Throughout the document, change “electrically controlled egress door assemblies” to “door hardware-release of electrically locked egress door assemblies”. For example, see 7.2.1.15.1 and A.7.2.1.15.1.

Throughout the document, change “delayed-egress locking systems” to “delayed-egress electrically locking systems”. For example, see: 7.2.1.6.3(13), 7.2.1.15.6(13), 7.9.1.1(4), 12.2.2.3(1), 12.2.2.3.5, 12.4.11.1(2), 13.2.2.2.3(1), 13.2.2.2.5, 13.4.11.2(2), 14.2.2.2.3.1, 15.2.2.2.3.1, 16.2.2.2.3.1, 17.2.2.2.3.1, 18.2.2.2.4(2), 19.2.2.2.4(2), 20.2.2.2.6, 21.2.2.2.6, 26.2.3.5.2, 28.2.2.2.2.2, 29.2.2.2.2.2, 30.2.2.2.2.2, 31.2.2.2.2.2, 32.2.2.5.5.1, 32.3.2.2.2(4), 33.2.2.5.5.1, 33.3.2.2.2.2(4), 36.2.2.2.5, 37.2.2.2.5, 38.2.2.2.5, 39.2.2.2.5, 40.2.2.2.2, 42.2.2.2.2, A.7.2.1.6, A.7.2.1.6.1(3), A.12.4.11.2(2), A.13.4.11.2(2), A.18.2.2.2.4(2) and A.19.2.2.2.4(2).

Throughout the document, change “access-controlled egress door assemblies” to “sensor-release of electrical locking systems”. For example, see: 7.2.1.6.3(14), 7.2.1.15.6(13), 7.9.1.1(6), 12.2.2.2.3(2), 12.2.2.2.6, 13.2.2.2.3(2), 13.2.2.2.6, 14.2.2.2.3.2, 15.2.2.2.3.2, 16.2.2.2.3.2, 17.2.2.2.3.2, 18.2.2.2.4(3), 19.2.2.2.4(3), 20.2.2.2.7, 21.2.2.2.7, 28.2.2.2.2.3, 29.2.2.2.2.3, 30.2.2.2.2.3, 31.2.2.2.2.3, 32.2.2.5.5.2, 32.3.2.2.2(5), 33.2.2.5.5.2, 33.3.2.2.2(5), 36.2.2.2.6, 37.2.2.2.6, 38.2.2.2.6, 39.2.2.2.6, 40.2.2.2.3, 42.2.2.2.3, A.7.2.1.6.2, A.7.2.1.6.3(14), A.12.4.11.2(2), A.13.4.11.2(2), A.18.2.2.2.4(2) and A.19.2.2.2.4(3).

Submitter Information Verification

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Submittal Date: Mon Aug 03 14:19:46 EDT 2015

Committee Statement

Committee Statement: The terms are being renamed in their related provisions in Chapter 7. Correlative updating of terms is needed throughout the document to keep the terminology consistent.

Response Message:  

Page 1 of 56  
10/21/2015 9:37 AM
3.3.56 Delayed Action Closer.

Self-closing device that incorporates a delay prior to the initiation of closing. Mechanical self-closing device that incorporates an adjustable delay prior to the initiation of closing. (SAF-MEA)

Submitter Information Verification

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Submittal Date: Mon Jul 27 15:13:45 EDT 2015

Committee Statement

Committee Statement: Delayed action closers are utilized in buildings. Proposing a definition to complement proposed text in new section after 7.2.1.8.3. See FR-5008.
First Revision No. 5028-NFPA 101-2015 [ New Section after 3.3.214 ]

3.3.222  Power Doors.

3.3.222.1  Low-Energy Power-Operated Door.
Swinging, sliding, or folding door that opens automatically upon an action by a pedestrian, closes automatically, and operates with decreased forces and decreased speeds.

3.3.222.2  Power-Assisted Door.
Swinging door that opens by reduced pushing or pulling force on the door operating hardware, closes automatically after the pushing or pulling force is released, and functions with decreased forces.

3.3.222.3  Power-Operated Door.
Swinging, sliding, or folding door that opens automatically when approached by a pedestrian or opens automatically upon an action by a pedestrian, closes automatically, and includes provisions to prevent entrapment.

Supplemental Information

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Submitter Information Verification

Submitter Full Name: Ron Cote
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Submittal Date: Wed Jul 29 11:09:53 EDT 2015

Committee Statement

Committee Statement: This revision adds definitions supporting changes to 7.2.9.1 adding ANSI references for the various types of power doors,

Response Message: Public Input No. 219-NFPA 101-2015 [New Section after 3.3.214]
**Low Energy Power-Operated Door.** A pedestrian action might include pressing a push plate or waving a hand in front of a sensor.

**Power-Operated Door.** A provision used to prevent entrapment might include sensors.
Where this *Code* requires an exit to be separated from other parts of the building, the separating construction shall meet the requirements of Section 8.2 and the following:

(1)* The separation shall have a minimum 1-hour fire resistance rating where the exit connects three or fewer stories.

(2) The separation specified in 7.1.3.2.1(1), other than an existing separation, shall be supported by construction having not less than a 1-hour fire resistance rating.

(3)* The separation shall have a minimum 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists:

(a) In existing non-high-rise buildings, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

(b) In existing buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

(c) The minimum 1-hour enclosures in accordance with 28.2.2.1.2, 29.2.2.1.2, 30.2.2.1.2, and 31.2.2.1.2 shall be permitted as an alternative to the requirement of 7.1.3.2.1(3).

(4) Reserved.

(5) The minimum 2-hour fire resistance–rated separation required by 7.1.3.2.1(3) shall be constructed of an assembly of noncombustible or limited-combustible materials and shall be supported by construction having a minimum 2-hour fire resistance rating, unless otherwise permitted by 7.1.3.2.1(7).

(6)* Structural elements, or portions thereof, that support exit components and either penetrate into a fire resistance–rated assembly or are installed within a fire resistance–rated wall assembly shall be protected, as a minimum, to the fire resistance rating required by 7.1.3.2.1(1) or 7.1.3.2.1(3).

(7) In Type III, Type IV, and Type V construction, as defined in Fire-retardant-treated wood enclosed in noncombustible or limited-combustible materials shall be permitted in accordance with NFPA 220. NFPA 220, *Standard on Types of Building Construction* (see 8.2.1.2),

(8) Openings in the separation shall be protected by fire door assemblies equipped with door closers complying with 7.2.1.8.

(9)* Openings in exit enclosures shall be limited to door assemblies from normally occupied spaces and corridors and door assemblies for egress from the enclosure, unless one of the following conditions exists:

(a) Vestibules that separate normally unoccupied spaces from an exit enclosure shall be permitted, provided the vestibule is separated from adjacent spaces by corridor walls and related opening protectives as required for the occupancy involved but not less than a smoke partition in accordance with Section 8.4.

(b) In buildings of Type I or Type II construction, as defined in NFPA 220, *Standard on Types of Building Construction*, (see 8.2.1.2), fire protection–rated door assemblies to normally unoccupied building service equipment support areas as addressed in Section 7.14 shall be permitted, provided the space is separated from the exit enclosure by fire barriers as required by 7.1.3.2.1(3).

(c) Openings in exit passageways in mall buildings as provided in Chapters 36 and 37 shall be permitted.

(d) In buildings of Type I or Type II construction, as defined in NFPA 220, *Standard on Types of Building Construction*, (see 8.2.1.2), existing fire protection–rated door
Penetrations into, and openings through, an exit enclosure assembly shall be limited to the following:

(a) Door assemblies permitted by 7.1.3.2.1(9)
(b) Pathways for devices for security and communication systems serving the exit enclosure, where pathways are installed in metal conduit
(c) Ductwork and equipment necessary for independent stair pressurization
(d) Water or steam piping necessary for the heating or cooling of the exit enclosure
(g) Sprinkler piping
(h) Standpipes
(i) Existing penetrations protected in accordance with 8.3.5
(j) Penetrations for fire alarm circuits, where the circuits are installed in metal conduit and the penetrations are protected in accordance with 8.3.5

(10) Penetrations into, and openings through, an exit enclosure assembly shall be limited to the following:

(a) Door assemblies permitted by 7.1.3.2.1(9)
(b)* Electrical conduit serving the exit enclosure
(c) Pathways for devices for security and communication systems serving the exit enclosure, where pathways are installed in metal conduit
(d)* Required exit door openings
(e) Ductwork and equipment necessary for independent stair pressurization
(f) Water or steam piping necessary for the heating or cooling of the exit enclosure
(g) Sprinkler piping
(h) Standpipes
(i) Existing penetrations protected in accordance with 8.3.5
(j) Penetrations for fire alarm circuits, where the circuits are installed in metal conduit and the penetrations are protected in accordance with 8.3.5

(11) Penetrations or communicating openings shall be prohibited between adjacent exit enclosures.

(12) All penetrations in fire barriers separating the exit from other parts of the building shall be protected in accordance with 8.3.4.

(13) Membrane penetrations shall be permitted on the exit access side of the exit enclosure and shall be protected in accordance with 8.3.4.7.

Supplemental Information

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Submitter Information Verification
Committee Statement

NOTE: The following Public Input appeared as “Reject but Hold” in Public Comment No. 69 of the A2014 Second Draft Report for NFPA 101 and per the Regs. at 4.4.8.3.1.

Relative to item (7) from the 2015 edition, the revision correlates the requirement with the provisions of NFPA 220 on the use of FRTW.

Relative to item (9) (e) iii from the 2015 edition, the Code restricts openings onto exit enclosures from normally unoccupied spaces to ensure the integrity of an exit stair is not compromised by a fire in the normally unoccupied space. The change provides additional life safety to building occupants by adding smoke detection in the room without requiring sprinkler protection throughout the building. Chapter 4 states that the fire protection methods of the Code assume a single fire source. The early warning provided by smoke detection in the room seems to provide more life safety than providing sprinkler protection in a non-sprinkler protected area far from the normally unoccupied room to protect from a single fire source. This Code change would help many existing hospitals comply with the Code. The Center for Medicare/Medicaid Services recently allowed hospitals to meet the provisions of NFPA 101 2012 Edition Section 7.1.3.2.1, however if the hospital is not completely sprinkler protected it cannot take advantage of the provisions.

Relative to new item inserted after (10) (b), text is added for security systems such as access systems and security cameras, where wiring is installed in metal conduit. Hospitals are continually being cited for including security cameras in the stairwells even after the provisions of 11.8.8 have been included in the Code. It needs to be made clear that camera's regardless of their security/egress purpose need to be allowed in stairwells and provide provisions for protection of those pathways.

Relative to new item (12), all penetrations need to be protected in accordance with 8.3.5. Having added this provision, the various occurrences of the phrase "protected in accordance with 8.3.5" have been deleted.

This first revision also revises annex text for clarity and coordination with the changes being made within 7.1.3.2.1 and explained above.

Public Input No. 292-NFPA 101-2015 [Section No. 7.1.3.2.1]
Public Input No. 293-NFPA 101-2015 [Section No. 7.1.3.2.1]
Public Input No. 447-NFPA 101-2015 [Section No. 7.1.3.2.1]
Public Input No. 13-NFPA 101-2015 [Section No. 7.1.3.2.1]
Current A.7.1.3.2.1(10) (b) being revised:

A.7.1.3.2.1(10) (b) The intent of this provision is to prevent the exit enclosure from being used as a vertical chase for building services. Penetrations for electrical wiring are permitted where the wiring serves equipment permitted by the AHJ to be located within the exit enclosure, such security systems, public address systems, and fire department emergency communications devices.

New Annex to go along with the new 7.1.3.2(10)(c)

A.7.1.3.2.1 (10) (c) This provision will allow security cameras, public address systems, emergency communication systems, telephone repeaters and similar life safety devices in the exit enclosure, and wiring and similar pathways for such devices, to penetrate the fire barrier serving the exit enclosure. It is the intent of this provision to prevent the exit enclosure from being used as a vertical chase for building services.
7.1.5.3
Headroom on stairs and stair landings shall be not less than 6 ft 8 in. (2030 mm) and shall be measured vertically above a plane parallel to, and tangent with, the most forward projection of the stair tread.

Submitter Information Verification

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Submittal Date: Wed Jul 29 10:00:00 EDT 2015

Committee Statement

Committee Statement: It is difficult-to-impractical to provide 7'-6" headroom height at an intermediate landing if the headroom on the stair is designed to take advantage of the 6'-8" headroom allowance. The headroom is there to provide a smoke reservoir to permit smoke to bank down from the ceiling without immediately affecting the movement of an occupant who is standing. Within an exit stair enclosure – except for the top floor landing – the smoke will travel upward along the rake of the stair to a higher level rather than accumulating under the landing. The basis for the headroom requirement seems not to be served any better by a 7'-6" headroom than one of 6'-8".

Response Message:
First Revision No. 5036-NFPA 101-2015 [New Section after 7.1.6.4]

7.1.6.5* Grab Bars for Bathtubs, Bathtub-Shower Combinations, and Showers.

7.1.6.5.1 General.

7.1.6.5.1.1 Where required by Chapters 11 through 43, new bathtubs, bathtub-shower combinations, or showers, for use by occupants, shall be provided with grab bars complying with 7.1.6.5.2 through 7.1.6.5.5, except as otherwise permitted for showers in 7.1.6.5.1.2, with all dimensions referring to the centerline of the grab bar unless otherwise stipulated.

7.1.6.5.1.2* Where a dedicated shower does not expose users to changes in elevation exceeding 0.5 in. (13 mm), as described in 7.1.6.2, and it provides slip resistance for all surfaces when wet, as a foreseeable condition described in 7.1.6.4, the requirements of 7.1.6.5.2 through 7.1.6.5.5 shall apply only if grab bars are installed.

7.1.6.5.2 Vertical Grab Bar.

A vertical grab bar shall be provided either installed on the control end wall of the bathtub, bathtub-shower combination, or shower as specified in 7.1.6.5.2.1 or as a free-standing external pole as specified in 7.1.6.5.2.2.

7.1.6.5.2.1* Vertical Grab Bar on Control End Wall.

(A) A vertical grab bar, with a minimum length of 24 in. (610 mm), and its lower end between 36 and 39 in. (915 and 990 mm) above the finished floor, shall be installed on the entry/egress side of the control end wall of the bathtub, bathtub-shower combination, or shower unit.

(B) The grab bar shall be located at least 6 in. (150 mm), measured horizontally, from any shower curtain rod fixing point on the wall.

7.1.6.5.2.2* Vertical Grab Bar as Free Standing, Vertical Pole.

A vertical, pole-type grab bar fixed to the floor and either the room ceiling or an adjacent wall shall be installed outside of the bathtub, bathtub-shower combination, or shower unit within 6 in. (150 mm), measured horizontally, outside of the outer edge of the bathtub, bathtub-shower combination, or shower and within 30 in. (760 mm), measured horizontally, of the vertical plane of the control end wall if there is such a wall.

7.1.6.5.3 Back Wall Grab Bar.

For bathtubs and bathtub-shower combinations bounded on three sides by walls, a grab bar shall be provided on the back wall either as a diagonal grab bar as specified in 7.1.6.5.3.1 or as a horizontal grab bar as specified in 7.1.6.5.3.2.

7.1.6.5.3.1* Diagonal Grab Bar on Back Wall.

(A) A diagonal grab bar shall be installed on the back wall with a minimum length of 24 in. (600 mm) with its higher end placed closer to the control end wall and located a maximum of 12 in. (305 mm) from the control end wall, with a height of 25 to 27 in. (635 to 685 mm) above rim of the bathtub.
The lower end of the diagonal grab bar shall be located at a height of 8 to 10 in. (205 to 255 mm) above the rim of the bathtub and 28 to 30 in. (710 to 760 mm) from the control end wall.

7.1.6.5.3.2 Horizontal Grab Bar on Back Wall.

A horizontal grab bar shall be installed on the back wall at a height of 8 to 10 in. (205 to 255 mm) above the bathtub rim with one end located a maximum of 12 in. (305 mm) from the control end wall and the other end located a maximum of 24 in. (610 mm) from the opposite, or head, end of the bathtub.

7.1.6.5.4* Grab Bar Details.

7.1.6.5.4.1

Grab bars shall be circular in cross section with a minimum diameter of $1 \frac{1}{4}$ in. (32 mm) and a maximum diameter of 2 in. (51 mm).

7.1.6.5.4.2

If attached to a wall, the grab bar shall provide a minimum clearance of $1 \frac{1}{2}$ in. (38 mm) for hand grasp.

7.1.6.5.4.3

The size and clearance dimensions required by 7.1.6.5.4.1 and 7.1.6.5.4.2 shall be provided, as a minimum, within the height requirements range and the minimum length requirements range of the other provisions of 7.1.6.5.

7.1.6.5.5 Grab Bar Structural Loading.

Grab bars shall be designed and constructed to the structural loading conditions in accordance with the building code.

Supplemental Information

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Submitter Information Verification

Submitter Full Name: Ron Cote
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Submittal Date: Mon Aug 03 10:24:48 EDT 2015

Committee Statement

The MEA Egress Committee reviewed the detailed justification submitted with PI-382 that would have created new text at the end of Chapter 7 (following current 7.14.9.9). The justification is too detailed to edit and position here. The reviewer is asked to see the original document as part of PI-382.
The committee positioned the new material as 7.1.6.5 as it is tied to the other items in 7.1.6 related to walking surfaces. MEA is not mandating that grab bars be provided. Rather, it is creating a menu that can be mandatorily referenced by other provisions of the Code.

Response
Message:

Public Input No. 382-NFPA 101-2015 [New Section after 7.14.9.9]
A.7.1.6.5 The grab bars required by 7.1.6.5 are designed to improve safety of showering and bathing by ambulatory users, typically entering and exiting a bath, bathtub-shower combination or shower facility for showering while standing or for other forms of bathing which can entail transition to/from a crouching or sitting position.

For grab bar requirements appropriate for other uses and users, especially users with disabilities, refer to requirements in ICC/ANSI A117.1, *Standard for Accessible and Usable Buildings and Facilities*. Generally, the grab bars specified for this Code will not interfere with other grab bars installed in accordance with requirements of ICC/ANSI A117.1 and they can contribute to meeting the requirements of ICC/ANSI A117.1 and vice versa. For example, combination vertical and horizontal grab bars (in an L configuration), as addressed by ICC/ANSI A117.1, can meet the requirements of this Code for a vertical grab bar. Similarly requirements for a horizontal grab bar on the back wall are compatible.

Dimensions for height of grab bars are based on typical, mass-produced bathtubs with a wall height, above the finished floor of about 15 in. (380 mm) and the bottom of the bathtub within 1 to 2 in. (2.5 to 5 mm) of the finished floor elevation. Adjustments to stipulated grab bar height limits and ranges, referenced to the bath tub rim, should be considered for bath tubs having higher walls and, thus, rim heights, above the bottom of the tub and, possibly, also the wall height above the finished floor. ICC/ANSI A117.1 references grab bar height dimensions to the bathtub rim and, for consistency with this widely used ANSI standard, that convention is maintained in this Code.

A.7.1.6.5.1.2 The provision of 7.1.6.5.1.2 is intended to ensure that grab bars, if provided voluntarily—i.e., as non-required—for dedicated showers, meet the requirements of the section—so that something appearing to be a grab bar can effectively perform as one. However such grab bars would only be considered non-required in the case of dedicated showers not involving misstep and fall dangers addressed by 7.1.6.2 and 7.1.6.4. This means that walking surfaces must be at least as safe, in terms of underfoot conditions, as any other portion of the means of egress (where, for example, handrails are not required) for users not having mobility disabilities. This would require exceptionally careful choice, and maintenance, of underfoot materials as well as very effective control of water within and adjacent to the dedicated shower facility.

A.7.1.6.5.2.1 Grab bars located where they interfere with sealing, with a shower curtain against escape of water—especially to the floor surface outside the shower facility—might introduce safety problems in the form of greatly reduced slip resistance of the walking surface (which could violate this Code). This is avoided with a 6-in. (150-mm), horizontal separation between the shower curtain rod and the grab bar. It is assumed that other forms of water control, such as an installed enclosure, will not interfere with the use of grab bars.

A.7.1.6.5.2.2 A free-standing pole, satisfying requirements for a grab bar, can offer much flexibility in placement, for example, within the close quarters of a small bathroom where there is a water closet adjacent to the bathing facility and a single grab bar can serve both facilities. Where the bathing facility is free standing, without walls, especially with large soaking tubs,
including those on pedestals, the vertical pole-type grab bar is especially useful. The pole also can solve attachment problems where walls that are nonexistent or difficult to use for installing conventional, wall-mounted grab bars.

A.7.1.6.5.3.1 Using the mid points of the distance ranges and the minimum distance from the control end wall results in a 45-degree angle for the diagonal grab bar. Such a diagonal grab bar (or alternatively, a horizontal grab bar fairly similar to the option provided by 7.1.6.5.3.1 which meets requirements of ICC/ANSI A117.1) was found suitable in tests performed of several grab bar options with 103 independent-living seniors with average age of 70. (“Evaluation of Optimal Bath Grab Bar Placement for Seniors,” by H. Sveistrup, D. Lockett, N. Edwards and F. Aminzadeh, University of Ottawa with funding by Canada Mortgage and Housing Corporation, 2003.)

A.7.1.6.5.4 The best performing grab bars are in the middle third of the permitted range for circular diameter. For some grab bar designs, with undulations and other surface geometry features to improve slip resistance for users’ hands, these dimensions will be nominal with small variations depending on where measurements are taken. Children and others with smaller hands will be able to use best the diameters within the lower part of the permitted range. When using a free-standing pole for a grab bar, structural considerations, especially for stiffness, might dictate using diameters in the upper part of the permitted range.

Note that a minimum clearance between the grab bar and an adjacent surface is specified. With grab bars, especially horizontal ones, on which large, downward loads are imposed by the arms of users, there is some concern about people’s hands slipping into the clear space; however this can occur even with an absolute 1.5 in. (38 mm) clearance, as some standards specify and most grab bar designs provide. Thus the main difference in the end result is where, along its length, the arm gets wedged behind the grab bar, not the complete prevention of this happening at all.
7.1.9 Impediments to Egress.

Any device or alarm installed to restrict the improper use of a means of egress, and any device or system installed to monitor or record use of a means of egress, shall be designed and installed so that it cannot, even in case of failure, impede or prevent emergency use of such means of egress, unless otherwise provided in 7.2.1.6 and Chapters 18, 19, 22, and 23.

Submitter Information Verification

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Submittal Date: Mon Jul 27 11:46:42 EDT 2015

Committee Statement

Committee Statement: Adding requirement to ensure means of egress is not compromised by monitoring systems.

Response Message:

Public Input No. 436-NFPA 101-2015 [Section No. 7.1.9]
7.2.1.3.2
The elevation of the floor surfaces required by 7.2.1.3.1 shall be maintained on both sides of the door openings for a distance not less than the width of the widest leaf and, for other than existing installations, not less than 36 in. (915 mm).

Submitter Information Verification

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Submittal Date: Mon Aug 03 14:46:49 EDT 2015

Committee Statement

Committee Statement: A minimum of 36 in. in landing depth is needed to accommodate an adult gait.
Response Message:
7.2.1.4.2* Door Leaf Swing Direction.

Door leaves required to be of the side-hinged or pivoted-swinging type shall swing in the direction of egress travel under any of the following conditions:

1. Where serving a room or area with an occupant load of 50 or more, except under any of the following conditions:
   a. Door leaves in horizontal exits shall not be required to swing in the direction of egress travel where permitted by 7.2.4.3.8.1 or 7.2.4.3.8.2.
   b. Door leaves in smoke barriers shall not be required to swing in the direction of egress travel in existing health care occupancies, as provided in Chapter 19.

2. Where the door assembly is used in an exit enclosure, unless the door opening serves an individual living unit that opens directly into an exit enclosure.

3. Where the door opening serves a high-hazard contents area

Supplemental Information

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Submitter Information Verification

Submitter Full Name: Ron Cote
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Submittal Date: Wed Jul 29 10:21:12 EDT 2015

Committee Statement

Committee Statement: The proposed Annex note will serve as an advisory pointer to the new provisions of 7.4.2.1.2 and 7.4.2.2.2. This also allows for the special egress requirements for electrical equipment rooms in one location, rather than scattered throughout Chapter 7.

Response Message:

Public Input No. 79-NFPA 101-2015 [Section No. 7.2.1.4.2]
A.7.2.1.4.2 See 7.4.2.1.2 and 7.4.2.2.2 for door swing direction requirements for working space about electrical equipment.
7.2.1.5.6 Electrically Controlled Door Hardware Release of Electrically Locked Egress Door Assemblies.

Door assemblies in the means of egress shall be permitted to be electrically locked if equipped with approved, listed hardware, electrical locking systems released by the operation of door hardware provided that all of the following conditions are met:

1. The hardware for egress-side occupant release of the electrical lock is affixed to the door leaf.

2. The hardware has an obvious method of operation that is readily operated in the direction of egress under all lighting conditions.

3. The hardware is capable of being operated with one hand in the direction of egress.

4. Operation of the hardware directly interrupts the power supply directly to the electric lock and unlocks the door assembly in the direction of egress.

5. Loss of power to the listed releasing hardware automatically electrically unlocks the door assembly in the direction of egress.

6. Hardware for new installations is listed in accordance with ANSI/UL 294, Standard for Access Control System Units.

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Street Address: [Not Specified]
City: [Not Specified]
State: [Not Specified]
Zip: [Not Specified]
Submittal Date: Mon Jul 27 12:45:33 EDT 2015

Committee Statement

Committee Statement: Revising the title and description of this electrical locking arrangement to more closely describe the system and to reduce variability of interpretations.

Response Message: Public Input No. 435-NFPA 101-2015 [Section No. 7.2.1.5.6]
7.2.1.5.11
Where pairs of door leaves are required in a means of egress, one of the following criteria shall be met:

(1) Each leaf of the pair shall be provided with a releasing device that does not depend on the release of one leaf before the other.

(2) Approved automatic flush bolts shall be used and arranged such that both of the following criteria are met:

   (a) The door leaf equipped with the automatic flush bolts shall have no doorknob or surface-mounted hardware on the egress side of the door.

   (b) Unlatching of any leaf shall not require more than one operation.

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jul 27 12:55:06 EDT 2015

Committee Statement

Committee Statement: The requirement for no doorknob or surface mounted hardware in (2) (a) is important on the egress side of the door. While this requirement may or may not be important on the ingress side of the door, that is outside the scope of 101.

Response Message:

Public Input No. 441-NFPA 101-2015 [Section No. 7.2.1.5.11]
7.2.1.6.1  Delayed-Egress Electrically Locking Systems.
7.2.1.6.1.1

Approved, listed, delayed-egress electrically locking systems shall be permitted to be installed on door assemblies serving low- and ordinary-hazard contents in buildings protected throughout by an approved, supervised automatic fire detection system in accordance with Section 9.6 or an approved, supervised automatic sprinkler system in accordance with Section 9.7, and where permitted in Chapters 11 through 43, provided that all of the following criteria are met:

(1) The door leaves shall unlock in the direction of delay of the delayed-egress electrically locking system shall deactivate allowing unobstructed egress upon actuation of one of the following:

(a) Approved, supervised automatic sprinkler system in accordance with Section 9.7

(b) Not more than one heat detector of an approved, supervised automatic fire detection system in accordance with Section 9.6

(c) Not more than two smoke detectors of an approved, supervised automatic fire detection system in accordance with Section 9.6

(2) The door leaves shall unlock in the direction of delay of the delayed-egress electrically locking system shall deactivate allowing unobstructed egress upon loss of power controlling the lock or locking mechanism.

(3)* An irreversible process shall release the electrical lock in the direction of egress within 15 seconds, or 30 seconds where approved by the authority having jurisdiction, upon application of a force to the release device required in 7.2.1.5.10 under all of the following conditions:

(a) The force shall not be required to exceed 15 lbf (67 N).

(b) The force shall not be required to be continuously applied for more than 3 seconds.

(c) The initiation of the release process shall activate an audible signal in the vicinity of the door opening.

(d) Once the electrical lock has been released by the application of force to the releasing device, relocking rearming the delay electronics shall be by manual means only.

(4)* A readily visible, durable sign in letters not less than 1 in. (25 mm) high and not less than \( \frac{1}{8} \) in. (3.2 mm) in stroke width on a contrasting background that conforms to the visual characters requirements of ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities, shall be located on the door leaf adjacent to the release device in the direction of egress, and shall read as follows:

(a) PUSH UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing in the direction of egress travel

(b) PULL UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing against the direction of egress travel

(5) The egress side of doors equipped with delayed-egress locks electrically locking system shall be provided with emergency lighting in accordance with Section 7.9.

(6) Hardware for new installations shall be listed in accordance with ANSI/UL 294, Standard for Access Control System Units.
7.2.1.6.1.2
The provisions of 7.2.1.6.2 for access-controlled egress door assemblies sensor-release of electrical locking systems shall not apply to door assemblies with delayed-egress electrically locking systems.

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jul 29 12:23:15 EDT 2015

Committee Statement

Committee Statement: The revisions clarify the requirements of this section, and add a needed requirement for electrical locking hardware to be listed to UL 294.
Response Message:
Public Input No. 429-NFPA 101-2015 [Section No. 7.2.1.6.1]
7.2.1.6.2 Access-Controlled Egress Door Assemblies Sensor-Release of Electrical Locking Systems

Where permitted in Chapters 11 through 43, door assemblies in the means of egress shall be permitted to be equipped with sensor-release electrical lock hardware that prevents egress, locking system hardware provided that all of the following criteria are met:

1. A sensor shall be provided on the egress side, arranged to electrically unlock the door leaf in the direction of egress upon detection of an approaching occupant.

2. Door leaves shall automatically electrically unlock in the direction of egress upon loss of power to the sensor or to the part of the access control system locking system that electrically locks the door leaves.

3. Door locks shall be arranged to electrically unlock in the direction of egress from a manual release device complying with all of the following criteria:
   
   a. The manual release device shall be located on the egress side, 40 in. to 48 in. (1015 mm to 1220 mm) vertically above the floor, and within 60 in. (1525 mm) of the secured door openings, except as otherwise permitted by 7.2.1.6.2(3)(c).
   
   b. The requirement of 7.2.1.6.2(3)(a) to locate the manual release device within 60 in. (1525 mm) of the secured door opening shall not apply to previously approved existing installations.
   
   c. The manual release device shall be readily accessible and clearly identified by a sign that reads as follows: PUSH TO EXIT.
   
   d. When operated, the manual release device shall result in direct interruption of power to the electrical lock — independent of the locking system electronics — and the lock shall remain unlocked for not less than 30 seconds.

4. Activation of the building fire-protective signaling system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked until the fire-protective signaling system has been manually reset.

5. The activation of manual fire alarm boxes that activate the building fire-protective signaling system specified in 7.2.1.6.2(4) shall not be required to unlock the door leaves.

6. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked until the fire-protective signaling system has been manually reset.

7. The egress side of access-controlled sensor-release electrically locked egress doors, other than existing access-controlled sensor-release electrically locked egress doors, shall be provided with emergency lighting in accordance with Section 7.9.

8. Hardware for new installations shall be listed in accordance with ANSI/UL 294, Standard for Access Control System Units.
Submitter Information Verification

Submitter Full Name: Ron Cote  
Organization: [ Not Specified ]  
Street Address:  
City:  
State:  
Zip:  
Submittal Date: Mon Jul 27 14:19:31 EDT 2015

Committee Statement

Committee Statement: The title and description of these special locking arrangements are renamed to more closely describe the permitted special locking arrangement. This will help to reduce variability in interpretations. Also, the revision adds a requirement for the hardware for new systems to comply with UL 294.

Relative to new item (3)(b), existing manual releasing devices associated with access control doors often are located further than five ft from the doors they operate. While the required motion sensor will release the lock on the door upon an approaching occupant, power operated doors will often not open until the manual release device is depressed. The PI only addresses previously approved existing installations as for new construction two separate releasing devices - one within 60 inches and one not within 60 in.- could be provided.

Response Message:

Public Input No. 430-NFPA 101-2015 [Section No. 7.2.1.6.2]  
Public Input No. 297-NFPA 101-2015 [Section No. 7.2.1.6.2]
A.7.2.1.6.2—It is not the intent to require doors that restrict access but that comply with 7.2.1.5.10 to comply with the access-controlled egress door provisions of 7.2.1.6.2. The term access-controlled was chosen when the requirements of 7.2.1.6.2 were first added to the Code to describe the function in which a door is electronically locked from the inside in a manner that restricts egress. It is not the Code’s intent to prohibit methods of securing the door in a locked position from the outside with access control products, provided that the egress requirements of 7.2.1.6.2 are met.
### 7.2.1.6.3 Elevator Lobby Exit Access Door Assemblies Locking.

Where permitted in Chapters 11 through 43, door assemblies separating the elevator lobby from the exit access required by 7.4.1.6.1 shall be permitted to be electrically locked, provided that all the following criteria are met:

1. The **lock electrical locking hardware** is listed in accordance with ANSI/UL 294, *Standard for Access Control System Units*.
2. The building is protected throughout by a fire alarm system in accordance with Section 9.6.
3. The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.
4. Waterflow in the sprinkler system required by 7.2.1.6.3(3) is arranged to initiate the building fire alarm system.
5. The elevator lobby is protected by an approved, supervised smoke detection system in accordance with Section 9.6.
6. Detection of smoke by the detection system required by 7.2.1.6.3(5) is arranged to initiate the building fire alarm system and notify building occupants.
7. Initiation of the building fire alarm system by other than manual fire alarm boxes unlocks the **electrical locks on the** elevator lobby door assembly.
8. Loss of power to the elevator lobby **electronic electrical** lock system unlocks the **electrical locks on the** elevator lobby door assemblies.
9. Once unlocked, the elevator lobby door assemblies remain **electrically** unlocked until the building fire alarm system has been manually reset.
10. Where the elevator lobby door assemblies remain mechanically latched after being **electrically** unlocked, latch-releasing hardware in accordance with 7.2.1.5.10 is affixed to the door leaves.
11. A two-way communication system is provided for communication between the elevator lobby and a central control point that is constantly staffed.
12. The central control point staff required by 7.2.1.6.3 is capable, trained, and authorized to provide emergency assistance.
13. The provisions of 7.2.1.6.1 for delayed-egress **electrically** locking systems are not applied to the elevator lobby door assemblies.
14. The provisions of 7.2.1.6.2 for access-controlled egress door assemblies **sensor-release of electrical locking systems** are not applied to the elevator lobby door assemblies.

### Submitter Information Verification

**Submitter Full Name:** Ron Cote  
**Organization:** [ Not Specified ]  
**Street Address:**

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Page 29 of 56
Committee Statement

Committee Statement: Recommending revisions are intended to clarify requirements.

Response Message:

Public Input No. 440-NFPA 101-2015 [Section No. 7.2.1.6.3]
7.2.1.7* Panic Hardware and Fire Exit Hardware.

7.2.1.7.1

Where a side-hinged or pivoted-swinging door assembly is required to be equipped with panic or fire exit hardware, such hardware shall meet all of the following criteria:

1. It shall consist of a cross bar or a push pad, with the length of the actuating portion of which extends across the cross bar or push pad not less than one-half of the width of the door leaf.

2. It shall be mounted as follows:
   
   a. New installations shall be not less than 34 in. (865 mm), and not more than 48 in. (1220 mm), above the floor.
   
   b. Existing installations shall be not less than 30 in. (760 mm), and not more than 48 in. (1220 mm), above the floor.

3. It shall be constructed so that a horizontal force not to exceed 15 lbf (66 N) actuates the cross bar or push pad and latches.

7.2.1.7.2*

Only approved fire exit hardware shall be used on fire protection–rated door assemblies. New panic hardware and new fire exit hardware shall comply with ANSI/UL 305, Standard for Safety Panic Hardware, and ANSI/BHMA A156.3, Exit Devices.

7.2.1.7.3

Required panic hardware and fire exit hardware, in other than detention and correctional occupancies as otherwise provided in Chapters 22 and 23, shall not be equipped with any locking device, set screw, or other arrangement that prevents the release of the latch when pressure is applied to the releasing device.

7.2.1.7.4

Devices that hold the latch in the retracted position shall be prohibited on fire exit hardware, unless such devices are listed and approved for such a purpose.

Supplemental Information

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>101.FR5027_annex_doc.docx</td>
<td></td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address: 
City: 
State: 
Committee Statement

This revision adds an asterisk to denote new annex text A.7.2.1.7.

Relative to the change in the introduction so as to make the requirement applicable only to swinging doors, UL 305 is the standard by which panic and fire exit hardware is typically listed. UL 305 applies to outward-opening doors and as such does not apply to the special doors addressed in Section 7.2.1.14. However, some have interpreted the current text in various sections of NFPA 101 to require panic hardware or fire exit hardware on special doors, such as special purpose horizontal sliding, accordion or folding doors. The proposed text clarifies that panic and fire exit hardware is required for pivoted or side-hinged swinging doors.

Clarifying the required minimum length of the actuating portion of the cross bar or push pad. The current 7.2.1.7.2 has been split into two paragraphs in accordance with the Manual of Style and clarifies that ANSI/UL 305 applies to both panic hardware and fire exit hardware.

Response Message:

Public Input No. 80-NFPA 101-2015 [Section No. 7.2.1.7]
Public Input No. 412-NFPA 101-2015 [Section No. 7.2.1.7.1]
Public Input No. 442-NFPA 101-2015 [Sections 7.2.1.7.1, 7.2.1.7.2]
A.7.2.1.7 See 7.4.2.1.2 and 7.4.2.2.2 for door unlatching requirements for working space about electrical equipment.
7.2.1.8.4 Delayed Action Closers.

Doors required to be self-closing and not required to be automatic closing shall be permitted to be equipped with delayed action closers.

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jul 27 14:59:11 EDT 2015

Committee Statement

Committee Statement: Delayed action closers will be of help to individuals needing extra time to move through the door opening. Currently the Code does not address where they can and can't be used. See FR-5009 in Chapter 3 for definition of 'delayed action closer'.

Response Message:
7.2.1.9.1* General.

Where means of egress door leaves are operated by power upon the approach of a person or are provided with power-assisted manual operation, the design shall be such that, in the event of power failure, the leaves open manually to allow egress travel or close when necessary to safeguard the means of egress.

7.2.1.9.1.1

New power-operated swinging doors, power-operated sliding doors, and power-operated folding doors shall comply with ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*.

7.2.1.9.1.2

New power-assisted swinging doors and low-energy power-operated swinging doors shall comply with ANSI/BHMA A156.19, *Power Assist and Low Energy Power Operated Doors*.

7.2.1.9.1.3


7.2.1.9.1.4

The forces required to manually open the door leaves specified in 7.2.1.9.1 shall not exceed those required in 7.2.1.4.5, except that the force required to set the leaf in motion shall not exceed 50 lbf (222 N).

7.2.1.9.1.5

The door assembly shall be designed and installed so that, when a force is applied to the door leaf on the side from which egress is made, it shall be capable of swinging from any position to provide full use of the required width of the opening in which it is installed. (See 7.2.1.4.)

7.2.1.9.1.6

A readily visible, durable sign in letters not less than 1 in. (25 mm) high on a contrasting background that reads as follows shall be located on the egress side of each door opening:

IN EMERGENCY, PUSH TO OPEN

7.2.1.9.1.7

Sliding, power-operated door assemblies in an exit access serving an occupant load of fewer than 50 that manually open in the direction of door leaf travel, with forces not exceeding those required in 7.2.1.4.5, shall not be required to have the swing-out feature required by 7.2.1.9.1.5. The required sign shall be in letters not less than 1 in. (25 mm) high on a contrasting background and shall read as follows:

IN EMERGENCY, SLIDE TO OPEN

7.2.1.9.1.8*

In the emergency breakout mode, a door leaf located within a two-leaf opening shall be exempt from the minimum 32 in. (810 mm) single-leaf requirement of 7.2.1.2.3.2(1), provided that the clear width of the single leaf is not less than 30 in. (760 mm).
7.2.1.9.1.9

For a biparting sliding door assembly in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32 in. (810 mm) single-leaf requirement of 7.2.1.2.3.2(1) if a clear opening of not less than 32 in. (810 mm) is provided by all leafs broken out.

7.2.1.9.1.10

Door assemblies complying with 7.2.1.14 shall be permitted to be used.

7.2.1.9.1.11

The requirements of 7.2.1.9.1 through 7.2.1.9.1.10 shall not apply in detention and correctional occupancies where otherwise provided in Chapters 22 and 23.

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address:
City:
State:
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Submittal Date: Wed Jul 29 15:19:43 EDT 2015

Committee Statement

Committee Statement: This revision adds requirements for new doors to comply with the set of ANSI/BHMA expert standards on power doors. This is reasonable for new door installations.

Response Message:

Public Input No. 191-NFPA 101-2015 [Section No. 7.2.1.9]
7.2.1.10.1

Revolving door assemblies, whether used or not used in the means of egress, shall comply with all of the following:

1. New revolving doors shall comply with ANSI/BHMA A156.27, *Power and Manual Operated Revolving Doors*, and shall be installed in accordance with the manufacturer’s installation instructions.

2. Revolving door wings shall be capable of being collapsed into a book-fold position or breakout for egress in accordance with BHMA A156.27, unless they are existing revolving doors approved by the authority having jurisdiction.

3. When revolving door wings are collapsed into the book-fold position, the parallel egress paths formed shall provide an aggregate width of 36 in. (915 mm), unless they are approved existing revolving door assemblies.

4. Revolving door assemblies shall not be used within 10 ft (3050 mm) of the foot or the top of stairs or escalators.

5. A dispersal area acceptable to the authority having jurisdiction shall be located between stairs or escalators and the revolving door assembly.

6. The revolutions per minute (rpm) of revolving door wings shall not exceed the following:
   
   a. The values in Table 7.2.1.10.1 for existing revolving doors.
   b. The values in BHMA A156.27 for new revolving doors.

7. Each revolving door assembly shall have a conforming side-hinged swinging door assembly in the same wall as the revolving door within 10 ft (3050 mm) of the revolving door, unless one of the following conditions applies:

   a. Revolving door assemblies shall be permitted without adjacent swinging door assemblies, as required by 7.2.1.10.1(6), in street floor elevator lobbies, provided that no stairways or door openings from other parts of the building discharge through the lobby and the lobby has no occupancy other than as a means of travel between the elevators and street.

   b. The requirement of 7.2.1.10.1(6) shall not apply to existing revolving door assemblies where the number of revolving door assemblies does not exceed the number of swinging door assemblies within 20 ft (6100 mm) of the revolving door assembly.

Table 7.2.1.10.1 Existing Revolving Door Assembly Maximum Speed

<table>
<thead>
<tr>
<th>Inside Diameter</th>
<th>Power-Driven Speed Control (rpm)</th>
<th>Manual Speed Control (rpm)</th>
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<tbody>
<tr>
<td>ft/in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 ft 6 in.</td>
<td>1980</td>
<td>11</td>
</tr>
<tr>
<td>7 ft</td>
<td>2135</td>
<td>10</td>
</tr>
<tr>
<td>7 ft 6 in.</td>
<td>2285</td>
<td>9</td>
</tr>
<tr>
<td>8 ft</td>
<td>2440</td>
<td>9</td>
</tr>
<tr>
<td>8 ft 6 in.</td>
<td>2590</td>
<td>8</td>
</tr>
<tr>
<td>9 ft</td>
<td>2745</td>
<td>8</td>
</tr>
<tr>
<td>9 ft 6 in.</td>
<td>2895</td>
<td>7</td>
</tr>
<tr>
<td>10 ft</td>
<td>3050</td>
<td>7</td>
</tr>
</tbody>
</table>
Committee Statement

Committee Statement:
The revisions introduce the reference standard requirements from ANSI/BHMA A156.27 for Revolving Doors. BHMA A156.27 includes provisions for acceptable door speeds (max. RPM), egress / breakout requirements for the various types and configurations of revolving doors, glazing (consistent with Federal and IBC requirements for safety glazing), kinetic energy, and safety requirements such as emergency stop switches, sensors, and speed controls. These provisions enhance current NFPA requirements for new revolving doors.

Response Message:
Public Input No. 220-NFPA 101-2015 [Section No. 7.2.1.10.1]
7.2.2.4.1.6

Existing stairs, existing ramps, stairs within dwelling units and within guest rooms, and ramps within dwelling units and guest rooms shall be permitted to have a handrail on one side only. Handrails shall be required at one side only for the following components:

1. Existing stairs
2. Existing ramps
3. New and existing stairs within dwelling units and within guest rooms
4. New and existing ramps within dwelling units and within guest rooms

Submitter Information Verification

Submitter Full Name: Ron Cote
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Street Address: 
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Submittal Date: Wed Jul 29 09:57:13 EDT 2015

Committee Statement

Committee Statement: The reformatting makes no technical change. The string of components in the original text made it difficult to understand that within dwelling units and guest rooms, the “one-side only” handrail allowance applies to new as well as to existing installations.

Response Message:
7.2.2.5.4.1

New enclosed stairs serving three or more stories and existing enclosed stairs, other than those addressed in 7.2.2.5.4.1(P), serving five or more stories shall comply with 7.2.2.5.4.1(A) through 7.2.2.5.4.1(O).

(A) The stairs shall be provided with special signage within the enclosure at each floor landing.

(B) The signage shall indicate the floor level.

(C) The signage shall indicate the terminus of the top and bottom of the stair enclosure.

(D) The signage shall indicate the identification of the stair enclosure.

(E) The signage shall indicate the floor level of, and the direction to, exit discharge.

(F) The signage shall be located inside the stair enclosure.

(G) The bottom of the signage shall be located a minimum of 48 in. (1220 mm) above the floor landing, and the top of the signage shall be located a maximum of 84 in. (2135 mm) above the floor landing.

(H) The signage shall be in a position that is visible from within the stair enclosure when the door is in the open or closed position.

(I) The signage shall comply with 7.10.8.1 and 7.10.8.2 of this Code.

(J) The floor level designation shall also be tactile in accordance with ICC/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities Accessible and Usable Buildings and Facilities.

(K) The signage shall be painted or stenciled on the wall or on a separate sign securely attached to the wall.

(L) The stairway identification shall be located at the top of the sign in minimum 1 in. (25 mm) high lettering and shall be in accordance with 7.10.8.2.
Signage that reads NO ROOF ACCESS shall designate stairways that do not provide roof access. Lettering shall be a minimum of 1 in. (25 mm) high and shall be in accordance with 7.10.8.2.

The floor level number shall be located below the stairway identifier in minimum 5 in. (125 mm) high numbers and shall be in accordance with 7.10.8.2. Mezzanine levels shall have the letter “M” or other appropriate identification letter preceding the floor number, while basement levels shall have the letter “B” or other appropriate identification letter preceding the floor level number.

Identification of the lower and upper terminus of the stairway shall be on the sign in minimum 1 in. (25 mm) high letters or numbers and shall be in accordance with 7.10.8.2.

Previously approved existing signage shall not be required to comply with 7.2.2.5.4.1(L) through 7.2.2.5.4.1(O).

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jul 29 10:14:32 EDT 2015

Committee Statement

Committee Statement: The sign is for providing persons who are within the stair enclosure with useful information. There is no need to see the sign before entering the enclosure. There is no intent to require a vision panel for viewing the sign before entering the enclosure.
7.2.2.5.5.10 Materials.

Exit stair path markings shall be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminescence. Such materials shall include, but shall not be limited to, self-luminous materials and photoluminescent materials. Materials shall comply with:

ASTM E2072, *Standard Specification for Photoluminescent (Phosphorescent) Safety Markings*, with the following exceptions:

1. The charging source shall be 1 ft-candle (10.8 lux) of fluorescent illumination for 60 minutes.
2. The minimum luminance shall be 5 millicandela/m^2 after 90 minutes.

ANSI/UL 1994, *Standard for Luminous Egress Path Marking Systems*

(A) Exit stair path markings shall be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminescence.

(B) Such materials shall include, but shall not be limited to, self-luminous materials and photoluminescent materials.

(C) Materials shall comply with either of the following:


Submitter Information Verification

Submitter Full Name: Ron Cote
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Street Address: 
City: 
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Zip: 
Submittal Date: Wed Jul 29 09:49:23 EDT 2015

Committee Statement
Committee Statement:
Both ASTM E2072 and ASTM E2073 need to be referenced to cover the subject adequately. The previous exceptions can be deleted as ASTM E2072-14 calls for luminance of not less than 30 mcd/m² at 10 minutes and 5 mcd/m² at 90 minutes. ASTM E2073-10 addresses how the luminance is measured. The formatting of the introduction is changed to use the words “shall comply with either (1) or (2) that follows” as both of the standards in part (1) must be followed; the previous wording of “shall comply with ONE of the following” could confuse the issue.

Response Message:
7.2.3.9 Enclosure Pressurization.

7.2.3.9.1*
Smokeproof enclosures using pressurization shall use an approved engineered system with a design pressure difference across the barrier of not less than 0.05 in. water column (12.5 N/m²) in sprinklered buildings, or 0.10 in. water column (25 N/m²) in nonsprinklered buildings, and shall be capable of maintaining these pressure differences under likely conditions of stack effect or wind. The pressure difference across door openings shall not exceed that which allows the door leaves to begin to be opened by a force of 30 lbf (133 N) in accordance with 7.2.1.4.5.

7.2.3.9.1.1
Smokeproof enclosures using pressurization shall be in accordance with NFPA 92.

7.2.3.9.2*
Equipment, control wiring, power wiring, and ductwork for pressurization shall be located in accordance with one of the following specifications:

1. Exterior to the building and directly connected to the enclosure by ductwork enclosed in noncombustible construction
2. Within the enclosure with intake and exhaust air vented directly to the outside or through ductwork enclosed by a 2-hour fire-resistive rating
3. Within the building under the following conditions:
   a. Where the equipment, control wiring, power wiring, and ductwork are separated from the remainder of the building, including other mechanical equipment, by a 2-hour fire-resistive rating
   b. Where the building, including the enclosure, is protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 9.7, and the equipment, control wiring, power wiring, and ductwork are separated from the remainder of the building, including other mechanical equipment, by not less than a 1-hour fire-resistive rating

7.2.3.9.3
In all cases specified by 7.2.3.9.2(1) through 7.2.3.9.2(3), openings into the required fire resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by self-closing fire protection-rated devices in accordance with 8.3.3.4.1.

7.2.3.9.4
The requirement of 7.2.3.9.2 shall not apply to any of the following:

1. Control wiring and power wiring utilizing a 2-hour-rated cable or cable system
2. Where encased with not less than 2 in. (5 mm) of concrete
3. Control wiring and power wiring protected by a listed electrical circuit protective system with not less than a 2-hour fire resistive rating
7.2.3.9.5
Equipment and ductwork for pressurization shall be located in accordance with one of the following specifications:

Exterior to the building and directly connected to the enclosure by ductwork enclosed in noncombustible construction

Within the enclosure with intake and exhaust air vented directly to the outside or through ductwork enclosed by a 2-hour fire-resistive rating

Within the building under the following conditions:

Where the equipment and ductwork are separated from the remainder of the building, including other mechanical equipment, by a 2-hour fire-resistive rating

Where the building, including the enclosure, is protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 9.7, and the equipment and ductwork are separated from the remainder of the building, including other mechanical equipment, by not less than a 1-hour fire-resistive rating

7.2.3.9.6
In all cases specified by 7.2.3.9.2 (1) through (3), openings into the required fire resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by self-closing fire protection–rated devices in accordance with 8.3.4.

Supplemental Information

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<th>Description</th>
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<tbody>
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<td>101.FR5032_annex_text.docx</td>
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</table>

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jul 29 15:48:06 EDT 2015

Committee Statement

Committee Statement: The fire safety criteria applicable to air traffic control towers (ATCTs) are originally based on an agreement between the operators and controllers utilizing the ATCTs. The changes relate to providing extra protection for the controllers and fire service.

ATCTs create a unique hazard. ATCTs typically have a limited number of occupants. In addition, occupants must be awake and alert. The hazard associated with ATCTs is
affected by the building’s limited uses, height, and the potential delay in evacuation because of the handoff of flights.

The proposed annex text to 7.2.3.9.2 clarifies the intent of control wiring such that all wiring integrated with the fan unit is not included.

Section 7.2.3.9.1 is proposed to ensure the requirements for smokeproof enclosures using pressurization systems meet NFPA 92. The design requirements of NFPA 92 are similar to that of NFPA 101 but provides additional detail for the design and testing of pressurization systems.

Section 7.2.3.9.2 – The proposed change includes the requirements for control and power wiring. The existing wording did not clearly indicate whether the control and power wiring required for system operation would be included under the required protection. The change explicitly states that all required parts of the system needed to operate shall be protected.

Response
Message:

Public Input No. 391-NFPA 101-2015 [Section No. 7.2.3.9]
Public Input No. 178-NFPA 101-2015 [New Section after A.7.2.3.9.1]
A.7.2.3.9.2

Control wiring for pressurization systems requiring separation includes wiring from the VFD to the fan unit. Where this wiring is not located in the same, fire resistance-rated room, protection of this wiring is needed to ensure proper fan operation.
7.2.3.12   Emergency Power Supply System (EPSS).

Power shall be provided as follows:

(1) A Type 60, Class 2, Level 2 EPSS for new mechanical ventilation equipment shall and enclosure pressurization systems shall be provided in accordance with NFPA 110, Standard for Emergency and Standby Power Systems.

(2) A previously approved existing standby power generator installation with a fuel supply adequate to operate the equipment for 2 hours shall be permitted in lieu of 7.2.3.12.

(3) The generator shall be located in a room separated from the remainder of the building by fire barriers having a minimum 1-hour fire resistance rating.

Submitter Information Verification

Submitter Full Name: Ron Cote
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Submittal Date: Wed Jul 29 15:52:13 EDT 2015

Committee Statement

Committee Statement: The fire safety criteria applicable to air traffic control towers (ATCTs) are originally based on an agreement between the operators and controllers utilizing the ATCTs. The changes relate to providing extra protection for the controllers and fire service.

ATCTs create a unique hazard. ATCTs typically have a limited number of occupants. In addition, occupants must be awake and alert. The hazard associated with ATCTs is affected by the building’s limited uses, height, and the potential delay in evacuation because of the handoff of flights.

Section 7.2.3.12 (1) is proposed to clarify that the EPSS requirement includes enclosure pressurization systems as the current terminology could be interpreted to only apply to Section 7.2.3.8.

Response Message:

Public Input No. 177-NFPA 101-2015 [Section No. 7.2.3.12]
7.2.4.1.2*
Horizontal exits shall be permitted to be substituted for other exits where the total egress capacity and the total number of the other exits (stairs, ramps, door openings leading outside the building) is not less than half that required for the entire area of the building or connected buildings, and provided that none of the other exits is a horizontal exit unless otherwise permitted by 7.2.4.1.3:

(1) A minimum of half of the number of exits from any compartment created by horizontal exits is provided by other than horizontal exits

(2) A minimum of half of the egress capacity required for any compartment created by horizontal exits is provided by other than horizontal exits

Supplemental Information

File Name                                Description
101_FR5023_annex_text.docx

Submitter Information Verification

Submitter Full Name: Ron Cote
Organization: [ Not Specified ]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jul 29 10:03:57 EDT 2015

Committee Statement

Committee Statement: The current text of 7.2.4.1.2 does not explain the “maximum 50 percent” criteria correctly. Each compartment created by horizontal exits needs to prove that at least half the number of exits and at least half the capacity is provided by something other than horizontal exits.

This First Revision also revises annex text. The current text of A.7.2.4.1.2 is incorrect. Extra door openings in a horizontal exit must either be subject to the horizontal exit maximum 50 percent criterion or considered as convenience openings that are not credited with satisfying any means of egress requirements.

Response Message:
A.7.2.4.1.2* An example...
The building...
Another option...
It is not the intent of 7.2.1.4.2 to limit the number of doors in the fire barrier forming the horizontal exit. Where doors other than those serving as horizontal exits are provided, such doors are permitted to be considered as part of the exit access and not as exits convenience openings that are not credited with satisfying any means of egress requirements.
7.2.8.4 Stair Details.
Fire escape stairs shall comply with the requirements of Table 7.2.8.4(a). Replacement of fire escape stairs shall comply with the requirements of Table 7.2.8.4(b).

**Table 7.2.8.4(a) Fire Escape Stairs**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Serving More Than 10 Occupants</th>
<th>Serving 10 or Fewer Occupants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum widths</td>
<td>22 in. (560 mm) clear between rails</td>
<td>18 in. (455 mm) clear between rails</td>
</tr>
<tr>
<td>Minimum horizontal dimension of any landing or platform</td>
<td>22 in. (560 mm) clear</td>
<td>18 in. (455 mm) clear</td>
</tr>
<tr>
<td>Maximum riser height</td>
<td>9 in. (230 mm)</td>
<td>12 in. (305 mm)</td>
</tr>
<tr>
<td>Minimum tread, exclusive of nosing</td>
<td>9 in. (230 mm)</td>
<td>6 in. (150 mm)</td>
</tr>
<tr>
<td>Minimum nosing or projection</td>
<td>1 in. (25 mm)</td>
<td>No requirement</td>
</tr>
<tr>
<td>Tread construction</td>
<td><strong>Solid 1/4 in. (13 mm) diameter perforations permitted</strong> Flat metal bars on edge or square bars secured against turning, spaced 1 1/4 in. (32 mm) maximum on centers</td>
<td>Flat metal bars on edge or square bars secured against turning, spaced 1 1/4 in. (32 mm) maximum on centers</td>
</tr>
<tr>
<td>Winders</td>
<td>None</td>
<td>Permitted subject to capacity penalty</td>
</tr>
<tr>
<td>Risers</td>
<td>None</td>
<td>No requirement</td>
</tr>
<tr>
<td>Spiral</td>
<td>None</td>
<td>Permitted subject to capacity penalty</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft (3660 mm)</td>
<td>No requirement</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Access to escape</td>
<td>Door or casement windows, 24 in. × 6 ft 8 in. (610 mm × 1980 mm); or double-hung windows, 30 in. × 36 in. (760 mm × 915 mm) clear opening</td>
<td>Windows providing a clear opening of at least 20 in. (510 mm) in width, 24 in. (610 mm) in height, and 5.7 ft² (0.53 m²) in area</td>
</tr>
<tr>
<td>Level of access opening</td>
<td>Not over 12 in. (305 mm) above floor; steps if higher</td>
<td>Not over 12 in. (305 mm) above floor; steps if higher</td>
</tr>
<tr>
<td>Discharge to the finished ground level</td>
<td>Swinging stair section permitted if approved by authority having jurisdiction</td>
<td>Swinging stair, or ladder if approved by authority having jurisdiction</td>
</tr>
<tr>
<td>Capacity</td>
<td>1/2 in. (13 mm) per person, if access by door; 1 in. (25 mm) per person, if access by climbing over windowsill</td>
<td>10 persons; if winders or ladder from bottom balcony, 5 persons; if both, 1 person</td>
</tr>
</tbody>
</table>

**Table 7.2.8.4(b) Replacement Fire Escape Stairs**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Serving More Than 10 Occupants</th>
<th>Serving 10 or Fewer Occupants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum widths</td>
<td>22 in. (560 mm) clear between rails</td>
<td>22 in. (560 mm) clear between rails</td>
</tr>
</tbody>
</table>
### Feature

<table>
<thead>
<tr>
<th>Feature</th>
<th>Serving More Than 10 Occupants</th>
<th>Serving 10 or Fewer Occupants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum horizontal dimension of any landing</td>
<td>22 in. (560 mm)</td>
<td>22 in. (560 mm)</td>
</tr>
<tr>
<td>or platform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum riser height</td>
<td>9 in. (230 mm)</td>
<td>9 in. (230 mm)</td>
</tr>
<tr>
<td>Minimum tread, exclusive of nosing</td>
<td>10 in. (255 mm)</td>
<td>10 in. (255 mm)</td>
</tr>
<tr>
<td>Tread construction</td>
<td>Solid, ( \frac{1}{2} ) in. (13 mm) diameter</td>
<td>Solid, ( \frac{1}{2} ) in. (13 mm) diameter</td>
</tr>
<tr>
<td>perforations permitted</td>
<td></td>
<td>perforations permitted</td>
</tr>
<tr>
<td>Winders</td>
<td>None</td>
<td>Permitted subject to 7.2.2.2.4</td>
</tr>
<tr>
<td>Spiral</td>
<td>None</td>
<td>Permitted subject to 7.2.2.2.3</td>
</tr>
<tr>
<td>Risers</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft (3660 mm)</td>
<td>12 ft (3660 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Access to escape</td>
<td>Door or casement windows, 24 in. ( \times )</td>
<td>Windows providing a clear opening of at least 20 in. (510 mm) in width, 24 in. (610 mm) in height, and 5.7 ft(^2) (0.53 m(^2)) in area</td>
</tr>
<tr>
<td></td>
<td>6 ft 8 in. (610 mm × 1980 mm); or double-hung</td>
<td></td>
</tr>
<tr>
<td></td>
<td>windows, 30 in. ( \times ) 36 in. (760 mm ×</td>
<td></td>
</tr>
<tr>
<td></td>
<td>915 mm) clear opening</td>
<td></td>
</tr>
<tr>
<td>Level of access opening</td>
<td>Not over 12 in. (305 mm) above floor; steps if higher</td>
<td>Not over 12 in. (305 mm) above floor; steps if higher</td>
</tr>
<tr>
<td>Discharge to the finished ground level</td>
<td>Swinging stair section permitted if approved by</td>
<td>Swinging stair section permitted if approved by authority having jurisdiction</td>
</tr>
<tr>
<td></td>
<td>authority having jurisdiction</td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>( \frac{1}{2} ) in. (13 mm) per person, if access by door; 1 in. (25 mm) per person, if access by climbing over windowsill</td>
<td>10 persons</td>
</tr>
</tbody>
</table>

### Submitter Information Verification

**Submitter Full Name:** Ron Cote  
**Organization:** [ Not Specified ]  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Jul 29 15:54:22 EDT 2015

### Committee Statement

*Note that this revision makes a change to only one cell of Table 7.2.8.4(a). In the column for "serving more than 10 occupants" and the line for "tread construction", the words "Solid 1/2 in. (13 mm) diameter perforations permitted" are changed to "Flat*
metal bars on edge or square bars secured against turning, spaced 1 1/4 in. (32 mm) maximum on centers”.

Permits the use non-solid stair treads and landings. Most fire escapes incorporate flat metals on edge. This configuration will also help to prevent excessive accumulations of ice and snow.

Response Message:

Public Input No. 404-NFPA 101-2015 [Section No. 7.2.8.4]