathing facility in the *dwelling or sleeping unit* shall be constructed in accordance with the toilet and bathing facilities requirements of Section 1003.11 of ICC A117.1.

~~Exception~~Exceptions:

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. Maneuvering clearances is not required on the toilet room or bathroom side of the door in toilet rooms and bathrooms not required to comply with Section 1003.11 of ICC A117.1.
3. Where exterior space dimensions of balconies are less than the required maneuvering clearance, door maneuvering clearances is not required on the exterior side of the door.
4. Where closets or pantries are 48 inches (1220 mm) maximum in depth, the maneuvering clearance is not required on the closet side of the door.

1107.6.2.2 Apartment houses, monasteries and convents. *Type A units* and *Type B units* shall be provided in apartment houses, monasteries and convents in accordance with Sections 1107.6.2.2.1 and 1107.6.2.2.2.

Delete without substitution:

~~**1107.6.2.2.1 Type A units.** In Group R-2 occupancies containing more than 20 *dwelling units* or *sleeping units*, at least 2 percent but not less than one of the units shall be a *Type A unit*. All Group R-2 units on a *site* shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. Bedrooms in monasteries and convents shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites, only one *sleeping unit* in each suite shall count towards the number of required *Type A units*.~~

~~Exceptions:~~

- ~~1. The number of *Type A units* is permitted to be reduced in accordance with Section 1107.7.~~
- ~~2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.~~

Revise as follows:

1107.6.2.2.2 Type B units. Where there are four or more *dwelling units* or *sleeping units intended to be occupied as a residence* in a single structure, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit* and shall meet the additional following requirements.

1. Door intended for user passage required to comply with ICC A117.1 Section 1004.5.2 shall also comply with the clear width and maneuvering clearances required by Sections 404.2.2 and 404.2.3 of ICC A117.1.
2. At least one toilet and bathing facility in the *dwelling or sleeping unit* shall be constructed in accordance with the toilet and bathing facilities requirements of Section 1003.11 of ICC A117.1.

~~Exception~~Exceptions:

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. Maneuvering clearances is not required on the toilet room or bathroom side of the door in toilet rooms and bathrooms not required to comply with Section 1003.11 of ICC A117.1.
3. Where exterior space dimensions of balconies are less than the required maneuvering clearance, door maneuvering clearances is not required on the exterior side of the door.
4. Where closets or pantries are 48 inches (1220 mm) maximum in depth, the maneuvering clearance is not required on the closet side of the door.

1107.6.2.3 Group R-2 other than live/work units, apartment houses, monasteries and convents. In Group R-2 occupancies, other than *live/work units*, apartment houses, monasteries and convents falling within the scope of Sections 1107.6.2.1 and 1107.6.2.2, *Accessible units* and *Type B units* shall be provided in accordance with Sections 1107.6.2.3.1 and 1107.6.2.3.2. Bedrooms within congregate living facilities shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites, only one *sleeping unit* in each suite shall be permitted to count towards the number of required *Accessible units*.

1107.6.2.3.1 Accessible units. *Accessibly dwelling units* and *sleeping units* shall be provided in accordance with Table 1107.6.1.1.

1107.6.2.3.2 Type B units. Where there are four or more *dwelling units* or *sleeping units* intended to be occupied as a residence in a single structure, every *dwelling unit* and every *sleeping unit* intended to be occupied as a residence shall be a *Type B unit* and shall meet the additional following requirements.

1. Door intended for user passage required to comply with ICC A117.1 Section 1004.5.2 shall also comply with the clear width and maneuvering clearances required by Sections 404.2.2 and 404.2.3 of ICC A117.1.
2. At least one toilet and bathing facility in the dwelling or sleeping unit shall be constructed in accordance with the toilet and bathing facilities requirements of Section 1003.11 of ICC A117.1.

ExceptionExceptions:

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. Maneuvering clearances is not required on the toilet room or bathroom side of the door in toilet rooms and bathrooms not required to comply with Section 1003.11 of ICC A117.1.
3. Where exterior space dimensions of balconies are less than the required maneuvering clearance, door maneuvering clearances is not required on the exterior side of the door.
4. Where closets or pantries are 48 inches (1220 mm) maximum in depth, the maneuvering clearance is not required on the closet side of the door.

Reason: The purpose of this code change proposal is to modify the level of accessibility offered in Group I-1 and R-2. The collective use of these residential occupancies is generally for occupants that are planning a long-term residency in a dwelling or sleeping unit. With that, the availability of choice is important in selecting a residential unit compared to other residential occupancies.

The language of the proposal has been utilized in New York State for the past 12 years and was developed jointly by accessibility advocates and the building industry. For Group R-2 apartments, the baseline to the proposal is that the elimination of full Type A unit requirements is offset by the expansion of certain accessibility features in the remaining units that are being designed as Type B units. The reasoning for this proposal is to offer more choice in these residential buildings to those with different types of physical disabilities and their respective mobility needs. Further, the proposal will offer more choice of residential housing to a greater number of those with physical disabilities since the requirements for doorway widths and an accessible bathroom will start at four units, instead of 20 units that count units throughout a complex.

The proposal requires the initial design of all apartments to have doorways the width as required for a Type A unit as well as one bathroom to be of Type A design. This provides the additional choice within apartments for either initial use or adaptable changes to other building features (like cabinetry or appliance access) due to change of occupant or change of occupant's abilities.

Cost Impact: Will increase the cost of construction

The code change will increase the cost of construction since the floor area that is required for the additional Type B units is generally not offset by the elimination of the Type A units.

E 155-15 : 1107.6.2.2-NICHOLS5453

E 156-15

1107.5.1.2

Proponent: Margaret Calkins, representing Rothschild Foundation ADA Task Force (mcalkins@ideasinstitute.org)

2015 International Building Code

1107.5.1 Group I-1. *Accessible units* and *Type B units* shall be provided in Group I-1 occupancies in accordance with Sections 1107.5.1.1 and 1107.5.1.2.

1107.5.1.1 Accessible units. In Group I-1 Condition 1, at least 4 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. In Group I-1 Condition 2, at least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Revise as follows:

1107.5.1.2 Type B units. In structures with four or more *dwelling units* or *sleeping units intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception~~Exceptions:~~

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. At the water closet, two installed swing-up grab bars shall be permitted as an alternative to reinforcements for rear and side grab bars.

Reason: It has long been recognized that most older adults do not have the upper body strength and mobility/range of motion to complete a sliding transfer onto a toilet. Even individuals who use a wheelchair for mobility needs, if they are capable of bearing weight (fully or partially) use a stand-turn-sit action to transfer onto and off of the toilet, either independently or with assistance. Recently completed research by Sanford and Calkins has shown that both elders and care partners prefer bilateral swing up grab bars over the typical side and rear wall grab bar configuration. Three test conditions included the traditional ADA configuration with the toilet 18" from the side wall and a wall mounted grab bar; bilateral grab bars located at the ADA specified distances (16-18" from the center line of the toilet, mounted 34" above the floor); and a user defined configuration that varied between individuals.

From the interim report for the research:

Configuration Preference: Regardless of level of assistance (independent, 1-person assist or 2-person assist) residents overwhelmingly preferred the individualized configuration to either the ADA side bar or the bilateral fold down grab bars at ADA dimensions. The majority of residents (70% or greater) preferred the grabbars at 13" from the center line of the toilet. The mean preferred height was 32.8" above the floor. Finally, having the wall located 24" from the center line of the toilet was felt to be sufficient for caregiver maneuverability over 84% of the time. Among 30 residents who performed independent transfers 86.2% (n=25) preferred the individualized configuration over the ADA (n=2) or bilateral ADA (n=2) grab bar configuration (missing data on 1 resident). Among 22 residents who required a 1-person assist, 78.3% (n=18) preferred the individualized configuration over the ADA (n=0) or bilateral ADA (n=4). Finally, among 23 residents who required a 2-person assist, 82.6% (n=19) preferred the individualized configuration to the ADA (n=3) or bilateral ADA configuration (n=1). Similar findings were reported by staff for assisted transfers. For those assisting with 1-person assisted transfers, 76.2% (n=16) preferred the individualized configuration to the ADA (n=1) or the bilateral ADA (n=4). For those assisting with a 2-person assisted transfer, 58% (n=14) preferred the individualized configuration, although 33% preferred the bilateral configuration, while only 8.3% (n=2) preferred the ADA side bar.

Mean Rating for Safety: Mean ratings for the location and style of grab bar to help with safe transfers and support staff to provide assistance were also calculated. On a 5 point scale where 1=strongly disagree and 5=strongly agree, both residents and staff gave consistently higher ratings to the individualized configuration (means ranged from 4.0 - 4.7) than to either the standard ADA configuration (means ranged from 3.2 - 3.8) or the bilateral ADA configuration (means ranged from 3.4 - 3.8).

The timing of this research was such that we were unable to make proposals for changes to ANSI on specifications for either Accessible or Type B units. Thus, at this time we are only looking to specifically allow bi-lateral fold-up grab bar as an alternative to providing side and back wall blocking in Type B units. We recognize that fold-up grab bars are not prohibited in Type B units, however, in some states because this option is not specifically defined, AHJs are reluctant to allow them to be installed during construction. Our goal is to make sure that bilateral fold up grab bars are an option in Group I1 buildings.

Bibliography: [Proposal for additional to accessibility standards for nursing home and assisted living residents in toileting and bathing] [Report/Document #] [Rothschild ADA Task Force] [2012] [1-58]
[www.IDEASInstitute.org/publications.asp]

[Preliminary final report for phases 1-3] [Report/Document #] [Sanford, Calkins] [unpublished] [Page #]
[Request a copy from info@TheRothschildFoundation.us]

Cost Impact: Will not increase the cost of construction

As an option, this will have no mandatory cost implications on projects. Owners who wish to better support their residents and caregivers may choose this as an option, but it is not required.

E 156-15 : 1107.5.1.2-CALKINS4780

E 157-15

1107.5.2.2

Proponent: Margaret Calkins, representing Rothschild Foundation ADA Task Force (mcalkins@ideasinstitute.org)

2015 International Building Code

1107.5.2 Group I-2 nursing homes. *Accessible units* and *Type B units* shall be provided in nursing homes of Group I-2 occupancies in accordance with Sections 1107.5.2.1 and 1107.5.2.2.

1107.5.2.1 Accessible units. At least 50 percent but not less than one of each type of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Revise as follows:

1107.5.2.2 Type B units. In structures with four or more *dwelling units* or *sleeping units intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

~~Exception~~Exceptions:

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. At the water closet, two installed swing-up grab bars shall be permitted as an alternative to reinforcements for rear and side grab bars.

Reason: It has long been recognized that most older adults do not have the upper body strength and mobility/range of motion to complete a sliding transfer onto a toilet. Even individuals who use a wheelchair for mobility needs, if they are capable of bearing weight (fully or partially) use a stand-turn-sit action to transfer onto and off of the toilet, either independently or with assistance. Recently completed research by Sanford and Calkins has shown that both elders and care partners prefer bilateral swing up grab bars over the typical side and rear wall grab bar configuration. Three test conditions included the traditional ADA configuration with the toilet 18" from the side wall and a wall mounted grab bar; bilateral grab bars located at the ADA specified distances (16-18" from the center line of the toilet, mounted 34" above the floor); and a user defined configuration that varied between individuals.

From the interim report for the research:

Configuration Preference: Regardless of level of assistance (independent, 1-person assist or 2-person assist) residents overwhelmingly preferred the individualized configuration to either the ADA side bar or the bilateral fold down grab bars at ADA dimensions. The majority of residents (70% or greater) preferred the grabbars at 13" from the center line of the toilet. The mean preferred height was 32.8" above the floor. Finally, having the wall located 24" from the center line of the toilet was felt to be sufficient for caregiver maneuverability over 84% of the time. Among 30 resident who performed independent transfers 86.2% (n=25) preferred the individualized configuration over the ADA (n=2) or bilateral ADA (n=2) grab bar configuration (missing data on 1 resident). Among 22 residents who required a 1-person assist, 78.3% (n=18) preferred the individualized configuration over the ADA (n=0) or bilateral ADA (n=4). Finally, among 23 residents who required a 2-person assist, 82.6% (n=19) preferred the individualized configuration to the ADA (n=3) or bilateral ADA configuration (n=1). Similar findings were reported by staff for assisted transfers. For those assisting with 1-person assisted transfers, 76.2% (n=16) preferred the individualized configuration to the ADA (n=1) or the bilateral ADA (n=4). For those assisting with a 2-person assisted transfer, 58% (n=14) preferred the individualized configuration, although 33% preferred the bilateral configuration, while only 8.3% (n=2) preferred the ADA side bar.

Mean Rating for Safety: Mean ratings for the location and style of grab bar to help with safe transfers and support staff to provide assistance were also calculated. On a 5 point scale where 1=strongly disagree and 5=strongly agree, both residents and staff gave consistently higher ratings to the individualized configuration (means ranged from 4.0 - 4.7) than to either the standard ADA configuration (means ranged from 3.2 - 3.8) or the bilateral ADA configuration (means ranged from 3.4 - 3.8).

The timing of this research was such that we were unable to make proposals for changes to ANSI on specifications for either Accessible or Type B units. Thus, at this time we are only looking to specifically allow bi-lateral fold-up grab bar as an alternative to providing side and back wall blocking in Type B units. We recognize that fold-up grab bars are not prohibited in Type B units, however, in some states because this option is not specifically defined, AHJs are reluctant to allow them to be installed during construction. Our goal is to make sure that bilateral fold up grab bars are an option in Group I2 buildings.

Bibliography: [Proposal for additions to accessibility guidelines for nursing home and assisted living residents in toileting and bathing] [Report/Document #] [Rothschild Foundation ASA Task Force] [2012] [1-58]
[www.IDEASInstitute.org.publications.asp]

Cost Impact: Will not increase the cost of construction

As an option, this will not have any mandatory cost increase. Owners may choose to install bilateral grab bars if they want to better support their residents and caregivers.

E 157-15 : 1107.5.2.2-CALKINS5440

E 158-15

1107.5.3.2

Proponent: Margaret Calkins, representing Rothschild Foundation ADA Task Force (mcalkins@ideasinstitute.org)

2015 International Building Code

1107.5.3 Group I-2 hospitals. *Accessible units* and *Type B units* shall be provided in general-purpose hospitals, psychiatric facilities and detoxification facilities of Group I-2 occupancies in accordance with Sections 1107.5.3.1 and 1107.5.3.2.

1107.5.3.1 Accessible units. At least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Exception: Entry doors to *Accessible dwelling units* or *sleeping units* shall not be required to provide the maneuvering clearance beyond the latch side of the door.

Revise as follows:

1107.5.3.2 Type B units. In structures with four or more *dwelling units* or *sleeping units* *intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit* *intended to be occupied as a residence* shall be a *Type B unit*.

ExceptionExceptions:

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. At the water closet, two installed swing-up grab bars shall be permitted as an alternative to reinforcements for rear and side grab bars.

Reason: This same proposal is being included for hospitals for 2 reasons. First, the majority of patient days (roughly 65%) are used by people over the age of 65. Second, having bilateral grabbars provides better support for anyone who is frail or might have balance issues. The rest of this justification is the same.

Recently completed research by Sanford and Calkins has shown that both elders and care partners prefer bilateral swing up grab bars over the typical side and rear wall grab bar configuration. Three test conditions included the traditional ADA configuration with the toilet 18" from the side wall and a wall mounted grab bar; bilateral grab bars located at the ADA specified distances (16-18" from the center line of the toilet, mounted 34" above the floor); and a user defined configuration that varied between individuals.

From the interim report for the research:

Configuration Preference: Regardless of level of assistance (independent, 1-person assist or 2-person assist) residents overwhelmingly preferred the individualized configuration to either the ADA side bar or the bilateral fold down grab bars at ADA dimensions. The majority of residents (70% or greater) preferred the grabbars at 13" from the center line of the toilet. The mean preferred height was 32.8" above the floor. Finally, having the wall located 24" from the center line of the toilet was felt to be sufficient for caregiver maneuverability over 84% of the time. Among 30 residents who performed independent transfers 86.2% (n=25) preferred the individualized configuration over the ADA (n=2) or bilateral ADA (n=2) grab bar configuration (missing data on 1 resident). Among 22 residents who required a 1-person assist, 78.3% (n=18) preferred the individualized configuration over the ADA (n=0) or bilateral ADA (n=4). Finally, among 23 residents who required a 2-person assist, 82.6% (n=19) preferred the individualized configuration to the ADA (n=3) or bilateral ADA configuration (n=1). Similar findings were reported by staff for assisted transfers. For those assisting with 1-person assisted transfers, 76.2% (n=16) preferred the individualized configuration to the ADA (n=1) or the bilateral ADA (n=4). For those assisting with a 2-person assisted transfer, 58% (n=14) preferred the individualized configuration, although 33% preferred the bilateral configuration, while only 8.3% (n=2) preferred the ADA side bar.

Mean Rating for Safety: Mean ratings for the location and style of grab bar to help with safe transfers and support staff to provide assistance were also calculated. On a 5 point scale where 1=strongly disagree and 5=strongly agree, both residents and staff gave consistently higher ratings to the individualized configuration (means ranged from 4.0 - 4.7) than to either the standard ADA configuration (means ranged from 3.2 - 3.8) or the bilateral ADA configuration (means ranged from 3.4 - 3.8).

The timing of this research was such that we were unable to make proposals for changes to ANSI on specifications for either Accessible or Type B units. Thus, at this time we are only looking to specifically allow bi-lateral fold-up grab bar as an alternative to providing side and back wall blocking in Type B units. We recognize that fold-up grab bars are not prohibited in Type B units, however, in some states because this option is not specifically defined, AHJs are reluctant to allow them to be installed during construction. Our goal is to make sure that bilateral fold up grab bars are an option in Group I3 buildings.

Cost Impact: Will not increase the cost of construction

As an alternative, this will not automatically increase construction costs. It is an option that owners can decide to install in type B units.

E 158-15 : 1107.5.3.2-CALKINS5439

E 159-15

1107.6.1, 1107.6.1.1

Proponent: Dominic Marinelli, representing United Spinal Association (nroether@accessibility-services.com)

2015 International Building Code

Revise as follows:

1107.6.1 Group R-1. *Accessible units* and *Type B units* shall be provided in Group R-1 occupancies in accordance with Sections 1107.6.1.1 and 1107.6.1.2.

1107.6.1.1 Accessible units. ~~Accessibledwelling units~~ and *sleeping units* shall be provided in accordance with Table 1107.6.1.1. ~~Where buildings~~On a multi-building site, where structures contain more than 50 *dwelling units* or *sleeping units*, the number of *Accessibleunits* shall be determined per building.~~Where buildings~~structure. On a multi-building site, where structures contain 50 or fewer *dwelling units* or *sleeping units*, all *dwelling units* and *sleeping units* on a *site* shall be considered to determine the total number of *Accessibleunits*.*Accessibleunits* shall be dispersed among the various classes of units.

Reason: The purpose of this proposal is to be consistent with the language used for accessible housing, and to coordinate better with the DOJ intent. The DOJ regulations read as follows:

Places of lodging. Places of lodging subject to this part [of the title III regulation] shall comply with the provisions of the 2010 Standards applicable to transient lodging, including, but not limited to, the requirements for transient lodging guest rooms in sections 224 and 806.

(1) Guest rooms. Guest rooms with mobility features in places of lodging subject to the transient lodging requirements of 2010 Standards shall be provided as follows--

(i) Facilities that are subject to the same permit application on a common site that each have 50 or fewer guest rooms may be combined for the purposes of determining the required number of accessible rooms and type of accessible bathing facility in accordance with table 224.2 to section 224.2 of the 2010 Standards.

(ii) Facilities with more than 50 guest rooms shall be treated separately for the purposes of determining the required number of accessible rooms and type of accessible bathing facility in accordance with table 224.2 to section 224.2 of the 2010 Standards.

It is always difficult to match ADA intent with IBC language. IBC defines 'building area' as what is defined by fire walls and exterior walls. 'Facility' is defined in the IBC as everything on a site. It seems like the intent here is to be consistent with the FHA language for Type B units - that regardless of fire walls, this is a structure that operates together as a unit, but it is not all the detached buildings on a site.

Cost Impact: Will not increase the cost of construction

No additional cost. Attempting to clarify language.

E 159-15 : 1107.6.1.1-ROETHER5822

E 160-15

1107.6.2.2, 1107.6.2.2.1, 1107.6.2.3, 1107.6.3, 1107.6.4

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org); Adolf Zubia, Chair, Fire Code Action Committee (fcac@iccsafe.org); Edward Kulik, Chair, Building Code Action Committee (bcac@iccsafe.org)

Revise as follows:

1107.6.2 Group R-2. *Accessible units, Type A units and Type B units* shall be provided in Group R-2 occupancies in accordance with Sections 1107.6.2.1 through 1107.6.2.3.

1107.6.2.1 Live/work units. In *live/work units* constructed in accordance with Section 419, the nonresidential portion is required to be *accessible*. In a structure where there are four or more *live/work units intended to be occupied as a residence*, the residential portion of the *live/work unit* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

1107.6.2.2 Apartment houses, monasteries and convents. *Type A units* and *Type B units* shall be provided in apartment houses, monasteries and convents in accordance with Sections 1107.6.2.2.1 and 1107.6.2.2.2.

Bedrooms in monasteries and convents shall be counted as units for the purpose of determining the number of units. Where the bedrooms are grouped in sleeping units, only one bedroom in each sleeping unit shall count towards the number of required Type A units.

1107.6.2.2.1 Type A units. In Group R-2 occupancies containing more than 20 *dwelling units* or *sleeping units*, at least 2 percent but not less than one of the units shall be a *Type A unit*. All Group R-2 units on a *site* shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. ~~Bedrooms in monasteries and convents shall be counted as sleeping units for the purpose of determining the number of units. Where the sleeping units are grouped into suites, only one sleeping unit in each suite shall count towards the number of required Type A units.~~

Exceptions:

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1107.7.
2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.

1107.6.2.2.2 Type B units. Where there are four or more *dwelling units* or *sleeping units intended to be occupied as a residence* in a single structure, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

1107.6.2.3 Group R-2 other than live/work units, apartment houses, monasteries and convents.

In Group R-2 occupancies, other than *live/work units*, apartment houses, monasteries and convents falling within the scope of Sections 1107.6.2.1 and 1107.6.2.2, *Accessible units* and *Type B units* shall be provided in accordance with Sections 1107.6.2.3.1 and 1107.6.2.3.2. Bedrooms within congregate living facilities, dormitories, sororities, fraternities, and boarding houses shall be counted as sleeping units for the purpose of determining the number of units. Where the sleeping units/bedrooms are grouped into suites/dwelling or sleeping units, only one sleeping unit/bedroom in each suite/dwelling or sleeping units shall be permitted to count towards the number of required Accessible units.

1107.6.2.3.1 Accessible units. *Accessible dwelling units* and *sleeping units* shall be provided in accordance with Table 1107.6.1.1.

1107.6.2.3.2 Type B units. Where there are four or more *dwelling units* or *sleeping units intended to be occupied as a residence* in a single structure, every *dwelling unit* and every *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

1107.6.3 Group R-3. In Group R-3 occupancies where there are four or more *dwelling units* or *sleeping units intended to be occupied as a residence* in a single structure, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Bedrooms within congregate living facilities, dormitories, sororities, fraternities, and boarding houses shall be counted as sleeping units for the purpose of determining the number of units.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

1107.6.4 Group R-4. *Accessible units* and *Type B units* shall be provided in Group R-4 occupancies in accordance with Sections 1107.6.4.1 and 1107.6.4.2. Bedrooms in Group R-4 facilities shall be counted as ~~sleeping~~ units for the purpose of determining the number of units.

1107.6.4.1 Accessible units. In Group R-4 Condition 1, at least one of the *sleeping units* shall be an *Accessible unit*. In Group R-4 Condition 2, at least two of the *sleeping units* shall be an *Accessible unit*.

1107.6.4.2 Type B units. In structures with four or more *sleeping units intended to be occupied as a residence*, every *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

Reason: ADA and FHA count bedrooms in dormitories and congregate residences when determining the number of units for accessibility requirements. With the recognition that suite designs can include more than one bedroom in a sleeping unit, the requirements here need to be tweaked to align with these federal regulations.

This is part of a group of proposals to address this style of design and group homes within single family residences. Changes are proposed for the definition for sleeping units, the Group classifications in Section 310.4 and 310.5, separation requirements in Section 420, and coordination with accessibility requirements in Section 1107. Proposals will be put forward as part of Group B for fire and smoke alarm systems. The proposals could work separately. The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website. <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions 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 Fire-CAC has held 10 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx?usertoken={token}&Site=icc>

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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction
This is a clarification, not a change in requirements.

Staff note: There is published errata for Section 1107.6.4, 1107.6.4.1 and 1107.6.4.2. The errata is incorporated into this proposal as existing text.

E 160-15 : 1107.6.2.2-
BALDASSARRA4296

E 161-15

1107.6.3, 1107.6.4, 1107.6.4.1, 1107.6.4.2

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

2015 International Building Code

Revise as follows:

1107.6.3 ~~Group~~Groups R-3 and R-4. In Group R-3 and R-4 occupancies where there are four or more *dwelling units* or *sleeping units intended to be occupied as a residence* in a single structure, every *dwelling unit* and *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*. Bedrooms within congregate living facilities shall be counted as *sleeping units* for the purpose of determining the number of units.

Exception: The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.

Delete without substitution:

~~**1107.6.4 Group R-4.** Accessible units and Type B units shall be provided in Group R-4 occupancies in accordance with Sections 1107.6.4.1 and 1107.6.4.2. Bedrooms in Group R-4 facilities shall be counted as sleeping units for the purpose of determining the number of units.~~

~~**1107.6.4.1 Accessible units.** In Group R-4 Condition 1, at least one of the *sleeping units* shall be an *Accessible unit*. In Group R-4 Condition 2, at least two of the *sleeping units* shall be an *Accessible unit*. Bedrooms in Group R-4 facilities shall be counted as *sleeping units* for the purpose of determining the number of units.~~

~~**1107.6.4.2 Type B units.** In structures with four or more *sleeping units intended to be occupied as a residence*, every *sleeping unit intended to be occupied as a residence* shall be a *Type B unit*.~~

~~**Exception:** The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.~~

Reason:

Historically the Accessible unit was required because this was a small Group I-1. The Accessible unit is not required by federal regulations. The larger impact on these facilities is not the sleeping room itself but the impact on the shared facilities, such as the kitchen, the maneuvering clearances at doors and at least one bathroom. How many Accessible bedrooms are required should be a funding or operational issue. This proposed change is consistent with the Fair Housing Act.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

This is a reduction in requirements, especially in a change of occupancy.

Staff note: There is a published errata to Sections 1107.6.4, 1107.6.4.1 and 1107.6.4.2. The errata is incorporated into this proposal as existing text.

E 161-15 : 1107.6.3-
BALDASSARRA4280

E 162-15

1107.6.4.2

Proponent: Margaret Calkins, representing Rothschild Foundation ADA Task Force (mcalkins@ideasinstitute.org)

2015 International Building Code

1107.6.4 Group R-4. *Accessible units* and *Type B units* shall be provided in Group R-4 occupancies in accordance with Sections 1107.6.4.1 and 1107.6.4.2. Bedrooms in Group R-4 facilities shall be counted as sleeping units for the purpose of determining the number of units.

1107.6.4.1 Accessible units. In Group R-4 Condition 1, at least one of the *dwelling units* or *sleeping units* shall be an *Accessible unit*. In Group R-4 Condition 2, at least two of the *dwelling units* or *sleeping units* shall be an *Accessible unit*. Bedrooms in Group R-4 facilities shall be counted as *sleeping units* for the purpose of determining the number of units.

Revise as follows:

1107.6.4.2 Type B units. In structures with four or more *dwelling units* or *sleeping units* *intended to be occupied as a residence*, every *dwelling unit* and *sleeping unit* *intended to be occupied as a residence* shall be a *Type B unit*.

Exception~~Exceptions:~~

1. The number of *Type B units* is permitted to be reduced in accordance with Section 1107.7.
2. At the water closet, two installed swing up grab bars shall be permitted as an alternative to reinforcement for rear and side grab bars.

Reason: As with the previous proposals, this proposal just makes it clear to group home operators that if they want to install bilateral grab bars in place of reinforcement for rear and side grab bars, it is acceptable.

It has long been recognized that most older adults do not have the upper body strength and mobility/range of motion to complete a sliding transfer onto a toilet. Even individuals who use a wheelchair for mobility needs, if they are capable of bearing weight (fully or partially) use a stand-turn-sit action to transfer onto and off of the toilet, either independently or with assistance. Recently completed research by Sanford and Calkins has shown that both elders and care partners prefer bilateral swing up grab bars over the typical side and rear wall grab bar configuration. Three test conditions included the traditional ADA configuration with the toilet 18" from the side wall and a wall mounted grab bar; bilateral grab bars located at the ADA specified distances (16-18" from the center line of the toilet, mounted 34" above the floor); and a user defined configuration that varied between individuals.

From the interim report for the research:

Configuration Preference: Regardless of level of assistance (independent, 1-person assist or 2-person assist) residents overwhelmingly preferred the individualized configuration to either the ADA side bar or the bilateral fold down grab bars at ADA dimensions. The majority of residents (70% or greater) preferred the grab bars at 13" from the center line of the toilet. The mean preferred height was 32.8" above the floor. Finally, having the wall located 24" from the center line of the toilet was felt to be sufficient for caregiver maneuverability over 84% of the time. Among 30 residents who performed independent transfers 86.2% (n=25) preferred the individualized configuration over the ADA (n=2) or bilateral ADA (n=2) grab bar configuration (missing data on 1 resident). Among 22 residents who required a 1-person assist, 78.3% (n=18) preferred the individualized configuration over the ADA (n=0) or bilateral ADA (n=4). Finally, among 23 residents who required a 2-person assist, 82.6% (n=19) preferred the individualized configuration to the ADA (n=3) or bilateral ADA configuration (n=1). Similar findings were reported by staff for assisted transfers. For those assisting with 1-person assisted transfers, 76.2% (n=16) preferred the individualized configuration to the ADA (n=1) or the bilateral ADA (n=4). For those assisting with a 2-person assisted transfer, 58% (n=14) preferred the individualized configuration, although 33% preferred the bilateral configuration, while only 8.3% (n=2) preferred the ADA side bar.

Mean Rating for Safety: Mean ratings for the location and style of grab bar to help with safe transfers and support staff to provide assistance were also calculated. On a 5 point scale where 1=strongly disagree and 5=strongly agree, both residents and staff gave consistently higher ratings to the individualized configuration (means ranged from 4.0 - 4.7) than to either the standard ADA configuration (means ranged from 3.2 - 3.8) or the bilateral ADA configuration (means ranged from 3.4 - 3.8).

The timing of this research was such that we were unable to make proposals for changes to ANSI on specifications for either Accessible or Type B units. Thus, at this time we are only looking to specifically allow bi-lateral fold-up grab bar as an alternative to providing side and back wall blocking in Type B units. We recognize that fold-up grab bars are not prohibited in Type B units, however, in some states because this option is not specifically defined, AHJs are reluctant to allow them to be installed during construction. Our goal is to make sure that bilateral fold up grab bars are an option in Group R4 buildings.

Cost Impact: Will not increase the cost of construction

As an option, owners may choose whether to install bilateral grab bars or reinforcement for rear and side grab bars, so there is no mandatory cost implication.

E 162-15 : 1107.6.4.2-CALKINS5450

E 163-15

1107.7.1.2

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

2015 International Building Code

Revise as follows:

1107.7.1.2 Additional stories with Type B units. ~~On all other stories that have a building entrance with entrances not included in proximity determining compliance with Section 1107.7.1.1, that are proximate to arrival points intended to serve units on that story,~~ as indicated in Items 1 and 2 below, all *dwelling units* and *sleeping units intended to be occupied as a residence* served by that entrance on that *story* shall be *Type B units*.

1. Where the slopes of the undisturbed *site* measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance are 10 percent or less, and
2. Where the slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance are 10 percent or less.

Where ~~no such~~ arrival points are not within 50 feet (15 240 mm) of the entrance, the closest arrival point shall be used to determine access unless that arrival point serves the *story* required by Section 1107.7.1.1.

Reason: The contorted language in this section is difficult to follow and should be clarified. The code is trying to make it clear that more than one entrance may provide access, and each of those entrances may serve other stories. The criteria are then used to determine if the units that are on those other floors must have Type B units.

Cost Impact: Will not increase the cost of construction

The intent of the code change is to clarify how the various routes into a building are to be considered and does not change the technical requirements, and has not impact on the cost of construction.

E 163-15 : 1107.7.1.2-COLLINS4476

E 164-15

1109.2

Proponent: David Kulina, representing Engel Architects (david@engelarch.com)

2015 International Building Code

Revise as follows:

1109.2 Toilet and bathing facilities. Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections 1109.2.2 and 1109.2.3, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be *accessible*.

Exceptions:

1. Toilet rooms or bathing rooms accessed only through a private office, not for *common* or *public use* and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.
2. This section is not applicable to toilet and bathing rooms that serve *dwelling units* or *sleeping units* that are not required to be *accessible* by Section 1107.
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.
5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving *Accessible units* are not required to be *accessible*.
6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The *sleeping units* served by bariatrics toilet or bathing rooms shall not count toward the required number of *Accessible sleeping units*.
7. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.
8. Toilet rooms or bathing rooms that serve only areas exempted by Section 1103.2 are not required to be accessible.

Reason: Section 1103.2 has a list of areas that are exempted from accessibility requirements. Sometimes there are bathrooms provided for those spaces. For example, a toilet room in farm building (1103.2.4) or a guard tower or fire watch tower (1103.2.6). If the area or building is exempted from accessibility, then it is not logical to require these bathrooms have accessible features.

Cost Impact: Will not increase the cost of construction
There are no additional construction requirements.

E 164-15 : 1109.2-KULINA4559

E 165-15

1109.2.1.2

Proponent: Yafeng Cao, KTA Group, Peer Review Studio, representing self; Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1109.2.1.2 Family or assisted-use toilet rooms. Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A family or assisted-use bathing room in accordance with Section 1109.2.1.3 shall be considered a family or assisted-use toilet room.

~~Exception~~Exceptions: Additional fixtures shall be permitted by one of the following:

1. A urinal is permitted to be provided in addition to the water closet in a family or assisted-use toilet room.
2. An additional child height water closet and child height lavatory is permitted in a family/assisted use toilet room.

Reason: CAO: ADAAG has envolved to include the building elements to cover children's dimensions. Some architects propose providing one adult water close and one children water closet in the same family or assited-use toilet room for private use but current IBC 1109.2.1.2 does not recognize it as "family or assisted-use toilet room" by limiting to only one water closet and only one lavatory.

Providing two types of water closets and lavatories, one type for adults and one type for children, in the same family/assisted-use toilet room is a higher level of accommodation and should be allowed and recognized.

In regard to the private use nature of the family or assited-use toilet rooms, the multiple water closets and lavatories should be counted as one in calculating the minimum number of plumbing fixture counting as stipulated in IBC 2902.1.

BOECKER: While the family or assisted-use toilet room is required because of the benefits to persons with disabilities and caregivers, the nature of "family" is that smaller children will also be present. The purpose of the "family" toilet room is to allow the parent the ability to use the facility as well as the child. It is quite common to provide child sized fixtures in these rooms for mercantile and assembly occupancies as a benefit for patrons of the facility. The added langauge to the exception line makes it clear that the intent is to use only one of the two exceptions. Either a urinal can be added or the two child height fixtures can be added; but, not both.

Cost Impact: Will not increase the cost of construction

CAO: This is a design option.

BOECKER: The exception allows for an option which does not increase cost.

E 165-15 : 1109.2.1.2-CAO5431

E 166-15

1109.13

Proponent: Lawrence Lincoln, representing Utah Chapter of ICC (larry.lincoln@slcgov.com)

2015 International Building Code

Revise as follows:

1109.13 Controls, operating mechanisms and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in *accessible* spaces, along *accessible routes* or as parts of *accessible* elements shall be *accessible*.

Exceptions:

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to be *accessible*.
2. Electrical or communication receptacles serving a dedicated use shall not be required to be *accessible*.
3. Where two or more outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, only one outlet shall ~~not~~ be required to be *accessible*.
4. Floor electrical receptacles shall not be required to be *accessible*.
5. HVAC diffusers shall not be required to be *accessible*.
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be *accessible*.
7. Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to comply with Section 1010.1.9.2.

Reason: The change is to provide clarity and positive code language.

Cost Impact: Will not increase the cost of construction
Will not increase the cost of construction.

E 166-15 : 1109.13-LINCOLN4784

E 167-15

202(New), 1109.15

Proponent: Stephen DiGiovanni, Clark County Building Department, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov)

2015 International Building Code

Revise as follows:

1109.15 Gaming machines and gaming tables. ~~Two~~ A minimum of two percent, but not less than one, of each gaming machine type ~~of and~~ gaming table ~~provided~~ type shall be ~~accessible and provided with a front approach.~~ ~~Two percent of.~~ Where multiple gaming areas occur, accessible gaming machines ~~provided shall be accessible and provided with a front approach.~~ Accessible gaming machines ~~tables~~ shall be distributed throughout the different types of gaming machines provided. _____

Add new definitions as follows:

SECTION 202 DEFINITIONS

GAMING To deal, operate, carry on, conduct, maintain or expose for play any game played with cards, dice, equipment or any mechanical, electromechanical or electronic device or machine for money, property, checks, credit or any representative of value except wherein occurring at private home or as operated by a charitable or educational organization.

GAMING AREA. Single or multiple areas of a building or facility where gaming machines or tables are present and gaming occurs, including but not limited to: primary casino gaming areas, VIP gaming areas, high-roller gaming areas, bar-tops, lobbies, dedicated rooms or spaces such as in retail or restaurant establishments, sports books, tournament areas.

GAMING MACHINE TYPE. Categorization of gaming machines per type of game played on them, including, but not limited to: slot machines, video poker, video keno.

GAMING TABLE TYPE. Categorization of gaming tables per the type of game played on them, including, but are not limited to: baccarat, bingo, blackjack/21, craps, pai-gow, poker, roulette.

Reason: Similar language, having the effect of requiring a number of gaming machines and tables to be made accessible, was added to the 2015 IBC. That language is somewhat vague, and does not take into consideration the various gaming locations, designations, and needs of the local gaming industry. Therefore, it could be interpreted as broadly or narrowly as each plan-review agency deems necessary. The result could be a vast over-application of these provisions to every differing gaming machine type (ex: monopoly vs. wheel of fortune), which was never the original intent. This proposed amendment is designed to narrow the requirements by noting additional factors, and not penalizing casinos having numerous styles of the same gaming machine type. Although most gaming throughout the United States occurs in larger casinos, there are some States where gaming occurs at smaller "non-casino" locations. These include, but are not limited to; bars, grocery stores, convenience stores and restaurants to name a few. This verbiage allows it to be scaled for both large and small venues, and be applied regardless of the type of venue where machines are present.

Additionally, the separation of a single large casino into multiple special use/access gaming areas is also considered. This proposed amendment takes into consideration these factors and requires distribution among gaming types and gaming areas to assure a reasonable level of access to a significant variety of gaming activities for all people.

The proposed amendment also considers the unique anthropometric design of most existing gaming machines, and provides a reasonable level of access that does not require a wholesale re-design of the machine itself. Essentially, by removing the requirement for "Front Approach" at these machines, the proposed considerations allow nearly all "upright-type" gaming machines to be considered accessible so long as they do not have a fixed chair or other obstruction in front of them. Conversely, gaming tables are pretty much standard throughout the country. Thus, no special consideration was needed with respect to their approach and clearance requirements.

As a practical matter, side approach access for the disabled is neither a dignified nor comfortable way to operate gaming machines for any length of playing time. By providing a front approach or front reach requirement to them, the player is now given the same integration as given all other players. This should allow for equal play time and comfort for a wider array of gaming patrons. When gaming tables are provided (i.e., black-jack, roulette, craps, poker), at least one of each type should be accessible to allow disabled players access to each unique game type. This too should increase play time and provide increased comfort for all patrons.

The proposed definitions are added to better define & clarify the terms used within Section 1109.15. They are primarily taken from Nevada Revised Statutes Chapter 463 (Sections NRS 463.0152 through NRS 463.01595) which are viewed to be the pre-eminent model for gaming control and management systems used throughout the world.

Cost Impact: Will not increase the cost of construction

This proposal will make the accessibility requirements of gaming machines and tables easier to achieve, and therefore will not increase construction costs.

E 167-15 : 1109.15-DIGIOVANNI3850

E 168-15

1110.4.13 (New)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

2015 International Building Code

Add new text as follows:

1110.4.13 Play Areas. Play areas containing play components designed and constructed for children shall be located on an accessible route.

Reason: This proposal only requires an accessible route to play areas. A similar proposal (E251-12) was submitted last cycle as part of the coordination between the ADA recreational requirements and the IBC. Part of the reason that this proposal was disapproved last cycle was that the code officials felt that they did not want to review the requirements for play components, thus this revised proposal addresses that issue by only requiring an accessible route to the play area.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website. <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>

This public 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 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <http://www.iccsafe.org/cs/BCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction

Playgrounds are recreational facilities; therefore an accessible route to a playground is already required by code. An accessible route to playgrounds is a federal requirement under ADA. Therefore, there is no impact on the cost of construction.

E 168-15 : 1110.4.13 (New)-KULIK3341

E 169-15

1111.1

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2015 International Building Code

Revise as follows:

1111.1 Signs. Required *accessible* elements shall be identified by the International Symbol of Accessibility at the following locations.

1. *Accessible* parking spaces required by Section 1106.1.
Exception: Where the total number of parking spaces provided is four or less, identification of *accessible* parking spaces is not required.
2. *Accessible* parking spaces required by Section 1106.2.
Exception: In Group I-1, R-2, R-3 and R-4 facilities, where parking spaces are assigned to specific *dwelling units* or *sleeping units*, identification of *accessible* parking spaces is not required.
3. *Accessible* passenger loading zones.
4. *Accessible* rooms where multiple single-user toilet or bathing rooms are clustered at a single location.
5. *Accessible* entrances where not all entrances are *accessible*.
6. *Accessible* check-out aisles where not all aisles are *accessible*. The sign, where provided, shall be above the check-out aisle in the same location as the checkout aisle number or type of check-out identification.
7. Family or assisted-use toilet and bathing rooms.
8. *Accessible* dressing, fitting and locker rooms where not all such rooms are *accessible*.
9. *Accessible* areas of refuge in accordance with Section 1009.9.
10. Exterior areas for assisted rescue in accordance with Section 1009.9.
11. In recreational facilities, lockers that are required to be *accessible* in accordance with Section 1109.9.
12. *Accessible lavatories and sinks where lavatories or sinks are provided in clusters and not all are accessible.*

Reason: The code only requires a single lavatory in a group toilet room to be accessible and only five percent (5%) of sinks to be accessible. This means that one lavatory could be mounted at the proper height with proper toe and knee clearances and compliant pipe protection while the rest might be mounted at the proper height but without toe and knee clearances; or, more critically, without pipe protection. In some cases, due to the nature of the design, it may not be possible to know which of these are fully accessible without crawling under the counter to look; an action which is not likely for individuals who use wheelchairs. This could pose a risk to the unaware individual using the lavatory that does not fully comply. The proposal would provide adequate notification for those who need to know which lavatories and/or sinks are fully compliant.

Cost Impact: Will increase the cost of construction

The additional cost is the minimal cost of a sticker or sign with the International Symbol of Accessibility.

E 169-15 : 1111.1-BOECKER5536