7.1.3.2.1

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:

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

(5) 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.

(6) 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).

(7) Reserved.

(8) 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).

(9) 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 (3).

(10) In Type III, Type IV, and Type V construction, as defined in NFPA 220, Standard on Types of Building Construction, (see 8.2.1.2) fire retardant-treated wood enclosed in noncombustible or limited-combustible materials shall be permitted for walls with a fire rating of 2 hours or less.

(11) Openings in the separation shall be protected by fire door assemblies equipped with door closers complying with 7.2.1.8.
(12)* 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:

(13) 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.

(14) In buildings of Type I or Type II construction, as defined in NFPA 220, Standard on Types of Building Construction, fire protection–rated door assemblies to normally unoccupied building service equipment support areas as addressed in Section 7.13 shall be permitted, provided the space is separated from the exit enclosure by fire barriers as required by 7.1.3.2.1(3).

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

(16) 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 assemblies to interstitial spaces shall be permitted, provided that such spaces meet all of the following criteria:

(17) The space is used solely for distribution of pipes, ducts, and conduits.

(18) The space contains no storage.

(19) The space is separated from the exit enclosure in accordance with Section 8.3.

(20) Existing openings to mechanical equipment spaces protected by approved existing fire protection–rated door assemblies shall be permitted, provided that the following criteria are met:

(21) The space is used solely for non-fuel-fired mechanical equipment.

(22) The space contains no storage of combustible materials.

(23) The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.
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) Required exit door openings
(d) Ductwork and equipment necessary for independent stair pressurization
(e) Water or steam piping necessary for the heating or cooling of the exit enclosure
(f) Sprinkler piping
(g) Standpipes
(h) Existing penetrations protected in accordance with 8.3.5
(i) Penetrations for fire alarm circuits, where the circuits are installed in metal conduit and the penetrations are protected in accordance with 8.3.5

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

Membrane penetrations shall be permitted on the exit access side of the exit enclosure and shall be protected in accordance with 8.3.5.6.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment

Fire-retardant-treated wood is permitted by 220 for all types of construction. Testing done in the 70's and 80's showed the FRTW will not contribute heat to the fire in a protected assembly (http://www.awc.org/pdf/tr09.pdf). Advantages of FRTW: won't propagate fire and will not continue to burn when the source of ignition is removed.

Submitter Information Verification

Submitter Full Name: Joseph Holland  
Organization: Hoover Treated Wood Products  
Submittal Date: Thu Apr 18 09:59:14 EDT 2013
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7.1.5.1(3)
Door closers and door stops shall be permitted to be 6 ft 6 in (1980 mm) minimum above the finish floor or ground

Statement of Problem and Substantiation for Public Comment

I disagree with the Technical Committee’s comment that closers can always be designed with the arm above the door so that 6 ft 8 in is maintained and that the lower height will lead to head knocking. The visually-impaired community, for whom height clearances are of particular concern, was a party to the decision by the Access Board to revise the federal accessibility standards to allow closers at 6 ft 6 in and this change is proposed for adoption in NFPA 5000 by reference. Furthermore, the original 6 ft 8 in requirement is an arbitrary number based on the standard door height of 6 ft 8 in. Doors this height have been installed for years with closer arms that are lower than 6 ft 8 in (albeit in violation of the applicable codes) and I am not aware of a rash of head knocking incidents. This change will merely codify what has been the practice in many jurisdictions for years, while making this section consistent with NFPA 5000 Chapter 11 and federal law.

Submitter Information Verification

Submitter Full Name: John Rickard
Organization: Katus, LLC
Submittal Date: Sun Apr 28 20:09:42 EDT 2013

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7.1.6.4.2
Walking surfaces in the means of egress shall be slip resistant along the path of natural travel.

Statement of Problem and Substantiation for Public Comment

The current wording of Section 7.1.6.4.2 in the Code was introduced in the 1990's to document that the slip resistance of an egress component must be uniform from start to finish where a person would normally walk, i.e. from the bottom to the top of the ramp, versus across its width. The current wording eliminated the Code being used in litigation as a per se violation when the ramp surface was more slip resistant under the handrails where people do not walk when compared to the natural path of travel. I have no issue with the deletion of the word "uniformly", however the phrase "along the natural path of travel" must be retained.

Submitter Information Verification

Submitter Full Name: David Frable
Organization: US General Services Administration
Affiliation: US General Services Administration
Submittal Date: Fri May 03 15:37:07 EDT 2013

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7.2.1.4.3.1*

During its swing, any door leaf in a means of egress shall leave not less than one-half of the required width of an aisle, a corridor, a passageway, or a landing unobstructed and shall be arranged to project not more than 7 in. (180 mm) into the required width of an aisle, a corridor, a passageway, or a landing, or, for doors not required to swing in the direction of egress travel, be provided with an approved self-closing device when fully open, unless both of the following conditions are met:

1. The door opening provides access to a stair in an existing building.
2. The door opening meets the requirement that limits projection to not more than 7 in. (180 mm) into the required width of the stair landing when the door leaf is fully open.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment

The purpose of the 7 in. projection requirement is to prevent restriction of the means of egress adjacent to the door while the door is not in use. This can be accomplished when the door is completely closed. The alternative arrangement for the installation of a self-closing device would achieve the same desired result as having the door open to rest against the wall in order to prevent restriction of the adjacent means of egress, as release of the door would automatically return it to the closed position, and should be recognized by the Code provision.

The revised wording would not permit the alternative of a self-closing device on doors where large occupant loads are using the door, however it would permit the alternative arrangement for small rooms with limited occupant loads or hazard classifications where the presence of a door at any point in its swing would pose no greater hazard than an in-swinging door, yet not pose an obstruction to the adjacent egress component when the door is not in use. This would be most beneficial for spaces of a small size which require an out-swinging door into a more restrictive egress component.

Submitter Information Verification

Submitter Full Name: Kenneth Bush
Organization: Maryland State Fire Marshals Office
Submittal Date: Thu Apr 04 07:46:45 EDT 2013
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7.2.1.6.1.1

Approved, listed, delayed-egress 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 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 egress upon loss of power controlling the lock or locking mechanism.

(3) An irreversible process shall release the 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:
   (4) The force shall not be required to exceed 15 lbf (67 N).
   (5) The force shall not be required to be continuously applied for more than 3 seconds.
   (6) The initiation of the release process shall activate an audible signal in the vicinity of the door opening.
   (7) Once the lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

(8) 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 shall be located on the door leaf adjacent to the release device in the direction of egress, and shall read as follows:

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

(a)

Pull until alarm sounds. Door can be opened in 15 seconds, for doors that swing against the direction of egress travel

The egress side of doors equipped with delayed-egress locks shall be provided with emergency lighting in accordance with Section 7.9.

Statement of Problem and Substantiation for Public Comment

7.2.1.6.1.1(1)&(2) require the door to open in the direction of egress, this additional language is conflicting. Additionally, having a delayed egress door open against travel creates a risk of crowd crush. Occupants may queue at the door and be densely bunched together in close proximity while waiting for the latch to release, making it difficult or impossible to open the door.

Submitter Information Verification

Submitter Full Name: Bill Galloway
Organization: Southern Regional Fire Code De
Submittal Date: Tue Mar 12 12:55:54 EDT 2013

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Title of New Content

7.2.1.9.1.1 Doors shall be permitted to automatically open to at least the required width in the event of power failure.

7.2.1.9.1.1.1 The door operator shall be listed.

7.2.1.9.1.1.2 The door operator shall be provided with a battery back-up and a continuously operating battery monitor feature.

7.2.1.9.1.1.3 Upon failure of the battery, the door shall automatically open.

7.2.1.9.1.1.4 Abnormal motor conditions shall trigger an audible and visible alarm.

7.2.1.9.1.2 Doors shall open manually in accordance with the following (renumber 7.2.1.9.1.1 thru 7.2.1.9.1.6 as sub-paragraphs to this paragraph)

7.2.1.9.1.1 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 (222N).

Statement of Problem and Substantiation for Public Comment

Listed automatic opening doors are here and they are here to stay in today's marketplace. The problem resolved by proposed changes to 7.2.1.9.1, including the addition of new subsections 7.2.1.9.1.1 through 7.2.1.9.1.2, is that the current code in section 7.2.1.9.1 requires that power operated or power-assisted manually operated doors be designed to open "manually" in the event of power failure. While this proposed change would do nothing to prohibit the design of such "manually" opening doors, these proposed changes would clarify that "automatically" opening doors in means of egress are also permitted if they meet certain minimum criteria intended to ensure that travel in the direction of egress is and remains unobstructed. In that regard, this proposal would require that such "automatically" opening doors 1- be listed, 2- have a battery back-up and a continuously operating battery monitor, 3- automatically open in the event of a battery failure, and 4- trigger an audible and visible alarm in the event of any abnormal motor condition. These criteria are intended to ensure that the use of automatically opening doors in means of egress will be as safe as doors that require manual opening in the event of a power failure.

Submitter Information Verification

Submitter Full Name: Thomas Zaremba
Organization: Roetzel & Andress
Affiliation: Portalp, Inc.
Submittal Date: Fri May 03 10:20:43 EDT 2013

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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 open to allow egress travel or close when necessary to safeguard the means of egress, as follows:

Statement of Problem and Substantiation for Public Comment

This proposed change to 7.2.1.9.1 is intended to be taken together with my Public Comment No. 116 - NFPA 101-2013. Together, this public comment and public comment 116 are intended to broaden the scope of 7.2.1.9.1 from door designs that are limited to "manual" opening in the event of power failure to also include doors designed to "automatically" open in the event of a power failure. If adopted, this proposal and the additional text submitted in connection with public comment 116 would ensure that the code address both types of door designs and that travel in the direction of egress is and remains unobstructed by requiring doors designed to open "automatically" to 1- be listed, 2 - have a battery back-up and a continuously operating battery monitor, 3- automatically open in the event of a battery failure, and 4- trigger an audible and visible alarm to alert maintenance personnel in the event of any abnormal motor condition.

Submitter Information Verification

Submitter Full Name: Thomas Zaremba  
Organization: Roetzel & Andress  
Affiliation: Portalp, Inc.  
Submittal Date: Fri May 03 10:14:39 EDT 2013

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7.2.2.5.2.4 – Separation shall not be required between corridors and outside stairs, provided that all of the following conditions are met:

(1) The building, including corridors and stairs, is protected throughout by an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems, or, where applicable, NFPA 13R, Standard for the Installation of Sprinkler Systems in Low-Rise Residential.

(2) The corridors comply with 7.1.3.1.

(3) The corridors are connected on each end to an outside stair complying with 7.2.2.6.

(4) At any location in the corridor where a change in direction exceeding 45 degrees occurs, a clear opening to the exterior of not less than 35 ft² (3.25 m²), located to restrict the accumulation of smoke and toxic gases, or an outside stair is provided.

Additional Proposed Changes

File Name Description Approved
7.2.2.5.2.4.pdf Cover Sheet

Statement of Problem and Substantiation for Public Comment

This proposed wording is confusing and difficult to understand and apply. The multiple references to stairs and corridors do not clearly state what is intended for outside egress components and what is intended for interior components. As an example, a reference is made to outside stairs in the base paragraph, however the first subparagraph refers to sprinklers in stairs without further explanation. In addition, this requirement is not technically viable as noted in the Committee statement, and simple coordination with NFPA 5000 is not sufficient technical justification to make the change to NFPA 101.

Submitter Information Verification

Submitter Full Name: Kenneth Bush
Organization: Maryland State Fire Marshals Office
Submittal Date: Fri Apr 26 10:03:28 EDT 2013
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Public Comment No. 98-NFPA 101-2013 [ Section No. 7.2.4.3.1 ]

7.2.4.3.1*

Fire barriers separating buildings or areas between which there are horizontal exits shall have a minimum 2-hour fire resistance rating, unless otherwise provided in 7.2.4.4.1, and shall provide a separation that is continuous to the finished ground level or the level of exit discharge. (See also Section 8.3.). When horizontal exit fire barriers are not omitted on levels above the level of exit discharge, horizontal exit fire barriers are permitted to terminate at the level of exit discharge provided this level is separated from the level below by construction having a fire resistance rating at least equal to that of the horizontal exit fire barrier.

Statement of Problem and Substantiation for Public Comment

This section requires the horizontal exit fire barriers to be continuous to finished ground level. Finished Ground Level is defined as the level of finished ground (earth or other surface on ground). When horizontal exit fire barriers are omitted on any story, provisions of Section 7.2.4.3.3 would have to be implemented. It is not clear if continuity of the horizontal exits has to be maintained in basement levels (below the finished ground level). The proposed revision provides an option and allows the horizontal exit fire barrier walls to terminate at the level of exit discharge when this level is separated from the level below by a 2-hour fire resistance rated horizontal assembly without extending the horizontal exit fire barriers below the level of exit discharge. If any horizontal exit wall on stories above or at the level of exit discharge is omitted, then provisions of 7.2.4.3.3 would be triggered. The level of exit discharge is where occupants exit the building and the proposed revision provides the necessary safeguard to ensure safe evacuation of the occupants thru the level of exit discharge.

Submitter Information Verification

Submitter Full Name: MASOUD SABOUNCHI
Organization: ADVANCED CONSULTING ENGRS
Affiliation: None
Submittal Date: Tue Apr 30 14:27:16 EDT 2013

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7.3.1.2 * Occupant Load Factor.

The occupant load in any building or portion thereof shall be not less or greater than the number of persons as determined by dividing the floor area assigned to that use by the occupant load factor for that use as specified in Table 7.3.1.2, Figure 7.3.1.2(a), and Figure 7.3.1.2(b). Where both gross and net area figures are given for the same occupancy, calculations shall be made by applying the gross area figure to the gross area of the portion of the building devoted to the use for which the gross area figure is specified and by applying the net area figure to the net area of the portion of the building devoted to the use for which the net area figure is specified.

Table 7.3.1.2 Occupant Load Factor

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<td>Less concentrated use, without fixed seating</td>
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### Fixed seating

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<tr>
<td>Skating rinks</td>
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### Business Use (other than below)

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<td>Concentrated Business Use</td>
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### Air traffic control tower observation levels

- Use number of fixed seats

### Day-Care Use

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<td>Detention and Correctional Use</td>
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<td>11.1</td>
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### Educational Use

- Use number of fixed seats

### Classrooms

- Use number of fixed seats

### Shops, laboratories, vocational rooms

- Use number of fixed seats

### Health Care Use

- Use number of fixed seats

### Inpatient treatment departments

- Use number of fixed seats

### Sleeping departments

- Use number of fixed seats

### Ambulatory health care

- Use number of fixed seats

### Industrial Use

- Use number of fixed seats

### General and high hazard industrial

- Use number of fixed seats

### Special-purpose industrial

- Use number of fixed seats

### Mercantile Use

- Use number of fixed seats
| Sales area on street floor | 30 | 2.8 |
| Sales area on two or more street floors | 40 | 3.7 |
| Sales area on floor below street floor | 30 | 2.8 |
| Sales area on floors above street floor | 60 | 5.6 |
| Floors or portions of floors used only for offices | See business use. |
| Floors or portions of floors used only for storage, receiving, and shipping, and not open to general public | 300 | 27.9 |
| Mall buildings | Per factors applicable to use of space |

**Residential Use**

| Hotels and dormitories | 200 | 18.6 |
| Apartment buildings | 200 | 18.6 |
| Board and care, large | 200 | 18.6 |

**Storage Use**

| In storage occupancies | NA | NA |
| In mercantile occupancies | 300 | 27.9 |
| In other than storage and mercantile occupancies | 500 | 46.5 |

NA: Not applicable. The occupant load is the maximum probable number of occupants present at any time.

*a* All factors are expressed in gross area unless marked “net.”

*b* For the purpose of determining occupant load in mercantile occupancies where, due to differences in the finished ground level of streets on different sides, two or more floors directly accessible from streets (not including alleys or similar back streets) exist, each such floor is permitted to be considered a street floor. The occupant load factor is one person for each 40 ft² (3.7 m²) of gross floor area of sales space.

*c* For the purpose of determining occupant load in mercantile occupancies with no street floor, as defined in 3.3.253, but with access directly from the street by stairs or escalators, the floor at the point of entrance to the mercantile occupancy is considered the street floor.

*d* For any food court or other assembly use areas located in the mall that are not included as a portion of the gross leasable area of the mall building, the occupant load is calculated based on the occupant load factor for that use as specified in Table 7.3.1.2. The remaining mall area is not required to be assigned an occupant load.
The portions of the mall that are considered a pedestrian way and not used as gross leasable area are not required to be assessed an occupant load based on Table 7.3.1.2. However, means of egress from a mall pedestrian way are required to be provided for an occupant load determined by dividing the gross leasable area of the mall building (not including anchor stores) by the appropriate lowest whole number occupant load factor from Figure 7.3.1.2(a) or Figure 7.3.1.2(b).

See A.7.3.1.2.

Each individual tenant space is required to have means of egress to the outside or to the mall based on occupant loads calculated by using the appropriate occupant load factor from Table 7.3.1.2.

Each individual anchor store is required to have means of egress independent of the mall.

Figure 7.3.1.2(a) Mall Building Occupant Load Factors (U.S. Customary Units).

Figure 7.3.1.2(b) Mall Building Occupant Load Factors (SI Units).

Statement of Problem and Substantiation for Public Comment

The current language establishes the MINIMUM number of persons allowed in a given area. It should be setting the maximum.

Submitter Information Verification

Submitter Full Name: GANTRY ANDRADE
Organization: HAWAII FIRE DEPT
Affiliation: Western Region Fire Code Development Committee
Submittal Date: Sat Mar 23 18:22:22 EDT 2013
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7.7.1.5 -
Means of egress shall be permitted to discharge into an exterior area in accordance with 7.7.7.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment

This comment is being submitted in coordination with the recommended action for FR249. Without the addition of new Paragraph 7.7.7 which has also been recommended for deletion, this paragraph is no longer needed. See also the substantiation submitted for FR249.

Submitter Information Verification

Submitter Full Name: Kenneth Bush
Organization: Maryland State Fire Marshals Office
Submittal Date: Fri Apr 26 10:06:41 EDT 2013

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7.7.2 Exit Discharge Through Interior Building Areas.
Exits shall be permitted to discharge through interior building areas, provided that all of the following are met:

(1) Not more than 50 percent of the required number of exits, exit stairs serving normally occupied areas of each floor, and not more than 50 percent of the required egress capacity, the exit stair capacity required for normally occupied areas of each floor, shall discharge through areas on any level of discharge, except as otherwise permitted by one of the following:

(a) One hundred percent of the exits shall be permitted to discharge through areas on any level of discharge in detention and correctional occupancies as otherwise provided in Chapters 22 and 23.

(b) In existing buildings, the 50 percent limit on egress capacity shall not apply if the 50 percent limit on the required number of exits is met.

(2) Each level of discharge shall discharge directly outside at the finished ground level or discharge directly outside and provide access to the finished ground level by outside stairs or outside ramps.

(3) The interior exit discharge shall lead to a free and unobstructed way to the exterior of the building, and such way shall be readily visible and identifiable from the point of discharge from the exit.

(4) The interior exit discharge shall be protected by one of the following methods:

(a) The level of discharge shall be protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, or the portion of the level of discharge used for interior exit discharge shall be protected by an approved automatic sprinkler system in accordance with Section 9.7 and shall be separated from the nonsprinklered portion of the floor by fire barriers with a fire resistance rating meeting the requirements for the enclosure of exits. (See 7.1.3.2.1.)

(b) The interior exit discharge area shall be in a vestibule or foyer that meets all of the following criteria:

i. The depth from the exterior of the building shall be not more than 10 ft (3050 mm), and the length shall be not more than 30 ft (9.1 m).

ii. The foyer shall be separated from the remainder of the level of discharge by fire barriers with a minimum 1-hour fire resistance rating, and existing installations of wired glass in steel frames shall be permitted to be continued in use.

iii. The foyer shall serve only as means of egress and shall include an exit directly to the outside.
(5) The entire area on the level of discharge shall be separated from areas below by construction having a fire resistance rating not less than that required for the exit enclosure, unless otherwise provided in 7.7.2 (6).

(6) Levels below the level of discharge in an atrium shall be permitted to be open to the level of discharge where such level of discharge is protected in accordance with 8.6.7.

Statement of Problem and Substantiation for Public Comment

The current wording of Section 7.7.2 is not clear regarding which area and exits must be considered in the 50 percent requirement. This is a concern in buildings where various floors are served by different exit stairs or where an exit is not continuous to the top of the building. For example, consider a three-story building with four exit stairs where two stairs discharge to the interior of the building. These two stairs are the only stairs that serve the third floor. The first and second stories comply with 7.7.2 while the third story does not. Section 7.7.2 limits the number of occupants that must leave the protection of an exit enclosure before reaching the exit discharge from the building. The intent of Section 7.7.2 is to provide users of an exit stair which discharges through the level of exit discharge with approximately the same level of protection provided to users of an exit stair which discharges directly to the outside, however egress through the level of exit discharge poses a higher risk of injury due to smoke and fire. The current wording could be interpreted to allow 100 percent of the occupants on a floor to require egress through the level of exit discharge. By requiring each floor to meet the 50 percent rules in Section 7.7.2, the building occupants on each floor will be provided with the same level of protection. This proposed modification provides an equivalent minimum level of protection to building occupants on all floors. The proposed change specifically addresses normally occupied areas on each floor. It is not intended to require normally unoccupied areas, such as mechanical penthouses, to meet the 50 percent rules.

Submitter Information Verification

Submitter Full Name: ALLISON ELLIS
Organization: KOFFEL ASSOC INC
Submittal Date: Mon Apr 08 14:28:47 EDT 2013

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7.7.3.3 –
Stairs and ramps shall be arranged so as to make clear the direction of egress travel from the exit discharge to a public way.

Statement of Problem and Substantiation for Public Comment

It appears that this is covered in paragraph 7.7.3.2. If the stairs and ramps are part of the exit discharge, the requirement to make clear the direction of egress travel from the exit discharge to the public way is already covered by 7.7.3.2. I believe that this became its own paragraph when the two sentences in the 2009 Edition were separated in the 2012 Edition to meet the MOS, but the two sentences only addressed one requirement, that is, egress travel from the exit discharge to the public way.

Submitter Information Verification

Submitter Full Name: Peter Larrimer
Organization: US Department of Veterans Affa
Submittal Date: Thu May 02 14:05:17 EDT 2013

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7.7.7 - Discharge to Exterior Areas.
Where permitted by Chapters 11 through 43 and approved by the authority
having jurisdiction, occupant travel to the public way shall be permitted to be
delayed within the exit discharge while the nature of the emergency is
evaluated, provided all of the following conditions are met:

(1) Each area is of sufficient size to accommodate all occupants at a net
area of 15 ft² (1.4 m²) per person

(2) Each area is located a distance of not less than 50 ft (15 m) from the
building from which the occupants have exited

(3) The area is continuously maintained free of obstructions or
impediments to full instant use in the case of fire or other emergency

(4) A continuous and safe means of egress from the exterior area to the
public way, without re-entering the building, is available

Statement of Problem and Substantiation for Public Comment

Agree with the overall concept of the public input. However, the proposed public input has
been based on similar requirements for detention and correction occupancies which have
occupants under varied degrees of restraint or security where such occupants are mostly
incapable of self-preservation because of security measures not under the occupants'
control and are under direct supervision. Consequently, some of the proposed safeguards
required may be overly restrictive for other types of occupancy chapters. In addition, the
proposed text may also lead to some misinterpretation of the subject requirements (e.g.,
“continuously maintained free”, etc.) as well as require the users of this Code to make too
many assumptions regarding the necessary requirements for egress, etc. required to be
met (e.g., exit capacity, egress width, locking arrangements, walking surfaces, emergency
lighting, fire department operations, etc.) from within the “staging area” to ensure a
reasonable degree of safety.

Submitter Information Verification

Submitter Full Name: David Frable
Organization: US General Services Administration
Affiliation: US General Services Administration
Submittal Date: Fri May 03 17:11:47 EDT 2013
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Public Comment No. 75-NFPA 101-2013 [ Section No. 7.7.7 ]

7.7.7 * Discharge to Exterior Areas. *
Where permitted by Chapters 11 through 43 and approved by the authority having jurisdiction, occupant travel to the public way shall be permitted to be delayed within the exit discharge while the nature of the emergency is evaluated, provided all of the following conditions are met:

1. Each area is of sufficient size to accommodate all occupants at a net area of 15 ft² (1.4 m²) per person
2. Each area is located a distance of not less than 50 ft (15 m) from the building from which the occupants have exited.
3. The area is continuously maintained free of obstructions or impediments to full instant use in the case of fire or other emergency.
4. A continuous and safe means of egress from the exterior area to the public way, without re-entering the building, is available.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment

There are many provisions of this proposal which makes enforcement too difficult and subjective. This arrangement severely restricts the free movement of the means of egress system, and contains confusing and conflicting requirements. There is no specification on the amount of delay that is intended to be served by these arrangements, and no technical justification for the area required for each building occupant or for the distance from the building implied to be a safe area. Is it intended that such space be provided for all building occupants, or those served by that particular means of egress path? There are no specifications on the design, arrangement, weather protection, walking surface, lighting, or egress path that would be required from the exterior holding space and the public way, and no means specified to notify those persons in the holding area to proceed to the public way once outside of the building. The Substantiation also states that many buildings are now completely surrounded by fences or courtyard walls. If such is the case, the requirement to provide a means to access the public way would not be possible. Means of egress should be provided with clear and unobstructed paths of sufficient widths that lead to a public way, through fence gates or designated paths if necessary, unless the building is designed, constructed, protected and maintained as a Detention and Correctional Occupancy.

Submitter Information Verification
Submitter Full Name: Kenneth Bush
Organization: Maryland State Fire Marshals Office
Submittal Date: Fri Apr 26 10:07:44 EDT 2013

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7.8.1.3 The floors and other walking surfaces within an exit and within the portions of the exit access and exit discharge designated in 7.8.1.1 shall be illuminated as follows:

1. During conditions of stair use, the minimum illumination for new stairs shall be at least 10 ft-candle (108 lux), measured at the walking surfaces.

2. The minimum illumination for new floors and other new walking surfaces, other than new stairs during conditions of stair use, shall be to values of at least 2 ft-candle (210.6 lux), measured at the floor.

3. The minimum illumination for existing floors, existing stairs, and other existing walking surfaces shall be to values of at least 1 ft-candle (10.8 lux), measured at the floor.

4. In assembly occupancies, the illumination of the walking surfaces of exit access shall be at least 0.2 ft-candle (2.2 lux) during periods of performances or projections involving directed light.

5. The minimum illumination requirements shall not apply where operations or processes require low lighting levels.

Statement of Problem and Substantiation for Public Comment

During the 1st Draft, the proponent has not provided any technical substantiation or supporting materials to justify that revising the current minimum requirement of 1 ft-candle of illumination to the proposed new minimum requirement of 2 ft-candle illumination measured at the floor of all new floors and other new walking surfaces will meet the needs of persons with low vision or severe visual impairments or adequately address the proponent's issues. In addition, the proponent has not provided any economic cost analysis to verify this new requirement will only be a "small and reasonable" cost adjustment. Also the proponent did not specifically stated what the "problem" (e.g., falls, delays, etc.) the current 1 ft-candle illumination causes for individuals with low vision that needs to be addressed by this proposed revision.

Lastly, most of the substantiation refers to emergency lighting applications, but this clause requires an increase in means of egress lighting, not emergency lighting. While this increased level of lighting may be already available, in many cases, there is no clear rationale or evidence to suggest that 2 fc is materially better than 1 fc. As a minimum safety requirement, it is difficult to declare that the higher minimum lighting level will have a sufficiently positive impact to offset the added energy consumption.

Submitter Information Verification

Submitter Full Name: David Frable
Organization: US General Services Administration
Affiliation: US General Services Administration
Submittal Date: Fri May 03 15:45:20 EDT 2013
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Public Comment No. 99-NFPA 101-2013 [ New Section after 7.9 ]

7.9(+) Rescue and Recovery Guidance Illumination for Building Electric Service Equipment:
7.9(+) General
7.9(+) .1 Where Required. Where an emergency system is installed, emergency illumination shall be provided to, from and around the area of the disconnecting means where the disconnecting means is installed indoors.
7.9(+) .1.2 Illumination Level. Illumination level shall be 1-footcandle on the path from the fire service personnel entrance to electrical switchgear room.
7.9(+) .1.2 Illumination Duration. A delay of not more than 1 second and a duration of not less than 90-minutes shall be required.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment
Since 2005, the concept of getting illumination to electricians has been presented to committees for NFPA 70, 70B, 70E, 101 and 110. As indicated in the substantiation in the previous development stage of this document, a near-perfect circle of fingers has been created by these committees; each of whom believe the concept is not within the scope of their document. In the intervening time, electricians are expected to carry their own flashlights to find their way to the service equipment during an outage.

Finally, now, we have a breakthrough: the NEC committee with oversight on the development of Article 701 has made a large step in the right direction. It has approved the following language for the 2014 NEC revision:

**Emergency illumination.** Emergency illumination shall include all required means of egress lighting, illuminated exit signs, and all other lights specified as necessary to provide required illumination. Emergency lighting systems shall be designed and installed so that the failure of any individual lighting element, such as the burning out of a lamp, cannot leave in total darkness any space that requires emergency illumination. Where high-intensity discharge lighting such as high and low-pressure sodium, mercury vapor, and metal halide is used as the sole source of normal illumination, the emergency lighting system shall be required to operate until normal illumination has been restored. Where an emergency system is installed, emergency illumination shall be provided in the area of the disconnecting means required by 225.31 and 230.70, as applicable, where the disconnecting means are installed indoors.

Much of the difficulty lies in the fact that the NFPA-suite divides emergency lighting systems between at least 3 documents – depending upon how you count. For the convenience of the committee here is a look at the scope of Article 700 (with emphasis added).

I. General

700.1 Scope. The provisions of this article apply to the electrical safety of the installation, operation, and maintenance of emergency systems consisting of circuits and equipment intended to supply, distribute, and control electricity for illumination, power, or both, to required facilities when the normal electrical supply or system is interrupted.

Informational Note No. 1: For further information regarding wiring and installation of emergency systems in health care facilities, see Article 517.

Informational Note No. 3: For specification of locations where emergency lighting is considered essential to life safety, see NFPA 101-2009, Life Safety Code.

Informational Note No. 4: For further information regarding performance of emergency and standby power systems, see NFPA 110-2010, Standard for Emergency and Standby Power Systems.

For the convenience of the committee the scope of NFPA 101 is repeated here (with emphasis added):

1.1.3 Egress Facilities. The Code establishes minimum criteria for the design of egress facilities so as to allow prompt escape of occupants from buildings or, where desirable, into safe areas within buildings.

1.1.4 Other Fire-Related Considerations. The Code addresses other considerations that are essential to life safety in recognition of the fact that life safety is more than a matter of egress. The Code also addresses protective features and systems, building services, operating features, maintenance activities, and other provisions in recognition of the fact that achieving an acceptable degree of life safety depends on additional safeguards to provide adequate egress time or protection for people exposed to fire.

1.1.5* Considerations Not Related to Fire. The Code also addresses other considerations that, while important in fire conditions, provide an ongoing benefit in other conditions of use, including non-fire emergencies.

Kind of nutty, isn't it? We see installation, performance, O&M in three different documents. What we hope to accomplish with the comment proposed here is to capture the progress made in the 2014 and to build a correlation link. It is important that illumination be provided immediately i.e. – no 10 second delay as currently permitted in NFPA 101. That concept...
was lost in the Article 700 2014 NEC language and we would like to get instant illumination tracking as soon as possible – typically about $60 for a wall-mount battery pack. The most compelling technical substantiation is provided in the YouTube video clip available this link:
http://www.youtube.com/watch?v=4bBvmPRqfmo

If there was emergency illumination, the 10-second time-delay might complicate self-protective measures or rescue. Let’s get that fixed right here.

Submitter Information Verification

Submitter Full Name: Michael Anthony
Organization: University of Michigan
Affiliation: APPA.ORG - Leadership in Education
Submittal Date: Wed May 01 10:31:04 EDT 2013

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A.7.7.7 — —

It is the intent of 7.7.7 to permit the staging of building occupants in exterior discharge areas that are open to the outside air, such as parking lots or lawns or areas that are bounded by fences or walls, prior to either allowing travel to the public way or re-entry into the building. The dimensional criteria in 7.7.7 (1) and (2) permit sufficient personal space for each occupant while waiting a reasonable distance from the building. Greater or closer distances might be permitted based on construction type, sprinkler protection, and exterior wall construction, as well as opening protectives. The provisions of 7.7.7 (3) and (4) require the exterior area(s) to be free of snow and ice or ponding water and be compliant with all applicable means of egress safeguards, such as, but not limited to, illumination, marking, width, and door swing direction.

Additional Proposed Changes

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Statement of Problem and Substantiation for Public Comment

This comment is being submitted in coordination with the recommended action for FR249. Without the addition of new Paragraph 7.7.7 which has also been recommended for deletion, this paragraph is no longer needed. See also the substantiation submitted for FR249.

Submitter Information Verification

Submitter Full Name: Kenneth Bush
Organization: Maryland State Fire Marshals Office
Submittal Date: Fri Apr 26 10:18:13 EDT 2013

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