IBC — Egress

2015 GROUP A PUBLIC COMMENT AGENDA

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E2-15

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)

Proposed Change as Submitted

Proponent : Russell Kendzior, The National Floor Safety Institute (NFSI), representing National Floor Safety Institute (russk@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 *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair* and shall have a ~~slip-resistant~~*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 ~~be~~ 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 $^{1}/_{2}$-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 $1^{1}/_{8}$ 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 ~~are~~ 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 ~~are~~ is securely attached. The surface for stepped *aisles* shall comply with Section 1011.7.1.

Add new standard(s) as follows:

ANSI/NFSI B101.1-2009 "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 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 publics 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.

E2-15 : 1003.4-KENDZIOR4911

Public Hearing Results

The edition of the ANSI/NFSI B101.1 referenced in the change was 2005, however, the 2009 edition was submitted for committee and staff review.

Committee Action: Disapproved

Committee Reason: The fact that this proposal was not limited to one type of flooring material is good. However, the definition of high traction does not contain any numerical value and has subjective language such as "reasonably sufficient'. There would be confusion as to which floors are subject to wet conditions. There was testimony that some common flooring materials might not be able to meet the proposed standard. There will be an increase in construction cost because floor materials will need to be tested to this new standard.

There is question for maintenance of high traction materials in existing buildings over time – especially when floor products are used for cleaning or waxing.

The proposals could conflict with the intent of provisions for slip resistant in the accessibility provisions in the ICC A117.1 and the American's with Disabilities Act. Too much high traction might make some surfaces difficult to negotiate by persons with mobility issues.

Assembly Action : None

Analysis. For staff analysis of the content of ANSI/NFSI B101.1 relative to CP#28, Section 3.6, please visit: http://www.iccsafe.org/wp-content/uploads/2015-Proposed-Standards-Group-A-Final.pdf.

The edition of the ANSI/NFSI B101.1 referenced in the change was 2005, however, the 2009 edition was submitted for committee and staff review.

Individual Consideration Agenda

Public Comment 1:

Proponent : Russell Kendzior, representing National Floor Safety Institute (russk@nfsi.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

HIGH TRACTION. ~~The physical property of a flooror walkway surface that is designed to mitigate slipping during normal human ambulation by providing a reasonably sufficient level of available contact friction.~~ Walking surfaces tested per the ANSI/NFSI B101.1 and ANSI/NFSI B101.3 standards with the following coefficients offriction:

1. A wet Static Coefficient of Friction (SCOF) of 0.60 orgreater,
2. A wet Dynamic Coefficient of Friction (DCOF) of 0.42 or greater for surfaces with less than a1:20 incline.
3. A wet Dynamic Coefficient of Friction (DCOF) of 0.45 or greater for inclines of 1:20 or greater.

SECTION 202 DEFINITIONS

SLIP RESISTANT Walking surfaces tested per the ANSI/NFSI B101.1 and ANSI/NFSI B101.3 standards with the following coefficients of friction:

1. A wet Static Coefficient of Friction (SCOF) of 0.40 or greater,
2. A wet Dynamic Coefficient of Friction (DCOF) of 0.30 or greater.

1003.4 Floor surface. Walking surfaces of the *means of egress* shall have a ~~high-traction~~*slip resistant* surface 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 *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair* and shall have a *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. ~~Walking~~ Such 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 $^{1}/_{2}$-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 $1^{1}/_{8}$ inches (29 mm) cannot pass through the opening.

1012.7.1 Ramp surface. The walking surface of *ramps* shall have a *high-traction* surface that is securely attached.

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

Commenter's Reason: The term slip-resistant as used within the IBC is an ambiguous term that implies a level of pedestrian safety but is not defined by way of any nationally recognized consensus standard. During the April 26, 2015 IBC hearing the Means of Egress committee agreed with our position that the term slip resistant as used in the IBC is ambiguous and in need of clarification. We propose to modify our petition to maintain the use of the term slip resistant where appropriate and to omit the term and replace it with the term "high-Traction" for stair treads and ramps (incline walking surfaces) which require a higher level of slip resistance than that of a level walkway. We propose to base the definition of the term slip resistant and high-traction on the Coefficient of Friction (COF) ranges as published in the ANSI/NFSI B101.1-2009 and ANSI/NFSI B101.3-2012. We believe that by defining the term slip resistant and high traction by way of two published ANSI walkway safety concensus standards will serve to protect the general public from the risk of a slip and fall event and will not represent a significant cost to property owners or flooring manufacturers.

Cost Impact: There is no cost impact to this proposal since manufacturers of flooring materials are and have been measuring their products Coefficient of Friction (COF) per the ANSI/NFSI B101.1-2009 and ANSI/NFSI B101.3-2012 standards for years. Representatives from the TCNA, Marble Institute of America, Concrete Polishing Association, and other flooring manufacturers and floor covering associations testified at the April 26, 2015 hearing and confirmed that their representative member companies currently use the BOT-3000, which is an NFSI approved tribometer for measuring COF per the above named ANSI B101 walkway safety standards and therefore there is no cost to the manufacturing industry to purchase additional testing equipment or any personnel expense for in-house laboratory

testing. Given that flooring manufacturers are already testing their products via the use of an NFSI approved tribometer and publish COF data in their specification sheets, property owners will only have to provide such publicly available documentation to the code official. If such documentation is unavailable, the code official may, at their discretion request that the property owner provide COF data via an independent third party accredited Walkway auditor.

Bibliography: ANSI/NFSI B101.1 -2009 Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials
ANSI/NFSI B101.3-2012 Test Method for Measuring Wet DCOF of Common Hard-Surface Floor Materials (Including Action and Limit
Thresholds for the Suitable Assessment of the Measured Values)

E2-15

E3-15

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

Proposed Change as Submitted

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 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 level[1] 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 wear[2] , 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.

E3-15 : 1003.4.1 (New)-ASTRACHAN5126

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The referenced standard, ANSI A137.1 does not meet the criteria of CP28 for a referenced standard. The standard does has sections written in non-enforceable language. The scope of the standard is limited to ceramic tile; however, this proposal is for multiple materials. The only place the standard is currently referenced in the 2015 IBC code is the definition of ceramic tile.

There would be confusion as to which floors are subject to wet conditions. The proposal does not deal with all hard surface materials, and there seems to be confusion on which hard surfaces in the list would be able to comply.

There is question for maintenance of high traction materials in existing buildings over time – especially when floor products are used for cleaning or waxing.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Eric Astrachan, representing Tile Council of North America (eastrachan@tileusa.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1003.4.1 Hard Surface Flooring. ~~Walking surfaces~~ Hard surface flooring 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~~ minimum Dynamic Coefficient of Friction (DCOF) of 0.42 when tested per ANSI A137.1, Section ~~6.2.2.1.10 substituting the type of flooring where the word "tile" is used~~ 9.6.

Commenter's Reason: This proposal has been modified to remove all references to non-mandatory language. Additionally, the threshold requirement has been inserted directly into the language within this Code section, removing the need to reference minimum criteria or qualifying considerations contained within any single product-specific normative scope. The result is simply a reference test method which conforms to the requirements of CP28 and is applicable to a variety of hard surface flooring materials.
Further, all references to wet conditions are removed to satisfy concerns expressed by the Means of Egress Committee regarding the lack of definition of "wet conditions" and potential resulting confusion around which products would be subject to the proposed requirement.

Any floor can be wet at any time. Following the advice of the Means of Egress Committee, this revised proposal alleviates the necessity for the specifier or Code Official to make wet/dry hard surface flooring determinations. It instead references a widely applicable test method which inherently involves a wet condition parameter, and establishes a clear minimum DCOF threshold which can be easily referenced and specified for all hard surface flooring of the means of egress at all times.

This proposal is about safety, first and foremost, and these revisions if approved would facilitate a clear, concise and conservative approach to slip-resistant product specification.

E3-15

E4-15

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

Proposed Change as Submitted

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 level[1] 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 wear[2] , 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]
[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
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.

E4-15 : 1003.4.1 (New)-ASTRACHAN3424

Public Hearing Results

Committee Action: Disapproved

Committee Reason: While this proposal is limited to tile, this proposal has the same concerns as E3-15.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Eric Astrachan, representing Tile Council of North America (eastrachan@tileusa.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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~~ minimum Dynamic Coefficient of Friction (DCOF) of 0.42 when tested per ANSI A137.1, Section ~~6.2.2.1.10~~ 9.6.

Commenter's Reason: This proposal has been modified to remove all references to non-mandatory language in order that the referenced test method conforms to the

requirements of CP28. Additionally, all references to wet conditions are removed to satisfy concerns expressed by the Means of Egress Committee during testimony on E3 regarding the lack of definition of "wet conditions" and potetntial resulting confusion around which products would be subject to the proposed requriement.

E4-15

E5-15 Part I
1004.1 (IFC[BE]1004.1)

Proposed Change as Submitted

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

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.

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

Public Hearing Results

Part I

Committee Action: Disapproved

Committee Reason: What would be the 'typical usage' could not be uniformly enforced. This could be read to conflict with spaces used for multiple purposes being designed for those purposes as required in Section 302.1. The issue is already addressed in Section 1004.1.2. This is commentary language, not code requirements.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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.~~

Commenter's Reason: The purpose of this public comment is to address the concerns of the IBC-Egress Committee with Part I of this proposal. It is noted that Part II was approved by the IBC-General Committee by a wide margin.
The IBC-Egress Committee was primarily concerned about the last sentence, raising a specific question as to what constituted a "typical usage". The BCAC agrees with the Committee that this sentence is unnecessary and can be deleted, thus removing the term of concern. It is noted that removing this sentence will not create any conflicts with the already-approved Part II. The BCAC urges approval of Part I of this proposal, which will coordinate with the IBC-General Committee's action and bring useful clarifications to code users regarding the relationship between occupancy, use and function requirements in the code.

E5-15 Part I

E5-15 Part II

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

Proposed Change as Submitted

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

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 and adjacent properties.

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.

Add new text as follows:

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

401.1 Detailed ~~use~~occupancy and ~~occupancy~~use requirements. In addition to the occupancy and construction requirements in this code, the provisions of this chapter apply to the ~~special uses~~occupancies and ~~occupancies~~uses described herein.

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

Public Hearing Results

Part II

Committee Action: Approved as Modified

Modification:

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

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON ~~USE~~OCCUPANCY AND ~~OCCUPANCY~~USE

401.1 Detailed ~~use~~occupancy and ~~occupancy~~use requirements. In addition to the occupancy and construction requirements in this code, the provisions of this chapter apply to the ~~special uses~~ occupancies and ~~occupancies~~uses described herein.

Committee Reason: The committee approved 2 modifications. First the proposal was modified to make sure that the property surrounding each subject building is considered in conjunction with the activity in the building. The second amendment was to extend the clarification of the changes proposed for Chapter 3 into Chapter 4 where special provisions based on use and occupancy are located. Overall the committee found this proposal to be a good clarification between the terms of 'use' and 'occupancy'. Too often they are treated to be the same when they are really distinct terms. The proposal clarifies the difference.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Jonathan Siu, City of Seattle Department of Planning & Development, representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

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

302.1 Occupancy classification. ~~Occupancy classification is the formal designation of the primary purpose of the building, structure or portion thereof.~~ Structures, or portions thereof, 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, room or space that is intended to be occupied at different times for different purposes shall comply with all applicable requirements associated with such potential multi-purpose. Structures containing multiple occupancy groups shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically listed in this section, such structure shall be classified in the occupancy that it most nearly resembles based on the fire safety and relative hazard.

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.

~~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.~~

Commenter's Reason: Section 302.2 and the second sentence in Section 301.1 are proposed to be deleted by this public comment because they are commentary, and do not belong in the body of the code. The first sentence in Section 302.1 might be appropriate in a definition of occupancy classification, but otherwise, is also commentary and is therefore proposed to be deleted. The last sentence of Section 301.1 is also deleted because it is redundant with Section 302.1.

E8-15

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

Proposed Change as Submitted

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
Conference and meeting rooms in business areas	See Section 1004.1.3

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m^2, 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.

E8-15 : T1004.1.2-COLLINS4480

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The testimony was about simultaneous occupancy, however, there is no requirement in the text that this space could not be a conference room used by the public and not just the occupants on the floor. This could result in inadequate design for exit access doors from the assembly space; or with multiple conference rooms on a floor, cause a problem for adequate sizing of the exits for the floor. An option might be a limit on the room size to allow for a lower capacity the rather than to calculate an occupant load first, and then reduce the occupant load.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Dave Frable, representing US General Services Administration requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1004.1.3 ~~Conference and meeting~~ Small assembly use rooms in Group B. In Group B buildings, the occupant load factor for determining *means of egress* requirements for ~~conference and meeting~~ small assembly use rooms ~~with fewer than 50 occupants~~ 450 square feet or less, shall be ~~100 gross~~ 30 net square feet per person.

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Business areas	100 gross
~~Conference and meeting~~ Small assembly use rooms in business areas	See Section 1004.1.3

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Floor area in square feet per occupant.

Commenter's Reason: Over the past year, The US General Services Administration (GSA) has experienced many different interpretations among A/E firms and fire protection engineers regarding how specific rooms and spaces identified on drawings are to be utilized by building occupants. The terminology used for various types of rooms and spaces identified on design drawings also has been an issue since this terminology is not referenced or described in any national code or standard. For example, small assemble use rooms have been identified on design drawings as huddle rooms, quiet rooms, focus rooms, etc. Depending on the A/E firm or fire protection engineering consultant, the calculated occupant load factor for these small assembly use rooms could range from 15 ft^2/person to 100 ft^2/person. To address the concerns and questions regarding how the design team should calculate the occupant loads for these types of work environments and the appropriateness of using the current occupant load factors for these types of spaces in GSA facilities, we have re-evaluated the current occupant load factors in the IBC pertaining to these types of small assembly rooms.
The intent of this code change is to create a new occupant load factor for small assembly use rooms in business areas which we believe is not adequately addressed in IBC. Based on an evaluation of several recent projects in several GSA regional offices, it was determined that these specific small assembly use rooms are used by employees to transition temporarily from their regular work-station area in order to obtain privacy and/or to avoid disturbing other employees located in the open office environment or to meet with a few colleagues to discuss a work assignment. These rooms are typically not used for conference room settings and therefore should not be compelled to comply to conservative occupant load factors associated with assembly use areas. However, these rooms are considered simultaneous use since they may be used on a regular basis by the employees from other floors in the building thus increasing the floor's occupant load. However, based on the intended use of these rooms and engineering judgment, it was determined that an occupant load factor of 30 ft^2 (net area)/occupant is a reasonable factor to be used to calculate the occupant load of these rooms that are that are typically less than or equal to 450 square feet in area.

In summary, we believe these proposed new occupant load factors still provide a reasonable degree of safety for building occupants as it relates to a building's means of egress systems in commercial office buildings.

Public Comment 2:

Proponent : Steven Orlowski, representing Building Owners and Managers Association, International (sorlowski@boma.org); David Collins, representing The American Institute of Architects (dcollins@preview-group.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 shall include conference and meeting rooms with a net area of less than 750 square feet that are within the tenant space.

Commenter's Reason: The purpose of the public comment is twofold. First, it addresses the concerns the committee had regarding the silmultaneous use of the space, by limiting the provision to those meeting or conference rooms located within the tenant space. The second change implements a 750 square foot limitation on the size of the space, which is derived from using the 15 sf net factor used for unconcentrated assembly space.

E8-15

E10-15

TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proposed Change as Submitted

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 m^2, 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 regullarly 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 ft^2/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 simutaneous occupancy with the office areas. This significanlty 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
The code change proposal would decrease the required design occupant load in business offices and would therefore reduce the number of plumbing fixtures required as well as possibly reduce the required capacity of egress elements. A rough estimate of the installation of a commercial toilet with associated plumbing is at least $1,500. The lost usable/rentable area due to oversizing egress elements could cost thousands of dollars per year. Overdesign is inefficient and not sustainable. Maintaining the unnecessary area would add annual operating costs to the building and waste energy.

E10-15 : T1004.1.2-GRILL5198

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There are no qualifiers for size limits for the conference rooms. The testimony was about simultaneous occupancy, however, there is no requirement in the text that this space could not be a conference room used by the public and not just the occupants on the floor. This could result in inadequate design for exit access doors from the assembly space; or with multiple conference rooms on a floor, cause a problem for adequate sizing of the exits for the floor.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Raymond Grill, representing Arup- Self (ray.grill@arup.com) requests Approve as Submitted.

Commenter's Reason: See the orignal reason for the code change.

Public Comment 2:

Proponent : Gene Boecker, representing National Association of Theatre Owners (geneb@codeconsultants.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

For SI: 1 square foot = 0.0929 m^2, 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 <u>not greater than 750 square feet per floor,</u> shall be included in the gross area calculation.

Commenter's Reason: The concern during the committee hearings was that the size of the conference room or break room could be rather large. In it's original form, it would not be unreasonable to think that someone would try to apply this provision with a 2500 square foot training center on the third floor of a four story office buidngs that is opnly 3000 SF per floor - clearly outside the scope. However, by keeping the size per floor down to 750 SF, it makes sense to just "lump it in" with the rest of the business use. The differnce in calculated occupant load is minimal and it makes both design and plan reveiw simpler.

E10-15

E11-15
TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proposed Change as Submitted

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~~300 gross

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m^2, 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.

E11-15 : T1004.1.2-THOMAS5294

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Substantiation for the increase in square footage per occupant in all industrial areas was not provided. Some types of industrial occupancies do still rely on a large number of personnel. Allowing for a lower occupant load within a facility such as an airplane manufacture or or high pile automated storage is already permitted by the exception in Section 1004.1.2.

Assembly Motion: As Submitted
Online Vote Results: Failed

Support: 39.29% (156) Oppose: 60.71% (241)

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Stephen Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter ICC (sthomas@coloradocode.net) requests Approve as Submitted.

Commenter's Reason: The purpose of this proposal is to create a more reasonable occupant load factor for industrial areas. The number of occupants in these facilities has drastically changed over the years. Robotics and automation have reduced the need for large numbers of workers in factories. Therefore, the code should reflect the way buildings are being used now instead of how they were used in the 19th and early 20th Century. Many people have told me that our change has not gone far enough. They believe the occupant load factor should be 500 to 700 square feet per occupant. We selected the 300 square feet per occupant based on the current values for storage uses. We are working on getting additional information from the manufacturing industry to support our position. We will provide that documentation at the final action hearings.
Testimony at the committee hearings suggested that this would be a problem for third world countries that still have sweat shops. The fact is that the IBC is not being adopted in these countries. We should be looking at proposals that address problems in countries that actually adopt the code and not locations that have little or no chance of adopting the code.

The overall impact on the means of egress will not be adversely affected. Most large buildings have exits based on travel distance versus number of occupants. The major impact is on the number of plumbing fixtures that would be required in a building.

E11-15

E12-15

TABLE 1004.1.2; (IFC[BE] TABLE 1004.1.2)

Proposed Change as Submitted

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 Decks	50 gross 15[b] gross

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m^2, 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 would reduce the cost for construction of swimming pool decks that serve R-2 and R-3 occupancies because it allows the occupant load factor to be revised from 1:15 to 1:30 SF gross resulting in reduction of the occupant load and possible reduction in egress width and number of plumbing facilities.

E12-15 : T1004.1.2-SABOUNCHI4396

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There is a concern with this allowance applying to all Group R-2 and R-3 pool decks. Not all residential occupancies have large pool decks; there for the current occupant load could be appropriate. In addition, this occupant load may not be appropriate for large complexes with only one pool, especially time share vacation facilities that operate similarly to hotel/transient type occupancies.

Assembly Motion: **As Submitted**
Online Vote Results: **Failed**
Support: 49.87% (189) Oppose: 50.13% (190)
Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Masoud Sabounchi, representing Colorado Chapter of ICC (masoud@acecode.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

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

(Portions of table not shown remain unchanged.)

For SI: 1 square foot = 0.0929 m^2, 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~~ occupancy apartment buildings, the occupant load factor for the pool deck shall be 30 square feet gross.

Commenter's Reason: Residential R-2 apartment buildings have swimming pools and pool decks that serve the dwelling units. This proposal is not applicable to hotels (R-1 occupancy classification) as questioned by the committee members during the hearings. The revised footnote b, states "For swimming pools that serve Group R-2 occupancy apartment buildings, the occupant load factor for the pool deck shall be 30 square feet gross." The proposal is now limited to R-2 apartment buildings and not dormitories or other R-2 occupancies.
Application of the occupant load factor of 1:15 results in very high occupant loads not reflecting the intended use of these decks. These are not public pools and are used

by the building residents. In most cases the calculated occupant loads on the pool decks is much higher than all apartment occupants. A common application of this provision is where a pool and pool deck is located on second, third or other upper stories in an apartment building resulting in additional exits and exit capacities as well as additional plumbing facilities. Most building officials consider these decks as having Group A-3 Occupancy classification and requiring plumbing facilities based on this occupancy classification. The proposed use of the 1:30 occupant load factor is in concert with NFPA 101 and more closely reflects the anticipated occupant loads on these decks. This proposal allows reduction in number of plumbing facilities and reduction in exit capacities.

E12-15

E18-15

TABLE 1006.2.1; (IFC[BE] TABLE 1006.2.1)

Proposed Change as Submitted

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 travle 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.

E18-15 : T1006.2.1-CUEVAS4824

Public Hearing Results

Committee Action: Disapproved

Committee Reason: This table needs to be coordinated with the IEBC. Does IEBC send you back to the IBC for travel distance for alterations in existing buildings without sprinklers or additions to existing buildings where only the addition is sprinklered? If you take out the NP in the table for new construction, then the table could be read to allow non-sprinklered Group R occupancies.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Victor Cuevas, representing City of Los Angeles (victor.cuevas@lacity.org) requests Approve as Submitted.

Commenter's Reason: Would like to address the committee's reason. Section 101.2 of 2015 IBC states the scope of the IBC as follows:

"*The provisions of this code shall apply to construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.*"

Clearly, 2015 is not limited to new buildings only, and it applies to existing building are altered, enlarged or repaired. The 2015 IBC is not limited to new buildings only. The 2015 IBC applies to existing buildings being altered, enlarged or repaired. This proposed change will allow a travel distance of 75 feet for Group R Occupancy and will be will consistent with Sections 805.3.1.1 and 805.4.1.1 of 2015 IEBC.

E18-15

E20-15

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)

Proposed Change as Submitted

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 m^2) 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 m^2) 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.

E20-15 : 1006.2.2.2 (NEW)-KULIK3668

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The proposed text does not include the limit of equipment in

NFPA 70 Section 1110.26 and 1110.33. The proposal does not include transformers. NEC is egress from equipment spaces, which is not always a room. The proposal would literally require panic hardware and door swing in the direction of egress for electrical rooms no matter what sized. There was no justification provided for panic hardware in boiler, incinerator, furnace or refrigerator The proposal is not totally coordinated with the requirements in NFPA 70. The proposed text does not include the limit of equipment size in NFPA 70 Sections 110.26 and 110.33. The proposal does not include transformers. NEC is egress from equipment spaces, which is not always a room. The proposal would literally require panic hardware and door swing in the direction of egress for electrical rooms no matter what size.

There was no justification provided for panic hardware in boiler, incinerator, furnace or refrigerator machinery rooms.

There were multiple modifications to this proposal. Proposals E20, E21 and E80 should be coordinated in the public comment phase.
achinery rooms. This proposal should be coordinated with E21 and E80.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1006.2.2.1 Boiler, incinerator and furnace rooms. Two *exit access doorways* are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m^2) 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~~ Exit and exit access doorways 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.

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.~~

1006.2.2.3 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m^2) 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 shall be tight fitting and self-closing. Doors shall be provided with panic hardware or fire exit hardware.

Commenter's Reason: The requirements for the number of exits, minimum size of the exits, and where fire exit hardware and panic hardware are required where electrical equipment is installed are more detailed in the National Electrical Code (NFPA 70) and the International Fire Code.

The limits of the electrical equipment are specifically covered in Sections 110.26 and 110.33 of the National Electrical Code. This proposal covers egress from working space for electrical equipment, regardless of whether the electrical equipment is in a room or not.

Directing to the specific requirements in Sections 110.26 and 110.33 of the National Electrical Code ensures there are no conflicts in the requirements. Locating the requirements for electrical equipment space with the requirements for boilers, furnaces, incinerators and refrigeration equipment helps to make sure these issues are addressed before starting construction.

A modification is proposed to clarify that only exit access and exit doorways, not auxiliary doors, have to swing in the direction of travel. This will correlate with the proposed change for the doors for refrigeration machinery rooms in the code proposal E 22-15.

Where exit and exit access doorways are used, the use of panic hardware and door swing in the direction of egress should be addressed for boiler, incinerator and furnace rooms, and electrical spaces.

E20-15

E21-15
1006.2.2.2 (New); (IFC[BE] 1006.2.2.2 (New))

Proposed Change as Submitted

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.

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 cought during plan review.

E21-15 : 1006.2.2.2 (New)-KRANZ4099

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Not everyone has a copy of NFPA 70. The technical criteria needs to be included in the code. Proposals E20, E21 and E80 should be coordinated in the public comment phase.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Lee Kranz, City of Bellevue, WA , representing Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1006.2.2.2 Electrical equipment rooms. Rooms containing electrical equipment shall be provided with the ~~number of~~ a second exit or exit access doorways ~~in accordance with~~ as required by 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.

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.~~

1010.1.10.1 Electrical rooms and working clearances Exit and exit access doors serving electrical rooms and working spaces shall swing in the direction of egress travel and shall be equiped 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.

Commenter's Reason: There were 3 separate proposals submitted that addressed egress from electrical rooms; E20, E21 and E80. The Egress Committee suggested

that all 3 proponents collaborate for consistency. All 3 proposals referenced applicable sections from NFPA 70 to alert building reviewers and fire code reviewers that there may be additional requirments in the NEC that should be considered. E21 is being submitted as a public comment and includes modifications suggestted by the Committee for all 3 proposals.

E20, submitted by BCAC, included requirements for door swing and panic hardware. The Committee said there was no justification to require panic hardware in boiler, incinerator, furnace or refrigeration machinery rooms so those requirements have been removed in this public comment. Requirements related to door swing should be located in Section 1010 as submitted in E80 which are included in this public comment. Reference to NFPA 70 Article 110 has been maintained in this public comment.

E21, submitted by WABO TCD, addressed the need to check NFPA 70 Article 110 for the number of exits required from rooms containing electrical equipment exceeding certain limits. The Committee suggested that the technical criteria from NFPA 70 needed to be included in the proposal. However, lengthy and complex exception criteria, along with unfamiliar terms used in the NEC which are not easily understood or interpreted by building or fire code reviewers did not warrent bringing the text into the building code. Therefore, no changes in this respect have been made to this public comment. One modification to Section 1006.2.2.2 changes "in accordance with..." to read "required by...". This change clarifies that NFPA 70 Artcle 110 provides the scoping language to determine when a second means of egress is required from a room containing electrical equipment.

E80, submitted by Ross Barrick, also included reformatted text addressing door swing and panic hardware. E80 appropriately locates the revised text in Section 1010.1.10.1 related to door swing and the need for panic hardware and is well coordinated with NFPA 70 so the original text of E80 is maintained in this public comment.

E21-15

E25-15
1006.3, 1006.3.1; (IFC[BE] 1006.3, 1006.3.1)

Proposed Change as Submitted

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

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. 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.

E25-15 : 1006.3-KEITH4704

Public Hearing Results

Committee Action: **Approved as Modified**

Modification:

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

Committee Reason: The modification is to delete the new sentence. This new sentence is commentary language and is not needed in code text.

The term 'separate and distinct' will clarify that one exit stairway cannot serve as both exits from a floor. Moving down a floor via an exit access stairway does not alleviate the requirement for two exits.

Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Jonathan Siu, City of Seattle Department of Planning & Development, representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov) requests Approve as Submitted.

Commenter's Reason: We agree with the intent of this proposed code change. However, we disagree that the text deleted by the Committee is commentary--one might consider it to be redundant, given the "separate and distinct" language, but it is not commentary. As to the whether the text proposed to be deleted is redundant, we believe it much more clearly states the requirement that a second egress path that leads back to the same exit is not allowed to count as a second exit, and should be retained.

E25-15

E26-15
1006.3; (IFC[BE] 1006.3)

Proposed Change as Submitted

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 that 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 stiill 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.

E26-15 : 1006.3-LUPTON5540

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposed language is confusing. The proposed language could be read to require additional exits from the floor.

Assembly Motion: **As Submitted**
Online Vote Results: **Failed**
Support: 26.6% (104) Oppose: 73.4% (287)
Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

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

Modified by this Public Comment.

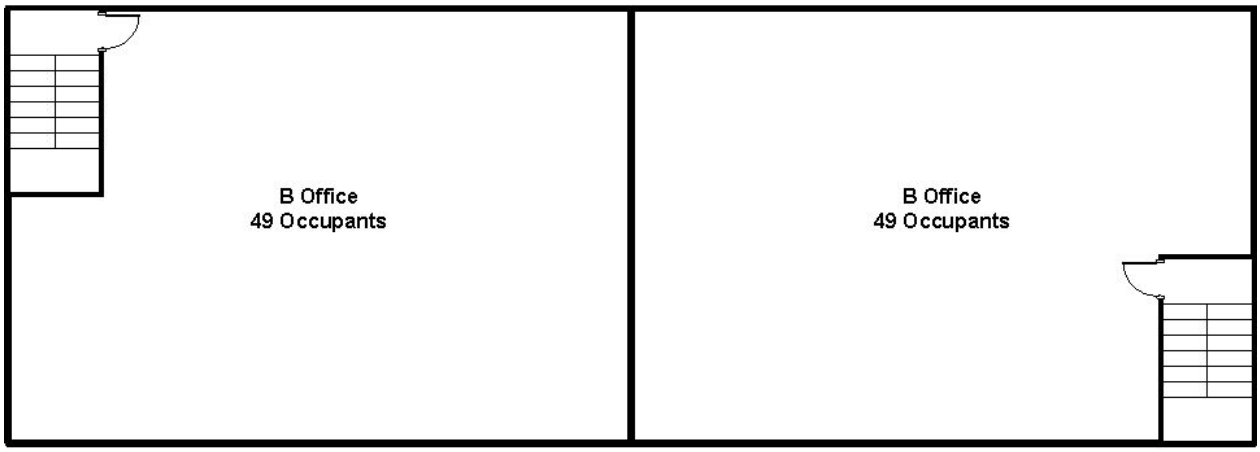
Modify as Follows:

2015 International Building Code

1006.3 Egress from stories or occupied roofs. The *means of egress* system serving any *story* or occupied roof shall ~~be provided with~~ provide access to 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 that two exits, except as otherwise provided in this code.~~

Commenter's Reason: The weakness in the 2015 IBC language is it addresses only the number of exits, or exit accesses, but does not clearly address access to those exits (or exit access stairs, ramps, doors, etc). The public comment clearly requires access to the number of exits required by the section, for each story or occupied roof deck.
This avoids confusion by a plan reviewer when confronted by a proposal (below) where a third story of an office building is renovated to house two tenants, each having 49 occupants and access to one exit, even though the story is provided with two exits. Both the tenant spaces need access to both exits on a third story, The public comment makes that clear.

The original code change proposal was thought to be confusing and might be read to require additional exits. The public comment simplifies the language, addressing access to the required number of exits.The omission of the phrase "or access to exits", by the public comment, in no way prevents use of an exit access stairway, ramp, or doorway, while eliminating awkward wording that causes confusion.



3rd Story of an Office Building: Does the means of egress system meet the code?

E26-15

E27-15

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

Proposed Change as Submitted

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.

E27-15 : 1006.3-KULIK3645

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: This proposal provides needed correlation with Section 1019.3 for single exit buildings that allow for open stairways to serve as the means of egress for more than one story.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, ICC Building Code Action Committee (bcac@iccsafe.org); Gregory Keith, representing The Boeing Company (grkeith@mac.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 rampsin 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 serving open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7.
7. 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.

Commenter's Reason: E 27-15 was proposed by the ICC Building Code Action Committee and approved as submitted by the Means of Egress Code Committee. The published reason for the proposal stated, "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 reason further states, "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 building, in atriums, in open air seating, and from balconies."
The reason statement emphasized that, "The exceptions 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."

Clearly, the intent of the proposal was to duplicate those permitted open exit access stairway conditions listed in Section 1019.3 as acceptable methods of accessing an exit at another building level within exit access travel distance limitations and the prescribed details of the various conditions. Unfortunately, two Section 1019.3 conditions (Conditions 4 and 5) have been omitted from the list of exceptions in the proposal. Although the atrium design condition was referenced in the published reason statement, that exception was not included in the proposal.

The Means of Egress Code Committee's published reason statement for approval as submitted for E 27-15 reinforces the intent; "This proposal provides needed correlation with Section 1019.3 for single exit buildings that allow for open stairways to serve as the means of egress for more than one story."

This public comment completes the intent of the ICC BCAC by including Section 1019.3, Conditions 4 and 5 verbatim as Exceptions 4 and 5 to Section 1006.3.1.

Public Comment 2:

Proponent : Sarah Rice, The Preview Group, representing The Preview Group requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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:

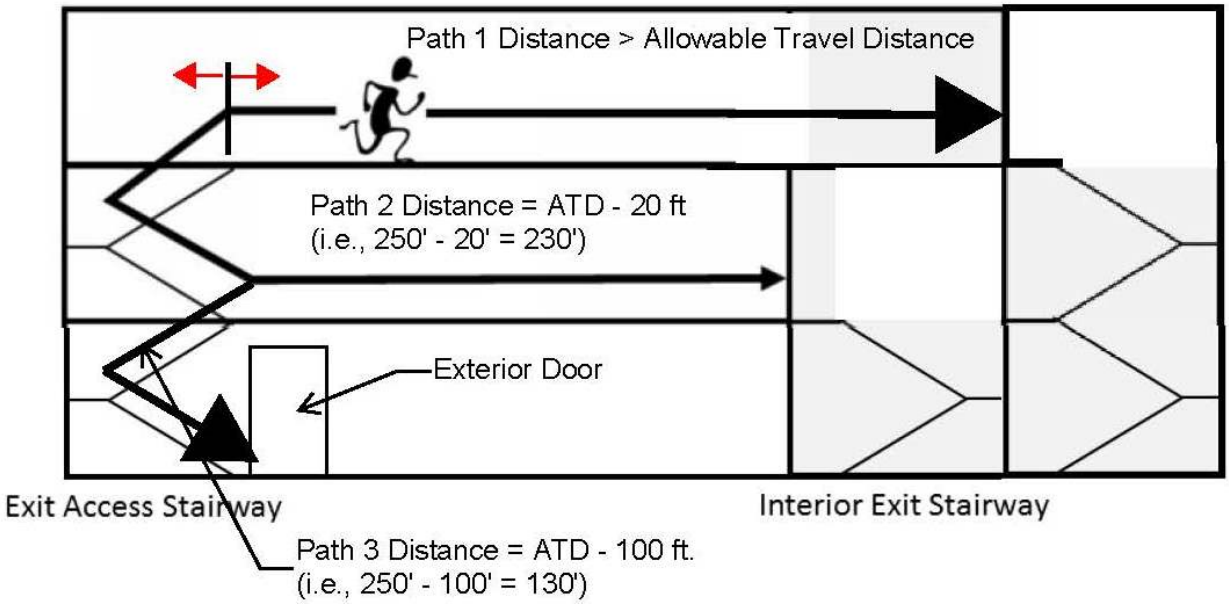
1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
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.
6. <u>Where the path of egress travel along the exit access stairway or ramp to an exit is within the allowable exit access travel distance in Section 1017.</u>

Commenter's Reason: As has been brought to light by the proponent, by limiting the path of egress travel to one adjacent story Section 1006.3.1 severly and erroneously limited the configurations that could use an exit access stair. The Code Development Committee understood this dilema and supported the addition of 5 exceptions to Section 1006.3.1, where none existed before.

This public comment seeks to add one more exception, one that is tied to a fundamental concept that from the beginning has been associated with the use of an exit access stair - exit access travel distance. From the beginning the CTC Open Stairway Study Group, which developed and brough forth Code Change E5-09/10 resulting in the concept of exit access stairs being an part of a required means of egress system. The Study Group always had the exit access travel distance limits in the IBC at the forefront of the discussions and imbedded in the language that was developed, and accepted by the membership.

In limiting the path of travel to one adjacent story fundamentally ignores the concept of exit access travel distance. What if the exit access travel distance of traversing 2 stories is less than that a person would go on an adjacent story as shown in the

diagram below?



Why should the path of egress not be allowed to go to the closest exit, regardless off the number of stories away from the point of origin? When a person could actually reach an exit located more than one story from where they started in a distance that is less than that if they have to go to the exit on the adjacent story seems so obvious, but without the proposed language the code forces the uses of the exit on the adjanct story, regardless of the travel distance to that exit. This application essentially flies in the face of a fundamental life safety - get people to the closest exit if you can.

We ask that the proposed language to add an new Exception #6 be accedpte, thus allowing the exit access travel distance to drive the egress design, not an arbritrary limit of one adjacent story.

E27-15

E28-15

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))

Proposed Change as Submitted

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	MAXIMUM ~~COMMON PATH OF EGRESS~~EXIT

		DWELLING UNITS	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 EGRESS~~EXIT ACCESS 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	B, F, M, S[d]	29	75

plane			
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

Reason: Code hange 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 redcues 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.

E28-15 : 1006.3.2-JEWELL5394

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The change to exit access travel distance would be a much more restrictive requirement than measuring to the common path of egress travel. There should have been a correlative change to the title heading in Section 1006.2.1 to remove common path of egress travel distance.

Assembly Motion: As Submitted

Online Vote Results: **Successful**
Support: 63.05% (215) Oppose: 36.95% (126)
Assembly Action : **Approved as Submitted**

Individual Consideration Agenda

Public Comment 1:

This code change proposal received a successful action of Approve as Submitted.

Commenter's Reason: This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action. The assembly action for Approve as Submitted was successful by a vote of 63.05% (215) to 36.95% (126) by eligible members online during the period of May 14 - May 28, 2015.

Public Comment 2:

Proponent : Wayne Jewell, Green Oak Charter Township, representing self (wayne.jewell@twp.green-oak.mi.us) requests Approve as Submitted.

Commenter's Reason: This public comment is in support of the very successful floor motion. The application of the text in this proposal is for single exit buildings ONLY. The definition of common path of travel is only applicable when two paths of travel to two exits are required.

COMMON PATH OF EGRESS TRAVEL. That portion of the *exit access* travel distance measured from the most remote point within a *story* to that point where the occupants have **separate access to two *exits*** or *exit access* doorways.

The committee's reasoning statement is in error. Measuring to exit access versus common path isn't more restrictive. The distances in the table weren't changed. What was proposed was a change to the language in both the written text of Section 1006.3.2 and in the heading in Tables 1006.3.2(1) and 1006.3.2(2) to be consistent with the subject matter - distance to a single exit in a building with one exit. In a single exit building there is no location where this pert of the definition of *Common Path of Travel* - "separate access to two exits" occurs. The building only has ONE exit - not two. Simply ask yourself - If there aren't two exits how does common path of travel by definition occur?

E28-15

E31-15

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)

Proposed Change as Submitted

Proponent : Charles Barlow (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 illumination supply~~. 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 egess 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 e*xit 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 m^2).

~~**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 the 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.

E31-15 : 1008.2.1.2 (New)-BARLOW4492

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The proposal removes the artificial lighting option currently permitted in the code. It is not know at this time if there are devices available that will meet the provisions proposed for daylight responsive and occupant sensor controls. The code already allows for lights to be turned off, so you don't need provisions for these controls.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1013.6.3 Power source. Exit signs shall be illuminated at all times. Lights for the ~~illumination~~ illuminatin of exit signs ~~and~~ , the electrical power to the exit signs and the charging light source for photoluminescent 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.

Commenter's Reason: The modification will clarify and ensure that exit signs are not turned off or their visibility reduced by the use of a lighting control device intended to conserve energy. This is consistent with the NFPA 101 Life Safety Code, Section 7.8.1.2.2 (6) which prohibits the use of lighting control devices when used to turn off any lights relied upon for activation of photoluminescent exit signs, and Section 7.8.1.2.2 (7) which prohibits lighting control devices from turning off any exit signs.

Bibliography: NFPA 101 Life Safety Code, 2015, Section 7.8.1.2.2 (6) & 7.8.1.2.2 (7)

Public Comment 2:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1013.6.3 Power source. Exit signs shall be illuminated at all times. Lights for the ~~illumination~~ illuminatin 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. Storage batteries and unit equipment shall be listed in accordance with UL 924.

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.

Commenter's Reason: While the intention of E31-15, as it pertains to 1013.6.3, is to ensure that the power source for exit signs is reliable and not compromised by the use of energy conserving lighting control devices, there is a discrepancy that of the three emergency power systems described in 1013.6.3, only an on-site generator is required to be listed in accordance with a standard. This minimum level of reliability and performance should also apply to storage batteries and unit equipment, which are both within the scope of UL 924. This is consistent with the NFPA 101 Life Safety Code, Section 7.9.2.5.
Lighting control devices used to control battery equipped emergency luminaires are also within the scope of UL 924 to ensure that they are designed and tested to override any "off" or "dim" settings on their controlled luminaires if there is a loss of normal power. This is consistent with NFPA 101, Section 7.8.1.2.2 (1).
Using UL 924 listed equipment will reduce uncertainty as to the acceptability of the equipment as installed. It also validates that the battery recharge times are as claimed by the equipment manufacturer and establishes minimum levels for equipment performance under emergency conditions. It also ensures that the normal risks for fire and electric shock injury are appropriately mitigated.

Bibliography: UL 924, Emergency Lighting and Power Equipment, 9th Edition
NFPA 101 Life Safety Code, 2015 Edition, Sec. 7.9.2.5.

Public Comment 3:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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. Storage batteries, unit equipment and lighting control devices used to control battery equipment emergency luminaires shall be listed in accordance with UL924.

Commenter's Reason: While the intent of E31-15, as it pertains to 1008.3.3, is to ensure that the lights for the lights for the illumination of the means of egress is reliable and not compromised by the use of energy conserving lighting control devices, there is a discrepancy that of the three emergency power systems described in 1008.3.3, only an on-site generator is required to be listed in accordance with a standard. This minimum level of reliability and performance should also apply to storage batteries and unit equipment, which are both within the scope of UL 924. This is consistent with the NFPA 101 Life Safety Code, Section 7.9.2.5.
Using UL 924 listed equipment will reduce uncertainty as to the acceptability of the equipment as installed. It also validates that the battery recharge times are as claimed by the equipment manufacturer and establishes minimum levels for equipment performance under emergency conditions. It also ensures that the normal risks for fire and electric shock injury are appropriately mitigated.

Bibliography: UL 924, 9th Edition, Emergency Lighting and Power Equipment
NFPA 101 Life Safety Code, 2015 Edition, Sec. 7.9.2.5 and 7.8.1.2.2(1)

Public Comment 4:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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. Time switch controls on a charging source shall be listed in accordance with UL924.

Commenter's Reason: The intent of E31-15, as it pertains to 1025.5, is to ensure that the required minimum 1 footcandle of illumination for photoluminescent exit path markings is not turned off or reduced by the use of a lighting control device. The modification will allow the use of a UL 924 listed time switch control to turn on the charging lights for photoluminescent egress path markings as an appropriate method for complying with the requirement in the first sentence and will ensure performance and reliability. It will also reduce uncertainty as to the acceptability of these devices as installed.

Bibliography: UL 924 Emergency Lighting and Power Equipment, 9th Edition
NFPA 101, 2015 Edition, Sec. 7.8.1.2.2(6)

Public Comment 5:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

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.
3. The charging light source for photoluminescent exit signs shall not be prohibited from utilizing a control switch where the charging source for the photoluminescent exit signs is illuminated at all times the room or space is occupied.

Commenter's Reason: One of the intentions of E31-15 as it pertains to 1013.6.3 is to ensure that the lights used for the illumination of exit signs will be reliable. UL 924, Section SG5, which governs photoluminescent exit signs, requires that the exit signs be marked "Min 5 fc external light on sign face at all times of building occupancy." or " Min 5 fc fluorescent light on sign face at all times of building occupancy." as appropriate and that the instructions state that the external illumination source is to be energized at all times during building occupancy. This is also consistent with NFPA 101, Section 7.10.5.1 which requires that the exit signs be illuminated as required by the provisions of 7.8, Illumination of Means of Egress. The modification will prolong the life of the charging light source, require less frequent bulb replacement, and provide energy savings which is the intent of using non-electrical exit signs. Means of egress illumination and exit sign illumination should operate together so that a person can both see the egress path and then identify the exits.
In a typical office building where workers work from 9 AM to 6 PM Monday through Friday, and allowing for the building being opened at 8 AM and closed at 7 PM, the building is occupied less than one-third of the time. Two thirds of the time, the charging light source for a photoluminescent exit sign consumes electricity needlessly.

Bibliography: UL 924, Emergency Lighting and Power Equipment, 9th Edition
NFPA 101 Life Safety Code, 2015 Edition, Sec. 7.10.5.1.

E31-15

E32-15

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

Proposed Change as Submitted

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

E32-15 : 1008.2.2-WILLIAMS4242

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The individual lighting mode of failure is what is important. Terminology that is across all types of fixtures is needed. Perhaps the language in NEC for lighting units would be appropriate.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : John Williams, CBO, representing Adhoc Healthcare Committee (AHC@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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~~ a single ~~bulb or ballast~~ lamp in a luminaire 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~~ a single ~~bulb or ballast~~ lamp in a luminaire shall not reduce the illumination level to less than 0.2 foot-candle (2.2 lux).

Commenter's Reason: This public comment is primarily focused upon correcting the terminology that applies to all types of fixtures and aligns with new technologies. This revision coordinates with terminology used by the industry and terminology defined in the National Electrical Code. Luminaire is defined as a complete lighting unit that is comprised of light sources such as lamp(s). In addition, it focuses upon individual lamps versus an entire 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: Adhoc Healthcare.

E32-15

E35-15
1009.1 (IFC[BE] 1009.1)

Proposed Change as Submitted

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.

E35-15 : 1009.1-KULIK3643

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Two accessible means of egress is a burden for small mezzanines. The current requirement for one accessible means of egress provides a sufficient level of safety.

Assembly Motion: As Submitted
Online Vote Results: Failed
Support: 38.57% (140) Oppose: 61.43% (223)
Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Submitted.

Commenter's Reason: The Building Code Action Committee (BCAC) is requesting approval of this proposal as submitted. The code committee felt that requiring two means of egress would be a burden to small mezzanines. The deletion of this exception would only affect mezzanines that were large enough that they would have to have two means of egress. In addition, the code committee overlooked the allowance in Section 1009.3 Exception 1 which allows open exit access stairways from mezzanines to be considered part of an accessible means of egress.

As stated in the original reason statement, this is an exception that was a compromise that was needed when only enclosed stairways could serve as part of an accessible means of egress. Deletion of this exception will be a clarification of the codes and an increase in options for assisted rescue. 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 from the larger mezzanines.

E35-15

E37-15
1009.2

Proposed Change as Submitted

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 Sections 1009.3 and 1027 and

serving levels other than the level of exit discharge.
3. Elevators complying with Sections 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.

E37-15 : 1009.2-KULIK3333

Public Hearing Results

Committee Action: Disapproved

Committee Reason: This was intended to be a cleanup but it seems to be unnecessarily long. The provisions for exit access ramps should include a reference to Section 1019 as well as Section 1012.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 the *accessible route* in accordance with Section 1009.2.1 through 1009.2.3.

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 and 1019.

Exception: ~~Exit~~ The accessible route for exit access shall be permitted to terminate at 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: The accessible route within the exit shall be permitted to terminate at any of the following components:

1. Interior exit stairways complying with Sections 1009.3 and 1023.
2. Exterior exit stairways complying with Sections 1009.3 and 1027 and serving levels other than the level of exit discharge.
3. Elevators complying with Sections 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~~ for exit discharge shall be

permitted to ~~an~~ terminate at any of the following components:

1.1. An exterior area for assisted rescue complying with Section 1009.7.

1.2. ~~The accessible route connects to an~~ An area of refuge complying with Section 1009.6.

1.3. ~~The accessible route connects to a~~ A safe dispersal area in accordance with the exception to Section 1028.5.

Commenter's Reason: The Building Code Action Committee (BCAC) is requesting approval of this public comment for as modified. The intent of the original proposal was to break up the larger list into elements into the three parts for means of egress – exit access, exit and exit discharge. The MOE development committee felt that more direction was needed. The proposed modification elaborates on the direction so that there is a clearer understanding of the requirements and makes the language consistent for each of the three parts. The modifications address specific concerns raised by the committee in their reason for disapproving the original proposal.

There was a comment from the MOE development committee that the ramp provisions in exit access should reference Section 1019. Since this section addresses exit access ramps, that reference has been added.

There were some other concerns raised that BCAC would like to respond to in this reason statement.

It was suggested that elevators should be allowed for exit access similar to platform lifts. -

At this time, elevators in low rise buildings do not have stand by power, there is no limit on the number of occupants they serve, and they are not intended to be used un assisted during a fire event. Platform lifts have standby power and only serve limited spaces.

It was suggested that new Section 1009.2.3 does not clarify what happens at the level of exit discharge for exits which originate at other floors. -

The general exit provisions require exit stairways and ramps to discharge to the outside or to an exit passageway. Persons on upper floors will be evacuating with assistance, so no special accessibility requirements are needed for the exit discharge serving just the upper floor exits. The intent of Section 1009.2.3 is only for when exit discharge is unassisted and at grade level.

E37-15

E38-15

1009.2.1; (IFC[BE] 1009.2.1)

Proposed Change as Submitted

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 if clear that if a four story buidling 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.

E38-15 : 1009.2.1-BOECKER5545

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The provisions for accessible means of egress do not directly address open spaces such as occupied roofs. For example, how could someone do a horizontal exit? What would be the point of an area of refuge on an open roof. A roof is not a story, so would a 4 story building with an occupied roof need standby power?

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1009.2.1 Elevators required. In buildings where a required *accessible* 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*or occupied roofs where the building below is provided with *horizontal exits*.
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 or occupied roofs provided with a *ramp* conforming to the provisions of Section 1012.
3. 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 at occupied roofs provided with two remote, enclosed exit stairways conforming to the provisions of Section 1023.

Commenter's Reason: As stated in the original proposal, it makes no sense to ignore people on a roof simply becasue it is a roof - especially if some of the people on the roof have disabilities. Just as many people could be there (or more) than the number of people on the floors below. For this reason the code already recognizes standard means of egress requriements for an occupied roof. The reason that this has a threshold at five stories has to do with the difficulties in an assisted descent down that many stairs. That issue doesn't go away simply because the place where people are located is an occupied roof rather than an enclosed story.
However, as was pointed out during the committee hearings, the roof is open to the air which lends some additional benfits when it comes to assisted egress. By adding an exception for occupied roofs that includes enclosed exit stairways, much of the concern expressed at the committee hearings is removed. The approval of E 151 means that an elevator will be required for access to the occupied roof. Unless the elevator is recalled because something is threatening it, the elevator will remain functional and can be used for egress. If two enclosed exit stairways are also provided, then a reasonable measure of safety can be assumed. Therefore, the exception is a reasonable exchange for the required accessible egress elevator for these four story buidlings with occupied roofs.

The other two existing exceptions had the words "occupied roof" added for consistency.

E40-15
1009.7.2; (IFC[BE] 1009.7.2)

Proposed Change as Submitted

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 refuges in stairways and IBC section 1009.4 exception #2 allows for the elimination of area of refuges 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
The code change proposal would eliminate the cost of the passive fire resistance rated construction materials required for the exterior area of assisted rescue in buildings that are equipped throughout with an NFPA 13 or NFPA 13R fire sprinkler systems.

E40-15 : 1009.7.2-LINCOLN4114

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: There is no requirement for areas of refuge in a sprinklered building on upper floors. Therefore, for consistency, in a sprinklered building on the level of exit discharge there should not be a requirement for a separation from the interior of the building for an exterior area for assisted rescue. The sprinkler system

provides adequate protection for a trade off. By being outside and protected a person would be protected from smoke and fumes. Therefore the passive protection of the exterior wall is not needed.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

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

Commenter's Reason: As the proponent for E40-15, I would request that the code committee reaffirm its 'approved as submitted' (AAS) designation for this code change. I also stand behind my original reasoning statement and would invite the members of the code committee to reread that statement.
The submitter for disapproval has indicated that the 2000 IBC and the 2003 IBC do not contain this sprinkler exception and that both of these editions of the IBC are mentioned in section 207 of the 2010 ADA standard. The submitter for disapproval then goes on to imply that approval of this code change may jeopardize the federal government designation of the 2018 edition of the IBC as a 'safe harbor' document. Our code change process 'silently mandates' that we write good/logical code language and that we 'not perpetuate' the contrary. It is my opinion that although this sprinkler exception was not contained within the 2000 and 2003 editions of the IBC, this does not make the 2018 edition of the IBC less safe in one fell swoop. To perpetuate bad/illogical code language/provisions would be a travesty.

Public Comment 2:

Proponent : Adolf Zubia, representing International Association of Fire Chiefs, Fire & Life Safety Section (azubiamia@yahoo.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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~~ The fire-resistance rating and opening protectives are not required in the exterior wall where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Commenter's Reason: This Public Comment intends to clarify the exception. The exception itself is unclear since it does not indicate whether the 1 hour construction is not required, or whether the exterior area of assisted rescue is not required. This proposal clarifies that the sprinklers in the building eliminate the need to provide the 1-hour separation, by specifically stating that the 1 hour construction is not required, and the protected openings are not required.

Public Comment 3:

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

Commenter's Reason: The ICC Building Code Action Committee requests dissaproval. The code committee approved this change saying it was equivalent to upper floor requirements for accessible means of egress. The exterior area of assisted rescue is to be provided only when an exit cannot include an accessible route to a public way. Disabled persons must wait in this area for first responders to assist them to finish egress after an emergency forces them to leave the building. Exterior areas of assisted rescue are not the same as areas of refuge; they are exterior locations where the space is not protected by sprinklers since there are no overhead locations for mounting sprinklers. The requirements in Section 1027 for exterior exit ramps and stairways do not provide sprinkler exceptions for separations from the interior except for specific egress configurations that afford two ways of egress at certain exterior conditions and which are assumed to have a complete means of egress with exit discharge connected to a public way The new exception will reduce the level of protection required for exterior areas of assisted rescue to be less than what would be required at exterior exit stairways or ramps. With this new exception a disabled person at an exterior area of assisted rescue would have a lower level of protection than a person walking down an exterior exit stair and lower than the protection provided for all occupants using an exterior exit ramp that is connected to a public way where occupants can finish their egress from the building.
In addition, the 2000 IBC (with 2001 Supplement) and the 2003 IBC are referenced by Section 207 of the 2010 ADA for criteria for accessible means of egress. The federal government is currently looking at referencing later editions of the IBC as 'equivalent'. Since the 2000 and 2003 IBC provisions for exterior areas of assisted rescue do not provide an exception for provision of sprinklers if this exception is accepted it could be seen as imposing a lesser requirement than currently in the codes referenced by the 2010 ADA. This could jeopardize the acceptance by the federal government of the 2018 code as equivalent to the older "I' codes.

Public Comment 4:

Proponent : Marsha Mazz, U.S. Access Board, representing U.S. Access Board (mazz@access-board.gov) requests Disapprove.

Commenter's Reason: The committee approved this new exception to the separation requirements for exterior areas of assisted rescue stating that the resulting protection was equivalent to that provided on upper floors within buildings equipped throughout with an automatic sprinkler system. Accessible means of egress on the upper floors of a sprinklered building are not required to provide areas of refuge. However, there is still the option to move into the rated stairway enclosure for persons who cannot use the stairway to exit. A two-way communication system also is required on the upper floors.
Regardless of whether there is fire suppression within the building, smoke does not typically collect in an exterior area for assisted rescue. However, the passive

protection of an exterior wall with a 1 hour rating is still needed in the same way that separation is needed in a stairway. By removing the requirement for separation, a person who cannot continue to the public way by using the stair will potentially be sitting adjacent to the fire with no protection. With the proposed exception, the exterior area of assisted rescue could be located next to a large window or at a loading dock door. In addition, there is no two-way communication requirement for the exterior area for assisted rescue. Consequently, the person who is waiting there has to rely on line-of-sight and the fire and safety evacuation plans to be assisted by the emergency responders.

Lacking justification: The exterior area for assisted rescue is most commonly used at the back exit of a single story building. There were no technical justifications or fire studies, or problems identified with the current requirement in the reason for the original proposal.

ADA Coordination: The 2000 IBC (with 2001 Supplement) and the 2003 IBC are referenced by the 2010 ADA Standards for accessible means of egress. Retaining this exception as submitted would establish a lesser requirement than is currently required by ADA Standards. This could jeopardize the possibility that the Access Board will update its reference to the 2018 IBC.

E40-15

E42-15
1009.8; (IFC[BE] 1009.8)

Proposed Change as Submitted

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

2015 International Building Code

Revise as follows:

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.

E42-15 : 1009.8-DIGIOVANNI3845

Public Hearing Results

Committee Action: Disapproved

Committee Reason: A two way communication system is needed for persons with mobility impairments to be able to communicate with emergency responders on all levels that are accessed by an elevator. Loosing this two-way communication in two, three and four story buildings is a reduction in life safety for persons with mobility impairments who have difficulty or cannot use stairways for evacuation. The location at the elevator lobby is the best location for persons to see the two-way communication system when they enter the building. While the proponents talked about high cost, no cost information was provided.
This is consistent with the committee action on E43-15.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Stephen DiGiovanni, representing Southern Nevada Chapter of ICC (sdigiovanni@clarkcountynv.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1009.8 Two-way communication. Where elevators are provided as part of an *accessible means of egress* in accordance with Section 1009.2.1, 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.

Commenter's Reason: The purpose of this public comment is to clarify the proposed trigger of when a two-way communication system is required, by specifying the referenced code section that triggers elevators as part of the accessible route.

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 provision for two-way communication assumes that the floor area is not provided with land line telephones, or that the occupant does not carry a cell phone. The process to use the two-way communication system, as indicated in the code, requires that the call first go to a receiver within the building, and after timeout, the call is transferred to a central monitoring company or to 911. For smaller buildings, it may not be accurate to assume that the receiver will be manned. If the receiver is not manned, the call is then timed-out, and the caller is transferred. If the transfer occurs to a central station (which may be reasonable to assume) then that central station would have to place another call, in order to call the fire department. In other words, the two-way communication system could delay response to have three telephone connections, which is slower than if the occupant had been directed to use a land line or cell phone in the first place. In smaller buildings, such as addressed within this proposal, fire responders will likely be able to respond to all floor areas in such an expeditious manner that the benefit of this system would not be realized.

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, or optioned by the designer in accordance with Section 1009.2.

E42-15

E56-15

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

Proposed Change as Submitted

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.

E56-15 : 1010.1.4.4 (New)-WOESTMAN5535

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Requirements for control vestibules are needed because these types of systems are being provided. Sallyports are already addressed in Group I-3. Where these types of systems are provided should be limited. Perhaps the door system needs to have an over ride connected to the fire alarm system. The proposed text is currently too open ended and should be further defined so that enforcement is consistent.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : John Woestman, Kellen, representing Builders Hardware Manufacturers Association (BHMA) (jwoestman@kellencompany.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

SECTION 202 DEFINITIONS

CONTROL VESTIBULE A space with a door locking arrangement of ~~two~~ interlocked doors ~~interconnected~~ such that ~~the first~~ while one door ~~must close or lock before~~ of the ~~second door~~ vestibule is ~~openable and unlocked~~ open all other doors are locked temporarily.

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. Control vestibules in the means of egress shall comply with all of the following.

1. Locking arrangements on each door of a control vestibule shall comply with Section 1010.1.9.
2. An *approved* override shall be provided on the egress side of each door of a control vestibule.
3. An *approved* override shall be provided on the ingress side of the outer door of a control vestibule.
4. Upon activation of the automatic sprinkler system or automatic fire alarm system on the egress side of the control vestibule, the interlock function of the two doors of the control vestibule shall deactivate.
5. Upon loss of power to the interlock function of the doors, the interlock function of the two doors of the control vestibule shall deactivate.

Commenter's Reason: Addressing the committee reasons for disapproval, we are proposing a revised definition for "control vestibule" and proposing detailed requirements for control vestibules. The significant difference between two doors in the means of egress in series (i.e. one after the other) and doors in the means of egress configured as a control vestibule is the doors of a control vestibule are interlocked such that when one door of a control vestibule is open, all other doors of the control vestibule are temporarily locked; and conversely, in the means of egress when all doors of a control vestibule are closed, any one door may be opened. Control vestibules are most commonly configured as a space with two doors (in series). But, some control vestibules are configured with more than one inner door and / or more than one outer door, with all doors opening into the vestibule. For example, where a control vestibule is required to help keep clean rooms clean, there may be inner doors from three different clean rooms opening into the control vestibule, and one outer door for leaving the control vestibule in the direction of egress.

Item 1: A needed requirement to address the potential situation where one of the doors on the control vestibule is propped open (example: a person faints at the outer door), other occupants may need to be able to egress through the control vestibule, especially in emergency situations. It is common the activation of an override would set off an alarm, and / or the activation of an override without a valid reason results in disciplinary action (i.e. employee gets fired).

Item 2: In the event the inner door of a control vestibule is propped open (example: a

person faints at the inner door), an override allows access into the control vestibule. The required override on the ingress side of the outer door allows for emergency access into the control vestibule, if needed. This override commonly requires a higher level of authorization for use and / or is provided for responding emergency crews.

Items 3 and 4: Requires the interlock function to be disabled in the event of fire, actuation of the fire detection system, or power loss to the interlock system.

Item 5 requires that egressing through the control vestibule involves no more than two doors, unless approved by the code official. While not common, there are situations where more than one control vestibule may be needed in the means of egress.

Item 6 requires the units of the control vestibule locking system to be listed in accordance with UL 294, the same standard required for units for other electrical locking system units.

Together, the revised definition and proposed requirements provide for egress and emergency egress where control vestibules are installed.

E56-15

E57-15 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))

Proposed Change as Submitted

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

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.

Reason: 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.

Cost Impact: 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).

E57-15 Part I : 1010.1.4.4 (New)-WOESTMAN5537

Public Hearing Results

Part I

Committee Action: Disapproved

Committee Reason: Criteria for Group E classrooms to lock down safely is needed. Types of devices that are blocking devices that do not allow for unlocking from the outside are currently being used and are a safety hazard. However, the committee strongly felt that this should be an option, not a requirement. There should be correlation with the signage requirement in Section 1010.1.9.3. The definitions in the IBC and IEBC should match – change 'and' to 'or' in the last sentence.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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.~~

1010.1.4.4 ~~Group E classrooms.~~ Locking arrangements in educational occupancies. In Group E and Group B educational occupancies, egress doors from classrooms, offices and other occupied rooms shall be permitted to be provided with locking arrangments designed to keep intruders from entering the room where all of the following conditions are met: ~~In Group E occupancies, classroom doors shall be lockable from within the classroom without opening the classroom door. All of 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.~~

1. The door shall be capable of being unlocked from outside the room with a key or other approved means.
2. The door shall be openable from within the room in accordance with Section 1010.1.9.
3. Modifications shall not be made to listed panic hardware, fire door hardware or door closers.

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

Commenter's Reason: This public comment addresses the committee comments as follows.
"Criteria for Group E classrooms to lock down safely is needed. Types of devices that are blocking devices that do not allow for unlocking from the outside are currently being used and are a safety hazard." Comment – We agree and this public comment addresses these concerns.
"However, the committee strongly felt that this should be an option, not a requirement." The original proposal mandated that locks had to be provided on all classroom doors, period. This decision should be the responsibility of the school administration in consultation with local security, law enforcement and emergency responders. This public comment does not mandate that locks be provided on classrooms, but describes the safety features they should have if provided for intruder protection.
"There should be correlation with the signage requirement in Section 1010.1.9.3." Addressed – A requirement was added that the door must be openable from within the room in accordance with Section 1010.1.9. the public comment does not allow locking arrangements to impede the egress aspects of the door, e.g. no double deadbolts.
"The definitions in the IBC and IEBC should match – change 'and' to 'or' in the last sentence." Accomplished, did not add a definition of "Credential" with the public comment, and the last sentence was not included in the public comment.
This public comment addresses a real danger facing schools today, addresses all of the concerns raised by the committee, and is consistent with the provisions in our EB 23-15 public comment.

E57-15 Part I

E57-15 Part II

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

Proposed Change as Submitted

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

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 occupany 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: 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: 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.

E57-15 Part II : 406 (New)-WOESTMAN5538

Public Hearing Results

Part II

Committee Action: Approved as Submitted

Committee Reason: Though there were some concerns with the mandatory verbiage used, provisions dealing with the ability to safely lockdown within a

classroom are needed. The committee suggested that this proposal should not be limited to Group E occupancies as these safety concerns exist in other occupancies. Note that proposal EB23-15 deals with a similar topic.

Assembly Motion: **Disapprove**
Online Vote Results: **Successful**
Support: 67.72% (235) Oppose: 32.28% (112)
Assembly Action : **Disapproved**

Individual Consideration Agenda

Public Comment 1:

Proponent : Assembly Action

requests Disapprove.

Commenter's Reason: This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action. The assembly action for Disapprove was successful by a vote of 67.72% (235) to 32.28% (112) by eligible members online during the period of May 14 - May 28, 2015.

Public Comment 2:

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

Commenter's Reason: We like what the proponent was trying to accomplish with this proposal but prefer the approach used in EB 23-15, with or without the clarification provided in our public comment. One reason for this preference is that E 57-15, part 2 mandates that classroom doors be provided with locks, which could be a significant expense for school districts, and may not be warranted based on other security measures adopted in individual schools.
In comparison EB 23-15 does not require retrofitting of classroom doors with locks, but if the school district chooses to retrofit doors with locks it provides requirements on how it can be safely done.

Public Comment 3:

Proponent : Region VII, representing ICC Region VII requests Disapprove.

Commenter's Reason: The committee itself had concerns in regards to mandatory language and that it should not be limited to Group E occupancies. Note part 1 of this same change was not approved and a successful assembly motion for disapproval was overwhelmingly successful.

E57-15 Part II

E58-15

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

Proposed Change as Submitted

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. <u>In other than Group A, E and H occupancies, high speed doors complying with Section 1010.1.4.5.</u>

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
We believe the proposed change is consistent with common current practice and therefore only permits what is already being done. Since it is already being done, there is no effect on product or cost and therefore requires no further study.

E58-15 : 1010.1.2-HETZEL4785

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There are several terms that are undefined and unclear: such as 'openable by simple method', 'electrically supervised system', 'operating device'. These types of overhead doors are not appropriate as a means of egress door for a potentially large occupant loads in any occupancy. Regarding the 30 pounds force for opening, it is not clear on which direction this force would be applied.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Joseph Hetzel, representing Door & Access Systems Manufacturers Association (Jhetzel@thomasamc.com) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

SECTION 202 DEFINITIONS

HIGH SPEED FABRIC DOOR. A non-swinging fabric 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.

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 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.
4. In other than Group A, E or H occupancies, high speed fabric door assemblies shall be permitted to serve as as a compnent of a means of egress where the door is capable of being opened manually, or broken out, by a simple method from both sides without special knowledge or effort in the event of power failure. For manual operation, the force shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to open the door to the minimum required height and width. The force required to break out the door shall not exceed 50 pounds (220 N).

Commenter's Reason:

- An exception for high speed fabric doors should be in the category "power-operated doors" since this is the best fit in the code with respect to the other types of doors addressed in the Egress chapter.
- From a manual standpoint, either opening or breaking out a door should be

allowed for high speed fabric doors. In addition to the need for vertically "rolling up" the door, the need for breakout is common due to accommodating the risk of moving equipment making accidental contact with a door.

- A "break out" feature is also commonly provided in a high speed fabric door for the purpose of egress to create an adequate opening faster than the commonly designed upward motion of such door.
- Because of upward movement when opening a high speed fabric door, language addressing both the minimum required height and width is noted in the Exception.
- High speed fabric doors are installed in non-rated walls, so closing the opening after breakout or door opening is not needed from a fire protection/resistance standpoint.
- The maximum operating forces are consistent with those for special purpose horizontal sliding, accordion or folding doors as noted in Section 1010.1.4.3.
- The maximum breakout force proposed is consistent with the ANSI/BHMA A156 set of standards.

E58-15

E63-15
1010.1.9.3; (IFC[BE] 1010.1.9.3)

Proposed Change as Submitted

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 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. 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 m^2) 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 adresses 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 dischare 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.

E63-15 : 1010.1.9.3-KRANZ4469

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The scope of this seems to be all occupancies, but then Item 6.1 exempts Group R. Is this meant to imply that Group R cannot use this allowance? The new provisions in Item 6 seem to be the same as Item 2. Why the differences. This could be used to address outside pools or decks. Could Item 6.4 allowance for a thumb turn allow for someone to inadvertently locked outside? Perhaps that option needs to be limited to Group R private areas only? The mix of vision panel and door opening is confusing.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Lee Kranz, City of Bellevue, WA , representing City of Bellevue, Washington (lkranz@bellevuewa.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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. ~~Required~~ For other than Group R occupancies, 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~~ The locking device shall be readily distinguishable as locked.

6.2. ~~A clear window~~ Clear windows or glazed door ~~opening, not less than 5 square feet (0.46 m^2) in area,~~ openings shall be provided as needed in the wall separating the inside of the building from the outdoor area to allow visual confirmation ~~to determine if there are~~ of 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~~ 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. Door hardware shall not be permitted to automatically lock required egress doors when the door closes. 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~~ Doors required to have panic hardware are permitted to be locked from the ~~building official for due cause~~ egress side in accordance with Section 1010.1.9.3, Item 2.

Commenter's Reason: Section 1004.5 requires that outdoor areas accessible to and usable by the building occupants be provided with means of egress per Chapter 10. Section 1010.1.9 specifies that egress doors serving outdoor areas be readily openable from the egress side without the use of a key or any special knowledge or effort. Currently there is no exception to these requirements but yet there are many cases of these doors being locked for building security and to prevent intrusion. This public comment includes some changes recommended by the Egress Committee as well as those who testified in opposition to the original code change. One of the comments related to the application of these provisions to Group R occupancies. A proposal similar to this one was submitted in the previous Group A Code Cycle and was disapproved because it was felt that doors serving residentlal decks would be required to comply with all of the aspects of item 6. Therefor, doors serving outdoor areas in R-1, R-2 & R-3 occupancies are not required to comply with these provisions but must comply with Section 1010.1.9.3, item #4.

It was also suggested that since panic hardware is required if the occupant load of the outdoor area exceeds 50 that language be added to reference Section 1010.1.9.3, item 2 to allow the doors to be locked when the outdoor area is not in use. This issue has been resolved with new text in item 6.5.

E64-15

1010.1.9.5.1 (IFC[BE] 1010.1.9.5.1)

Proposed Change as Submitted

Proponent : Carl Baldassarra, P.E., FSFPA, 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.

E64-15 : 1010.1.9.5.1-BALDASSARRA4278

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: While this might be a valid concern in some facilities for safety, the current provisions should not be applicable to just Group R-4. Free egress from occupied spaces is already required by the code. The current language could be read to apply to all closets, including reach-in closets.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : John Woestman, Kellen, representing Builders Hardware Manufacturers Association (jwoestman@kellencompany.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1010.1.9.5.1 Closet doors. Closet doors that latch in the closed position shall be openable from inside the closet.

Commenter's Reason: This public comment retains portions of the text proposed by the original proposal to be deleted. Closets with a door that latches are commonly large enough for a person to get inside, especially a child. To reduce the potential of a person getting trapped inside a closet, closet doors should be able to be unlatched from the inside.
This situation reminds me of the tragedies associated with (very) old refrigerators with doors equipped with mechanical latches – that's most household refrigerators manufactured prior to the Federal "Refrigerator Safety Act" of 1956 which required household refrigerators to be openable from the inside with a force of no more than 15 pounds. Too many children died when trapped inside these refrigerators. Before the use of magnetic sealing of refrigerator doors, refrigerator doors were held shut by mechanical latches. These mechanical latches usually did not have a means for unlatching the door from the inside of the refrigerator.

E64-15

E66-15
1010.1.9.7; (IFC[BE] 1010.1.9.7)

Proposed Change as Submitted

Proponent : James Peterkin (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 *approvedautomatic 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 f*ire 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.

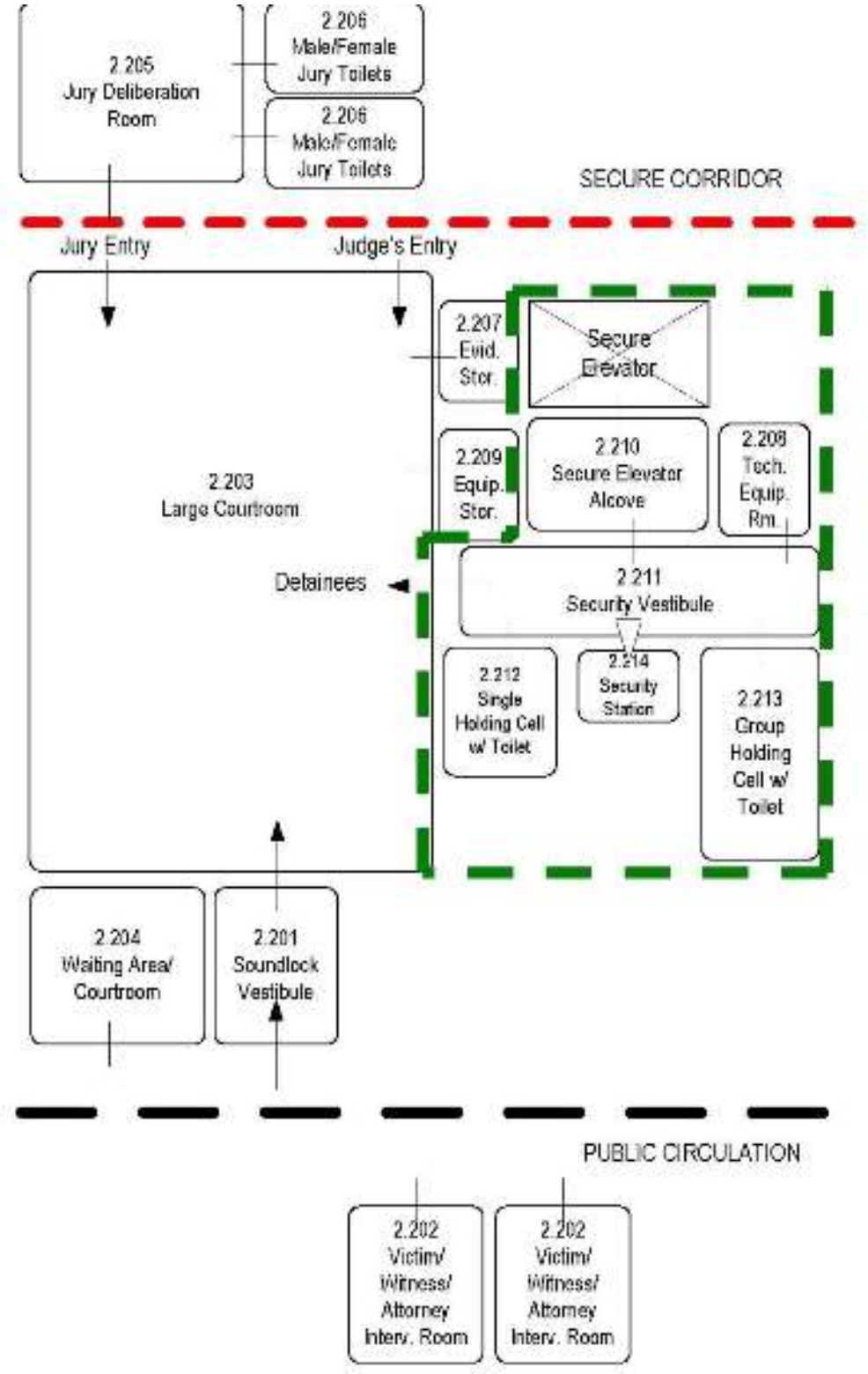
6.3. The sign shall comply with the visual character requirements in ICC A117.1.

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 ogenerally 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 precedant, 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.

E66-15 : 1010.1.9.7-PETERKIN5243

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Since courtrooms are assembly spaces, the provisions should be revised to allow for the delayed egress locking systems only on the 2nd way out of the room, not the main exit. This would allow for the security issues for the private judge's areas without an increased risk for the public in the gallery.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Dave Frable, representing US General Services Administration; James Peterkin, representing self (jpeterki@heery.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 *approvedautomatic smoke* or *heat detection system* installed in accordance with Section 907.

Exception: Delayed egress locking systems shall shall be permitted to be installed on exit or exit access doors ~~serving courtrooms within~~ , other than the main exit or exit access door, that serve a ~~Group A occupancies that are~~ courtroom in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

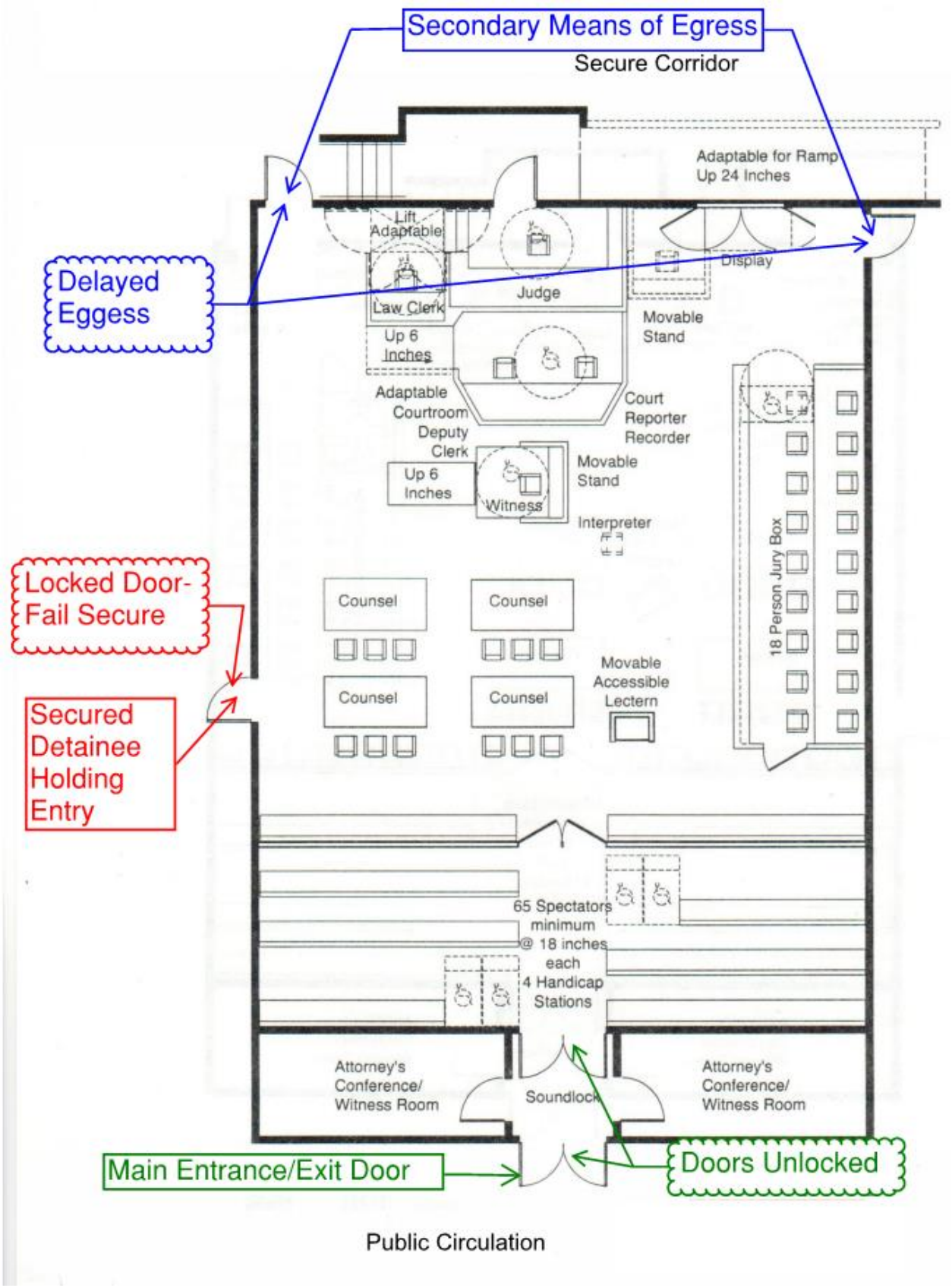
Commenter's Reason: The intent of this code change proposal is to permit the use of delayed egress system on door(s) other than the main entrance/exit door(s) from a courtroom. According to Chapter 3 in the IBC, courtrooms are considered Assembly occupancies. Therefore, delayed egress locking systems would not be permitted to be installed on any doors from a courtroom. However, courtrooms are located within courthouses which are 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 secure corridor and the prisoners enter from the secure detainee area that is typically adjacent to the courtroom. Because each of these groups must be kept separate for security reasons, it is necessary to lock the doors where these groups interface to prevent intermixing.
A standard courtroom design (Please refer to diagram) provides free egress for the public from the main entrance/exit door(s) (the same entrance the public entered the courtroom) to the public circulation area. The door serving the detainee area (prisoner interface) is locked and fail secure, which is permitted by code. As stated above, since the courtrooms are considered an "assembly occupancy" and have an occupant load of 50 or more persons they require a second means of egress.

Industry practice has been to utilize the exit(s) in the front of the courtroom as the secondary means of egress. These egress door(s) also serve as the entrance/egress for the judge and court staff. (Please refer to diagram). To maintain the security separation of occupants, it is industry practice to equip these second means of egress door(s) with a delayed egress locking system which prevents any unauthorized person from gaining access to the secure corridor 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.

Permitting the use of a delayed egress system on door(s) other than the main entrance/exit door(s) from a courtroom will not adversely impact occupant safety and has been permitted and recognized by the National Fire Protection Association, Life Safety Code, for several code cycles. In addition, the U.S. General Services Administration also permits the use of delayed egress systems on door(s) other than the main entrance/exit door(s) from a courtroom.



Public Comment 2:

Proponent : Adolf Zubia, representing International Association of Fire Chiefs, Fire & Life Safety Section (azubiamia@yahoo.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 *approvedautomatic smoke* or *heat detection system* installed in accordance with Section 907.

Exception: Delayed egress locking systems shall shall be permitted to be installed on no more than 50-percent of the exit or exit access doors serving courtrooms ~~within~~ in a Group A ~~occupancies that are in buildings that are~~ occupancy equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Commenter's Reason: The desire for security in courtrooms is a real need. When the Code Development Committee reviewed this item, they agreed with need for security, but they were not satisfied with the manner the exception was worded since it allowed delayed egress on all doors. The security concern is typically with the door located on the judge side of the courtroom. In other words, it would be the second exit from the audience side, not the primary public entrance/exit.
This revision will allow one-half of the doors to be equipped with delayed egress, while the primary exit for the audience is completely available.

E66-15

E68-15
1010.1.9.7; (IFC[BE] 1010.1.9.7)

Proposed Change as Submitted

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, E, 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 *approvedautomatic 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 1530] 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.

E68-15 : 1010.1.9.7-KULIK3677

Public Hearing Results

Committee Action: Approved as Modified

Modification:

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving Group B, E, 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 approvedautomatic 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 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.~~

Committee Reason: There were two modification to this proposal. One modification was to delete the limit of 10 occupants. The proposed text was not clear as to if this was an entire facility or just one classroom. The requirements for sprinklers or smoke or heat detection is an improvement in the level of safety that should allow for a classroom with a higher occupant load to use this option for delayed egress locking systems.

The second modification was to delete the new proposed exception and include Group E in the allowances for where delayed egress locking systems can be used. The exception no longer has any additional limits for where delayed egress locking systems can be used. This could be considered editorial based on the approval of the first modification.

Splitting the section into two parts improves clarity. Changing the text to say where these types of locks are permitted is clearer than listing where it is not permitted. Allowing Group E facilities to use delayed egress locking systems helps address the security concerns associated with wandering or 'trigger events' for preschool classes or classrooms for students with special needs.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Jonathan Siu, City of Seattle Department of Planning & Development, representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

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

1. Groups B, F, I, M, R, S and U occupancies
2. Group E classrooms with an occupant load of less than 50.

Commenter's Reason: This public comment limits the use of delayed egress devices in E occupancies to classrooms with an occupant load less than 50, as opposed to assembly spaces in E occupancies.

The code says that assembly areas in schools get classified as E occupancies (Section 303.1.3). This means that multi-purpose rooms, auditoriums, gymnasiums, and similar spaces associated with a school are E occupancies.

This code change proposal, as modified by the committee, allows delayed egress hardware on every door in an E occupancy, which would include these assembly-type spaces. However, the committee reason statement only talks about classrooms, where there are fewer occupants. We agree it would be appropriate to allow delayed egress hardware on classroom doors, but we do not think it is appropriate to have delayed egress hardware in assembly areas. The proposed change (as modified) also conflicts with the requirements in Section 1010.1.10 for panic hardware.
The modification proposed in this public comment would take care of the both issues by limiting the delayed egress hardware to classroom doors (as appears to have been the intent of the proponents of the original code change), but adds an additional limitation that the classrooms with this hardware must also have an occupant load of less than 50, in order to eliminate the conflict with the panic hardware requirements.

The editorial modification to move the list of occupancies from the main paragraph to a bullet list was necessitated when the E occupancies were separated from the list, in order to eliminate any confusion over whether the sprinklers and alarm systems are required for all the listed occupancies.

E68-15

E76-15

1008.3.3, 1010.1.9.12 (New); (IFC[BE] 1008.3.3, 1010.1.9.12 (New))

Proposed Change as Submitted

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 m^2).
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.

E76-15 : 1010.1.9.12 (New)-KRANZ3765

Public Hearing Results

Committee Action: Disapproved

Committee Reason: This special requirement for elevator lobbies is already addressed in other sections of the code, therefore, this new language is not needed. Section 3006.4 requires direct access to one stairway from the lobby, so this proposal is not needed for occupants in the lobby. If the lobby is a space that is part of the route to the exits, locking of doors is already addressed in Section 1010.1.9.9. There are some language inconsistencies in the proposed text. Item 7 allows for too much judgement on the part of the code official.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Lee Kranz, City of Bellevue, WA, representing The City of Bellevue, WA (lkranz@bellevuewa.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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.~~

Commenter's Reason: This public comment is intended to address statements made by the Means of Egress Committee at the Committee Action Hearings (CAH) in Memphis. The Committee's assertion that the code already has special requirements for locking elevator lobby doors to maintain security is erronious. The only provision that comes close to meeting the goal of securing elevator lobby doors is Section 1010.1.9.7 for delayed egress. This provision is rarely if ever used for this purpose as it falls short of providing adequate security and does not provide for ease of use by staff who need to access secured areas. The reference provided by the Committee to Section 1010.1.9.9 does not allow elevator lobby doors to be locked from the lobby (egress) side which is the sole reason for this proposal. Reference was also made to Section 3006.4 along with a statement that this section "requires direct access to one stairway from the lobby..". I find no such language in Section 3006.4. The provision says that "Elevator lobbies shall be provided with at least one means of egress complying with Chapter 10 and other provisions in this code". This language essentially requires an exit or exit access, as is typical for any other room or space in the building; there is no requirement for "direct access to one stairway from the lobby" provided in this section as stipulated by the Committee.

Item 7 of the original proposal, which gave the building official the right to revoke the option to lock elevator lobby doors, has been deleted to maintain consistency in application of the provision.

Locking elevator lobby doors to maintain security in today's highly competitive office invironment is a reality that the code must address. The 2015 IBC does not currently provide for a solution for this issue which is why many fire prevention

officers are finding these doors locked after the final building inspection is completed and the C of O is issued. This code change provides a logical and safe method to maintain a secured office invironment while allowing for safe egress from the elevator lobby in the unlikely event that someone is locked in the lobby.

E76-15

E82-15
1011.6; (IFC[BE] 1011.6)

Proposed Change as Submitted

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 contruction costs if the current language isn't interpreted as establishing a minimum landing depth/run.

E82-15 : 1011.6-KEELER4710

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The change is not needed. The current language already sets a minimum size.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

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

Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1011.6 Stairway landings. There shall be a floor or landing at the top and bottom of each *stairway*. The width of landings, measured perpendicular to the direction of travel, shall be not less than the width of *stairways* served. Every landing shall have a minimum ~~width~~ depth, measured ~~perpendicular~~ parallel to the direction of travel, equal to the width of the *stairway*~~. Where the *stairway* has a straight run the depth shall be a minimum of~~ or 48 inches (1219 mm), whichever is less. 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.

Commenter's Reason: Section 1011.6 does not specify the minimum depth requirement for stairway landings. This public comment modifies the original proposal to clarify the minimum depth and width for all stairway landings. The commentary text and plan view on page 10-74 of the 2012 IBC Commentary is erroneous because it says that "the minimum size (width and depth) of all landings in a stairway is determined by the actual width of the stairway". The minimum width of landings is specified but the minimum depth is not. The code currently says that landings serving a straight run stairway need not exceed 48" but does not indicate the minimum depth. This modification specifies that the minimum depth of the landing in the direction of travel shall be equal to the width of the stair or 48" whichever is less.

E82-15

E83-15
1011.4; (IFC[BE] 1011.4)

Proposed Change as Submitted

Proponent : David Cooper (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.

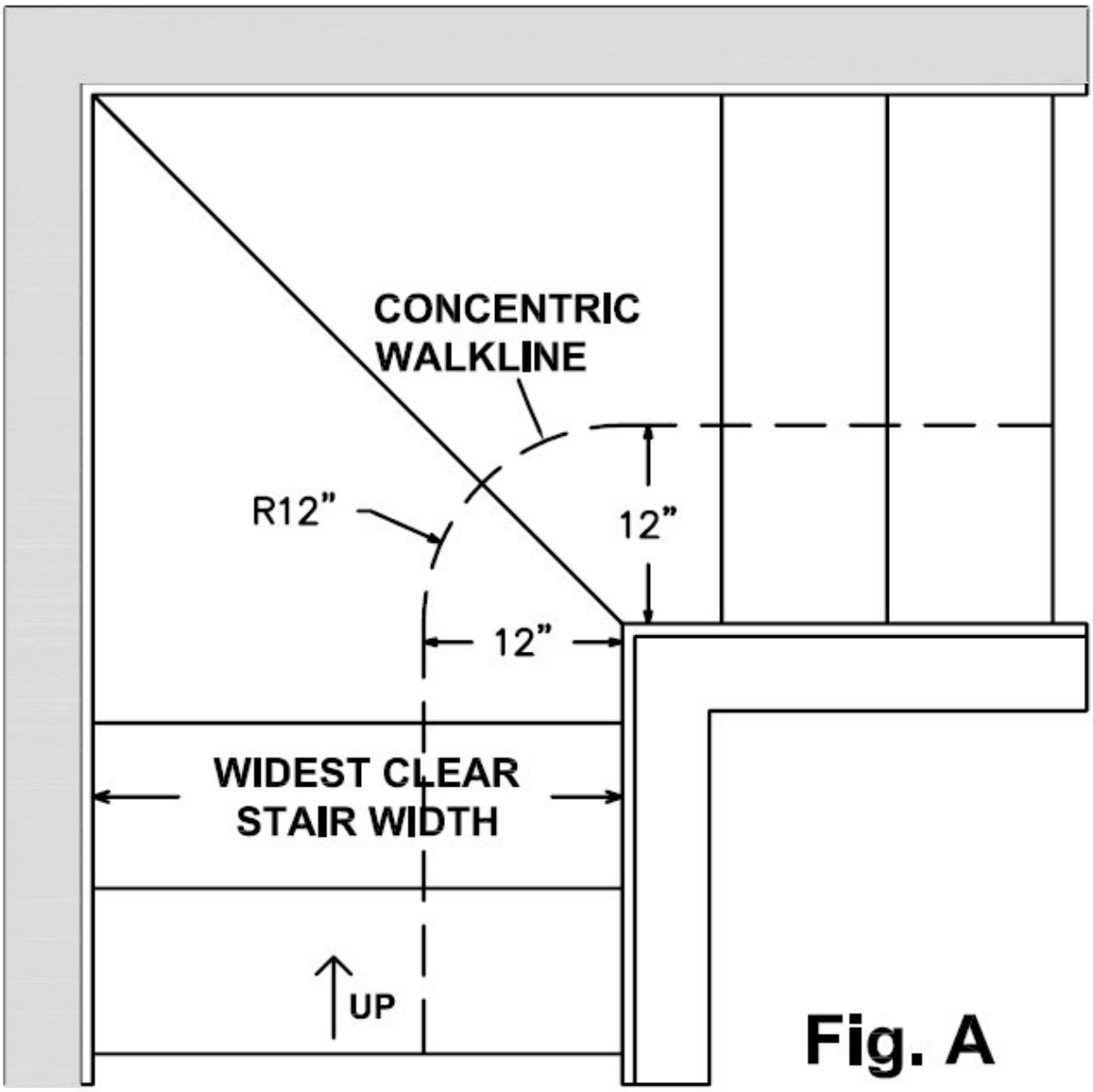


Fig. A

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.

E83-15 : 1011.4-COOPER5237

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The diagram in the reason statement is the only way to understand the proposed language. The winder treads in diagram would be permitted with the current text.

Assembly Motion: As Submitted

Online Vote Results: Failed

Support: 30.79% (101) Oppose: 69.21% (227)

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : David Cooper, Stair Manufacturing and Design Consultants, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1011.4 Walkline. The walkline across *winder* treads shall be concentric to the turn and parallel to the direction of travel ~~through~~ entering and exiting the turn ~~and~~ . The walkline shall be 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.

Commenter's Reason: Although we would agree with the committee that the current language in the code suffices for the example given in the original proposal this is simply not the case when the winder layouts are more complicated as shown in **Fig. B**. We would also agree with the committee that the added language in the original proposal was difficult to understand...

... However this modification clearly addresses the committees concerns by eliminating what was considered unnecessary language by the committee and succinctly describing the proponents intent.

This change is needed for several reasons:

1. **As stated in the original proposal,** winder sections of a flight extend beyond the corner. Because winders must have a minimum tread depth of 6 inches (152 mm) at any point, they cannot all meet at the corner but must extend around the corner, beyond the arc of the users turn. This straight extension of the walkline across winders *always occurs*, unless the corner is rounded throughout the turn at great expense, as with curved stairs. **Figure A** shows the most simple arrangement of two winders but winder sections wrapping a corner will have two or more winders with a walkline that is both curved and straight or entirely straight as in the entry and exit winders of **Figure B**. The current code does not accurately describe how the walkline should be demarcated to measure the winder tread depth. The modification provides the needed correction.
2. **The current 2015 IBC language requires correction.** The word concentric by definition refers to circles or arcs having the same center and is not applicable to the straight portions of the walkline that are parallel to the direction of travel. The modification is more appropriate because it states "***the walkline shall be concentric to the turn...***"not the direction of travel that is sometimes a straight line. The turn is an arc, it has a center-point around which the turning person revolves, and use of the term concentric is applicable. This change further clarifies with the separate statement; "***...and parallel to the direction of travel entering and exiting the turn.***" These modifications accurately describe the users path that the walkline emulates and provide the exacting location necessary to determine the winder tread

depth by describing the curved and straight sections independently. I simply failed to address this point in the original proposal.

3. **The modification simplifies and offers text that is easy to understand,** and uses well understood terms to provide language that is enforceable across the infinite array of winding stairway designs both simple and complex. It also eliminates the language the committee considered unnecessary in the original proposal.

Please support Approval as Modified.

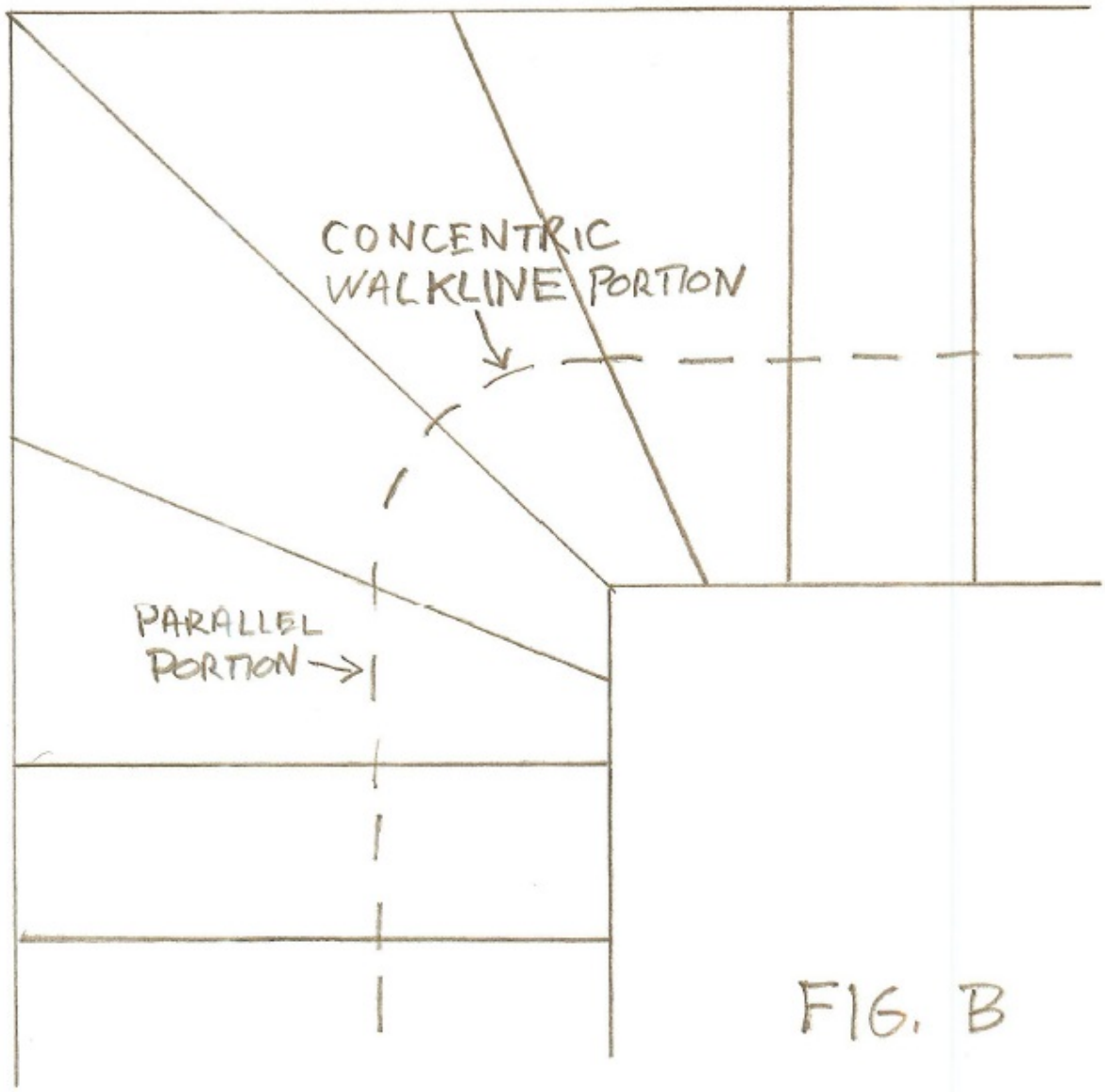


FIG. B

E83-15

E88-15
1013.4, 1111.3; (IFC[BE] 1013.4)

Proposed Change as Submitted

Proponent : Timothy Pate, City and County of Broomfield, representing the Colorado Chapter ICC Code Change Committee (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 requried as per Section 1013.
This proposed change will modify the 2 different sections that have these requirements

I also modified languge 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.

E88-15 : 1013.4-PATE4098

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The reference to Section 1013.1 in Item 2 could be read to require tactile exit signage at all exit access doors with an exit sign. Requiring a tactile exit sign at exterior exit stairways could result in signage being required outside at the top of the steps. Where would you put the tactile sign if there are no walls?

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Timothy Pate, representing City and County of Broomfield (tpate@broomfield.org) requests Approve as Submitted.

Commenter's Reason: With all due respect to the Means of Egress Committee my proposed language would not have anything to do with exit access doors. 1111.3 #2 only deals with doors that lead to an area of refuge, exterior area for assisted rescue, egress stairways, exit passageway and exit discharge.

My proposal is to delete the general "egress" for stairway and add language which would limit the requirement for these signs to doors that lead into interior stairway or ramp (which is a rated enclosure) or doors that lead to an exterior stairway or ramp. It does not say that you would need these signs outside at top of exterior stair or ramp only next to exit discharge door that leads to these components.

It also adds language that would only require these signs when two or more exits are required.

The current language in 1013.4 would technically require these signs at all exit discharge doors – even when exit signs are not required such as single exit spaces or when only one exit is required and multiple exits are provided.

I firmly believe that this proposal makes the code better and would be in line with what the accessibility groups are expecting.

E88-15

E91-15
1014.9; (IFC[BE] 1014.9)

Proposed Change as Submitted

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.

E91-15 : 1014.9-DIGIOVANNI3848

Public Hearing Results

Committee Action: Disapproved

Committee Reason: While effective width for a stairway with a central handrail is an issue that needs to be addressed, there was a concern that this exception would be in conflict with the stairway safety provisions that have handrails within 30" of the required stairway width. Consideration of the provisions for stepped aisles that do not have handrails within 30" might be something to consider for a public comment.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Kevin McOsker, representing Southern Nevada Chapter of ICC (ktm@ClarkCountyNV.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1014.9 Intermediate handrails. *Stairways* 88 inches (2235 mm) in width or greater 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.~~

Commenter's Reason: The revised language in this code proposal serves the same intent, with few words and better clarity. The current code language would require an intermediate handrail for stairs that are greater than 60" wide. With an intermediate rail, the stairway would be divided into two 30" aisles each (not including the intermediate rail and the projected handrail at the edge of the stair). At present, the code recognizes 44" as the minimum exit width for occupant loads greater than 50. This code change would preserve the 44" width of a stairway aisle in cases where an intermediate handrail is required. This code change does not affect ramped or stepped aisles of assembly areas since section 1014.1 only requires compliance to 1014.2 though 1014.8.

E91-15

E95-15

1015.6 (IFC[BE] 1015.6, IMC[BE] 304.11), 1015.7, (IFC[BE]1015.7, IMC[BE] 304.12 (New))

Proposed Change as Submitted

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 wihthin 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.

E95-15 : 1015.6-KULIK5052

Public Hearing Results

Committee Action: Disapproved

Committee Reason: This code change was disapproved because of the 'laundry list' of rooftop components. The term "scope of the code" is too broad. The limit for access should include rooftop components that "require service" so you don't pick up everything.

The split of the sections in the IMC to match the IBC ad IFC split between equipment and roof hatches is appropriates and should be pursued in a public comment.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

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.

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.

Commenter's Reason: The requirements for guards around equipment on the roof and at roof hatches are the same in the IBC, IFC and IMC. Over time the requirements for guards at roof hatches was split apart in IBC and IFC and combined in the IMC. This proposal has all three codes match so that there is no confusion on this requirement. There is no change in requirements.
Staff note: If this public comment is successful, the exception in the new Section 304.12 will be coordinated with the revised exception approved in E96-15.

Public Comment 2:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

1015.6 Mechanical equipment, systems and devices. *Guards* shall be provided where ~~various components~~ appliances and equipment 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.

2015 International Mechanical Code

[BE] 304.11 Guards. Guards shall be provided where ~~various components~~ appliances and equipment 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.

Commenter's Reason: The ICC Building Code Action Committee requests approval of this public comment. The MOE code development committee did not like the laundry list originally proposed. This modification clarifies that the guards are required at appliances and equipment that require service. 'Various components' is too broad a term and not consistently enforced or understood. This modification also leaves in the phrase "that require service" so the application for guards if further limited.

E95-15

E97-15

1017.2, 1017.2.3 (New); (IFC[BE] 1017.2, 1017.2.3 (New))

Proposed Change as Submitted

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.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 change decreases the travel distances for essential buildings to the travel distances specified for non-sprinklered buildings, and the increased cost will be consistent with the costs for non sprinklered buildings. The increased costs are only proposed for limited geographic areas.

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There was no technical justification for why Categories C and D were included or why E and F were excluded. There was no technical justification for whey construction types 2B. 3B and 5B were more of a hazard to safety than other types. There is no link between travel distance limitations and resistance for hurricanes or tornadoes. Safety after a natural disaster should include shutting off utilities to damages buildings – there is no such requirement here. This proposal, and a similar proposal, E105, were both disapproved for consistent action.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Vickie Lovell, InterCode Incorporated, representing Fire Safe North America (vickie@intercodeinc.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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.

1017.2.3 Groups A, B, E and R decrease. ~~In~~ Sprinklered buildings in Groups A, B, E and R occupancies, assigned ~~–~~ to Risk ~~Categories III and~~ Category 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 nonsprinklered buildings ~~without sprinkler systems~~ where such buildings are any of the following:

1. Assigned ~~a~~ to Seismic Design Category ~~C~~ D or ~~D~~ F in ~~Table 1613.3.5(1)~~ accordance with Section 1613.3.5.
2. Located in a *special flood hazard area* established in accordance with Section 1612.3.
3. Located in a ~~hurricane-prone~~*windborne-debris region* based on Figure 1609.3(2).

Exception: Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, that are provided with a secondary water supply in accordance with Section 403.3.3, and where the fire pumps are protected against interrupton of service in accordance with Section 913.

Commenter's Reason: The increased fire resistivity required by this proposal is intended to apply ONLY to buildings that are ALL of the following:

- Classified in the highest risk category.
- Located in the highest risk, disaster-prone regions for floods, hurricanes and seismic activity.

- Type IIB, IIIB or VB construction.

It excludes sprinklered buildings that have emergency backup systems for water and power in those regions.

Although the cause is debated, naturally-occurring and man-made disasters are increasing in number and severity in the United States and around the world. That fact is undisputed. 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 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. On 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 of some building types.

E97-15

E101-15
1018.6 (New); (IFC[BE] 1018.6 (New))

Proposed Change as Submitted

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

E101-15 : 1018.6 (New)-ROMNEY3598

Public Hearing Results

Committee Action: Disapproved

Committee Reason: This is a conflict with Section 1018.4. The proposed text need to address how aisles should be measured.

Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Bryan Romney, representing self (bryan.romney@fm.utah.edu) requests Approve as Submitted.

Commenter's Reason: The only comment coming from the Committee was that this proposed code change created a conflict with Section 1018.4 and it should stipulate how aisles are to be measured. To address the conflict with Section 1018.4, the proposed change does not conflict with Group M aisle accessways. The prescriptive elements of 1018.4 are specified in that section only and the proposed Section 1018.6 does not modify or add confusiont to 1018.4. As shown in the Reason statement of the original proposal, the purpose of this change was to add clarity to Section 1018 for usage and occupancies other than Assembly. 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. Rather than being redundant with how aisles are measured for seating at tables, this proposed change simply references 1019.12.1.
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.

There are no conflicts in Section 1018 with this code change. This code change should be approved as submitted.

E101-15

E102-15

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)

Proposed Change as Submitted

Proponent: Gregory Keith, Professional heuristic Development, representing The Boeing Company (grkeith@mac.com); Stephen Thomas (sthomas@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 accessstairways* 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 simialr 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 that might be thought. Construction requirements for interior exit stairways and enclosed exit access stairways are virtually identical. The primary difference ocurrs 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 safely.

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.

E102-15 : 1006.3-KEITH4635

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Typical travel along an exit access stairway should not be for more than two stories for all uses. If this comes back with a public comment it needs to coordinate with E27.
This revision would allow for an atrium to have unlimited number of stories included in travel down the exit access stairway (Section 1023.2), which could be a concern. There is a conflict with the number of stories for escalators and stairways that have protection offered by draft curtains.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Gregory Keith, representing The Boeing Company (grkeith@mac.com); Stephen Thomas, Colorado Code Consulting, LLC, representing Self (sthomas@coloradocode.net) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

SECTION 202 DEFINITIONS

EXIT ACCESS STAIRWAY. ~~A~~ An enclosed or unenclosed *stairway* ~~with~~ within the exit access portion of the means of egress system.

Commenter's Reason: Item E 102-15 was very comprehensive in that it addressed a number of issues relative to exit access stairways. This may have proven confusing for means of egress committee members. A series of public comments is being offered to address each technical concern for membership consideration. This public comment speaks only to a quasi-editorial change to the definition of exit access stairway.
The proposed change to the definition of exit access stairway in the original submittal was intended to align with the current definitions of aisle and corridor. This public comment returns the definition to that currently in the 2015 IBC except that it qualifies that such stairway may be enclosed or unenclosed based on applicable Chapter 10 provisions. This change generally describes alternative enclosure conditions within the definition for the benefit of users.

Public Comment 2:

Proponent : Gregory Keith, representing The Boeing Company (grkeith@mac.com); Stephen Thomas, Colorado Code Consulting, LLC, representing Self (sthomas@coloradocode.net) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

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 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*.

Commenter's Reason: Item E 102-15 was very comprehensive in that it addressed a number of issues relative to exit access stairways. This may have proven confusing for means of egress committee members. A series of public comments is being offered to address each technical concern for membership consideration. This public comment is virtually editorial.
This proposal simply clarifies that required number of exits provisions for a given story can be satisfied by exits or access to exits at another story or a combination of the two. Some may interpret the current provision as an either/or conditon as opposed to both. Additionally, the word "aggregate" has been replaced by "cumulative" so as to be consistent with the provisions of Section 1004.1.1.

Public Comment 3:

Proponent : Gregory Keith, representing The Boeing Company (grkeith@mac.com); Stephen Thomas, Colorado Code Consulting, LLC, representing Self (sthomas@coloradocode.net) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

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.

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.

~~**1019.2**~~ **1019.3 All occupancies.** *No change to text.*

~~**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 accessstairways* 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.

Commenter's Reason: Item E 102-15 was very comprehensive in that it addressed a number of issues relative to exit access stairways. This may have proven confusing for means of egress committee members. A series of public comments is being offered to address each technical concern for membership consideration. This public comment addresses the construction requirements for enclosed exit access stairways. Currently, where exit access stairways are required to be enclosed by Section 1019.3 or 1019.4, those sections state that they should be enclosed by a shaft enclosure constructed in accordance with Section 713. This proposal deletes those references and replaces them with a new construction provision in Section 1019.2 that requires that enclosed exit access stairways comply with Section 1023 for interior exit stairways.

The current shaft enclosure construction requirement has legacy origins for convenience stairways. Exit access stairways, however, are formal means of egress components and their construction should be consistent with occupant safety needs. This apparent upgrade is less impactful that might be thought. Construction requirements for interior exit stairways and enclosed exit access stairways are virtually identical. The primary difference ocurrs 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.

Additionally, there are functional concerns relative to stairway enclosure construction. First, there is no current 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 simialr 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. Also, Section 1017.3.1 is clarified to state that exit access travel on unenclosed exit access stairways shall be included in the exit access travel distance measurement.

Approval of this public comment will increase occupant safety and be consistent with current means of egress philosophy.

Public Comment 4:

Proponent : Gregory Keith, representing The Boeing Company (grkeith@mac.com); Stephen Thomas, Colorado Code Consulting, LLC, representing Self (sthomas@coloradocode.net) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

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.~~

Commenter's Reason: Item E 102-15 was very comprehensive in that it addressed a number of issues relative to exit access stairways. This may have proven confusing for means of egress committee members. A series of public comments is being offered to address each technical concern for membership consideration. The published Means of Egress Code Committee reason for disapproval of E 102-15

included the following statement: "This revision would allow for an atrium to have unlimited number of stories included in travel down the exit access stairway (Section 1023.2), which could be a concern." Perhaps the committee misunderstood the intent of the proposal. E 102-15 actually intended to make atrium exit access travel provisions more restrictive than currently allowed. The section referenced in the reason statement (1023.2) applies to interior exit stairways (exit components) as opposed to exit access stairways (Section 1019). If the committee is concerned with travel down an unlimited number of stories on an exit access stairway, they should be more concerned about the current Section 1023.2, Exception 2 that allows for unlimited travel on an unenclosed interior exit stairway.

This exception to interior exit stairway enclosure construction within an atrium space was introduced in the 2015 Edition of the IBC. The proponent's published reason statement contended that the inherent one-hour atrium enclosure protection and required smoke control was equivalent to a one-hour interior exit stairway enclosure. That may or may not be true; however, such exit stairways serving four or more stories are required to be of 2-hour fire resistance-rated construction.

This provision is also philosophically flawed on many levels. Interior exit stairway enclosures are to be used for no other purpose than as a means of egress. Opening and penetration protection requirements are intended to limit exposure of the enclosure. The current exception allows occupants unlimited egress travel distance down an unenclosed stairway within the smoke exhaust plume. In high-rise buildings, such stairways are required to be within smokeproof enclosures.

Additionally, Section 905.4 requires that a standpipe hose connection be located in every required interior exit stairway at an intermediate landing between stories. Typically, an interior exit stairway enclosure provides a protected space for fire department operations. Obviously, there is no passive standpipe hose connection protection in an unenclosed interior exit stairway.

Traditionally, exit access stairways within atrium spaces have been allowed to be unenclosed (Section 1019.3, Condition 5). However, exit access travel distance limitations at Section 1017.2 would apply. In fact, Table 1017.2, Footnote a references Section 404.9 travel distance limitations through an atrium space.

This public comment deletes this questionable unenclosed interior exit stairway exception and addresses the means of egress code committee's valid concern about unlimited travel within an atrium space. In summary, the published committee reason statement for disapproval of E 102-15 indicates that there may have some confusion on the intent and effect of the initial proposal. Approval of this public comment is consistent with the committee's stated concerns and current IBC unenclosed means of egress stairway philosophy which was formalized in the 2012 Edition.

E102-15

E105-15
1020.1; (IFC[BE] 1020.1)

Proposed Change as Submitted

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 increases the fire ratings for corridors in essential buildings to the hourly ratings specified for corridors in non-sprinklered buildings, and the increased cost will be consistent with the costs for non sprinklered buildings. The increased costs are only proposed for limited geographic areas.

E105-15 : 1020.1-LOVELL5278

Public Hearing Results

Committee Action: Disapproved

Committee Reason: A fire resistance rating will not always stay in place after a natural disaster. There was no technical justification for why Categories C and D were included or why E and F were excluded. The was no technical justification for whey construction types 2B. 3B and 5B were more of a hazard to safety than other types. The is no link between corridor fire resistance and resistance for hurricanes or tornadoes. Safety after a natural disaster should include shutting off utilities to damages buildings – there is no such requirement here. This proposal, and a similar proposal, E97, were both disapproved for consistent action.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Vickie Lovell, InterCode Incorporated, representing Fire Safe North America (vickie@intercodeinc.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1020.1 Construction. *Corridors* shall be fire-resistance rated in accordance with Table 1020.1 and where applicable in Section 1020.1.1. 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.

1020.1.1 Corridors in sprinklered buildings. Other than Group I, corridors in sprinklered buildings of Types IIB, IIIB and VB construction assigned to Risk Category IV in accordance with Section 1604.5, shall have a *fire-resistance rating* of not less than 1 hour where such buildings are any of the following:

1. Assigned to Seismic Design Category D or F in accordance with Section 1613.3.5.
2. Located in a *special flood hazard area* and established in accordance with Section 1612.3.
3. Located in a windborne-debris region based on Figure 1609.3(2).

Exception: Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, that are provided with a secondary water supply in accordance with Section 403.3.3, and where the fire pumps are protected against interrupton of service in accordance with Section 913.

Commenter's Reason: The increased fire resistivity required by this proposal is intended to apply ONLY to buildings that are ALL of the following:

- Classified in the highest risk category.
- Located in the highest risk, disaster-prone regions for floods, hurricanes and

seismic activity.
- Type IIB, IIIB or VB construction.

It excludes sprinklered buildings that have emergency backup systems for water and power in those regions.

Although the cause is debated, naturally-occurring and man-made disasters are increasing in number and severity in the United States and around the world. That fact is undisputed. 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 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. On 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 of some building types.

E105-15

E110-15
1023.3.1; (IFC[BE] 1023.3.1)

Proposed Change as Submitted

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. <u>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.</u>

Reason: Pressurized stairs often discharge through an exit passageway. The exit passageway is also typically required to be pressurized since it is a coninuation 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.

E110-15 : 1023.3.1-GRILL5191

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: This exception is appropriate. In the situation where a stairway and exit passageway system is pressurized, the door is not needed, any may even be a problem for the system.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Ali Fattah, City of San Diego Development Services, representing City of San Diego (afattah@sandiego.gov) requests Disapprove.

Commenter's Reason: I urge dissaproval of this code change. It is not necessary. Exception # 2 already allows for the condition of concern to be addressed. No technical justification was provided for the change other than stating that difficulties in pressurization necessitates the code change. E146–12 was submitted in the last cycle and was not approved; it proposed deleting exception # 3 to what was then Section 1022.01.1. The code change was not approved.

E110-15

E112-15

1023.5; (IFC[BE] 1023.5)

Proposed Change as Submitted

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 m^2). 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.

E112-15 : 1023.5-KOFFEL4844

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: This allowance for security systems to penetrate a stairway enclosure is appropriate. Security systems are needed for occupant safety. These systems can also be used for remote assessment of a stairway during an emergency. This is coordinated with NFPA 101.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Ali Fattah, City of San Diego Development Services, representing City of San Diego (afattah@sandiego.gov) requests Disapprove.

Commenter's Reason: We are submitting this public comment because since the term security systems is not defined it is not clear what security systems are limited to. Is the security system for the use of the fire department? Can it be security wiring for controlled access or egress doors. Can it be for anti theft system in a retail setting? Can it be for the cable provided by my cable company used to provide cable tv and monitor my home security system? The code limits penetrations into interior exit stairways for a reason which is to improve reliability for the passive assembly. Most low voltage wiring installations are not inspected and this sets a precedent for numerous uncontrolled through and membrane penetrations strung along the exit stairway enclosure on the interior side..

E112-15

E113-15

1023.5, 1024.6; (IFC[BE] 1023.5, 1024.6)

Proposed Change as Submitted

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*, ~~standpipes~~ 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 m^2). 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*, ~~standpipes~~ 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 m^2). 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.

E113-15 : 1023.5-KING3314

Public Hearing Results

Committee Action: Approved as Modified

Modification:

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, fire protection systems, 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 m^2). 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, fire protection systems, 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.

Committee Reason: The modification is to maintain the exceptions and is coordination with F49-15. The exceptions are needed to allow for outlets, light switches, fire alarm pull stations and exit signs.

In the main text, the change from 'sprinkler piping and standpipes' to 'fire protection systems' would allow for all systems used for fire fighting. The addition of the 'two-way communication system' allows for requirements associated with the fire fighters communication, the requirements in high rises for systems in the stairway every five floors, and areas of refuge.

Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Ali Fattah, City of San Diego Development Services, representing City of San Diego (afattah@sandiego.gov) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

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, *fire protection systems*, 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 m^2). 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 required for the installation of recessed fire alarm devices, emergency lighting, exit signs and similar penetrating items 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, *fire protection systems*, 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 m^2). 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 <u>for the installation of recessed fire alarm devices, emergency lighting, exit signs and similar penetrating items</u> shall be permitted on the outside of the exit passageway. Such penetrations shall be protected in accordance with Section 714.3.2.

Commenter's Reason: We submitted this public comment since the committee modification was too broad. Normally the membrane penetration is for a recessed item supplied with piping or wiring located within the wall. The code change as it was approved could allow a vertical piping chase in the wall cavity of an exit enclosure. The committee reason statement for the modification of the original code change states it is necessary for "outlets, light switches, fire alarm pull stations and exit signs".

Staff note: Public comments to FS49-15 and E113-15 include text pertaining to membrane penetration for the walls around shafts. Depending on the resolution of the public comments, there is a concern for possible conflicts between these sections.

Public Comment 2:

Proponent : William King, representing Virginia Building Code Officials Association (william.king@alexandriava.gov) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

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, *fire protection systems*, two-way communication systems, electrical raceway for fire department communication systems and electrical ~~raceway serving the *interior exit stairway* and *ramp* and~~ <u>raceways</u> terminating at a steel box not exceeding 16 square inches (0.010 m^2). 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, *fire protection systems*, two-way communication systems, electrical raceway for fire department communication and electrical ~~raceway serving the *exit passageway* and~~ raceways terminating at a steel box not exceeding 16 square inches (0.010 m^2). 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.~~

Commenter's Reason: This public comment is to limit the membrane penetrations to those listed in the reason statement from the committee while preventing other hazards (Gas Piping, Hazardous Materials, Medical Gas, etc.) from being introduced into the exit enclosure. The item regarding FS49 in the reason statement is not directly relevant as this proposal is focused on the protection of exit enclosures and egress, which should be held to a higher standard than a typical shaft.

Staff note: Public comments to FS49-15 and E113-15 include text pertaining to membrane penetration for the walls around shafts. Depending on the resolution of the public comments, there is a concern for possible conflicts between these sections.

Public Comment 3:

Proponent : William Koffel, representing Firestop Contractors International Association requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

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, *fire protection systems*, security systems, 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 m^2). 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, *fire protection systems*, security systems, 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 m^2). 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.

Commenter's Reason: The purpose of the Public Comment is to simply combine the Committee Action on E 112-15 (Approval As Submitted) with the Committee Action on E 113-15

E113-15

E115-15

1023.12 (New), 1024.8 (New), 1026.5 (New); (IFC[BE] 1023.12 (New), 1024.8 (New), 1026.5 (New))

Proposed Change as Submitted

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 (Secion 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.

E115-15 : 1023.12 (New)-KRANZ3768

Public Hearing Results

Committee Action: Disapproved

Committee Reason: These references could be read as a requirement for standpipes rather than just a pointer. This would be a problem for shorter buildings. This cross reference form Chapter 10 to Chapter 9 are unnecessary.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Lee Kranz, City of Bellevue, representing Self (lkranz@bellevuewa.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

1023.12 Standpipes. Standpipes and standpipe hose connections shall be provided ~~in accordance with~~ where required by Sections 905.3 and 905.4.

1024.8 Standpipes. Standpipes and standpipe hose connections shall be provided ~~in accordance with~~ where required by Sections 905.3 and 905.4.

1026.5 Standpipes. Standpipes and standpipe hose connections shall be provided ~~in accordance with~~ where required by Sections 905.3 and 905.4.

Commenter's Reason: This code change provides a reference to remind reviewers to go check Sections 905.3 and 905.4 to see if standpipes are required for interior exit stairs and ramps, exit passageways and horizontal exits. One concern expressed by the Egress Committee was that these references could be construed as requirements rather than pointers. We have changed the text to address this issue in this public comment.

E115-15

E122-15
1025.4; (IFC[BE] 1025.4)

Proposed Change as Submitted

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.

E122-15 : 1025.4-MUNIZ5601

Public Hearing Results

Committee Action: Disapproved

Committee Reason: ASTM does not list products, so the term 'listed' is not appropriate for the ASTM standard. UL does list products.

Assembly Action : **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Manny Muniz, representing Self (Mannymuniz.mm@gmail.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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 ~~be listed in accordance~~ comply with either of the following standards:

1. Listed in accordance with UL 1994.
2. Tested in accordance with 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.

Commenter's Reason: The public comment addresses the committee reason for disapproval that "*ASTM does not list products, so the term 'listed' is not appropriate for the ASTM standard. UL does list products.*" Therefore, the listing requirement is limited to UL 1994.

Bibliography: UL 1994 Luminous Egress Path Markings Systems

E122-15

E127-15
1028.1; (IFC[BE] 1028.1)

Proposed Change as Submitted

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 exitstairways* 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 utilze the provisions.

E127-15 : 1028.1-KOFFEL5004

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: While there were concerns raised over the travel distance to the exterior exit door with this change, the current text does not have a travel distance limit. The more important aspect is that the path to that exterior exit door must be obvious. Seeing the physical door itself is not the important component.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Lee Kranz, representing The City of Bellevue Washington (lkranz@bellevuewa.gov) requests Disapprove.

Commenter's Reason: This code change adds an element of risk to the means of egress system. Currently, not more than 50% of the interior exit stairways may terminate in areas on the level of exit discharge as long as the exteior exit door is visable from the point of termination of the enclosure. This concept was first introduced into the 2009 IBC and has worked well for large commercial projects since then. Once occupants using the interior exit stair reach the level of exit discharge, it is important to have a direct line of site to the exterior exit door to maintain a free and unobstructed path of travel to the exit. As proposed, the level of exit protection could be significantly reduced because the interior exit stairway door at the level of exit discharge could terminate anywhere in the "exit access". This means occupants may be forced to egress through a maze of interviening rooms or long winding corridors. The awareness provided by being able to see the exterior exit door from the stair enclosure, as currently required in the code, improves the occupants chances of survival in a potentially dangerous fire event. Section 1022.1 says that once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge. This code change violates this concept, is potentially dangerous and should not be approved.

Public Comment 2:

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

Commenter's Reason: We're not completely opposed to some relaxation in the requirement that the exit be visible, but this proposal places no restraints on the distance or complexity of the exit path. It allows an unlimited distance of travel through an unprotected area. The comment makes the section vague and difficult to enforce. It's much easier to determine whether an exit is visible and readily identifiable, but "path of travel" is itself a vague term.

E127-15

E128-15

403.5.1, 1028.1, 1028.2; (IFC[BE] 1028.1, 1028.2)

Proposed Change as Submitted

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 exitstairways* 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 seperation. 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 pas 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.

E128-15 : 1028.1-FATTAH4700

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The language is confusing. The proposal could be read require separation of the exit doors at the ground level as well as the paths for exit discharge. This would be an issue for buildings blocked in on three sides that need to use exit passageways to bring occupants to the front of the building. Separation of the exit discharge will be an issue with buildings that use side courts or alleys to get around to the front of the building to exit the site.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Ali Fattah, City of San Diego Development Services, representing City of San Diego (afattah@sandiego.gov) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

1028.4 Exit seperation At the level of exit discharge, exterior exit doors shall be separated in accordance with Section 1007.

Commenter's Reason: This public comment is submitted to simplify the proposed code change and floor modification heard at the committee action hearings. The floor modification failed by a vote of 5-8 so it was an indication that the committee was receptive to the concept of the code change. The proposal as shown in this public comment has been simplified to require that exit doors entering the exit discharge be separated regardless of whether the exit discharge is through an interior space on the ground floor or at the exterior of the building. The remoteness requirement is generally satisfied by placement of the vertical shaft enclosure protecting interior exit stairways in high rise buildings so it is not necessary to address remoteness at the termination. Both the requirements of Section 403.5.1 and Section 1007 need to be satisfied.
Again as was pointed out in the original reason statement of the code change NFPA 101, the source document for many of the means of egress concepts in the IBC, was changed to require separation in the exit discharge.

E128-15

E133-15
1029.6.2; (IFC[BE] 1029.6.2)

Proposed Change as Submitted

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, hazarous 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 asembly 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

E133-15 : 1029.6.2-NICHOLS5757

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The evaluation for smoke protected seating addresses threats other than fire; hurricanes, storms, bomb threats. It is a detailed analysis that considers crowd movements. It separates owner and designer requirements. While a final evaluation cannot be completed until the owner hires his building managers, this is an important safety consideration that is not matched in the code requirements, therefore the reference should remain.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Daniel Nichols, representing New York State Dept. of State (dnichols@dos.state.ny.us) requests Approve as Submitted.

Commenter's Reason: In response to the committee's reason, there is little connection between the width calculations of aisles and a life safety evaluation to determine the hazards associated with events like hurricanes, storms, and bomb threats. Since the only physical modification to the building for smoke-protected seating is the design of a smoke management system, the only parameter that is in the IBC to affect the aisle width is the building's ability to provide a greater degree of tenability of the occupants. If there is a concern that the aisle widths are inappropriate for these other non-fire events, then it may be appropriate to delete the allowance for diminished widths permitted under the smoke protected seating provisions.
I reference back to the original proposal's reason statement that lists several items that are either contradictory or not applicable to the means of egress of a smoke-protected assembly occupancy.

If there is a desire to provide greater detail in emergency action planning for non-fire events in large occupancy assembly uses, then those requirements should be in the IFC and should be aligned with the construction requirements of the I-Codes. The exposure for these hazards should be based on the population and use of the

building, not the width of the aisles.

E144-15

Table 1006.3.2(2), 1030.1; (IFC[BE] Table 1006.3.2(2), 1030.1)

Proposed Change as Submitted

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-3~~ R 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 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.

TABLE ~~1006.3.2~~ 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 occupanies. 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 correllative.

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.

E144-15 : 1030.1-CUEVAS4873

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There was not technical justification provided to require emergency escape windows in all Group R-1 and R-2 facilities. The past text referenced in the reason included an exception for sprinklered buildings. All Group R-1 and R-2 building are now required to be sprinklered, so the current code matches past codes. There was no technical reason for the limits of the construction types.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Ali Fattah, City of San Diego Development Services, representing City of San Diego (afattah@sandiego.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

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~~ R-1 and R-2 occupancies.
2. Group R-1 and R-2 occupancies located on stories with one exit or access to one exit where permitted by Tables 1006.3.2(1) and 1006.3.2(2).
3. 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. 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.*~~

~~*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.*~~

1. Emergency escape an rescue openings are not required from Grooup R-1 and R-2 occupancies where each story has access to at least two exits or access to exits and the building is equipped throughouth with an automatic spinkler system in accordance with Section 903.3.1.1.

2. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.

3. 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*.

4. Basements without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.

Commenter's Reason: We request that the proposed amendment be approved as modified by our public comment.

The building code since the late 1970's has always required exterior openings such as windows and doors to serve as emergency escape openings and as emergency rescue openings. Dimensional constraints for the opening, location constraints and requirements for how to access and leave the opening on the exterior of the building are also included. The code has exempted exterior openings in sleeping rooms located above the fourth story from compliance presumably because the buildings were protected with an automatic sprinkler system designed per Section 903.3.1.1 (NFPA 13 sprinkler system). Additionally ladder access is more difficult so that is possibly another reason.

During the drafting of the 2000 IBC first draft the code included exceptions to Section 1013.1 and Exception # 1 permits non-compliance with the requirements for emergency escape and rescue openings if the building is protected with a sprinkler system per NFPA 13R or NFPA 13. This appears to be a reasonable trade off since it allows occupants time to escape through the main entry door to the dwelling unit of sleeping unit and it allows time for rescue personnel to enter the building and perform search and rescue operations. The sprinkler system also provides the benefit of occupant notification beyond the area of origin and for the initiation of fire department response through a monitoring station.

The LA Basin chapter proposed to codify an amendment presently published in the supplement to the 2013 California Building Code and the proposed code change includes the addition of exception 1 that requires both an NFPA 13 sprinkler system and fire resistance rated construction when non-compliance with the emergency escape and rescue openings is desired.

The required fire resistance in exception 1 of the original proposal is not necessary since dwelling units need to be separated from one another with one hour floors and one-hour fire resistance rated fire partitions. Interior exit stairways will be protected with one or two hour fire resistance rated fire barriers. Exterior walls need to be fire resistance rated when located less than 10 ft fire separation distance. Most of the R-1 and R-2 occupancies end up being at least one hour or better as a result.

It has been our experience that the exception is used when the opening opens into an interior court or where the court does not lead directly to the public way. The majority of sleeping rooms in new construction are constructed with windows that comply with or exceed the opening requirements in the code. Additionally, opening dimensions might be non-compliant due to odd shaped windows. Fire fighting rescue is generally performed from within the building by accessing upper stories through interior exit stairways. Rescues from exterior openings occur if occupants cannot get to the exterior door of their unit or if the corridor is for some reason compromised. The NFPA 13 sprinkler system allows occupants in the building to be notified and provides protection to allow for improved evacuation time.

Limiting the omission of emergency and rescue openings to buildings protected with an NFPA 13 sprinkler system address a concern about fires originating in combustible concealed spaces and traveling within the building cavity beyond the area of origin as occurred at the recent fire at "The Avalon at Edgewater" in the city of Edgewater in New Jersey. The building was protected with an NFPA 13R system and was completely destroyed almost due to a variety factors that included delayed notification, and as I was informed limited fire fighting operations. Notification was initiated when the fire in the combustible concealed space reached non-metallic sprinkler piping in the attic. While no fatalities occurred the incident illustrates what can occur when a fire burns through a fire resistance rated combustible multi-story building.

Occupants asleep would not be notified until water flow occurs, in this case the failure of the sprinkler piping. Fire could be traveling overhead in the floor or roof ceiling space. While Section 718.3.2 exception # 2 and Section 718.4.2 exception # 4 allow omission of draft stops when sprinklers are provided in the floor or roof ceiling space, the fire in New Jersey demonstrated that passive protection to not have been effective since the building was presumably constructed with draft stops that may have been compromised.

The emergency rescue opening is important if the occupant is located in the unit of origin or if the main common exits paths such as corridors, exterior exit balconies or interior/exterior exit stairways or enclosed exit access stairways are compromised. Hardwired and interconnected smoke alarms give early warning during the beginning phases of fire in the unit and NFPA 13 sprinkler protection is designed to limit fire growth to allow time to egress through the front door. The NFPA 13 sprinkler system ensures that protection is provided in the combustible concealed space which improves fire fighting response.

Section 406.3 of the IEBC addresses emergency escape and rescue openings in existing buildings. Section 403.1 of the IEBC addresses alterations and would require that the windows comply with the requirements for new buildings.

As proposed the public comment is coordinated with code change E-141 that was approved. Exception 1 allows the trade off to R-1 and R-2 occupancies since Table 1006.3.2 (2) only exempts 1 story R-1 occupancies and it is reasonable that if an R-1 occupancy is provided with two exits and an NFPA 13 sprinkler system that it should be treated similar to an R-2 since the transient nature of the occupancy should not

have bearing on application of the exception. The revision to Section 1030.1 includes a further clarifying what was approved in E141 to make clear the applicability of emergency escape and rescue requirements to Group R-1, R-2, R-3. Exception # 1 only applies to Group R-1 and R-2.

E144-15

E145-15
1030.1; (IFC[BE] 1030.1)

Proposed Change as Submitted

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 m^2) 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 contsraint 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.

E145-15 : 1030.1-SHAPIRO5526

Public Hearing Results

Committee Action: Approved as Submitted

Committee Reason: This allowance would encourage people to voluntarily put in a residential sprinkler system. This proposal provides flexibility for the location of the bedrooms in the basement to not be directly attached to the emergency escape and rescue opening. Having a sprinkler system in a single family home does seem a reasonable trade off for the orientation/location of the emergency escape and rescue openings. There still needs to be two ways out of the basement.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : William Hall, Portland Cement Association, representing Portland Cement Association (jhall@cement.org) requests Disapprove.

Commenter's Reason: Another sprinkler trade off. We have seen time and time where fire races through un-protected and concealed areas. LIfe safety trade offs for NPFA 13R systems are not justified.

Public Comment 2:

Proponent : Jeff Inks, representing Window and Door Manufacturers Association (jinks@wdma.com) requests Disapprove.

Commenter's Reason: WDMA is opposed to this exception because it is based on the assertion that the only purpose of EERO requirements is for escape or rescue from fire. While there is no dispute the combination of compliant smoke alarms and fire sprinklers provides a very high level of safety from fire, that is not a certainty and fire is not the only purpose for emergency escape and rescue openings as is clearly stated by ICC's definition for them – "*EMERGENCY ESCAPE AND RESCUE OPENING. An operable window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.*" Fire is not the only emergency that may be experienced by occupants of dwelling and sleeping units where these openings may be needed to provide for escape and rescue of those occupants.
While the application of the proposed exception may be limited, it nonetheless is a compromise in life safety for those applications -- it simply compromises the broader EERO life safety provisions to incentivize the installation of sprinklers to reduce the life safety risk of only one type of emergency. Is one means of egress and one emergency escape and rescue opening or two means of egress adequate for any number of sleeping rooms in basements of Group R-2 and R-3 occupancies for all emergencies, in addition to fire, that may occur? WDMA firmly believes such limited emergency escape and rescue provisions are not.

WDMA strongly urges the disapproval of this proposal.

Public Comment 3:

Proponent : Julie Ruth, representing American Architectural Manufacturers Association (julruth@aol.com) requests Disapprove.

Commenter's Reason: This proposal should be disapproved because, although equivalence to other provisions in the IBC for R-2 occupancies with regards to fire safety may be demonstrated in the Reason statement, equivalence for Group R-3 occupancies is not. Also, in some cases hazards in the basement other than fire may require emergency escape and rescue. These hazards are not likely to be successfully mitigated by a sprinkler system.

The proponent correctly argues that Emergency Escape and Rescue Openings are not required in the basements of Use Group R-1 or I occupancies. Although sleeping rooms may occur in such facilities, they are less likely to occur there than in R-2 or R-3 occupancies. Group R-1 and I occupancies are required to be sprinklered with an NFPA 13 or 13R system.

Use Group R-2 occupancies are also required to be sprinklered with an NFPA 13 or 13R system. The majority of the proponent's reason statement is devoted to the discussion that, since Group R-2 is also required to be sprinklered by an NFPA 13 or 13R system, and Emergency Escape and Rescue Openings are not required in Group R-1 and I occupancies that are provided the same level of sprinkler protection, they should not be required in Group R-2 occupancies either.

What the proponent does not address in his reason statement is the fact that the exception proposed would also apply to Group R-3 occupancies. Group R-3 may be sprinklered with an NFPA 13D system rather than a NFPA 13 or 13R system.

The level of protection provided by a NFPA 13D systen is significantly less than that of a NFRP 13 or 13R system. The differences include number and location of sprinkler heads, required water supply and reserve, equipment standards, required inspections. etc.

Other hazards that may occur in the basement that might necessitate Emergency Escape and Rescue Openings include possible build up of carbon dioxide, particularly due to fuel burning appliances in increasingly tight building envelopes, spills of toxic chemicals, need to escape a home due to domestic abuse, etc.

Although the IRC requires sprinkler systems in residential construction (Group R-3), that sprinkler system does not provide an exemption from the installation of Emergency Escape and Rescue Openings. In fact, one of the points made by the proponent of G 15 in its support is that its approval will facilitate approval of simlar provisions in the IRC next cycle. Removing the requirement for Emergency Escape and Rescue Openings in Use Group R-3 occupancies is not appropriate. It should not be approved for the IBC to facilitate it in the IRC.

E145-15

E149-15
1103.2.4, 1106.5
Proposed Change as Submitted

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.

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There were questions about if this exception should be permitted for Type A dwelling units. While the committee agreed that Group U private garages was appropriate, the committee felt that a public comment would allow for interested parties to look at this further.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

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.

Commenter's Reason: The ICC Building Code Action Committee is requesting approval of this public comment. There has been confusion with the word 'private'. Is this applicable to the Group U private garages as specified in Section 406.3 or is it applicable to a garage that is 'resident's only'. The intent of this proposal is to clarify that the exception is only to the garages as limited in Section 406.3. Applying this to a 'resident's only garage would be a conflict with FHA requirements and Section 1106.2 requirements for parking within covered parking.

Public Comment 2:

Proponent : Edward Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

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 Type A and Type B

units in 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).

Commenter's Reason: The ICC Building Code Action Committee requests approval of this public comment. The phrase 'In Group U private garages that serve' was approved in E154-15. This proposal is adding 'Type A and Type B units in'. To allow the lower height for van spaces for parking serving Accessible units would be a violation of ADA requirements. The lower height is reasonable for private vans that have been modified. The limit will give designers a break for single and double car garages associated with units, but not for common garages that are 'resident's only.'

E149-15

E153-15

1105.1, 1105.1.1 (New), TABLE 1105.1.1 (New)

Proposed Change as Submitted

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 entrance*s 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 1105.1.1, 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

OCCUPANCY	MINIMUM OCCUPANT LOAD
I-1, I-2	50
A-1, A-2, A-3, A-4	300
R-1	300
B, E, M, R-2	500

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.

E153-15 : 1105.1-HETZEL3472

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The testimony was that power doors are already typically provided in these types of facilities, so why is there a need to require them? This is a best practice item, not a minimum code requirement. There was no technical justification for the occupant load numbers suggested.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Joseph Hetzel, representing American Association of Automatic Door Manufacturers (AAADM) (Jhetzel@thomasamc.com) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

1105.1.1 ~~Automatic~~ Power Operated Doors. For buildings or facilities having occupant loads greater than or equal to that specified in Table 1105.1.1, 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

OCCUPANCY	MINIMUM OCCUPANT LOAD
I-1, I-2	50
A-1, A-2, A-3, A-4	~~300~~301
~~R-1~~	~~300~~
B, ~~E,~~ M, R-1,~~R-2~~	~~500~~ 501

Commenter's Reason: In addition to the reasoning given with the original proposal, the following information addresses Committee comments.

- The requirement is a need, as opposed to a "best practice", because not only do automatic doors enhance accessibility but they have become a staple of access convenience in society and are known to be very highly reliable.
- Our justification of minimum occupant load uses Risk Category and minimum number of exits as starting points, since these are the only locations in the Code with occupancy thresholds to consider. Risk Category and minimum number of exits share a common concern with automatic doors because the threshold numbers represent a critical mass of people above which a unique set of code requirements need to apply. Following is an explanation of how the threshold numbers have been arrived at for each occupancy in the Table.
    - Group I: From Table 1604.5, Risk Category III which is described as "buildings and other structures that represent a substantial hazard to human life in the event of failure". I-2 is classified as "an occupant load of 50 or more resident care recipients but not having surgery or emergency treatment facilities". I-1 is comparable to I-2 from the standpoint that 50 or more occupants could be in a building or facility. I-3 is not needed in the Table for security purposes, and I-4 is not needed because the occupancy would not likely reach 50 or more.
    - Group A: Also from Table 1604.5, Risk Category III. The scope of public assemblies is an occupant load greater than 300.
    - Groups B, M and R-1: From Table 1006.3.1, minimum number of exits or access to exits per story. Table 1006.3.1 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 proposed Table would set a threshold of three exits or exit access doorways, in a given story with a public entrance, to require an automatic door at that public entrance. R-1 is the applicable Group R occupancy because hotels and motels should be encompassed by the Table where the threshold occupant load would be appropriate for those structures.

The modified Table directly addresses the anticipated need of the accessibility community, particularly involving the public to especially consider "transient" use. Occupancies E and R-2 have been removed from the original proposal since there may be security related aspects of entrance doors requiring special access related devices.

E155-15

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

Proposed Change as Submitted

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. Doors 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 clearance 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 manuevering clearance, door manuevering clearance 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~~ Section 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**~~ **1107.6.2.2.1 Type B units.** Where there are four or more *dwelling units* or *sleeping unit*s *intended to be occupied as a residence* in a single structure, every *dwelling unit* and *sleeping unitintended 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 manuevering clearance, door manuevering 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, *Accessibleunits* 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 *Accessibleunits*.

1107.6.2.3.1 Accessible units. *Accessibledwelling units* and *sleeping unit*s 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 unit*s *intended to be occupied as a residence* in a single structure, every *dwelling unit* and every *sleeping unitintended 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 manuevering clearance, door manuevering 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 ellimination of the Type A units.

E155-15 : 1107.6.2.2-NICHOLS5453

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Technical justification for the need for the New York B+ units was not provided. This would over ride the ICC A117.1 technical provisions for Type A and Type B units. This would eliminated Type A units which do provide a higher level of accessbility. This would potentially cause a conflict with the Department of Housing and Urban Development (HUD) viewing the IBC and ICC A117.1 as safe harbor documents.

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

Proponent : Nathan Roether, representing United Spinal (nroether@accessibility-services.com) requests Approve as Submitted.

Commenter's Reason: This has worked in New York State since 1984, New Jersey since the early 70's and in New York City since the 2008 edition of the building code. An aging population requires more accessiblity. Our main goal is to increase accessibility.

E155-15

E169-15
1111.1

Proposed Change as Submitted

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. <u>Accessible lavatories and sinks where lavatories or sinks are provided in clusters and not all are accessible.</u>

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 acessible. 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 adeqaute 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.

E169-15 : 1111.1-BOECKER5536

Public Hearing Results

Committee Action: Disapproved

Committee Reason: There were several questions about requiring signage on accessible lavatories. What would the sign say? Where would it be located? How would it be maintained?

Assembly Action : None

Individual Consideration Agenda

Public Comment 1:

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

Commenter's Reason: During numerous site inspections, we have noticed that although some of the lavatories in the toilet room comply (and, only one is requried to comply), some do not. The default observation from an inspection standpoint is that the toilet room complies since only one lavatory is requried to comply. From a user's standpoint, however, a person would be unaware that the height of the one lavatory is too high or that there's no insulation for the hot water line under another; and, that there are sharp edges below a third. As long as the fourth one complies, that's all that's needed to meet the requirement. But that puts the person using the facility at risk for inconvenience at the least and injury at the worst. We already have a requirement like this for check-out aisles where injury isn't the possibility. It's worth it to provide this information for the users.
The committee disapproved this proposal by one vote. It is obviously one with mixed opinions. During discussions several questions were raised:

- What would the sign say? A: It would include the International Symbol of Accessibility (ISA). That's what the charging section states. There is no need for anything else. The ISA would identify the acessible lavatory.
- Where would it be located? A: It would be located at the accessible lavatory basin. It could be on the mirror above it, next to it on the wall, on the front apron, anywhere it would be visible so that somebody would know that it complies.
- How would it be maintained? A: Like any other sign required by the code.

E169-15