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# INTERNATIONAL FIRE CODE

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## F3-07/08

### 102.1, 202 (New)

#### *Proposed Change as Submitted:*

**Proponent:** Anthony C. Apfelbeck, City of Altamonte Springs, FL

#### 1. Revise as follows:

**102.1 Construction and design provisions.** The construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.

**Exception:** The construction features within the building area of one-and two-family dwellings and townhomes, constructed in accordance with the *International Residential Code*, shall not be regulated by this code. This code shall regulate the site fire protection features outside of the building area of such buildings including, but not limited to, fire apparatus access roads in accordance with Section 503 and fire protection water supplies in accordance with Section 508.

2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code.
3. Existing structures, facilities and conditions when identified in specific sections of this code.
4. Existing structures, facilities and conditions which, in the opinion of the fire code official, constitute a distinct hazard to life or property.

#### 2. Add new definition to read as shown:

### SECTION 202 GENERAL DEFINITIONS

**[B] AREA, BUILDING.** The area within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts. Areas of the building not provided with surrounding walls shall be included in the building areas if such areas are included within the horizontal projection of the roof or floor above.

**Reason:** This proposal clarifies the scope issues between the IFC and the IRC regarding the regulation of the building proper and the fire protection features that are required to serve the buildings. The committee interpretation on 903.2.7, issued 3/21/04, indicates that the IFC is not applicable to IRC buildings. One item this interpretation did not address was the issue of applicability of fire protection site issue requirements contained in the IFC to the placement of IRC structures. The unwritten understating, staff interpretation and practical application has been that the IFC does apply to areas outside of the IRC building footprint. Therefore, a local jurisdiction can utilize the IFC to regulate the Fire Apparatus Access Roads in Section 503 and Fire Protection Water Supplies in Section 508 servicing IRC buildings. However, none of these concepts of scope are explicitly addressed within the code document. This code change will clarify this area for the designer, code official and end user.

The definition of "Building Area" is from the IBC and is included as specific direction to the user that the scope of the IFC only extends outside of the "Building Area" for IRC structures.

It is important to note that this code proposal only codifies current ICC interpretations and user practice.

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

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The committee felt that the intent needs to be more clearly expressed. The definition of Building Area does not include the exterior walls, which could cloud the issue. The committee observed that one- and two-family dwellings are not always used for residential purposes. The storage of hazardous materials in these buildings could be a problem if they are excluded from the applicability of the code. The committee expressed its opinion that the interpretation cited in the proponent's reason statement may be wrong and that the current text is preferred.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Michael E. Dell'Orfano, South Metro Fire Rescue, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**102.5 Application of residential code.** Where structures are designed and constructed in accordance with the *International Residential Code*, the provisions of this code shall apply as follows:

1. Construction and design provisions: Provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access, and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section 105.7 of this code shall also apply.
2. Administrative, operational, and maintenance provisions: All such provisions of this code shall apply.

(Renumber subsequent sections)

**Commenter's Reason:** F3-07/08 was disapproved during the code development hearings in Palm Springs for the primary reasons of unclear/incomplete intent and due to disagreement on the applicability of the IFC to buildings constructed under the IRC. The purpose of this public comment is to address those two main concerns. First, the language in the original code change proposal is relocated and revised so that its intent is clearer and more complete (to address construction as well as operational issues). The newly proposed wording in this public comment intends to better communicate that the IRC tells a builder how to build a one- and two-family dwelling and townhome (including whether or not it has fire sprinklers), but the IFC tells the builder what kind of water supply, roads, addresses, etc. to provide for that home or subdivision. Also, if a fire protection system, LP-gas cylinder, large tent, fuel tank, etc. is installed in or around that home, then the IFC would be used to issue that permit as well. The wording recommended by this public comment also makes it clear that on-going enforcement authority, operational permits, and maintenance requirements of the IFC still apply to those homes or subdivisions, which is necessary for fire suppression & investigation, open burning enforcement, addressing illegal use of homes, etc.

The second issue this public comment attempts to address is applicability. Whether or not you agree with the ICC interpretation on the applicability of the IFC to IRC structures, it is still necessary to insert these provisions in order to show how the two codes are intended to interact (as is done in IFC Section 102.4 for the IBC) and to avoid conflicting provisions (like whether or not the house needs to be protected by sprinklers). And whether or not you agree with that ICC interpretation, the fact is that some jurisdictions have taken it literally and have prevented fire code officials from performing their duties. All of this appears to stem from a fear that the fire code official will use the IFC as a back-door way of getting sprinklers in all houses. This proposal addresses all of those concerns and lets home construction and on-going enforcement occur as it always has before the IRC was ever created.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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## F10-07/08

### 105.2

*Proposed Change as Submitted:*

**Proponent:** Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

**Revise as follows:**

**105.2 Application for permit.** Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official. To obtain a permit the applicant shall first file an application therefore in writing on a form furnished by the department for that purpose. Such application shall:

1. Identify and describe the work or operation covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section 105.4.
5. State the valuation of the proposed work.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as required by the fire code official.

**Reason:** Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on the information to be provided on permit applications and is being submitted by the AHC-Admin to correlate the IFC with current Section 105.3 of the *International Building Code* and *International Existing Building Code*, Section R105.3 of the *International Residential Code*, and Section 105.4 of the *International Wildland-Urban Interface Code*.

The information needed by the fire code official in order to properly evaluate permit applications for code compliance is really no different than for the code officials responsible for the other construction-related I-Codes noted above. The expanded requirements will provide the fire code official with critical information about the work or construction being proposed and is consistent with the list-format used in the other I-Codes where this section exists.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it was unclear how the provisions would be applied to the two types of permits required by the IFC. In particular, item #3 is not needed since IFC permits are not occupancy group based and item #5 is also not germane to the IFC permit process. The other items are already covered by other sections of the code.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Rebecca Baker, Chair, ICC Ad Hoc Committee on the Administration Provisions in the I-Codes, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**105.2 Application for permit.** To obtain a permit the applicant shall first file an application therefore in writing on a form furnished by the department for that purpose. Such application shall: ~~4. identify and describe the work or operation to be covered by the permit for which application is made, as required by the fire code official.~~

- ~~2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.~~
- ~~3. Indicate the use and occupancy for which the proposed work is intended.~~
- ~~4. Be accompanied by construction documents and other information as required in Section 105.4.~~
- ~~5. State the valuation of the proposed work.~~
- ~~6. Be signed by the applicant or the applicant's authorized agent.~~
- ~~7. Give such other data and information as required by the fire code official.~~

**Commenter's Reason:** The ICC Ad-Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) was tasked with reviewing Chapter 1 administrative provisions in each of the I-Codes and attempting to correlate applicable provisions through the code development process.

The proposed modification eliminates the level of detail created by items #3 and #5 in the proposal which caused the IFC Committee sufficient concern to disapprove it. The modification also addresses another IFC Committee concern of recognizing the unique permit types in the IFC by enabling the fire code official to require sufficient specific information on the application to meet the need of evaluating any particular type of operational or construction permit.

The AHC-Admin believes that the proposal, as modified by this Public Comment to speak to the IFC Committee's concerns, will greatly enhance the fire code official's administrative abilities in dealing with the permit process and requests support for an AMPC final action.

Final Action:                      AS                      AM                      AMPC\_\_\_\_                      D

## **F18-07/08**

### **105.4.2.1 (New)**

*Proposed Change as Submitted:*

**Proponent:** Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

**Add new text as follows:**

**105.4.2.1 Site plan.** The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale all of the following:

- 1. Topography
- 2. Width and percent of grade of fire apparatus access roads

3. Landscape and vegetation details
4. Locations of structures or building envelopes
5. Existing or proposed overhead utilities
6. Structures and their appendages
7. Roof classification of buildings
8. Occupancy classification of buildings
9. Site water supply systems

The fire code official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

**Reason:** Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on site plan submittal prior to permit issuance and is being submitted by the AHC-Admin to correlate the IFC with current Section 106.2 of the *International Building Code* and *International Existing Building Code*, Section R106.2 of the *International Residential Code*, and the code change that was approved in the 2006/2007 cycle modifying Section 106.3 of the *International Wildland Urban Interface Code* (see *Supplement to the International Codes/2007*).

Certain code requirements such as distance from fire hydrants, distance from apparatus access roads, location and construction of access roads, and obstructions to fire fighting efforts are dependent on the structure's location on the lot and the topography of the site. As a result, a scaled site plan containing the data listed in this section is required to permit review for code compliance prior to permit issuance for new construction. The section also allows that the fire code official can waive the requirement for a site plan when it is not required to determine code compliance, such as for work involving only interior alterations or repairs.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the IFC does not need yet another "laundry list" which could lead to errors in the review process.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Rebecca Baker, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes, requests Approval as Modified by this public comment.**

**Replace proposal with the following:**

**105.4.2.1 Site plan.** Site plans drawn to scale shall include topography, width of fire apparatus access roads, landscape and vegetation details, locations of structures or building envelopes, existing or proposed overhead utilities, structures and their appendages, and site water supply systems. The fire code official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

**Commenter's Reason:** The ICC Ad-Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) was tasked with reviewing Chapter 1 administrative provisions in each of the I-Codes and attempting to correlate applicable provisions through the code development process.

The proposed modification/replacement eliminates the numerical "laundry list" format that caused the IFC Committee to reject the new section. The AHC-Admin feels that the section should, however, retain certain specific information requirements because the indicated features all can have an impact on fire department operations and must, therefore, be evaluated in the permit process. Also retained in the modification is the authority of the fire code official to waive or modify the requirement for a site plan under certain circumstances when it would not serve a useful purpose in the review process. The modified text of the proposal is also consistent with Section 106.3 of the *International Wildland-Urban Interface Code/2007 Supplement*.

The AHC-Admin believes that the proposal as modified by this Public Comment to speak to the IFC Committee's concerns will greatly enhance the fire code official's administrative abilities in dealing with the permit process, especially in the event that the *International Fire Code* is the only code adopted in a community, and requests support for an AMPC final action.

Final Action:

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AMPC\_\_\_\_\_

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## F23-07/08

### 105.6.16

#### *Proposed Change as Submitted:*

**Proponent:** Lynne M. Kilpatrick, Fire Department, Seattle, WA, representing Washington State Association of Fire Marshals

#### **Revise as follows:**

**105.6.16 Flammable and combustible liquids.** An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
  - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the code official, would cause an unsafe condition.
  - 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.
- ~~4.~~ 5. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
- ~~5.~~ 6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
- ~~6.~~ 7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
- ~~7.~~ 8. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard than that for which the tank was designed and constructed.
- ~~8.~~ 9. To manufacture, process, blend or refine flammable or combustible liquids.
- ~~9.~~ 10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles from tank vehicles at commercial, industrial, governmental or manufacturing establishments.
- ~~10.~~ 11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.

**Reason:** Currently there is no requirement to obtain a permit for the storage or use of Class IIIB liquids either inside or outside of a building. In light of the increasing trend to use Class IIIB liquids inside and outside of buildings in connection with fuel-burning equipment and for fueling of motor vehicles this proposal adds a new item 4 that will allow a jurisdiction to require a permit conditioned appropriately for the storage and use of such tank systems. A similar change is not required in Section 105.7.6 for the installation of the tank because the existing text requires an installation permit for all combustible liquid tanks.

The proposed change to item 9 simply clarifies that a permit is required for dispensing fuels into motor vehicles directly from tank vehicles. As written this item can be interpreted to apply to motor vehicle fuel-dispensing stations but Item 5 already requires a permit for motor vehicle fuel-dispensing stations.

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

#### **Committee Action:**

**Approved as Submitted**

**Committee Reason:** The proposal was approved because the committee felt that it provides improved regulation of Class IIIB liquids used as motor fuels.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Lynne M. Kilpatrick, City of Seattle Fire Department, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**105.6.16 Flammable and combustible liquids.** An operational permit is required:

1. through 3. (No change to current text)
4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

Exception: Fuel oil and used motor oil used for space or water heating.

5. through 11. (No change to proposed text)

**Commenter's Reason:** The intent of the original proposal was to only require a permit for fuel systems connected to generators and motor vehicle fuel dispensing systems utilizing B100/B99 biodiesel (a Class IIIB liquid). While the original intent was achieved, the approved text inadvertently now requires homeowners and other entities to obtain an annual operating permit when heating oil or other fuels that are Class IIIB liquids (liquids that have a flash points  $\geq 200^{\circ}\text{F}$ ) are used in connection with furnaces and water heaters in homes and businesses. This proposed modification, which will add an exception to new Item #4, will correct this unintended oversight by removing the annual operating permit requirement for Class IIIB liquids used in connection with furnaces and water heaters.

Final Action:                      AS                      AM                      AMPC\_\_\_\_                      D

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## **F24-07/08**

### **105.6.16**

*Proposed Change as Submitted:*

**Proponent:** Jon Napier, Fire Department, City of Kent, WA, representing Washington State Building Code Council

**Revise as follows:**

**105.6.16 Flammable and combustible liquids.** An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
  - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the code official, would cause an unsafe condition.
  - 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
5. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
6. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
7. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard than that for which the tank was designed and constructed.
8. To manufacture, process, blend or refine flammable or combustible liquids.

9. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
10. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, vessels and other special equipment at commercial, industrial, governmental or manufacturing establishments.

**Reason:** Section 105.6.16 does not address the issue of permits for the sites used for dispensing fuel from tank vehicles into the fuel tanks of marine vessels and special equipment. Section 105.6.16(10) requires a permit for utilizing a site for fueling motor vehicles but no mention is made of marine vessels or special equipment. Issuing a permit for dispensing fuel into marine vessels or special equipment would give the code official awareness of the operation and the opportunity to inspect the site. The requirement for a permit could be done by adding "vessels and special equipment" to subsection 10. Recently adopted IFC Chapter 46 – Marinas – defines vessels so we need to address the sites where tank vehicles will be used to fuel them. Special equipment would include equipment at farm and construction sites.

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

**Committee Action:** **Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the added term "vessels" is in conflict with the use of the term in other sections of the code. Also, the term "special equipment" is subjective and could lead to inconsistent enforcement. It is also possible that the added text could be interpreted to require a farmer with a small diesel tank in the bed of his pickup truck to get a permit to fill the tank.

**Assembly Action:** **None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Jon Napier, Fire Department, Kent, WA, representing Washington State Building Code Council, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**105.6.16 Flammable and combustible liquids.** An operational permit is required:

1. through 9. (No change to current text)
10. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, ~~vessels~~ marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments.

**Commenter's Reason:** The intent of this code change is to ensure that permits are required when the conditions allowed in Section 3406.5.4.1 occur. I received feedback from the council about using the terms vessel and special equipment. I have removed the defined term of vessel and utilize the term marine craft as used in 3406.5.4.1. I kept special equipment since it also is used in Section 3406.5.4.1 which is shown below for information only.

**3406.5.4.1 Marine craft and special equipment.** Liquids intended for use as motor fuels are allowed to be transferred from tank vehicles into the fuel tanks of **marine craft and special equipment** when approved by the fire code official, and when:

1. The tank vehicle's specific function is that of supplying fuel to fuel tanks.
2. The operation is not performed where the public has access or where there is unusual exposure to life and property.
3. The dispensing line does not exceed 50 feet (15 240 mm) in length.
4. The dispensing nozzle is approved.

Final Action:      AS              AM              AMPC\_\_\_\_\_      D

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# F34-07/08

202 (New)

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**Add new definition as follows:**

## SECTION 202 GENERAL DEFINITIONS

**FIRE HAZARD.** A thing or act which increases or could cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or any thing or act which could obstruct, delay, hinder or interfere with the operation of the fire department or the egress of occupants in the event of fire.

**Reason:** The definition of "Fire Hazard" is not currently found in the IFC. The term appears in the IFC 31 times and is found in the following Chapters: 1, 2, 3, 4, 6, 9, 10, 19, 20, 21, 23, 24, 26, 33, 34 and Appendix E. The inclusion of this definition will further clarify the intent of an otherwise ambiguous term.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the uses of the term "Fire Hazard" in various sections of the IFC do not lend themselves to a consistent definition. The definition was also judged to be too limiting as to what a fire hazard is, that it does not include provisions for imminent hazards and that it would be in conflict with several sections of the code, notably Section 906.3, where the term is used.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

~~**FIRE HAZARD.** A thing or act which increases or could cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or any thing~~ **A condition, situation or act which increases or could cause an increase in the potential or menace of fire, or any condition, situation or act which could obstruct, delay, hinder or interfere with the operation of the fire department or the egress of occupants in the event of fire.**

**Commenter's Reason:** This item was disapproved at the Public Hearing. The comments raised during the Public Hearing were:

1. What is a "normal" hazard? – the term normal has been removed and the definition has been revised.
2. Why not use the standard Webster definition? – the Webster Dictionary does not define "Fire Hazard"
3. It is better to leave as an undefined term. – The definition of "Fire Hazard" is not currently found in the IFC. The term appears in the IFC 31 times and is found in the following Chapters: 1, 2, 3, 4, 6, 9, 10, 19, 20, 21, 23, 24, 26, 33, 34 and Appendix E. The term is commonly used in the IFC, so it must contain some value. The inclusion of the definition provides guidance to this otherwise ambiguous term. For a situation to be a fire hazard it must either increase the potential of ignition, or increase the intensity of fire once it does ignite, or obstruct/hinder fire department operations, or obstruct/hinder occupant egress.
4. What is difference of fire risk and fire hazard? – Fire risk occurs in all locations and all situations of work, business, and just plain life. The level of fire risk varies in all situations. However when something occurs to raise or affect the normal fire risk, the potential of ignition increases and this situation then becomes a fire hazard. As specified in the definition, if the situation creates an increase in the potential for fire (fire risk), it is a fire hazard.
5. This definition would create a conflict with IFC 906.3. – This is incorrect, the term fire hazard is used in this section, however, it is not a stand alone term. It is used as part of the term "Class A Fire Hazards". This is not the same term. The term Class A Fire Hazard is a specific and define term dealing with Class A materials. This makes as much sense as assuming that Chapter 15 Flammable Finishes only applies to flammable liquids. In case you are wondering...Chapter 15 includes flammable liquids, along with combustible liquids and combustible powders, etc. The term being defined in this Public Comment is "fire hazard", not "Class A Fire Hazard".

Final Action:      AS              AM              AMPC \_\_\_\_\_      D



## F42-07/08

### 304.3.4 (New)

*Proposed Change as Submitted:*

**Proponent:** James E. Everitt, Everitt and Associates, representing himself

**Add new text as follows:**

**304.3.4 Plastic dumpsters exceeding one cubic yard.** Plastic dumpsters having a peak rate of heat release exceeding 300 kW/m<sup>2</sup> at an incident flux of 50 kW/m<sup>2</sup> in the horizontal orientation when tested in accordance with ASTM E 1354 shall not be stored within buildings or placed within 15 feet of combustible walls, openings, or combustible roof lines.

**Exceptions:**

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system complying with Chapter 9.
2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048mm) from other buildings and used exclusively for dumpster or container storage

**Reason:** Q3 Commentary Although waste containers of this size (1.5 yards) are nearly always constructed of welded steel because of the weight of the waste load, the very fact that the waste load is large makes the containers a large fire hazard.

Medium density polyethylene dumpsters up to nine cubic yards are now being distributed which have a fuel content of 20,020btu per pound (municipal solid waste averages 4,500btu lb). Medium density polyethylene is essentially equal to the fuel value for gasoline! This material becomes a burning liquid spreading and flowing, it is an unnecessary risk to place them five feet away from a nearby structure.

"FIRE LOSS IN THE UNITED STATES DURING 2005" States: Fires in rubbish outside of structures including dumpsters have increased 10.8% nationally from 2004.

#### POLYETHYLENE CART



**Cost Impact:** The code change proposal will not increase the cost of construction. The use of these containers is not wide spread.

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because it contains a dumpster size criterion in the section title but not in the body of the text. Since titles are editorial, the section has no framework of applicability. In addition, Section 304.3 scopes its subsections to waste containers inside of buildings, making this proposal out of place as a regulation of dumpsters outside of buildings.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**James E. Everitt, Everitt and Associates, representing himself, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**304.3 Containers.** Combustible rubbish, and waste material kept within ~~a~~ or in close proximity to a structure shall be stored in accordance with Sections 304.3.1 through ~~304.3.3~~ 304.3.4

**304.3.4 Combustible Dumpsters or containers with a capacity of 1 cubic yard or greater.** Combustible dumpsters or containers with a volume of one cubic yard [200 gallons (0.76m<sup>3</sup>)] or more shall not be stored within buildings or placed within 15 feet of combustible walls, openings, or combustible roof lines unless they are constructed of metal or constructed of materials having a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> at an incident flux of 50 kW/m<sup>2</sup> in the horizontal orientation when tested in accordance with ASTM E 1354.

**Exceptions:**

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system complying with Section 903.3.1.1
2. Storage in a structure shall not be prohibited where the structure is of Type 1 or type 11A construction, located not less than 10 feet (3048mm) from other buildings and used exclusively for dumpster or container storage

**Commenter's Reason:**

- 1) To comply with the direction of the Committee.
- 2) As stated in the original proposal polyethylene dumpsters are now being produced with a capacity of up to nine cubic yards. Polyethylene has a BTU value by weight equal to gasoline and begins to melt at 260°F becoming a flowing liquid which may spread the fire to adjacent structures.

*Public Comment 2:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**304.3 Containers.** Combustible rubbish, and waste material kept within or near a structure shall be stored in accordance with Sections 304.3.1 through ~~304.3.3~~ 304.3.4 .

**304.3.3 Capacity exceeding 1.5 cubic yards.** Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m<sup>3</sup>)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines.

**Exceptions:**

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

**304.3.4 Dumpsters with a capacity of 1 cubic yard or greater.** Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m<sup>3</sup>)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines unless they are constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation.

**Exceptions:**

1. Dumpsters in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

**Commenter's Reason:** The committee stated that they disapproved this proposal for two reasons: (a) the proposal contained a dumpster size criterion in the section title but not in the body of the text and (b) the proposal addressed waste containers outside of buildings. Changes were made to address both issues.

1. Language, including a title, is being proposed that includes the dumpster size.
2. A change is being proposed to the charging section to show that it actually addresses waste storage near buildings, since section 304.3.3 already covers storage within 5 feet of combustible walls, openings or combustible roof eave lines.
3. The comment proposes revised language that is parallel to that in 304.3.3 with regard to the storage near buildings and the exceptions.
4. The charging section is being proposed to be modified so as to encompass this new section.
5. The new section allows dumpsters to be constructed of non combustible materials.
6. The new section describes dumpsters rather than plastic dumpsters, to make it more generic, as there are no noncombustible plastic materials.

As explained in the original proposal, if these dumpsters are constructed of polyethylene (as they usually are) they represent a severe fire source. The peak rate of heat release criterion recommended, based on ASTM E 1354, is the same one that is already included in the IFC in section 808.1 and was proposed in the accepted proposal F41 for section 304.3.2, as well as in the IBC in 402.11.1.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

## F43-07/08

### 307.1.1

#### *Proposed Change as Submitted:*

**Proponent:** A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal's Association of Colorado

#### **Revise as follows:**

**307.1.1 Prohibited open burning.** Open burning ~~that is offensive or objectionable because of smoke or odor emissions or~~ when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

**Reason:** The purpose of the proposed code change is to delete a prohibition imposed by the code; namely, a prohibition against offensive or objectionable smoke or odors resulting from open burning. Enforcement of said prohibition is inherently arbitrary and capricious because the current code language compels the Fire Code Official to render an unreasonably subjective and irreproducible judgment in the absence of quantitative guidelines provided in Section 307 or referenced standards. The proposed language preserves those historic prohibitions, such as high winds (atmospheric conditions) and/or drought (local circumstances), that are demonstrably linked to fire behavior.

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

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the current text provides guidance for the fire code official by indicating the basis for responding to open burning complaints and should be retained without change.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**A. Keith Brown, North Metro Fire Rescue, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.**

#### **Modify proposal as follows:**

**307.1.1 Prohibited open burning.** Open burning that is offensive or objectionable because of smoke emissions or when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

**Commenter's Reason:** F43-07/08 was disapproved by Committee action. This public comment reflects the Committee's discussion that offensive smoke is a long-standing and legitimate basis for responding to open-burning complaints but that responding to complaints of an objectionable odor caused by open burning poses significant enforcement problems due to the excessive subjectivity inherent in evaluating odors. For example, the odor associated with a typical campfire may be pleasant to many people but may be considered acrid and objectionable by many others. The proposed change would eliminate language that forces the code official to make arbitrary decisions often based only on personal perception.

Final Action: AS AM AMPC\_\_\_ D

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## F44-07/08

### 307.4.3 (New), 307.5, 302.1, 307

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **1. Add new text as follows:**

**307.4.3 Portable outdoor fireplaces.** Portable outdoor fireplaces shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used in accordance with manufacturer's instructions at one- and two-family dwellings.

**2. Revise as follows:**

**307.5 Attendance.** Open burning, bonfires, ~~or~~ recreational fires and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

**3. Revise definitions as follows:**

**302.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**OPEN BURNING.** The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include road flares, smudgepots and similar devices associated with safety or occupational uses typically considered open flames, ~~or recreational fires or use of portable outdoor fireplaces.~~ For the purpose of this definition, a chamber shall be regarded as enclosed when, during the time combustion occurs, only apertures, ducts, stacks, flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open.

**PORTABLE OUTDOOR FIREPLACE.** A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design, or may be equipped with a small hearth opening and a short chimney or chimney opening in the top.

**RECREATIONAL FIRE.** An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, outdoor fireplace, portable outdoor fireplace, barbeque grill or barbeque pit and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

**4. Revise section title as follows:**

**SECTION 307**  
**OPEN BURNING, AND RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES**

**Reason:** This proposal adds a definition for portable outdoor fireplace and makes minor revision to definitions of open burning and recreational fire for clarification. The proposed addition of subsection 307.4.3 Portable Outdoor Fireplaces makes clear that the use of these devices is specifically regulated.

Portable outdoor fireplaces designed to burn solid fuel are available at retailers ranging from the local grocery to hardware store to big box retailers. Their widespread availability and use has created considerable confusion for citizens and the fire service as to how or if they are regulated by the IFC.

Fires in portable outdoor fireplaces cannot be considered a "recreational fire" because critical to that definition is the concept that the fire is not contained in an incinerator, outdoor fireplace, barbeque grill or barbeque pit. Some may then suggest that a portable outdoor fireplace is merely a type of "outdoor fireplace", but the IFC doesn't contain any references pertaining to where an outdoor fireplace can be located or operated.

Under the definition of open burning, the IFC commentary refers to patio fireplaces and states "These devices neither meet the literal definition of "open burning" nor is their use the type of burning intended to be regulated by Section 307, ..." However, the use and any hazard associated from operating a patio fireplace is closer to the type of activities regulated in Section 307 than use of other specific types of open flame addressed in Section 308. The current IFC Sections 307 and 308 are essentially silent on use of this specific type of device.

The proposal prohibiting use of portable outdoor fireplaces within 15 feet from any structure replicates the first exception under 307.4 Location. However, the proposal allows an exception for use of patio fireplaces at one- and two-family dwellings.

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

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**307.4.3 Portable outdoor fireplaces.** Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

~~Exception: Portable outdoor fireplaces used in accordance with manufacturer's instructions at one- and two-family dwellings.~~

(Portions of the proposal not shown remain unchanged)

**Committee Reason:** The proposal was approved because the committee felt that it provides needed clarification of the open burning regulations with respect to portable outdoor fireplaces. The modifications recognize that manufacturer's often provide additional safety suggestions in their instructions and that the new provisions should be applicable to all buildings without exception.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Diane Hansen, Fire Department, City of Seattle, WA, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**307.4.3. Portable outdoor fireplaces.** Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used at one-and two-family dwellings.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** Proposal F-44 was submitted to provide clarity to the fire service and the public regarding regulation of the use of portable outdoor fireplaces, as their use does not meet the definition of either open burning or a recreational fire. Anyone who has ever answered or monitored the incoming phone lines at a large fire department will attest this question has become increasingly more frequent, as availability of the devices has increased to where they can now be found at a wide variety of retail stores, including your local grocery.

The unintended effect of striking the exception to F-44 will result in a new body of work for the fire service as the "portable outdoor fireplace police" and the arbitrator of every neighbor dispute over such use.

The original proposed code language of F-44 was developed with the intent to specifically regulate use of portable outdoor fireplaces at R-1 and R-2 occupancies, but not at one-and two-family homes. The practice of providing exceptions for one- and two-family dwellings from certain regulated activities is consistent with other areas of the code as noted in the following examples.

**308.3.1 Open-flame cooking devices** – An exception is provided for one and two-family dwellings from the prohibition on use of open flame on combustible balconies and within 10 ft of combustible construction.

**308.3.1.1 Liquefied-petroleum-gas-fueled cooking devices.** – An exception is provided for one and two-family dwellings from the prohibition on use of LP fueled cooking devices on combustible balconies (greater than 2.5 pounds) and within 10 ft. of combustible construction.

**603.4 Portable unvented heaters.** An exception is provided for one and two-family dwellings on the prohibition of use of unvented heaters inside dwellings.

**903.4 Sprinkler system monitoring and alarms and 907.15 Monitoring.** One and two-family dwellings are exempted from the monitoring of sprinkler systems and alarms through an exception.

The IFC provides minimum standards for fire and life safety. There may be some states where climatic conditions are such that potential for urban, urban-interface and wildland fires would warrant the regulation of these devices at one- and two-family dwellings. But as a minimum code, those jurisdictions requiring more stringent regulations should enact those regulations, and not subject all jurisdictions to enforcing requirements that may not be necessary, and may in fact be too burdensome when compared with the incidence of fire from the regulated activity.

Approving the F-44 as modified by the proposed exception takes a similar activity and treats it consistently with the manner in which the code addresses use of open flame and use of charcoal and LP-fueled cooking devices at one and two-family dwellings.

Approving the exception as proposed by this comment will relieve the fire service from the role as regulator of a common activity in one- and two-family dwellings. This is a delicate line that should be crossed only when fire incidence and imminent threat to life safety clearly warrants such action.

*Public Comment 2:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**307.4.3. Portable outdoor fireplaces.** Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: At one- and two-family dwellings, portable outdoor fireplaces shall be allowed to be located at a reduced clearance when operated in accordance with the manufacturer's instructions for operation near combustibles.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** This Public Comment is designed to allow the use of portable outdoor fireplace at a distance of less than 15' to a dwelling. The section as modified by the committee specifies that the fireplace must be in accordance with the manufacturer's instructions AND 15' from a structure. The Committee modification will require that at one- and two-family dwellings the portable fireplace must be located 15' from the dwelling. The Committee modification went further than was intended by the original proposal. 15' from a dwelling is not a practical requirement and would be difficult to enforce.

This proposed Public Comment will maintain the 15' from a structure, but will allow that distance to be reduced to the distance specified in the manufacturer's instructions when located at a one- or two-family dwelling.

Final Action: AS AM AMPC\_\_\_ D

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## F45-07/08

308.3, 308.3.1, 308.3.2

### *Proposed Change as Submitted:*

**Proponent:** Michael E. Dell'Orfano, South Metro Fire Rescue, representing Fire Marshal's Association of Colorado

### **Revise as follows:**

**308.3 Open flame decorative devices.** Open flame decorative devices shall be used in accordance with this section. ~~A person shall not utilize or allow to be utilized, an open flame in connection with a public meeting or gathering for purposes of deliberation, worship, entertainment, amusement, instruction, education, recreation, awaiting transportation or similar purpose in Group A or E occupancies without first obtaining a permit in accordance with Section 105.6.~~

**308.3.4 308.7 (Supp) Open-flame cooking devices.** Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

### **Exceptions:**

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having LP gas container with a water capacity not greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

**308.3.2 308.3.1 Open flame decorative devices General requirements.** Open-flame decorative devices shall comply with all of the following restrictions:

1. through 10. (No change to current text)

**Reason:** The purpose of this code change proposal is to clarify the scope of IFC Section 308.3. The way 308.3 is currently written can lead someone to believe that this section only applies to Group A and E occupancies. However, that charging paragraph only says that those uses need a permit per 105.6. This is further supported by the fact that Section 308.3.8 addresses Group R-2 Dormitories. Also, with the exception of the cooking device subsection, all other components of 308.3 appear to only address open-flame decorative devices. Therefore, the title of 308.3 was changed to reflect this scope, open-flame cooking devices were moved to a stand-alone section (similar to food preparation, torches, portable-fueled devices, etc.), and the title of 308.3.2 was changed to "general requirements" to reflect its intended use. General permit requirements are already addressed in 301.2.

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

### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it would eliminate the permitting requirement for Group A and E occupancies, which the committee felt was inappropriate.

### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

Public Comment:

**Michael E. Dell’Orfano, South Metro Fire Rescue, representing Fire Marshal’s Association of Colorado, requests Approval as Modified by this public comment.**

Modify proposal as follows:

**308.3 Open flame ~~decorative devices~~.** Open flames ~~decorative devices~~ shall be used in accordance with this section.

**308.3.1 Permit required.** A permit shall be obtained from the fire code official in accordance with Section 105.6 in order to utilize an open flame.

**308.3.4 ~~308.3.2~~ General requirements.** Open-flame decorative devices shall comply with all of the following restrictions:

1. through 10. (No change to current text)

(Portions of proposal not shown remain unchanged)

**Commenter’s Reason:** F45-07/08 was disapproved at the code hearings in Palm Springs due to concerns with the added words “decorative devices” and that the permit requirements for Groups A and E had been deleted. Therefore, this public comment addresses those concerns by eliminating the added words “decorative devices” and changing the title of 308.3 back to its original wording in the 2006 IFC. Also, it establishes a format similar to Section 307 where the charging paragraph addresses the scope of Section 308.3 and a separate subsection is created to address permits. This clarifies the intent of the code to ensure that all uses of open flames comply with 308.3, but only Groups A and E need a permit.

Final Action: AS AM AMPC\_\_\_ D

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## F49-07/08

### 308.3.2, 308.3.3 (New)

*Proposed Change as Submitted:*

**Proponent:** A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal’s Association of Colorado

**1. Revise as follows:**

**308.3.2 ~~Liquid-fueled~~ ~~Open flame decorative devices~~.** Liquid-fueled ~~o~~Open-flame decorative devices shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.
2. Liquid~~–or solid~~-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
3. The device or holder shall be constructed to prevent the spillage of liquid fuel ~~or wax~~ at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.
4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.

**Exception:** Devices that self-extinguish if tipped over and do not spill fuel ~~or wax~~ at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
5. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

**Exception:** A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.

8. Storage and handling of combustible liquids shall be in accordance with Chapter 34.
9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
10. Candelabras ~~with flame-lighted candles~~ shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

**2. Add new text as follows:**

**308.3.3 Solid-fueled open-flame decorative devices.** Solid-fueled open-flame decorative devices shall comply with all of the following:

1. The device shall be securely supported on a substantial noncombustible base.
2. Solid-fueled lighting devices containing more than 8 ounces (226.8 g) of fuel must self-extinguish if tipped over.
3. The device or holder shall be constructed to prevent the spillage of wax when the device or holder is not in an upright position.
4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.
5. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.
6. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame decorative device holder or chimney.
7. Candelabras shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

(Renumber subsequent sections)

**Reason:** The purpose of the proposed code change is to clarify which of the enumerated restrictions apply only to liquid-fueled devices, which apply only to solid-fueled devices, and which apply to both types of devices. For example, leak rates (currently Items 2, 3, and 4) apply to liquid-fueled devices but do not apply to solid-fueled devices such as paraffin candles. The restructuring of 308.3.2 into two subsections (liquid-fueled and solid-fueled) facilitates that clarification. Overall, this proposed code reorganization neither adds nor omits any restrictions pertaining to open-flame decorative devices.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the current text is clearer. Current Section 308.3.2 #5 requires enclosed flame but that does not appear in the proposed solid fuel provisions. The revisions do not appear to regulate gas-fueled devices. It is unclear how a candle could be made to be self-extinguishing.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**308.3.3 Solid-fueled open-flame decorative devices.** Solid-fueled open-flame decorative devices shall comply with all of the following restrictions:

1. The device shall be securely supported on a substantial noncombustible base.
- ~~2. Solid-fueled lighting devices containing more than 8 ounces (226.8 g) of fuel must self-extinguish if tipped over.~~
- ~~3.2.~~ The device or holder shall be constructed to prevent the spillage of wax when the device or holder is not in an upright position.
- ~~4.3.~~ The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.
- ~~5.4.~~ Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.
- ~~6.5.~~ Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame decorative device holder or chimney.



7-6. Candelabras shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

(Renumber subsequent sections)

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** F49-07/08 was disapproved by Committee action. This public comment reflects the Committee's observation that the most common solid-fueled open-flame decorative device (i.e., a candle) cannot be made to self-extinguish when tipped over. This public comment does not, however, address the Committee's observation that Section 308.3.3, as proposed, fails to require the flame of a candle to be enclosed. Regardless of the existing language of Section 308.3.2(5) in the 2006 IFC, most candles used as open-flame decorative devices are not enclosed; other restrictions, such as secure support on a substantial noncombustible base, provide adequate protections. The Committee was correct in noting that, similarly to the language of the 2006 IFC, gas-fueled devices are not regulated by the proposed language. Methane (e.g., natural gas) would be the only fuel gas that would likely be used in an open-flame decorative device; most fuel gases of higher molecular weight (e.g., propane and butane) are commonly available only as LPG, use of which is prohibited by 308.3.2(1). Decorative appliances such as gas fireplaces are regulated by the *International Fuel Gas Code* and, therefore, do not seem to be within the scope of IFC Section 308.3.2.

Final Action: AS AM AMPC\_\_\_ D

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## F50-07/08

### 308.3.7

#### *Proposed Change as Submitted:*

**Proponent:** A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal's Association of Colorado

**Revise as follows:**

**308.3.7 Group A occupancies.** Open-flame devices shall not be used in a Group A occupancy.

#### **Exceptions:**

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:
  - 1.1. ~~Where necessary~~ For ceremonial or religious purposes in accordance with Section 308.3.5.
  - 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.6.
  - 1.3. ~~Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected~~ open-flame decorative devices are used in accordance with Sections 308.3.2, 308.3.3 and 308.3.4.
2. Heat-producing equipment complying with Chapter 6 and the *International Mechanical Code*.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

**Reason:** The purpose of the proposed code change is to provide parallel wording among the three items listed under Exception 1 and to make the use of open-flame decorative devices in Group A occupancies at least as stringent as the IFC requires in other occupancies. As currently written, Exception 1 Item 1.3 imposes less restrictive safety requirements for candles used in Group A occupancies than Sections 308.3.2, 308.3.3, and 308.3.4 impose for candles and other open-flame decorative devices generally. Such less restrictive use of open-flame devices in Group A occupancies is the antithesis of the intent of the general requirement of Section 308.3.7 that open-flame devices shall not be used at all in a Group A occupancy due to the inherent need for enhanced life safety appropriate for that occupancy group. Additionally, the current wording of Item 1.3 is specific only to "candles on tables" while the language in the principal part of Exception 1 is clearly intended to apply to all open-flame devices; the proposed revision eliminates the undue specificity of the current Item 1.3.

Striking the word "necessary" in both Items 1.1 and 1.2 of Exception 1 eliminates extraneous language. The apparent intent of these items is to allow the use of open-flame devices during religious ceremonies or theatrical performances in Group A occupancies rather than to give the fire code official the opportunity to deny the use of open-flame devices on the grounds that said use is not "necessary." The proposed changes will prevent arguments over what is or is not "necessary," thus allowing the application of Exception 1 to focus on the safety procedures employed.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that there was no justification for deleting exception 1.3 without providing an equivalent noncombustible base capability in the proposed referenced sections.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

**A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.**

Modify proposal as follows:

**308.3.7 Group A occupancies.** Open-flame devices shall not be used in a Group A occupancy.

**Exceptions:**

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:
  - 1.1. For ceremonial or religious purposes in accordance with Section 308.3.5.
  - 1.2. On stages and platforms as part of a performance in accordance with Section 308.3.6.
  - 1.3. Where open-flame decorative devices are used in accordance with Sections 308.3.2, 308.3.3 and 308.3.4.
  - 1.4. Where open-flame decorative devices are securely supported on substantial noncombustible bases.
2. Heat-producing equipment complying with Chapter 6 of the *International Mechanical Code*.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

**Commenter's Reason:** F50-07/08 was disapproved by Committee action. This public comment reflects the Committee's discussion that open-flame decorative devices (including candles) that are securely supported on noncombustible bases should continue as an allowable exception. This public comment restores that exception and makes the use of open-flame decorative devices at least as stringent as the IFC requires in other occupancies through reference to Sections 308.3.2, 308.3.3, and 308.3.4. The public comment also eliminates the existing restriction that candles securely supported on noncombustible bases are only allowed on tables. The phrase "and the candle flames are protected" (2006 IFC Section 308.3.7 Exception 1.3) was intentionally omitted from the language of the public comment because the inclusion of Section 308.3.2 et seq. by reference adequately addresses the enclosure and protection of candle flames.

Final Action:                      AS                      AM                      AMPC\_\_\_\_\_                      D

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## F51-07/08 308

*Proposed Change as Submitted:*

**Proponent:** Ian MacDonald, Fire Department, City of Orange, CA, representing California Fire Chiefs Association

**1. Revise as follows:**

**308.1 General.** Open flame, fire and burning on all premises shall be in accordance with Sections 308.1 through 308.4, and with other applicable sections of this code. ~~This section shall control open flames, fire and burning on all premises.~~

**308.2 308.1.1 Where prohibited.** A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.

**308.2.4 308.1.2 Throwing or placing sources of ignition.** No person shall throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

**308.4 308.1.3 Torches for removing paint.** Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

**308-3.1 (Supp) 308.1.4 Open-flame cooking devices.** Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

**Exceptions:**

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.

~~3.~~ **308.1.4.1 Liquefied-petroleum-gas-fueled cooking devices.** LP-gas cooking devices having LP gas containers with a water capacity not greater than 2.5 pounds (nominal 1 pound (0.454 kg) LP-gas capacity) shall not be located on combustible balconies or within 10 feet (3048 mm) of combustible construction.

**Exception:** One- and two-family dwellings.

**308-3.3 308.1.5 Location near combustibles.** Open flames such as from candles, lanterns, kerosene heaters, and gas-fired heaters shall not be located on or near decorative material or similar combustible materials.

**308-5 (Supp) 308.1.6 Open-flame devices.** Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or upon wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the fire code official.

**Exception:** Use within inhabited premises or designated campsites which are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

**308-5.1 (Supp) 308.1.6.1 Signals and markers.** Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon wildfire risk areas.

**Exception:** The proper use of fuses at the scenes of emergencies or as required by standard railroad operating procedures.

**308-5.2 308.1.6.2 Portable fueled open-flame devices.** Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

**Exceptions:**

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 38.
2. Cutting and welding operations in accordance with Chapter 26.
3. Torches or flame-producing devices in accordance with Section 308.4.
4. Candles and open-flame decorative devices in accordance with Section 308.3.

**2. Add new text as follows:**

**308.2 Permits required.** Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or upon hazardous fire areas.

**3. Revise as follows:**

**~~308-3.7~~ 308.3 Group A occupancies.** Open-flame, ~~devices fire and burning~~ shall not be ~~used~~ allowed in a ~~Group A occupancy~~ occupancies unless specifically permitted by the fire code official, and used in accordance with the requirements of Sections 308.1 and 308.3.

**Exceptions:**

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:

- 1.1. Where necessary for ceremonial or religious purposes in accordance with Section 308.3.5.
- 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.6.
- 1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the International Mechanical Code.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

**308.3.2 308.3.1 Candles and other open-flame decorative devices.** Candles and other open-flame decorative devices in drinking and dining establishments shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.
2. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
3. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.
4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.

**Exception:** Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
6. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

**Exception:** A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.
8. Storage and handling of combustible liquids shall be in accordance with Chapter 34.
9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
10. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

**308.3.5 308.3.1.1 Religious ceremonies.** When, in the opinion of the fire code official, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

**308.3.4 308.3.1.2 Aisles and exits.** Candles shall be prohibited in areas where occupants stand, or in an aisle or exit.

**308.6 308.3.2 Flaming food and beverage preparation.** The preparation of flaming foods or beverages in ~~places of assembly and drinking or dining establishments~~ areas, dining areas of restaurants and drinking establishments shall be in accordance with Sections ~~308.6.4 308.3.2.1~~ through ~~308.6.5 308.3.2.5~~.

**308.6.4 308.3.2.1 Dispensing.** Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container; or
2. A container not exceeding 1-quart (946.5 ml) capacity with a controlled pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.

**308.6.2 308.3.2.2 Containers not in use.** Containers shall be secured to prevent spillage when not in use.

**308.6.3 308.3.2.3 Serving of flaming food.** The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

~~308-6-4~~ **308.3.2.4 Location.** Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

~~308-6-5~~ **308.3.2.5 Fire protection.** The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

~~308-3-6~~ **308.3.3 Theatrical performances.** Where ~~approved~~ permitted, open-flame devices used in conjunction with theatrical performances are allowed to be used when adequate safety precautions have been taken in accordance with NFPA 160.

**4. Add new text as follows:**

**308.4 Group R Occupancies.** Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 308.1 through 308.1.6.2 and 308.4.1.

**5. Revise as follows:**

~~308-3-8~~ **308.4.1 Group R-2 dormitories.** Candles, incense and similar open-flame-producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies.

**Reason:** This proposal creates consistency within Section 308, consistency with the language in Sections 105.6.30, 105.6.31, and 105.6.32 (permits), and with the rest of the fire code. Specifically, it cleans up inconsistent code language, reformats the section to provide more consistency with the rest of the code as well as improving the logical flow of the section, moves open-flame cooking devices out from underneath Group A and E occupancy requirements, and allows for sections related to open flame, fire and burning in other areas of the code (e.g. Sections 1503.2.2. and 1103.1).

**Justification for revisions and new text is as follows:**

**Section 308.1** This language specifies all of the subsections in section 308, as is consistent with other IFC code language. Provisions are added for required compliance with the remainder of the code.

**Sections 308.1.1 through 308.1.6.2** All of the general code sections have been moved to 308.1, which is appropriately named "General." Sections containing special requirements according to occupancies groups contain language requiring compliance with the specific and general requirements. This language is consistent with the remainder of the fire code (e.g. Section 2704.1).

**Section 308.1.4** has been moved from 308.3.1. It was originally a subsection of 308.3, which contained requirements for obtaining a permit for open flame in Group A and E occupancies. Section 308.3.1 and 308.3.1.1 should not only apply to open-flame cooking devices within Group A and E occupancies, especially with exceptions for one- and two-family dwellings.

**Section 308.2** New text was added for permits. The ".2" subsection is consistent within the code for permit information.

**Section 308.3** The language was modified for consistency with Section 308.1. The revised language also ensures compliance with both the general and specific requirements.

**Section 308.3.1** The addition of candles in the language provides clarity to the requirements without diminishing them. The more general reference to drinking and dining establishments is appropriate, as there should not be the differentiation between the kitchen and dining areas of the restaurant in this case. The differentiation is appropriate when addressing flaming food and beverage preparation, which is appropriately conducted in the kitchen.

**Section 308.3.2** The differentiation between assembly, drinking and dining areas of restaurants and drinking establishments, and the kitchen or preparation areas.

**Section 308.4** The added language ensures compliance with both the general and specific requirements of Section 308, and is also consistent with the rest of the fire code language.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the proponent's efforts should be continued to correct the issues cited in his failed modification and several items that were noted by the committee, including the all-inclusive Group A applicability of some provisions that would exempt Group B religious or assembly uses of less than 50 persons and the confusing language "drinking and dining establishments" in Section 308.3.1 that could exempt bars that do not serve food and restaurants that do not serve liquor. Also, Section 308.1.4.1 could be interpreted as allowing LP-gas fired cooking devices with tanks greater than 2.5 pounds to be used within 10 feet of combustible construction.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Ian MacDonald, City of Orange, CA, representing California Fire Chiefs' Association, requests Approval as Modified by this public comment.**

**Replace proposal as follows:**

**308.1 General.** Open flame, fire and burning on all premises shall be in accordance with Sections 308.1 through 308.4, and with other applicable sections of this code. ~~This section shall control open flames, fire and burning on all premises.~~

**308.2 308.1.1 Where prohibited.** A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.

**308.2.4 308.1.2 Throwing or placing sources of ignition.** No person shall throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

**308.4 308.1.3 Torches for removing paint.** Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

**308.3.4 (Supp) 308.1.4 Open-flame cooking devices.** Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

**Exceptions:**

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having LP gas containers with a water capacity not greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

**308.3.3 308.1.5 Location near combustibles.** Open flames such as from candles, lanterns, kerosene heaters, and gas-fired heaters shall not be located on or near decorative material or similar combustible materials.

**308.5 (Supp) 308.1.6 Open-flame devices.** Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or upon wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the fire code official.

**Exception:** Use within inhabited premises or designated campsites which are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

**308.5.4 (Supp) 308.1.6.1 Signals and markers.** Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon wildfire risk areas.

**Exception:** The proper use of fuses at the scenes of emergencies or as required by standard railroad operating procedures.

**308.5.2 308.1.6.2 Portable fueled open-flame devices.** Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

**Exceptions:**

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 38.
2. Cutting and welding operations in accordance with Chapter 26.
3. Torches or flame-producing devices in accordance with Section 308.1.3.
4. Candles and open-flame decorative devices in accordance with Section 308.3.1.

**308.3.5 308.1.7 Religious ceremonies.** When, in the opinion of the code official, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

**308.3.4 308.1.7.1 Aisles and exits.** Candles shall be prohibited in areas where occupants stand, or in an aisle or exit.

**308.6 308.1.8 Flaming food and beverage preparation.** The preparation of flaming foods or beverages in places of assembly and drinking or dining establishments shall be in accordance with Sections ~~308.6.4~~ 308.1.8 through ~~308.6.5~~ 308.1.8.5.

**308.6.4 308.1.8.1 Dispensing.** Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container, or
2. A container not exceeding 1 quart (946 ml) capacity with a controlled pouring device that will limit the flow to a 1 ounce (29.6 ml) serving.

**308.6.2 308.1.8.2 Containers not in use.** Containers shall be secured to prevent spillage when not in use.

**308.6.3 308.1.8.3 Serving of flaming food.** The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

**308.6.4 308.1.8.4 Location.** Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

**308.6.5 308.1.8.5 Fire protection.** The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

**308.2 Permits required.** Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or upon hazardous fire areas.

**308.3.7 308.3 Group A occupancies.** Open-flame devices shall not be used in a Group A occupancy.

**Exceptions:**

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:
  - 1.1. Where necessary for ceremonial or religious purposes in accordance with Section -308.1.7.
  - 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.2.
  - 1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the *International Mechanical Code*.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

**308.3.2 308.3.1 Open-flame decorative devices.** Open-flame decorative devices shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.
2. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
3. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.
4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.

**Exception:** Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
6. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

**Exception:** A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.
8. Storage and handling of combustible liquids shall be in accordance with Chapter 34.
9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
10. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

**308.3.6 308.3.2 Theatrical performances.** Where approved, open-flame devices used in conjunction with theatrical performances are allowed to be used when adequate safety precautions have been taken in accordance with NFPA 160.

**308.4 Group R Occupancies.** Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 308.1 through 308.1.6.2 and 308.4.1.

**308.3.8 308.4.1 Group R-2 dormitories.** Candles, incense and similar open-flame-producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies.

**Commenter's Reason:** The intent behind the original proposal was to simplify the section by reformatting it. Along the way, the proponent erringly mixed code changes with the reformat, which overly complicated the proposal.

After the committee hearing, the proponent heeded the advice of the committee, and changed much of the language back to its original form. Other committee-recommended changes were made to make the format appealing to code users:

- "Religious ceremonies" and "flaming food and beverage preparation" were moved out from under the "assembly" provisions to the "general" provisions to allow for application in Group B occupancies.
- The references to "drinking and dining" establishments were removed to preclude confusion regarding establishments that are "dining" only, without serving alcohol, and "drinking" establishments that do not serve food.
- The exception for LP-gas fired cooking devices was changed back to its original language.

These changes were made to allow the vote to concentrate on the reformatting, and not code changes. Here is the existing format:

**308 – Open flame**  
308.1 – General

- 308.2 – Where prohibited
- 308.3 – Open flame
- 308.4 – Torches for removing paint
- 308.5 – Open flame devices
- 308.6 – Flaming food and beverage preparation

Many good changes have been made to Section 308, but the lack of a recent comprehensive format has made the flow of code requirements a bit awkward. For example, requirements for permits are referenced throughout the requirements. Requirements based upon occupancy are layered within the “open flame” requirements. The “open flame” subsection seems redundant, as the whole of the section addresses open flame. “Torches for removing paint” does not fall under the subsection addressing open flame.

Here is the new format:

**308 – Open flame**

- 308.1 – General
- 308.2 – Permits required
- 308.3 – Group A occupancies
- 308.4 – Group R occupancies

All of the special subjects are grouped under the general section. All three of the required permits are addressed in one subsection. You will find that the flow of the requirements, which have not changed, is smoother and more logical now. If it can be done better, please contact the proponent to fix the modification. Thank you.

Final Action:        AS            AM            AMPC\_\_\_\_\_        D

**F52-07/08**  
**310**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**Revise as follows:**

**SECTION 310**  
**SMOKING**

**310.1 General.** The smoking or carrying of a lighted pipe, cigar, cigarette or any other type of smoking paraphernalia or material is prohibited in the areas indicated in this section. Where required by the fire code official, a written smoking policy shall be developed. The smoking policy shall include, but not be limited to, the requirements in 310.2 through 310.7.

**310.2 Prohibited areas.** Smoking shall be prohibited where conditions are such as to make smoking a fire hazard and in spaces where flammable or combustible materials are stored or handled.

**310.2.1 Medical oxygen.** Smoking shall be prohibited in rooms or areas where medical oxygen is in use.

**310.3 “No Smoking” signs.** The fire code official is authorized to order the posting of “No Smoking” signs in a conspicuous location in each structure or location in which smoking is prohibited. The content, lettering, size, color and location of required “No Smoking” signs shall be approved.

**310.4 Removal of signs prohibited.** A posted “No Smoking” sign shall not be obscured, removed, defaced, mutilated or destroyed.

**310.5 Compliance with “No Smoking” signs.** Smoking shall not be permitted nor shall a person smoke, throw or deposit any lighted or smoldering substance in any place where “No Smoking” signs are posted.

**310.6 Ash trays.** Where smoking is permitted, suitable noncombustible ash trays or match receivers shall be provided on each table and at other appropriate locations. Metal trash containers with self-closing lids shall be available for emptying ashtrays in areas where smoking is permitted.

**310.7 Burning objects.** Lighted matches, cigarettes, cigars or other burning object shall not be discarded in such a manner that could cause ignition of other combustible material.



**310.8 Hazardous environmental conditions.** When the fire code official determines that hazardous environmental conditions necessitate controlled use of smoking materials, the ignition or use of such materials in mountainous, brush-covered or forest-covered areas or other designated areas is prohibited except in approved designated smoking areas.

**Reason:** Smoking can be an extremely hazardous situation. There are specific times when smoking must be prohibited based on the hazard and the location. This proposal enhances the smoking requirements in the IFC and clarifies the requirements.

In 310.1 the fire code official can require a written smoking policy when necessary. This typically would occur in a facility where smoking is allowed in some areas and not in others, and there is a higher fire hazard or life hazard present.

310.2 is revised to simplify the requirement and states that if smoking is a fire hazard, for whatever reason, then smoking is not allowed.

310.1 is added to address the use of medical oxygen. This would be applicable to either patients in a health care facility or elsewhere.

310.6 is revised to clarify that not only are the ashtrays to be noncombustible, but also the trash container that the ashtrays are dumped into needs to be noncombustible.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that a re-write of the smoking regulations has merit but the proposal needs additional work to resolve several issues, including, but not limited to, the restrictiveness of allowing only metal trash containers in Section 310.6, not prohibiting smoking in oxygen storage areas in Section 310.2.1 and a need for further guidance in the formulation of smoking policy.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

#### **SECTION 310 SMOKING**

**310.1 General.** The smoking or carrying of a lighted pipe, cigar, cigarette or any other type of smoking paraphernalia or material is prohibited in the areas indicated in this section. Where required by the fire code official, a written smoking policy shall be developed designating where approved smoking areas are located and where smoking is prohibited. The smoking policy shall include, but is not limited to, the requirements in Sections 310.2 through 310.7.

**310.2 Prohibited areas.** Smoking shall be prohibited in locations and areas where conditions are such as to make smoking creates a fire hazard and in locations and areas where flammable, combustible or oxidizing materials are stored or handled.

**310.2.1 Medical oxygen.** In Group I Occupancies, smoking shall be prohibited in rooms or areas where medical oxygen is in use.

**310.6 Ash trays.** Where smoking is permitted, suitable noncombustible ash trays or match receivers shall be provided on each table and at other appropriate locations. ~~Metal~~ Noncombustible trash containers with self-closing lids shall be available for emptying ashtrays in areas where smoking is permitted.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** Smoking can be an extremely hazardous situation. There are specific times when smoking must be prohibited based on the hazard and the location. This proposal enhances the smoking requirements in the IFC and clarifies the requirements.

This Public Comment has been revised to address the Code Development Committee concerns as follows:

1. In Section 310.1 the fire code official has the authority to require a written smoking policy when necessary. This is not mandatory in all facilities, but only when the fire code official deems it is appropriate. This typically would occur in a facility where smoking is allowed in some areas and not in others, and there is a higher fire hazard or life hazard present.
2. Section 310.2 is revised to simplify the requirement and states that if smoking creates a fire hazard then smoking is not allowed.
3. Section 310.2.1 is added to address the use of medical oxygen in Group I Occupancies. This would be applicable to either patients in a health care facility or elsewhere.
4. Section 310.6 is revised to clarify that if the ashtrays are required to be noncombustible, then the trash container that the ashtrays are dumped into needs to meet the same level of safety, and be noncombustible.

Final Action: AS AM AMPC\_\_\_\_\_ D

**F58-07/08**  
**316 (New)**

*Proposed Change as Submitted:*

**Proponent:** James Everitt, Everitt and Associates, representing McClure Industries

**Add new section as follows:**

**SECTION 316**  
**LAUNDRY CARTS**

**316.1 Laundry carts in commercial laundries.** Laundry carts used for commercial laundries shall be constructed of noncombustible materials or materials having a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> at a flux of 50 kW/m<sup>2</sup> when tested in a horizontal orientation in accordance with ASTM E 1354. Such laundry carts shall be permanently labeled indicating capacity and peak rate of heat release.

**Exceptions:**

1. Laundry carts in buildings protected with an approved automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
2. Laundry carts in coin-operated laundries.

**Reason:** The change from cooking with animal fat to vegetable oil has increased the amount of spontaneous ignition fires. These fires occur outside due to external heating from the sun or by insufficient cool down time in the laundry process and have been known to ignite in freshly folded linen.

Polyethylene laundry carts have a fuel value equal to gasoline and the continued use of these carts is inappropriate. The City of Portland has experienced three recent fires two of which were \$400k+ each with extensions \$100k+ each, due to spontaneous ignition. Last year the Oregon State Coffey Creek Correction Facility had a commercial dryer fire with no loss using the ASTME 1354 container. The commercial dryer fire was emptied in to the container and taken outside and overhauled without evacuation, loss to the structure or damage the container.

These laundry carts are currently available. This revision is supported by the Oregon Laundry Association and is now part of the Oregon amended IFC.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the proposal lacked clarity as to whether carts in coin-operated laundries would be included in the regulations and that the use of the undefined term "commercial laundry" could result in inconsistent enforcement. Also, the applicability of the regulations to existing carts has not been portrayed. The committee felt that a size/capacity of the carts to be regulated should be included.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**James Everitt, Everitt and Associates, requests Approval as Modified by this public comment.**

**Replace proposal as follows:**

**SECTION 316**  
**LAUNDRY CARTS**

**316.1 Laundry carts with a capacity exceeding 1 cubic yard.** Laundry carts with an individual capacity of 1 cubic yard [200 gallons (0.76 m<sup>3</sup>)] or more, used in laundries within group B, F-1, I, and group R-1 occupancies shall be constructed of noncombustible materials or materials having a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> at a flux of 50 kW/m<sup>2</sup> when tested in a horizontal orientation in accordance with ASTM E 1354.

**Exceptions:**

1. Laundry carts in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1.
2. Laundry carts in coin-operated laundries.

**Commenter's Reason:**

- 1) To comply with the directions of the committee.
- 2) As stated by the original proposal: Polyethylene laundry carts have a fuel value equal to gasoline and are frequently subject to spontaneous ignition. The City of Portland has experienced two recent fires \$400k+ each with extensions \$100k+ each, due to spontaneous ignition. Last year the Oregon State Coffey Creek Correction Facility had a commercial dryer fire with no loss using the ASTM E 1354 container. The commercial dryer fire was emptied in to the container and taken outside and overhauled without evacuation, loss to the structure or damage the container. This revision is supported by the Oregon Laundry Association.

*Public Comment 2:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**SECTION 316**  
**LAUNDRY CARTS**

**316.1 Laundry Carts with a capacity of 1 cubic yard or greater.** Laundry carts with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m<sup>3</sup>)] or more, used in laundries within Group B, F-1 and R-1 occupancies, shall be constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation.

Exceptions:

- 1. Laundry carts in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1.
- 2. Laundry carts in coin-operated laundries.

**Commenter's Reason:** The committee stated that they disapproved this proposal because the term "commercial laundries" was unclear and because the size was undetermined. Changes were made to address both issues.

- 1. Language, including a title, is being proposed that includes the laundry cart size.
- 2. The comment proposes language that addresses laundries with Group B, F-1 and R1 occupancies only, which are the real commercial laundries.
- 3. The comment proposes revised language that is parallel to that in section 304 for waste containers and dumpsters.
- 4. Laundry carts in coin-operated laundries are exempted irrespective of where they are.

As explained in the original proposal, if these laundry carts are constructed of polyethylene (as they usually are) they represent a severe fire source. The peak rate of heat release criterion recommended, based on ASTM E 1354, is the same one that is already included in the IFC in section 808.1 and was proposed in the accepted proposal F41 for section 304.3.2, as well as in the IBC in 402.11.1.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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**F59-07/08**  
**403.3 (New)**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**Add new text as follows:**

**403.3 Crowd manager.** Trained crowd managers shall be provided for facilities or events where more than 1000 persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons. Where approved by the fire code official, the ratio of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system or based upon the nature of the event.

**Reason:** The only requirement for crowd managers is in Section 2404.20 for tents. Large assemblies of people create the need for crowd management due to panic and fear in emergency situations in numerous other locations than just tents. It is the intent of this proposal for crowd managers to be personnel already assigned and employed by the facility. Current employees can be trained as crowd managers to fulfill this requirement. At the time of an emergency, the trained crowd managers would take on these additional responsibilities to control and direct the audience or attendees in a safe manner.

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

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** The proposal was approved because the committee felt that it is appropriate to provide enhanced life safety in large Group A venues by providing patron assistance in emergencies. The committee did observe, however, that there should be more guidance on the training required and clarification that existing staff can be used and the fact that new staff need not be hired for this purpose.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Jackie D. Pike, Red, White & Blue Fire District, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**403.3 Crowd Manager.** Trained crowd managers shall be provided for facilities or events where ~~more than 1000 or more~~ persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager ~~to every~~ starting at 250 persons ~~and one for every 250 persons thereafter~~. Where approved by the fire code official, the ratio of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system, the number of exits are increased, or based upon the nature of the event. The owner, agent, or lessee shall assign or employ one or more qualified persons, as approved by the fire code official, to remain on duty during the times such facilities or events are open to the public.

**Commenter's Reason:** F59-07/08 was approved as submitted at the code hearings in Palm Springs, however, the committee did observe that there should be more guidance on the training required, clarification that existing staff can be used, and the fact that new staff need not be hired for this purpose. This submittal attempts to address these issues.

This public comment recommends modification by clarifying the number of crowd managers required for an event. The existing wording is unclear—if we are saying one crowd manager for every 250 occupants starting at 1000, does this mean four managers for the first 1000 people, or the first crowd manager starting at 1250? This change clarifies that a crowd of 1000 persons is required to have four crowd managers.

Adding a provision for the fire code official to approve the training required for crowd managers allows individual fire code officials to evaluate factors specific to their jurisdictions.

The provision for a reduction of crowd managers based on increased exits allows the code official to reduce the number of crowd managers required if the venue has more exits than required by the code.

The final statement addresses the committees' concern with regard to the ability to utilize existing staff versus the unintended requirement to hire additional staff. It allows for the owner to choose the option that best suits them, as long as crowd managers meet the approval of the fire code official. This statement is similar to the code requirements of Section 2404.20.

Final Action:        AS            AM            AMPC\_\_\_\_        D

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## **F60-07/08**

### **404.2, Table 405.2**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**Revise as follows:**

**404.2 Where required.** An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.
2. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
3. Group E.
4. Group F.
4. 5. Group H.
5. 6. Group I.
6. 7. Group R-1.
7. 8. Group R-2 college and university buildings.
8. 9. Group R-4.

- ~~9-10.~~ High-rise buildings.
- ~~10-11.~~ Group M buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- ~~11-12.~~ Covered malls exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate floor area.
- ~~12-13.~~ Underground buildings.
- ~~13-14.~~ Buildings with an atrium and having an occupancy in Group A, E or M.

**TABLE 405.2  
FIRE AND EVACUATION DRILL FREQUENCY AND PARTICIPATION**

<b>GROUP OR OCCUPANCY</b>	<b>FREQUENCY</b>	<b>PARTICIPATION</b>
Group A	Quarterly	Employees
Group B <sup>c</sup>	Annually	Employees
Group E	Monthly <sup>a</sup>	All occupants
Group F	Annually	Employees
Group I	Quarterly on each shift	Employees <sup>b</sup>
Group R-1	Quarterly on each shift	Employees
Group R-2 <sup>d</sup>	Four annually	All occupants
Group R-4	Quarterly on each shift	Employees <sup>b</sup>
High-rise buildings	Annually	Employees

(Footnotes remain unchanged)

**Reason:** The IFC currently requires fire-safety plans in practically every occupancy group with the exception of Group F occupancies. Under the Code, the only “manufacturing” occupancy that requires a fire-safety plan is Group H occupancies. The only difference between a Group F and a Group H occupancy is the aggregate amount of hazardous materials present in the facility and some of the manufacturing processes. In many Group F occupancies, there can be processes and hazards that theoretically make them just as hazardous as a Group H occupancy. But because these facilities fall short of the aggregate amount of chemicals, they are not classified as Group H.

Group F manufacturing facilities should have written fire safety and evacuation plans to protect the workers. Under 29 CFR 1910.39(b), OSHA requires that any workplace with more than ten (10) employees shall have a written fire prevention plan. The code should at least parallel the OSHA Standard.

Manufacturing facilities should be required to have at least annual emergency evacuation drills due to the size and complexity of some of these facilities. It will increase the life safety of the occupants to practice evacuation procedures.

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

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** The proposal was approved because the committee felt that it is appropriate to enhance the level of safety in industrial occupancies by requiring a fire safety and evacuation plan and drills for employees. The committee did observe, however, that further definition of the applicability triggers is needed, e.g. in how big a Group F, how many occupants, should Group F-2, which deals with essentially noncombustible materials, be included?

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**404.2 Where required.** An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.
2. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
3. Group E.
4. Group F buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
5. through 14. (No change to current text)

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** The Code Development Committee approved this item on the basis that the Joint Fire Service Review Committee would return and provide some parameters and limitations on the application to F occupancies.

This Public Comment limits the application of these requirements to F occupancies with more than 500 occupants, or F occupancies with more than 100 occupants above or below the level of exit discharge.

Consideration was given as to whether F-2 should be included along with the F-1 occupancies. Based on the fact that IFC 907.2.4 requires a fire alarm to be installed in either an F-1 or an F-2 at the same threshold of 500 occupants or 100 above or below exit discharge, it was determined that same fire evacuation drill requirements would be appropriate. The F-2 will have a fire alarm installed at these levels, therefore, the occupants should be aware of their expected action when it activates.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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## **F61-07/08**

### **404.1, 404.3.3 through 404.3.3.3 (New), 406.3.3 (New), 402.1 (New)**

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **1. Revise as follows:**

**404.1 General.** Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of this section. The plans shall not conflict with other sections of this code.

#### **2. Add new text as follows:**

**404.3.3 Lockdown plans.** Where facilities develop a lockdown plan, the lockdown plan shall be in accordance with Sections 404.3.3.1 through 404.3.3.3.

**404.3.3.1 Lockdown plan contents.** Lockdown plans shall be approved by the fire code official and shall include the following:

1. Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.
2. Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.
3. Recall. The plan shall include pre-arranged signal for returning to normal activity.
4. Communication and coordination. The plan shall include an approved means of two-way communication between a central location and each secured area.
5. The plan shall be in accordance with the National Incident Management System and applicable state and federal laws or regulations.

**404.3.3.2 Training frequency.** The training frequency shall be included in the lockdown plan. The lockdown drills shall not substitute for any of the fire and evacuation drills required in Section 405.2.

**404.3.3.3 Lockdown notification.** The method of notifying building occupants of a lockdown shall be included in the plan. The method of notification shall be separate and distinct from the fire alarm signal.

**406.3.3 Emergency lockdown training.** Where a facility has a lockdown plan, employees shall be trained on their assigned duties and procedures in the event of an emergency lockdown.

(Renumber remaining sections)

#### **3. Add new definition as follows:**

**402.1 Definition.** The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

**LOCKDOWN.** An emergency situation requiring that the occupants be sheltered and secured in place within a building when normal evacuation would put occupants at risk.

**Reason:** Buildings are developing "lockdown" plans in response to security threats. This proposal will add requirements to the IFC on lockdown plans, lockdown drills and lockdown operations, not only in schools, but in all buildings where a lockdown plan is desired.

The code does not require a lockdown plan, however if a plan is to be developed, the plan must maintain the integrity of the egress system to an acceptable level. These lockdown plans include procedures for locking occupants into individual rooms within the building, and typically do not consider the impact of lockdowns on fire safety. This proposal is intended to establish the conditions for lockdown plans so that they will not decrease the level of life safety in the event of fires.

Many facilities are adopting procedures that can significantly affect fire safety, such as using the fire alarm system to signal a security emergency, locking doors with devices that prevent egress, and chaining exit discharge doors from the inside to prevent occupants from leaving the building. It is important that plans for security threats do not include procedures that result in violations of life safety and actually increase the hazard to the occupants.

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

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**404.3.3.1 Lockdown plan contents.** Lockdown plans shall be approved by the fire code official and shall include the following:

1. Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.
2. Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.
3. Recall. The plan shall include pre-arranged signal for returning to normal activity.
4. Communication and coordination. The plan shall include an approved means of two-way communication between a central location and each secured area.
5. ~~The plan shall be in accordance with the National Incident Management System and applicable state and federal laws or regulations.~~

**Committee Reason:** The proposal was approved because the committee felt that it is appropriate to provide a means for involving the fire code official in lockdown procedure planning that is currently being done but without fire service input. The modification recognizes that the NIMS is primarily a tool for emergency forces and deletes unclear language regarding other applicable laws. The committee also observed that the regulations could be improved by including the police and other interested and affected agencies and officials in the lockdown planning process. In addition, guidance should be provided on the "accountability procedures" and the "central location" in Sections 404.3.3.1(2) and 404.3.3.1(4), respectively, and providing applicable exceptions to compliance with other parts of the code in lieu of the new last sentence in Section 404.1.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**404.1 General.** Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of this section. ~~The plans shall not conflict with other sections of this code.~~

**404.1 Definition.** The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

**LOCKDOWN.** An emergency situation, in other than a Group I-3 occupancy, requiring that the occupants be sheltered and secured in place within a building when normal evacuation would put occupants at risk.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** This item was approved by the Code Development Committee with instruction to the Joint Fire Service Review Committee to return with some enhancements.

Specifically, the 2<sup>nd</sup> sentence of 404.1 is deleted. If the Lockdown Plan is conflicting with the code, it should not be approved. The definition of lockdown is revised to eliminate the inclusion of detention facilities.

All of the revisions as a result of floor testimony and as requested by the committee have been included so that the IFC can now more efficiently evaluate lockdown plans as they become more commonplace across the country.

*Public Comment 2:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**404.1. General.** Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of this section. ~~The plans shall not conflict with other sections of this code.~~

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** By their very nature, 'lockdown' plans will need to include measures that will 'conflict' with provisions in the IFC and other ICC codes.

Doors may need to be secured to prevent ingress and/or egress, lights may be turned off, HVAC may be shut down, etc. Prohibiting a lockdown plan from including what are determined to be essential actions defeats the purpose of developing a lockdown plan, which would likely lead to 'unofficial' lockdown plans being developed, defeating the purpose of this code change.

Eliminating the sentence prohibiting 'conflicts' with the code does not create a major loophole. The remainder of the proposal, specifically Section 404.3.3.1, requires that any lockdown plan be approved by the fire code official. Part of the development and approval of the plan can include measures for dealing with the code 'conflicts' that are determined to be necessary as part of the plan.

If deletion of the language prohibiting any conflict with the code is not deleted, the proposal should be disapproved, as a lockdown plan with such broad constraints would be useless.

Final Action:        AS            AM            AMPC\_\_\_\_        D

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## **F67-07/08**

### **503.2.1, Appendix D103.1, D105.2**

#### *Proposed Change as Submitted:*

**Proponent:** Edwin M. Berkel, CFI, Mehlville Fire Protection District, representing himself

#### **Revise as follows:**

**503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

**D103.1 Access road width with a hydrant.** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders. See Figure D103.1.

**D105.2 Width.** Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

**Reason:** The intent of the width requirements for fire apparatus access roads is that the all-weather surface capable of supporting the expected imposed loads of apparatus be applicable to the full 20 foot width of the road to provide space for fire apparatus to pass one another during fireground operations. The need to pass may occur when engines are parked for hydrant hookup or laying hose or when trucks are performing aerial ladder operations. Including adjacent road shoulders in the 20 foot width measurement could yield sub-standard and inadequate driving surfaces for apparatus. This proposal will make it clear that the shoulders are not to be included in the minimum fire apparatus access road width.

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

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change which will provide for full-width, properly surfaced fire apparatus access roads.

**Assembly Action:** **None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Steve Orlowski, National Association of Home Builders, requests Disapproval.**



**Commenter's Reason:** According to the Federal Highway Administration shoulders are provided for the strict use of emergency vehicles responding to an emergency and are to remain clear. These shoulders are often called "fire lanes". Currently there is no definition for the term "shoulder" anywhere within the IFC or any other code written by the ICC. Is it the areas to the right of the white line? What if there is no white line present? The lack a uniform definition for all fire officials, developers, and planning departments will lead to conflicting opinions of what constitutes a shoulder. There is great concern over the ramifications that this proposal will have on all newly constructed fire apparatus access roads, as well as those that are existing.

The Fire Code clearly states the fire apparatus road must be designed and built to support the imposed loads and be surfaced in a way to provide all weather driving capability. If the shoulder (or area beyond the white line) is of the same depth and made of the same material of the roadway, there is no reason that it should not be included in the measured width of the fire apparatus access road. In many rural parts of the United States, these roads are permitted to be gravel, paved, and in some of the more remote areas are regular dirt roads. According to the existing text of Section 503.1, any building or structure built or moved into to the jurisdiction, **hereafter**, would be required to have a fire apparatus access road provided. This would surely have a financial impact any jurisdiction trying to annex or expand their territory, where they would be required to reconstruct existing or build additional roadways to structures that were existing.

Final Action:           AS           AM           AMPC\_\_\_\_           D

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## **F75-07/08, Part I**

### **505.3 (New)**

#### *Proposed Change as Submitted:*

**Proponent:** Sean DeCrane, Cleveland, OH Fire Department representing International Association of Fire Fighters Local #93, Cleveland, OH; Kirk Grundahl, WTCA Representing the Structural Building Component Industry

#### **PART I – IFC**

#### **Add new text as follows:**

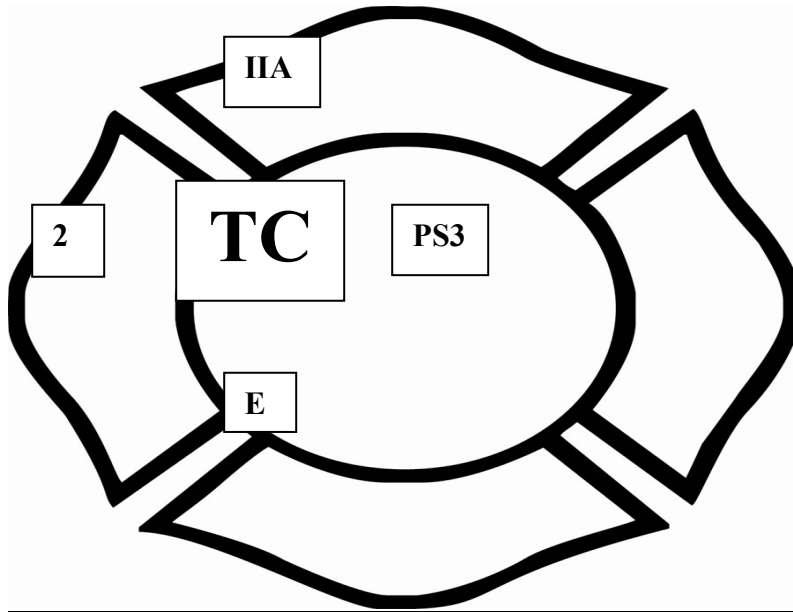
**505.3 Building information sign.** Building information signs shall comply with Sections 505.3.1 through 505.3.7.

**505.3.1 Sign location.** The Building information sign shall be placed on a minimum of two exterior walls containing a means of access to a building or facility, no lower than 42" or no higher than 60" inches, and no further than six (6) feet from main entry point's unhinged side, or right side if non-hinged opening. Local jurisdictions shall have the authority to require additional locations.

**505.3.1.2 Sign features.** The building information sign shall consist of:

1. White reflective background with red letters;
2. Durable material;
3. Numerals shall be Roman or Latin numerals, as required, and/or alphabet letters;
4. Permanently affixed to the building or structure in an approved manner.

**505.3.1.3 Sign shape.** The building information sign shall be a Maltese Cross as shown in Figure 505.3.1.3



**FIGURE 505.3.1.3  
BUILDING INFORMATION SIGN**

**505.3.1.4 Sign size and lettering.** The minimum size of the building information sign and lettering shall be in accordance with the following:

1. The width and height shall be 6 inches by 6 inches
2. The height or width of each Maltese cross wing area shall be 1 1/8 inches and have a stroke width of 1/2 inch;
3. The center of the Maltese cross a circle of oval 3 1/8 inches in diameter and has a stroke width of 1/2 inch;
4. All roman numerals and/or alphabetic designations, shall be 1 1/4 inch height and have a stroke width of 1/4 inch.

**505.3.2 Sign Designations.** Designations shall be made based upon the construction type, content, hazard, fire protection systems, life safety and occupancy. Where multiple designations occur within a classification Category, the designation used shall be based on the greatest potential risk.

**505.3.3 Construction type (top wing).** The construction types shall be designated by assigning the appropriate Roman numeral, and letter, placed inside the top wing of the Maltese cross. The hourly rating provided is for the structural framing in accordance with Table 601 of the *International Building Code*.

<b>Construction Type</b>	<b>Hourly Rating</b>
<u>Fire Resistive Construction -</u>	<u>3 Hour Rating</u>
<u>IB – Fire Resistive Construction -</u>	<u>2 Hour Rating</u>
<u>IIA – Non-Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIB – Non-Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IIIA – Ordinary Construction -</u>	<u>1 Hour Rating</u>
<u>IIIB – Ordinary Construction -</u>	<u>0 Hour Rating</u>
<u>IV – Heavy Timber Construction</u>	
<u>V – Combustible Construction –</u>	<u>0 Hour Rating</u>

**505.3.4 Hazards of content (left wing).** The hazards of building contents shall be designated by one of the following classifications as defined in NFPA 13 and the appropriate designation shall be placed inside the left wing of the Maltese cross:

- 1 – Light Hazard
- 2 – Moderate Hazard
- 3 – High Hazard

**505.3.5 Fire protection systems (right wing).** The fire protection systems shall be designated by determining its level of protection and assigning the appropriate designation to the right wing of the Maltese cross. Where multiple systems are provided, all shall be listed:

AS – Automated Fire Sprinkler System installed throughout;  
PS – Partial Automatic Fire Sprinkler System, and designate floor;  
CS – Combination Sprinkler and Standpipe System;  
S – Standpipe System;  
NS – No system installed

**505.3.6 Occupancy type (bottom wing).** The occupancy of a structure can accompany particular hazards related to the stated occupancy. Identifying the occupancy of a structure will allow fire fighters to make informed tactical assumptions and decisions. Occupancies shall be designated in accordance with the occupancy classification found in Section 302.1 of the *International Building Code* and the corresponding designation shall be placed in the bottom wing of the Maltese cross.

A – Assembly  
B – Business  
E – Educational  
F – Factory or Industrial  
H – High Hazard  
I – Institutional  
M – Mercantile  
R – Residential  
S – Storage  
U – Utility or Miscellaneous

**505.3.7 Tactical considerations (center circle).** The building identification marker is designed to provide key information in the initial stages of a fire ground incident. The information contained on this sign will allow the initial response fire fighters on the initial response group to make more well informed and quicker tactical decisions.

**505.3.7.1 Additional Information.** Where fire fighters conduct pre-plan operations, unique situations shall be identified and placed under within the center section of the sign to allow the initial response fire fighters to identify that there are special considerations for this occupancy. Special consideration designations include, but are not limited to:

1. Protect in place
2. Limited mobility
3. Handicapped occupants
4. Impact resistant drywall
5. Impact resistant windows;
6. All types of roof and floor structural members including but not limited to post tension concrete, bar joists, joists, rafters, trusses, I-joists and I-beams);
7. Chemicals;
8. Plastics;
9. Explosives

Inspectors are authorized to use NFPA 1620 as a guide.

**505.3.8 Sign classification maintenance.** Sign classification maintenance shall comply with all of the following:

1. Fire departments in the jurisdiction shall define the designations to be placed within the sign.
2. Fire departments in the jurisdiction shall conduct annual inspections to verify compliance with this section of the code.
3. The owner of a building shall be responsible for the maintenance and updates to the sign in accordance to fire department designations.
4. The owner of a building shall notify the fire department of any changes that possibly effect the classifications, of the system, within thirty (30) days of the changes and the Fire Department shall conduct an inspection.
5. The owner of a building shall change the effected classification posted on the sign within thirty (30) days of the changes.

**505.3.9 Training.** Jurisdictions shall train all fire department personnel on the building identification marker.

(Renumber subsequent sections.)

## 2. Add standard to Chapter 45 as follows:

### NFPA

#### 1620-03 Recommended Practice for Pre-Incident Planning

**Reason:** This Building Information Sign (BIS) is designed to be utilized in the crucial initial response of fire fighters to a structure fire. Similar to the Emergency Response Guidebook, published by the Department of Transportation, the BIS is designed to be utilized in the initial fifteen (15) to thirty (30) minutes of an incident. Fire fighters are trained to size up a situation as early as notification, sometimes appearances can be deceiving, a type of construction may not appear to be what it really is. This is becoming an occurrence with urban renewal. As communities try to design neighborhoods and maintain structural consistency, what may appear to be a traditional form of construction is now a designed lightweight system. In the dark, or to mutual aid crews, this is not always apparent. Having the BIS will allow responding companies to make an informed tactical decision. The responding company will be able to identify the type of construction, hazard level of the contents, occupancy of the building and whether the building is protected with automatic suppression and the extent of the protection.

In Tactical Considerations, we will allow fire fighters to identify additional considerations and prepare for them. Just by seeing that there are additional considerations would give fire fighters pause to consider additional aspects of the situation. Are there Protect in Place, Handicap or Limited Mobility concerns of the occupants. Is the interior constructed using impact resistant dry wall which will make wall breaching very difficult, is there lexan glazing? These are a sample of concerns that would cause a fire fighter to consider options at an incident. Does the building contain lightweight construction in the roof or floors. This can be identified and placed in the Tactical Considerations. The National Institute for Occupational Safety and Health released a report, "Preventing Injuries and Deaths of Fire Fighters Due to Truss System Failures" recommends identifying structures by suggesting that building owners and managers "Consider placing building construction information outside the building. Include information about roof and floor type (presence of trusses, materials used), roof loads (heating, ventilation, and air conditioning (HVAC) units, displays), sprinkler systems, utilities, chemicals on site and contact numbers. Use and follow the proper building codes." Tactical Considerations, allows fire fighters to identify the type of construction that puts them at risk. The author also recommends the use of NFPA 1620 as a guide for Pre-Plan operations.

#### **Bibliography:**

1. NIOSH Alert – "Preventing Injuries and Deaths of Fire Fighters due to Truss System Failures" April 2005

**Cost Impact:** The code change proposal will have a minimal increase to the cost of construction.

**Analysis:** Review of proposed new standard NFPA 1620-03 indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria.

### **PART I – IFC**

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The committee agreed that the proposal has merit and would provide important building information to fire incident commanders, however, it had questions and concerns regarding a number of issues, including: how multiple occupancies and multiple construction types in the same structure would be handled, how changing occupancies would be handled, whether it would apply to carports, lean-to sheds, etc., that it would require handicapped persons to put up signs in violation of the Americans with Disabilities Act, that the on-going accuracy of the information provided could not be assured, that the responsibility for sign maintenance is not clearly defined, that the requirements for existing buildings are onerous, that construction types in existing buildings can be impossible to identify, that the use of electronic media as an alternative should be explored, that proposed Sections 505.3.6 and 505.3.7 contain commentary language. Additionally, the proposed standard does not comply with the ICC standards policy.

#### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted for Part I.**

#### *Public Comment:*

**Sean DeCrane, Fire Department, Cleveland, OH, requests Approval as Modified by this public comment for Part I.**

**Kirk Grundahl, Wood Truss Council of America (WTCA), requests Approval as Modified with this public comment for Part I.**

**Jack Murphy, Fire Safety Directors of Greater New York, requests Approval as Modified by this public comment for Part I.**

**Replace Part I – IFC of proposal with the following:**

**505.3 Building information sign.** New buildings shall have a building information sign(s) that shall comply with Sections 505.3.1 through 505.3.7. Existing buildings shall be brought into conformance with Sections 505.3.1 through 505.3.7 when one of the following occurs:

1. The fire department conducts an annual inspection intended to verify compliance with this section of the code, or any required inspection.
2. When a Change in Use or Occupancy has occurred.

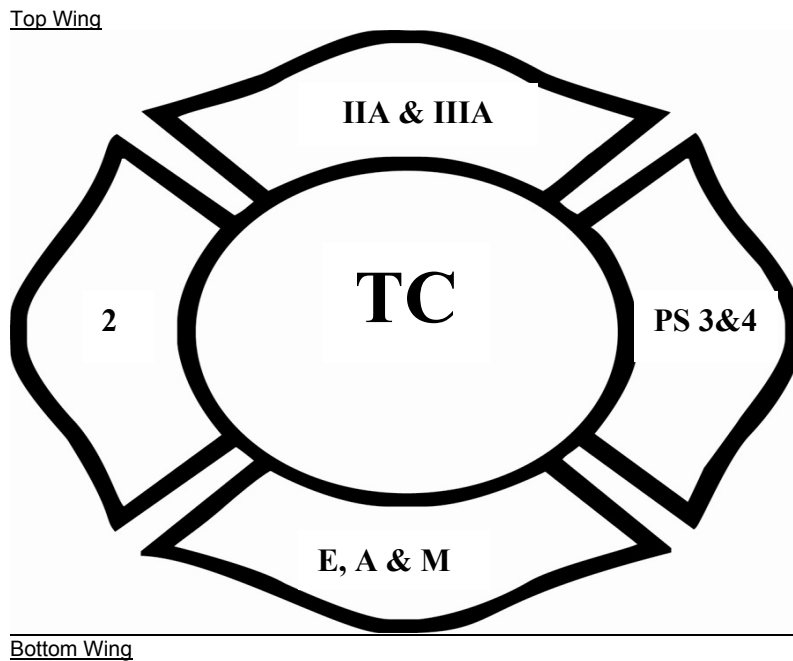
**505.3.1 Sign location.** The building information sign shall be placed on one of the following:

1. The entry door or sidelight at a minimum height of 42" above the walking surface on the address side of the building or structure;
2. The exterior surface of the building or structure no further than 3' from the entrance door, on either side of the entry door, at a minimum height of 42" above the walking surface on the address side of the building or structure;
3. Conspicuously placed, inside an enclosed entrance lobby, on any vertical surface within 10 feet of the entrance door at a minimum height of 42" above the walking surface;
4. Located inside the building's fire command center;
5. Located on the exterior of the fire alarm panel or immediately along side the panel door on the wall if the alarm panel is located in the enclosed main lobby.

**505.3.1.2 Sign features.** The building information sign shall consist of:

1. White reflective background with red letters;
2. Durable material;
3. Numerals shall be Roman or Latin numerals, as required, and/or alphabet letters;
4. Permanently affixed to the building or structure in an approved manner.

**505.3.1.3 Sign shape.** The building information sign shall be a Maltese Cross as shown in Figure 505.3.1.3



**FIGURE 505.3.1.3  
BUILDING INFORMATION SIGN**

**505.3.1.4 Sign size and lettering.** The minimum size of the building information sign and lettering shall be in accordance with the following:

1. The width and height shall be 6 inches by 6 inches
2. The height or width of each Maltese cross wing area shall be 1 1/8 inches and have a stroke width of 1/2 inch;
3. The center of the Maltese cross a circle of oval 3 1/4 inches in diameter and has a stroke width of 1/2 inch;
4. All roman numerals and/or alphabetic designations, shall be 1 1/4 inch height and have a stroke width of 1/4 inch.

**505.3.2 Sign Designations.** Designations shall be made based upon the construction type, content, hazard, fire protection systems, life safety and occupancy. Where multiple designations occur within a classification Category, the designation used shall be based on the greatest potential risk.

**505.3.3 Construction type (TOP WING).** The construction types shall be designated by assigning the appropriate Roman numeral, and letter, placed inside the top wing of the Maltese cross. The hourly rating provided is for the structural framing in accordance with Table 601 of the *International Building Code*.

<b>Construction Type</b>	<b>Hourly Rating</b>
<u>IA - Non-Combustible Construction -</u>	<u>3 Hour Rating</u>
<u>IB - Non-Combustible Construction -</u>	<u>2 Hour Rating</u>
<u>IIA - Non-Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIB - Non-Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IIIA - Non-Combustible/Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIIB - Non-Combustible/Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IV - Heavy Timber Construction -</u>	
<u>VA - Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>VB - Combustible Construction -</u>	<u>0 Hour Rating</u>

**505.3.4 Hazards of content (LEFT WING).** The hazards of building contents shall be designated by one of the following classifications as defined in NFPA 13 and the appropriate designation shall be placed inside the left wing of the Maltese cross:

- 1 – Light Hazard
- 2 – Moderate Hazard
- 3 – High Hazard

**505.3.5 Fire protection systems (RIGHT WING).** The fire protection systems shall be designated by determining its level of protection and assigning the appropriate designation to the right wing of the Maltese cross. Where multiple systems are provided, all shall be listed:

- AS – Automated Fire Sprinkler System installed throughout;
- DS – Dry Sprinkler System and designated areas
- PAS – Pre-Action Sprinkler System and designated floor
- PS – Partial Automatic Fire Sprinkler System, and designate floor;
- CES – Chemical Extinguishing System and designated area,
- CS – Combination Sprinkler and Standpipe System;
- S – Standpipe System;
- NS – No system installed

**505.3.6 Occupancy type (BOTTOM WING).** The occupancy of a building or structure shall be designated in accordance with the occupancy classification found in Section 302.1 of the *International Building Code* and the corresponding designation shall be placed in the bottom wing of the Maltese cross. When a building or structure contains a mixture of uses and occupancies; all uses and occupancies shall be identified.

- A – Assembly
- B – Business
- E – Educational
- F – Factory or Industrial
- H – High Hazard
- I – Institutional
- M – Mercantile
- R – Residential
- S – Storage

**505.3.7 Tactical Considerations (CENTER CIRCLE).** The Center Circle shall always contain the name of the local Fire Service. When fire fighters conduct pre-plan operations, unique situations shall be identified and placed within the center section of the sign to allow the initial response fire fighters to identify that there are special considerations for this occupancy. Special consideration designations include, but are not limited to:

1. Impact resistant drywall
2. Impact resistant glass;
3. All types of roof and floor structural members including but not limited to post tension concrete, bar joists, joists, rafters, trusses, cold-formed galvanized steel, I-joists and I-beams;
4. Hazardous materials, explosives, chemicals, plastics, etc.;

**505.3.8 Sign classification maintenance, Building information sign maintenance shall comply with each of the following:**

1. Fire departments in the jurisdiction shall define the designations to be placed within the sign.
2. Fire departments in the jurisdiction shall conduct annual inspections to verify compliance with this section of the code and shall notify the owner, or the owners agent, of any required updates to the sign in accordance with fire department designations and the owner, or the owner's agent, shall comply within thirty (30) days.
3. The owner of a building shall be responsible for the maintenance and updates to the sign in accordance to fire department designations.
4. The owner of a building shall notify the fire department of any changes that possibly effect the classifications, of the system, within thirty (30) days of the changes and the Fire Department shall conduct an inspection.
5. The owner of a building shall change the effected classification posted on the sign within thirty (30) days of the changes.

**505.3.9 Training.** Jurisdictions shall train all fire department personnel on Sections 501.3.1 through 501.3.8.

**Commenter's Reason:** This Building Information Sign (BIS) is designed to be utilized in the crucial initial response of fire fighters to a structure fire. Similar to the Emergency Response Guidebook, published by the Department of Transportation, the BIS is designed to be utilized in the initial fifteen (15) to thirty (30) minutes of an incident. Fire fighters are trained to size up a situation as early as possible after notification. Outward appearances can be deceiving and the type of construction may not appear to be what it really is. This is becoming a more frequent occurrence with urban renewal. Having the BIS will allow responding companies to make an informed tactical decision. The responding company will be able to identify the type of construction, hazard level of the contents, structural framework, occupancy of the building and whether the building is protected with automatic suppression and the extent of the protection.

In the fire service there are many times we are dispatched to a location without an address. Placing this information electronically will not address those incidents. Once the fire company has located the building or structure, the company officer can relay the correct address to the Dispatching Center and exit the apparatus to begin an assessment and making tactical decisions. The company officer can not afford to wait until Dispatch sends an electronic form of the marker to the mobile computer. This sign will give that arriving officer information to begin his/her assessment.

Another instance where a BIS is valuable is with Mutual Aid. Mutual Aid companies do not always share Dispatching Centers therefore they would not have the ability to receive the electronic communication. Placing this sign in designated locations will allow arriving Mutual Aid companies to begin proper tactical assessments.

In Tactical Considerations, the BIS allows fire fighters to identify additional considerations and prepare for them. Just by seeing that there are additional considerations would give fire fighters pause to consider unique aspects of the situation. Are there special needs for the occupants? Is the interior constructed using impact resistant dry wall which will make wall breaching very difficult? Is there lexan glazing? These are examples of concerns that would cause a fire fighter to consider options at an incident. Does the building contain dimension lumber, trusses, I-joists, cold formed steel, etc. in the roof or floors? This can be identified and placed in the Tactical Considerations. The

National Institute for Occupational Safety and Health released a report, 'Preventing Injuries and Deaths of Fire Fighters Due to Truss System Failures'<sup>1</sup> recommends identifying structures by suggesting that building owners and managers "Consider placing building construction information outside the building. Include information about roof and floor type (presence of trusses, materials used), roof loads (heating, ventilation, and air conditioning (HVAC) units, displays), sprinkler systems, utilities, chemicals on site and contact numbers. Use and follow the proper building codes."

This Building Information Sign has brought many people together from various industries (the structural building component, steel & wood industries, building officials, fire service) to collaborate on a BIS system that is comprehensive and meets the need of the fire service for information that allows for a quicker building assessment on the fire ground. This addresses a key question that has been asked for quite some time -- "How do we provide building information to the fire service?". With this Building Information Sign we are providing the responding fire fighters crucial information at the most important time period. Officers will be able to make educated decisions based on the information provided in this sign or be prompted by the Tactical Considerations to request better information.

**Bibliography:**

1. NIOSH Alert – "Preventing Injuries and Deaths of Fire Fighters due to Truss System Failures" April 2005

Final Action: AS AM AMPC\_\_\_\_\_ D

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## **F75-07/08, Part II**

### **IBC 501.3 (New)**

#### *Proposed Change as Submitted:*

**Proponent:** Sean DeCrane, Cleveland, OH Fire Department representing International Association of Fire Fighters Local #93, Cleveland, OH; Kirk Grundahl, WTCA Representing the Structural Building Component Industry

#### **PART II – IBC GENERAL**

##### **1. Add new text as follows:**

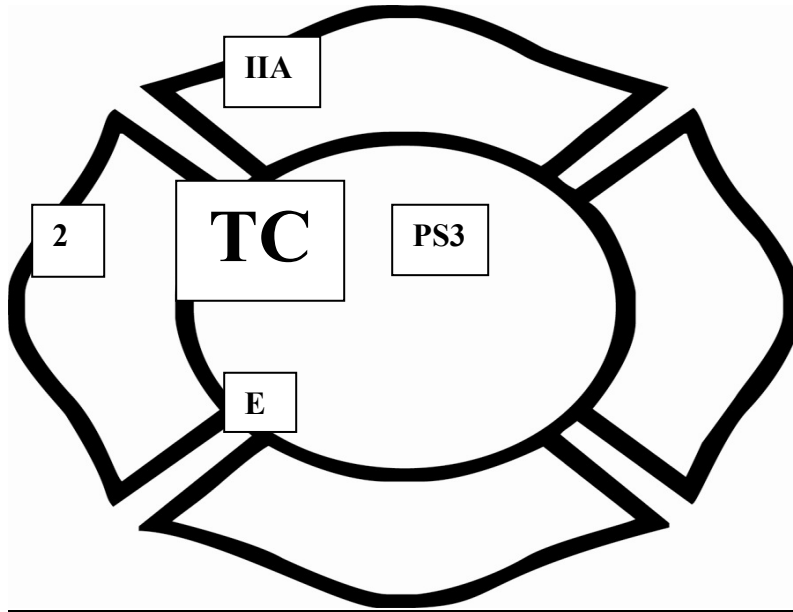
**501.3 Building information sign.** Building information signs shall comply with Sections 501.3.1 through 501.3.7.

**501.3.1 Sign location.** The Building information sign shall be placed on a minimum of two exterior walls containing a means of access to a building or facility, no lower than 42" or no higher than 60" inches, and no further than six (6) feet from main entry point's unhinged side, or right side if non-hinged opening. Local jurisdictions shall have the authority to require additional locations.

**501.3.1.2 Sign features.** The building information sign shall consist of:

1. White reflective background with red letters;
2. Durable material;
3. Numerals shall be Roman or Latin numerals, as required, and/or alphabet letters;
4. Permanently affixed to the building or structure in an approved manner.

**501.3.1.3 Sign shape.** The building information sign shall be a Maltese Cross as shown in Figure 501.3.1.3



**FIGURE 501.3.1.3  
BUILDING INFORMATION SIGN**

**501.3.1.4 Sign size and lettering.** The minimum size of the building information sign and lettering shall be in accordance with the following:

1. The width and height shall be 6 inches by 6 inches
2. The height or width of each Maltese cross wing area shall be 1 1/8 inches and have a stroke width of 1/2 inch;
3. The center of the Maltese cross a circle of oval 3 1/8 inches in diameter and has a stroke width of 1/2 inch;
4. All roman numerals and/or alphabetic designations, shall be 1 1/4 inch height and have a stroke width of 1/4 inch.

**501.3.2 Sign Designations.** Designations shall be made based upon the construction type, content, hazard, fire protection systems, life safety and occupancy. Where multiple designations occur within a classification Category, the designation used shall be based on the greatest potential risk.

**501.3.3 Construction type (top wing).** The construction types shall be designated by assigning the appropriate Roman numeral, and letter, placed inside the top wing of the Maltese cross. The hourly rating provided is for the structural framing in accordance with Table 601 of the *International Building Code*.

<b>Construction Type</b>	<b>Hourly Rating</b>
<u>Fire Resistive Construction -</u>	<u>3 Hour Rating</u>
<u>IB – Fire Resistive Construction -</u>	<u>2 Hour Rating</u>
<u>IIA – Non-Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIB – Non-Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IIIA – Ordinary Construction -</u>	<u>1 Hour Rating</u>
<u>IIIB – Ordinary Construction -</u>	<u>0 Hour Rating</u>
<u>IV – Heavy Timber Construction</u>	
<u>V – Combustible Construction –</u>	<u>0 Hour Rating</u>

**501.3.4 Hazards of content (left wing).** The hazards of building contents shall be designated by one of the following classifications as defined in NFPA 13 and the appropriate designation shall be placed inside the left wing of the Maltese cross:

- 1 – Light Hazard
- 2 – Moderate Hazard
- 3 – High Hazard

**501.3.5 Fire protection systems (right wing).** The fire protection systems shall be designated by determining its level of protection and assigning the appropriate designation to the right wing of the Maltese cross. Where multiple systems are provided, all shall be listed:



AS – Automated Fire Sprinkler System installed throughout;  
PS – Partial Automatic Fire Sprinkler System, and designate floor;  
CS – Combination Sprinkler and Standpipe System;  
S – Standpipe System;  
NS – No system installed

**501.3.6 Occupancy type (bottom wing).** The occupancy of a structure can accompany particular hazards related to the stated occupancy. Identifying the occupancy of a structure will allow fire fighters to make informed tactical assumptions and decisions. Occupancies shall be designated in accordance with the occupancy classification found in Section 302.1 of the *International Building Code* and the corresponding designation shall be placed in the bottom wing of the Maltese cross.

A – Assembly  
B – Business  
E – Educational  
F – Factory or Industrial  
H – High Hazard  
I – Institutional  
M – Mercantile  
R – Residential  
S – Storage  
U – Utility or Miscellaneous

**501.3.7 Tactical considerations (center circle).** The building identification marker is designed to provide key information in the initial stages of a fire ground incident. The information contained on this sign will allow the initial response fire fighters on the initial response group to make more well informed and quicker tactical decisions.

**501.3.7.1 Additional Information.** Where fire fighters conduct pre-plan operations, unique situations shall be identified and placed under within the center section of the sign to allow the initial response fire fighters to identify that there are special considerations for this occupancy. Special consideration designations include, but are not limited to:

1. Protect in place
2. Limited mobility
3. Handicapped occupants
4. Impact resistant drywall
5. Impact resistant windows;
6. All types of roof and floor structural members including but not limited to post tension concrete, bar joists, joists, rafters, trusses, I-joists and I-beams);
7. Chemicals;
8. Plastics;
9. Explosives

Inspectors are authorized to use NFPA 1620 as a guide.

**501.3.8 Sign classification maintenance.** Sign classification maintenance shall comply with all of the following:

1. Fire departments in the jurisdiction shall define the designations to be placed within the sign.
2. Fire departments in the jurisdiction shall conduct annual inspections to verify compliance with this section of the code.
3. The owner of a building shall be responsible for the maintenance and updates to the sign in accordance to fire department designations.
4. The owner of a building shall notify the fire department of any changes that possibly effect the classifications, of the system, within thirty (30) days of the changes and the Fire Department shall conduct an inspection.
5. The owner of a building shall change the effected classification posted on the sign within thirty (30) days of the changes.

**501.3.9 Training.** Jurisdictions shall train all fire department personnel on the building identification marker.

(Renumber subsequent sections)

## 2. Add standard to Chapter 35 as follows:

### NFPA

#### 1620-03 Recommended Practice for Pre-Incident Planning

**Reason:** This Building Information Sign (BIS) is designed to be utilized in the crucial initial response of fire fighters to a structure fire. Similar to the Emergency Response Guidebook, published by the Department of Transportation, the BIS is designed to be utilized in the initial fifteen (15) to thirty (30) minutes of an incident. Fire fighters are trained to size up a situation as early as notification, sometimes appearances can be deceiving, a type of construction may not appear to be what it really is. This is becoming an occurrence with urban renewal. As communities try to design neighborhoods and maintain structural consistency, what may appear to be a traditional form of construction is now a designed lightweight system. In the dark, or to mutual aid crews, this is not always apparent. Having the BIS will allow responding companies to make an informed tactical decision. The responding company will be able to identify the type of construction, hazard level of the contents, occupancy of the building and whether the building is protected with automatic suppression and the extent of the protection.

In Tactical Considerations, we will allow fire fighters to identify additional considerations and prepare for them. Just by seeing that there are additional considerations would give fire fighters pause to consider additional aspects of the situation. Are there Protect in Place, Handicap or Limited Mobility concerns of the occupants. Is the interior constructed using impact resistant dry wall which will make wall breaching very difficult, is there lexan glazing? These are a sample of concerns that would cause a fire fighter to consider options at an incident. Does the building contain lightweight construction in the roof or floors. This can be identified and placed in the Tactical Considerations. The National Institute for Occupational Safety and Health released a report, 'Preventing Injuries and Deaths of Fire Fighters Due to Truss System Failures'<sup>1</sup> recommends identifying structures by suggesting that building owners and managers "Consider placing building construction information outside the building. Include information about roof and floor type (presence of trusses, materials used), roof loads (heating, ventilation, and air conditioning (HVAC) units, displays), sprinkler systems, utilities, chemicals on site and contact numbers. Use and follow the proper building codes." Tactical Considerations, allows fire fighters to identify the type of construction that puts them at risk. The author also recommends the use of NFPA 1620 as a guide for Pre-Plan operations.

#### **Bibliography:**

1. NIOSH Alert – "Preventing Injuries and Deaths of Fire Fighters due to Truss System Failures" April 2005

**Cost Impact:** The code change proposal will have a minimal increase to the cost of construction.

**Analysis:** Review of proposed new standard NFPA 1620-03 indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria.

## **PART II – IBC GENERAL**

### **Committee Action:**

**Disapproved**

**Committee Reason:** The committee liked the concept but had several areas of concern including which two walls the signs should be located on, how buildings with fire resistance rating reductions are labeled and the practicality of labeling a building with multiple occupancies. The charging language requiring such signs needs revising to be effective. A suggestion of placing such language in Chapter 9 was also offered.

### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted for Part II.**

#### *Public Comment:*

**Sean DeCrane, Fire Department, Cleveland, OH, requests Approval as Modified by this public comment for Part II.**

**Kirk Grundahl, Wood Truss Council of America (WTCA), requests Approval as Modified by this public comment for Part II.**

**Jack Murphy, Fire Safety Directors of Greater New York, requests Approval as Modified by this public comment for Part II.**

**Replace Part II – IBC of proposal with the following:**

**501.3 Building information sign.** New buildings shall have a building information sign(s) that shall comply with Sections 501.3.1 through 501.3.7.

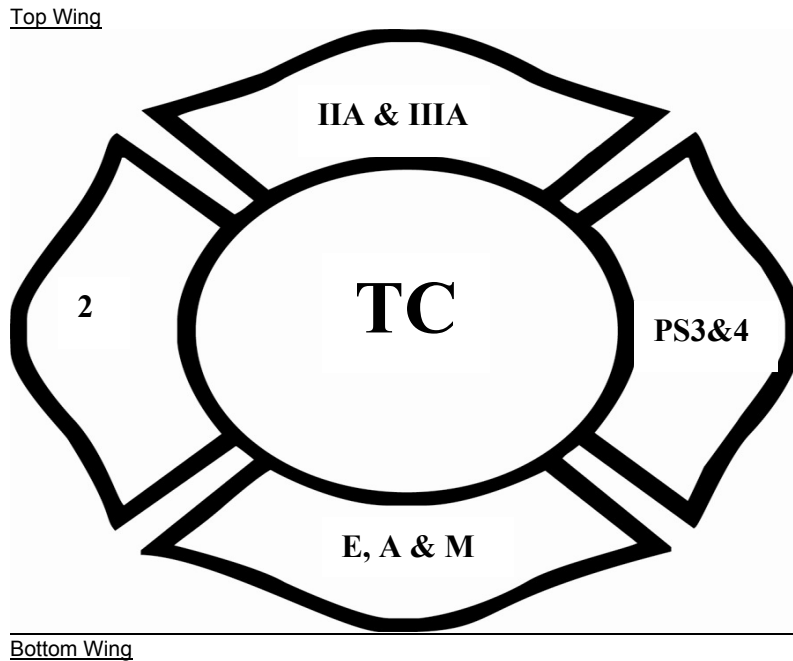
**501.3.1 Sign location.** The Building information sign shall be placed on one of the following:

- 4-1. The entry door or sidelight, of the address side of the building or structure, at a minimum height of 42" above the walking surface;
- 2-2. The exterior surface of the building or structure no further than 3' from the entrance door, on either side of the entry door, at a minimum height of 42" above the walking surface on the address side of the building or structure;
- 3-3. Conspicuously placed inside an enclosed entrance lobby, on any vertical surface within 10 feet of the entrance door at a minimum height of 42" above the walking surface;
- 4-4. Located inside the building's fire command center;
- 5-5. Located on the exterior of the fire alarm panel or immediately along side the panel door on the wall if the alarm panel is located in the enclosed mail lobby.

**501.3.1.2 Sign features.** The building information sign shall consist of:

1. White reflective background with red letters;
2. Durable material;
3. Numerals shall be Roman or Latin numerals, as required, and/or alphabet letters;
4. Permanently affixed to the building or structure in an approved manner.

**501.3.1.3 Sign shape.** The building information sign shall be a Maltese Cross as shown in Figure 501.3.1.3



**FIGURE 501.3.1.3  
BUILDING INFORMATION SIGN**

**501.3.1.4 Sign size and lettering.** The minimum size of the building information sign and lettering shall be in accordance with the following:

1. The width and height shall be 6 inches by 6 inches
2. The height or width of each Maltese cross wing area shall be 1 1/8 inches and have a stroke width of 1/2 inch;
3. The center of the Maltese cross a circle of oval 3 1/8 inches in diameter and has a stroke width of 1/2 inch;
4. All roman numerals and/or alphabetic designations, shall be 1 1/4 inch height and have a stroke width of 1/4 inch.

**501.3.2 Sign Designations.** Designations shall be made based upon the construction type, content, hazard, fire protection systems, life safety and occupancy. Where multiple designations occur within a classification Category, the designation used shall be based on the greatest potential risk.

**501.3.3 Construction type (TOP WING).** The construction types shall be designated by assigning the appropriate Roman numeral, and letter, placed inside the top wing of the Maltese cross. The hourly rating provided is for the structural framing in accordance with Table 601 of the *International Building Code*.

<u>Construction Type</u>	<u>Hourly Rating</u>
<u>IA - Non-Combustible Construction -</u>	<u>3 Hour Rating</u>
<u>IB -Non-Combustible Construction -</u>	<u>2 Hour Rating</u>
<u>IIA – Non-Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIB – Non-Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IIIA – Non-Combustible/Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>IIIB – Non-Combustible/Combustible Construction -</u>	<u>0 Hour Rating</u>
<u>IV – Heavy Timber Construction -</u>	
<u>VA – Combustible Construction -</u>	<u>1 Hour Rating</u>
<u>VB – Combustible Construction –</u>	<u>0 Hour Rating</u>

**501.3.4 Hazards of content (LEFT WING).** The hazards of building contents shall be designated by one of the following classifications as defined in NFPA 13 and the appropriate designation shall be placed inside the left wing of the Maltese cross:

- 1 – Light Hazard
- 2 – Moderate Hazard
- 3 – High Hazard

**501.3.5 Fire protection systems (RIGHT WING).** The fire protection systems shall be designated by determining its level of protection and assigning the appropriate designation to the right wing of the Maltese cross. Where multiple systems are provided, all shall be listed:

AS – Automated Fire Sprinkler System installed throughout;  
DS – Dry Sprinkler System and designated areas  
PAS – Pre-Action Sprinkler System and designated area  
PS – Partial Automatic Fire Sprinkler System, and designate floor;  
CES – Chemical Extinguishing System and designated area;  
CS – Combination Sprinkler and Standpipe System;  
S – Standpipe System;  
NS – No system installed

**501.3.6 Occupancy type (BOTTOM WING).** The occupancy of a structure can accompany particular hazards related to the stated occupancy. Identifying the occupancy of a structure will allow fire fighters to make informed tactical assumptions and decisions. Occupancies shall be designated in accordance with the occupancy classification found in Section 302.1 of the *International Building Code* and the corresponding designation shall be placed in the bottom wing of the Maltese cross.

A – Assembly  
B – Business  
E – Educational  
F – Factory or Industrial  
H – High Hazard  
I – Institutional  
M – Mercantile  
R – Residential  
S – Storage

**501.3.7.1 Tactical Considerations (CENTER CIRCLE).** The Center Circle shall always contain the name of the local Fire Service. When fire fighters conduct pre-plan operations, unique situations shall be identified and placed within the center section of the sign to allow the initial response fire fighters to identify that there are special considerations for this occupancy. Special consideration designations include, but are not limited to:

1. Impact resistant drywall
2. Impact resistant glass;
3. All types of roof and floor structural members including but not limited to post tension concrete, bar joists, joists, rafters, trusses, cold-formed galvanized steel, I-joists and I-beams;
4. Hazardous materials, explosives, chemicals, plastics, etc.;

**501.3.8 Sign classification maintenance.** Sign classification maintenance shall comply with each of the following:

1. Fire departments in the jurisdiction shall define the designations to be placed within the sign.
2. Fire departments in the jurisdiction shall conduct annual inspections to verify compliance with this section of the code and shall notify the owner, or the owner's agent, of any required updates to the sign in accordance with fire department designations and the owner, or the owner's agent, shall comply within thirty (30) days.
3. The owner of a building shall be responsible for the maintenance and updates to the sign in accordance to fire department designations.
4. The owner of a building shall notify the fire department of any changes that possibly effect the classifications, of the system, within thirty (30) days of the changes and the Fire Department shall conduct an inspection.
5. The owner of a building shall change the effected classification posted on the sign within thirty (30) days of the changes.

**501.3.9 Training.** Jurisdictions shall train all fire department personnel on Sections 501.3 through 501.3.8..

**Commenter's Reason:** This Building Information Sign (BIS) is designed to be utilized in the crucial initial response of fire fighters to a structure fire. Similar to the Emergency Response Guidebook, published by the Department of Transportation, the BIS is designed to be utilized in the initial fifteen (15) to thirty (30) minutes of an incident. Fire fighters are trained to size up a situation as early as possible after notification. Outward appearances can be deceiving and the type of construction may not appear to be what it really is. This is becoming a more frequent occurrence with urban renewal. Having the BIS will allow responding companies to make an informed tactical decision. The responding company will be able to identify the type of construction, hazard level of the contents, structural framework, occupancy of the building and whether the building is protected with automatic suppression and the extent of the protection.

In the fire service there are many times we are dispatched to a location without an address. Placing this information electronically will not address those incidents. Once the fire company has located the building or structure, the company officer can relay the correct address to the Dispatching Center and exit the apparatus to begin an assessment and making tactical decisions. The company officer can not afford to wait until Dispatch sends an electronic form of the marker to the mobile computer. This sign will give that arriving officer information to begin his/her assessment.

Another instance where a BIS is valuable is with Mutual Aid. Mutual Aid companies do not always share Dispatching Centers therefore they do not have the ability to receive the electronic communication. Placing this sign in designated locations will allow arriving Mutual Aid companies to begin proper tactical assessments.

In Tactical Considerations, the BIS allows fire fighters to identify additional considerations and prepare for them. Just by seeing that there are additional considerations would give fire fighters pause to consider unique aspects of the situation. Are there special needs for the occupants? Is the interior constructed using impact resistant dry wall which will make wall breaching very difficult? Is there lexan glazing? These are examples of concerns that would cause a fire fighter to consider options at an incident. Does the building contain dimension lumber, trusses, I-joists, cold formed steel, etc. in the roof or floors? This can be identified and placed in the Tactical Considerations. The National Institute for Occupational Safety and Health released a report, 'Preventing Injuries and Deaths of Fire Fighters Due to Truss System Failures'<sup>1</sup> recommends identifying structures by suggesting that building owners and managers "Consider placing building construction information outside the building. Include information about roof and floor type (presence of trusses, materials used), roof loads (heating, ventilation, and air conditioning (HVAC) units, displays), sprinkler systems, utilities, chemicals on site and contact numbers. Use and follow the proper building codes."

This Building Information Sign has brought many people together from various industries (the structural building component, steel & wood industries, building officials, fire service) to collaborate on a BIS system that is comprehensive and meets the need of the fire service for information that allows for a quicker building assessment on the fire ground. This addresses a key question that has been asked for quite some time -- "How do we provide building information to the fire service?". With this Building Information Sign we are providing the responding fire fighters crucial information at the most important time period. Officers will be able to make educated decisions based on the information provided in this sign or be prompted by the Tactical Considerations to request better information.

**Bibliography:**

1. NIOSH Alert – "Preventing Injuries and Deaths of Fire Fighters due to Truss System Failures" April 2005

Final Action: AS AM AMPC\_\_\_\_ D

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## **F78-07/08**

### **507.4 (New), 502.1 (New)**

#### *Proposed Change as Submitted:*

**Proponent:** Scott Poster, Fire Department, Los Angeles County, CA

**Add new text as follows:**

**507.4. Structures and outdoor storage underneath high-voltage transmission lines.** Structures and outdoor storage underneath high-voltage transmission lines shall comply with Section 507.4.1 and 507.4.2.

**507.4.1 Structures.** Structures shall not be constructed within the utility easement underneath high-voltage transmission lines.

**Exception:** Restrooms and unoccupied telecommunication structures of non-combustible construction less than 15 feet in height.

**507.4.2 Outdoor storage.** Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.

**Exception:** Combustible storage, including vehicles, is allowed provided that a plan indicating the storage configuration is submitted and approved.

**502.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**HIGH-VOLTAGE TRANSMISSION LINE.** An electrical power transmission line operating at or above 66 kilovolts

**Reason:** Structure fires underneath high-voltage transmission lines could cause arcing and shock hazard. Firefighting operations involve the use of elevated aerial apparatus and other emergency equipment, personnel aboveground and hose streams that may come in close proximity to high-voltage transmission lines. According to nationally recognized utility companies, manual de-energization of lines may take 20 minutes or longer to accomplish. A history of problems with structure fires underneath high voltage lines does not exist, due to the fact that the utility companies have set internal policies that until recently allowed only low-intensity use of the property underneath high-voltage transmission lines.

From NIOSH Hazard ID #15, January 2002, Firefighters Exposed to Electrical Hazards During Wildland Fire Operations "Dense smoke can obscure energized electrical lines or equipment and can become charged and conduct electrical current."

From Bonneville Power Administration, Living and Working Safely Around High Voltage Power Lines p.7, 2001, DOE/BP-1821, "Smoke and hot gases from a large fire can create a conductive path for electricity. When a fire is burning under a transmission line, electricity could arc from the conductor to the ground, endangering people and objects near the arc"

From SP-Ausnet, Corporate Communications Team, Melbourne, Victoria. "Excessive exposure to "electric fields" and "magnetic fields" is deemed harmful to humans or animals. Powerlines are designed such that the electric and magnetic fields at ground level and at the boundaries of easements are kept within these standards. If one was to change the conditions on the ground under a high voltage line, such as building a structure or raise the ground level, etc. then the persons in the vicinity of these higher levels are exposed to higher than accepted electric and magnetic fields. It should be noted that the effect of these fields are proportional to the field strength as well as the duration of exposure."

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

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**315.4 Storage underneath high-voltage transmission lines.** Storage located underneath high-voltage transmission lines shall be in accordance with Section 507.4.

(Portions of the proposal not shown remain unchanged)

**Committee Reason:** The proposal was approved because the committee felt that it will provide enhanced firefighter safety when working on incidents underneath high-voltage transmission lines. The modification provides a needed cross-reference to the provisions from a new section in the combustible storage section in Chapter 3.

**Assembly Action:** **None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Robert J. Davidson, Davidson Code Concepts, LLC, representing Plug Power, Inc., requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**507.4.2 Outdoor storage.** Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.

**Exception:** Combustible storage, including vehicles, and fuel storage for back up power equipment servicing public utility equipment is allowed provided that a plan indicating the storage configuration is submitted and approved.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** The restrictions the fire code committee added by their acceptance of F78-07/08 are a good addition to the code that will address a potential hazard to firefighters. However, as currently approved the new code language will conflict with a need to provide fuel for back up power supplies for critical public utility equipment installations. Some of this equipment involves telecommunications equipment that emergency services rely on for communication. The modification contained within this proposal is intended to address that issue.

Some equipment installations that are located upon the utility easement underneath high-voltage transmission lines, such as the telecommunication structures permitted by the exception to Section 507.4.1, require back up power supplies. Many of the back up power installations require liquid or gaseous fuel storage and the new code language currently accepted by the fire code committee would prohibit the fuel supply from being located on the utility easement.

This proposed modification of Section 507.4.2 would allow the fuel for back up powers supplies to be located on the utility easement, however, it would limit the fuel to only that necessary for equipment servicing public utility equipment and subject to the approval of the fire code official allowing the fire service to maintain control over the installations.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

**F84-07/08**

**509.1 (IBC [F] 911.1)**

*Proposed Change as Submitted:*

**Proponent:** Ken Kraus, Fire Department, Los Angeles, CA

**Revise as follows:**

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of ~~96~~ 250 square feet (~~9~~ 23 m<sup>2</sup>) with a minimum dimension of ~~8~~ 10 feet (~~2438~~ 3048 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighters control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

**Reason:** This proposal is intended to increase the minimum size of the Fire Command Center to a size and configuration that is conducive to effective use of the facility by emergency responders.

The current minimum requirement for the size of a Fire Command Center is impractical. Fire Command Centers (FCC) not only need to be designed to accommodate a significant number of emergency responders wearing full personal protective equipment. FCC's are also used to review building emergency plans during incidents, co-locate decision makers within the Incident Command System (ICS) and interpret fire protection system information. Given the multiple uses of the FCC, it is extremely likely that the limitations of a 10' by 10' room would serve to compromise the effectiveness of Incident management.

The current minimum size has proven in both exercise and emergency incident scenarios to be too small and confining.

A minimum size of 250 square feet allows for the necessary personnel to effectively perform the required tasks associated with a Fire Command Center.

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

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of ~~250~~ 200 square feet (~~23 19~~ 19 m<sup>2</sup>) with a minimum dimension of 10 feet (3048 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

(Features 1 through 17 are unchanged)

**Committee Reason:** The proposal was approved because the committee felt that it will provide additional working room for the fire command staff who will occupy the fire command center. The modification provides a more reasonable working size for the fire command center.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Ray Grill, PE, Arup, representing himself, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal

assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of ~~200~~ 96 square feet (~~23.9~~ 9 m<sup>2</sup>) with a minimum dimension of ~~8.49~~ 8 feet (~~3048~~ 2438 mm). In buildings exceeding 30 stories in height, the room shall be a minimum of 200 square feet (19 m<sup>2</sup>) with a minimum dimension of 10 feet (3048 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

(Features 1. through 17. of the original proposal remain unchanged.)

**Commenter's Reason:** The proposed code change more than doubles the minimum size requirement for the fire command center in all high rise buildings. The vast majority of high rise buildings are not very tall. In Washington, DC for example there are no high rise buildings in excess of 130 feet in height due to zoning restrictions. The current minimum size requirement of 96 sq. ft. with a minimum dimension of 8 ft. has provided adequate room for the equipment and working space for the fire service for most high rise buildings. The advancement of technology has also reduced the size of equipment required in the fire command center to provide additional working space.

Larger high rise buildings typically require larger rooms to accommodate the increased equipment. The NEC requires minimum clearances to electrical panels (fire alarm, elevator status, fire pump controls) which will drive increases in size of the fire command center as buildings increase in size.

Requiring a minimum 200 sq. ft. fire command center is beyond what is needed for the typical high rise building.

Final Action: AS AM AMPC\_\_\_\_ D

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## F86-07/08

### 509.1, 509.2 (New) [IBC [F] 911.1, [F] 911.2 (New)]

#### *Proposed Change as Submitted:*

**Proponent:** Gary Lewis, Chair, representing ICC Ad Hoc Committee on Terrorism Resistant Buildings

#### 1. Revise as follows:

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, ~~a fire an emergency~~ command center for ~~fire-department emergency~~ operations shall be provided. The location and accessibility of the ~~fire emergency~~ command center shall be approved by the fire department. The ~~fire emergency~~ command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. In buildings that are more than 420 feet (128 m) in height, the emergency command center shall be separated from the remainder of the building by not less than a 2-hour fire-resistance-rated fire barrier constructed in accordance with Section 706 of the *International Building Code* or 2-hour horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m<sup>2</sup>) with a minimum dimension of 8 feet (2438 mm). A layout of the ~~fire emergency~~ command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The ~~fire emergency~~ command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter=s control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic Building Emergency resource manual approved by the fire department that includes emergency operation instructions and building plans indicating the typical floor plan and detailing the building core, means of egress, as well as the layout and operating instructions for the emergency aspects of fire protection systems, HVAC systems, elevator controls, communication systems, utilities, fire-fighting equipment and fire department access.
13. Work table.



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

**2. Add new text as follows:**

**509.2 (IBC [F] 911.2) Location.** The emergency command center shall be located at least 25 feet from uncontrolled building entrances and loading docks, shall not be visible from the street, and shall be at a location approved by the fire chief.

**Reason:** The purpose of this change is to increase the ability of firefighters, and other emergency responders, to develop a clear picture of conditions throughout the building which will enable them to better manage evacuation, fire suppression and other emergency response activities. It will also enhance the safety of emergency responders, in buildings greater than 420 feet in height, by requiring a two-hour fire resistance rated enclosure for the emergency command center, the same as is required for the exit stair enclosure.

The value of the fire control center already required by the Code is enhanced by a strengthened "Emergency Resource Manual" which will now include operating instructions for emergency systems as well as information on the emergency aspects of HVAC systems, elevator controls, communication systems and utilities. The center is re-titled the emergency command center to reflect its role in managing emergencies other than fire emergencies.

New Section 509.2 will establish a minimum distance the command center must be located from any uncontrolled building entrance or loading dock, thus reducing the possibility of access or damage to the command center from outside influences.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved and the committee expressed a number of concerns with the proposal, including that it saw no justification for creating a 2-hour fire resistance rating requirement for fire command center enclosure; that placement of the fire command center a distance away from the building lobby would place the incident commander out of touch with what is typically the primary staging area for fire operations; that changing the name of the room to emergency command center would conflict with NFPA 72 terminology (fire command center) and could cause confusion as to who is in charge of the operations that are directed from that room; that the provisions of proposed Section 509.2 are already covered in Section 509.1, and that the information required in Section 509.1(12) would not be useful and would overburden the incident commanders.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Gary Lewis, Chair, ICC Ad Hoc Committee on Terrorism Resistant Buildings, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code, and in all buildings classified as high-rise buildings by the *International Building Code*, ~~a fire an emergency~~ command center for ~~fire department~~ emergency operations shall be provided. The location and accessibility of the ~~fire emergency~~ command center shall be approved by the fire department. The ~~fire emergency~~ command center shall be separated from the remainder of the building by not less than a 1-hour fire-resistance-rated fire barrier constructed in accordance with Section 706 or horizontal assembly constructed in accordance with Section 711, or both. ~~In buildings that are more than 420 feet (128 m) in height, the emergency command center shall be separated from the remainder of the building by not less than a 2-hour fire-resistance-rated fire barrier constructed in accordance with Section 706 of the International Building Code or 2-hour horizontal assembly constructed in accordance with Section 711 of the International Building Code, or both.~~ The room shall be a minimum of 96 square feet (9m<sup>2</sup>) with a minimum dimension of 8 feet (2438 mm). A layout of the ~~fire emergency~~ command center and all features required by the section to be contained therein shall be submitted for approval prior to installation. The ~~fire emergency~~ command center shall comply with NFPA 72 and shall contain the following features.

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air handling systems.
6. The fire-fighters control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.

10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. ~~Schematic Building Emergency resource manual approved by the fire department that includes emergency operation instructions and building plans, including a Building Information Card approved by the fire department, which shall provide building statistics including address, height, width and type of construction; stairway access, designation, floors served, pressurization, standpipe availability; elevators bank designation, car numbers, and floors served; ventilation details, including HVAC zones, location of mechanical equipment rooms, and offsite emergency phone numbers; utilities, fuel oil tank locations, gas service locations, electrical service locations; fire protection systems details, including standpipe locations, valve locations, pump room locations; hazardous materials and locations; and, contact phone numbers for building engineers, managers and fire safety directors. The Building Information Card shall also indicate indicating the typical floor plan and detailing the building core, means of egress, as well as the layout and operating instructions for the emergency aspects of fire protection systems, HVAC systems, elevator controls, communication systems, utilities, elevator locations, firefighting equipment and fire department access.~~
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.
18. Video monitoring for video surveillance systems required by the *International Building Code* and any others used to monitor conditions or activities in the building.

~~**509.2 (IBC [F] 911.2) Location.** The emergency command center shall be located at least 25 feet from uncontrolled building entrances and loading docks, shall not be visible from the street, and shall be at a location approved by the fire chief.~~

**Commenter's Reason:** This original proposal contained extensive upgrades to the fire command center in high-rise and super high-rise buildings. The public comment reflects the comments of the Fire Code Committee members in Palm Springs.

Eliminated from the original proposal in this public comment are:

- 1) All references to the concept of an 'emergency' command center, defaulting back to 'fire' command center;
- 2) Enhanced fire-resistance from command centers in high-rises >420';
- 3) Building resource manual; and
- 4) Prescriptive command center location restrictions.

The scope of the proposal has been reduced to simply codifying Item #12 of the list of required fire department support features in the center. There is a need to provide complete, yet concise information to the responding fire service to assist in assessment and management of the rescue and fire fighting efforts.

The proposed Building Information Card in #12, as utilized by the NYFD, puts critical response information in a user-friendly format and medium. With the increased use of video monitoring of stairwells and elevator lobbies, the transmission of video information to incident commanders in the command center is critical.

Final Action:            AS            AM            AMPC\_\_\_\_            D

## F87-07/08

### 511 (New), 907.2.12.2 (IBC [F] 907.2.12.2), Appendix I (New)

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**1. Add new text as follows:**

**SECTION 511**  
**EMERGENCY RESPONDER RADIO COVERAGE**

**511.1 Emergency responder radio coverage in new buildings.** All new buildings shall have approved radio coverage for emergency responders within the building.

**511.2 Emergency responder radio coverage in existing buildings.** Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage within 18 months of receiving notice of such deficiency from the fire code official.

**2. Revise as follows:**

**907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system.** An approved ~~two-way, fire-department communication~~ emergency responder radio coverage system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. ~~The fire department communication device shall be provided at each floor level within the enclosed exit stairway.~~

**Exception:** ~~Fire department radio systems where approved by the fire department.~~

3. Add new appendix as follows:

**APPENDIX I**  
**EMERGENCY RESPONDER RADIO COVERAGE**

**SECTION I101**  
**GENERAL**

**I101 Scope.** Systems, components, and equipment required to provide emergency responder radio coverage shall be in accordance with this appendix.

**I101.1 Permit.** A construction permit is required for installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

**SECTION I102**  
**DEFINITIONS**

**I102.1 Definitions.** For the purpose of this appendix, certain terms are defined as follows:

**AGENCY.** Any emergency responder department within the jurisdiction that utilizes radio frequencies for communication. This could include, but not be limited to, various public safety agencies such as fire department, emergency medical services and law enforcement.

**SECTION I103**  
**TECHNICAL REQUIREMENTS**

**I103.1 Radio signal strength.** The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements in Sections I103.1.1 and I103.1.2.

**I103.1.1 Minimum signal strength into the building.** A minimum signal strength of -95 dBm shall be receivable within the building.

**I103.1.2 Minimum signal strength out of the building.** A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.

**I103.2 System design.** The emergency responder radio coverage system shall be designed in accordance with Sections I103.2.1 through I103.2.5.

**I103.2.1 Amplification Systems Allowed.** Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with FCC certified signal boosters, or other system approved by the fire code official in order to achieve the required adequate radio coverage.

**I103.2.2 Technical criteria.** The fire code official shall maintain a document providing the specific technical information and requirements for the emergency responder radio coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information.

**I103.2.3 Secondary power.** The emergency responder radio coverage system shall be equipped with a secondary source of power. The secondary source of power shall be either a battery system or an emergency generator. The secondary power supply shall supply power automatically when the primary power source is lost. The secondary source of power shall be capable of operating the emergency responder radio coverage system for a period of at least twelve hours.

**I103.2.3.1 Battery Systems.** The active components of the installed system or systems shall be capable of operating on an independent battery system for a period of at least twelve hours without external power input. The battery system shall automatically charge in the presence of external power input.

**I103.2.4 Signal Booster requirements.** If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a NEMA4 type water proof cabinet.
2. The battery system shall be contained in a NEMA4 type water proof cabinet.
3. The system shall include automatic alarming of malfunctions of the signal booster and battery system. Any resulting trouble alarm shall be automatically transmitted to an approved central station or proprietary supervising station as defined in NFPA 72 or, when approved by the fire code official, shall sound an audible signal at a constantly attended location.
4. Equipment shall have FCC Certification prior to installation.

**I103.2.5 Additional frequencies and change of frequencies.** The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC.

**I103.3 Installation requirements.** The installation of the public safety radio coverage system shall be in accordance with Sections I103.3.1 through I103.3.5.

**I103.3.1 Approval prior to installation.** No amplification system capable of operating on frequencies licensed to any public safety agency by the FCC shall be installed without prior coordination and approval of the fire code official.

**I103.3.2 Permit required.** A construction permit as required by Section 105.7.11 shall be obtained prior to the installation of the emergency responder radio coverage system.

**I103.3.3 Minimum qualifications of personnel.** The minimum qualifications of the system designer and lead installation personnel shall include:

1. A Valid FCC issued General Radio Operators License, and
2. Certification of in-building system training issued by a nationally recognized organization, school or a certificate issued by the manufacturer of the equipment being installed.

The agency may waive these requirements upon successful demonstration of adequate skills and experience satisfactory to the fire code official.

**I103.3.4 Acceptance test procedure.** When an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 90 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal areas.
2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system.
3. A maximum of two nonadjacent areas will be allowed to fail the test.
4. In the event that three of the areas fail the test, in order to be more statistically accurate, the floor may be divided into 40 equal areas. A maximum of four nonadjacent areas will be allowed to fail the test. If the system fails the 40-area test, the system shall be altered to meet the 90 percent coverage requirement.
5. A test location approximately in the center of each grid area will be selected for the test, then the radio will be enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire area. If the test fails in the selected test location, that grid area shall fail, and prospecting for a better spot within the grid area will not be allowed.
6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values.
7. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to insure spurious oscillations are not being generated by the subject signal booster. This test will be conducted at time of installation and subsequent annual inspections.

**I103.3.5 FCC compliance.** The emergency responder radio coverage system installation and components shall also comply with all applicable Federal regulations, including but not limited to, Federal Communications Rules (47 CFR 90.219).

**I103.4 Maintenance.** The emergency responder radio coverage system shall be maintained in accordance with Sections I103.4.1 through I103.4.5.

**I103.4.1 Maintenance.** The public radio coverage system shall be maintained operational at all times.

**I103.4.2 Permit required.** A permit as required by Section 105.7.4 shall be obtained prior to the modification or alteration of the emergency responder radio coverage system.

**I103.4.3 Testing and proof of compliance.** The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Section I103.3.4.
2. Signal boosters shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.
3. Backup batteries and power supplies shall be tested under load of a period of one hour to verify that they will properly operate during an actual power outage. If within the one hour test period the battery exhibits symptoms of failure, the test shall be extended for additional one hour periods until the integrity of the battery can be determined.
4. All other active components shall be checked to verify operation within the manufacturer's specifications.
5. At the conclusion of the testing a report shall be submitted to the fire code official which shall verify compliance with Section I103.3.4.

**I103.4.4 Additional frequencies.** The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

**I103.4.5 Field testing.** Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field-testing to verify the required level of radio coverage.

**Reason:** Large buildings have historically provided barriers to radio communications within them. This is the reason high rise buildings are required to install hard wired, two-way communications systems. The typical system has phone jacks strategically located throughout the building (in stairways, elevator lobbies, and inside elevators), with hand sets available to emergency responders in the lobby or the fire control room.

However, problems with this solution include:

- Handset availability – even if they don't get stolen or misplaced, the typical building will only have five handsets, far too few for the dozens to hundreds of firefighters required to successfully bring a high rise fire under control
- Lack of training for responders – while some fire departments routinely train on these systems, each one is different, presenting problems remembering the special considerations necessary to operate successfully in each high rise building; other responders (law enforcement, EMS) don't train on these systems at all, and many times don't even know they exist
- Buildings other than high-rise interfere with routine radio communications, but aren't required to provide an alternative.

When this requirement was implemented, it was the best alternative available. Now, technology has progressed to a point where there are multiple solutions with multiple technologies to address virtually any situation. These solutions support emergency responders' radio systems so that no additional training is required by the responders; the same communication system that they use every day can be used in any building in a jurisdiction.

Emergency response agencies use radio communications routinely and lives depend on the adequacy of the radio communication system. Communications must be able to go both into and out of the buildings in times of emergency. Whether it be someone inside the building requesting assistance, or even worse calling May Day, or the Incident Commander outside the building trying to obtain a status report to make a determination on deployment of additional resources, communications is critical.

Some will complain of the cost of these systems, which range from the relatively inexpensive to very expensive, depending upon the solution chosen by the building owner or developer (one estimate is from \$ 40/ft to \$1.25/ft). The fact is that tax payers have invested billions of dollars in their public safety communications systems. It isn't unusual for a mid-size jurisdiction to spend millions of dollars to equip emergency responders with communications systems, only to have a developer construct a building that defeats the entire system inside their facility. Good public policy dictates that these owners/developers bear the cost of upgrading their facilities to allow emergency responders to utilize the tools that tax payers have provided. This is in keeping with the philosophy inherent in the I-Codes that, when a facility grows too large or complex for effective fire response, that fire protection features be provided within the building at the owner's expense.

This proposal provides that an adequate level of communication is available within the building. Once a deficiency is noted in a building, the installation and technical criteria in Appendix I can be utilized to design and install a system to enhance the radio communications. There are several types of systems that can be utilized to enhance radio traffic and under this proposal any of these systems can be used.

This proposal also includes existing buildings in Section 511.2. While modeling and other techniques may provide a good prediction as to whether a building will interfere with radio communications, the reality is that it is unknown if a building will need to install any type of radio system enhancements until after the building is constructed. These issues are dependent on the construction type, shadows of other buildings, size of structure, etc. This proposal includes existing structures so that once the building is built, the system can be installed at any time, when and if it becomes necessary; it also provides a reasonable amount of time for existing buildings to come into conformance (18 months after notification).

The proposed Appendix I includes design, construction, maintenance and testing criteria. This provides guidance to the code official and ensures that the emergency responder radio coverage system will be operational throughout the life of the building.

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

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** The proposal was approved because the committee felt that it has merit and would resolve a serious and long-standing issue in fire department operational efficiency and safety. The committee indicated, however, that there are substantial issues which need to be resolved, including, but not limited to: applicability to "all" buildings would be unreasonable; the application to existing buildings would be onerous; there is no exception for single family residences; deleting the fire department communications system would eliminate a useful backup system; the title phrase "emergency responder" could lead to demands for other municipal departments that use radios to be provided with such a system; and technical requirements should not be relegated to an appendix. The committee expressed its hope that the continuing work on this topic by the ICC Code Technology Committee and the JFSRC would resolve the concerns.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Paul K. Heilstedt, PE, FAIA, Chair, ICC Code Technology Committee, (CTC), requests Approval as Modified by this public comment.**

**Tom Lariviere, Chair, ICC Joint Fire Service Review Committee (JFSRC), requests Approval as Modified by this public comment.**

**John Dean, representing the National Association of State Fire Marshals (NASFM), requests Approval as Modified by this public comment.**

**Sean DeCrane, representing the International Association of Fire Fighters (IAFM), requests Approval as Modified by this public comment.**

**Jack Murphy, representing the Fire Safety Directors of Greater New York, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**511.1 Emergency responder radio coverage in new buildings.** All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

**Exceptions:**

1. Where approved by the building code official and the fire code official, a wired communication system shall be permitted to be installed or maintained in lieu of an approved radio coverage system.
2. Where it is determined by the fire code official that the radio coverage system is not needed.

**511.2 Radio signal strength.** The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in items 511.2.1 and 511.2.2.

**511.2.1 Minimum signal strength into the building.** A minimum signal strength of -95 dBm shall be receivable within the building.

**511.2.2 Minimum signal strength out of the building.** A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.

~~511.2~~ **511.3 Emergency responder radio coverage in existing buildings.** Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage according to one of the following: ~~within 18 months of receiving notice of such deficiency from the fire code official.~~

1. Wherever existing wired communication system cannot be repaired or is being replaced, or where not approved in accordance with Section 511.1 Exception 1.
2. Within a time frame established by the adopting authority.

~~907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system. An approved emergency responder radio coverage system shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. Where a wired communications system is approved in lieu of a radio coverage system in accordance with section 511, the wired fire department communications systems shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 509, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.~~

**APPENDIX I  
EMERGENCY RESPONDER RADIO COVERAGE**

**SECTION 1103  
TECHNICAL REQUIREMENTS**

~~1103.1 Radio signal strength. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements in Sections 1103.1.1 and 1103.1.2.~~

~~1103.1.1 Minimum signal strength into the building. A minimum signal strength of 95 dBm shall be receivable within the building.~~

~~1103.1.2 Minimum signal strength out of the building. A minimum signal strength of 100 dBm shall be received by the agency's radio system when transmitted from within the building.~~

(Renumber subsequent sections.)

(Portions of Appendix I of the proposal not shown remain unchanged.)

**Commenter's Reason:** The CTC also proposed a code change to address repeaters in F171 – 07/08. The CTC prefers F87 and has worked with the proponent in developing a public comment to clarify the provisions for new and existing buildings.

**511.1:** This section has been clarified to note that the existing coverage levels at the building (not in the building) need not be upgraded as a result of the need for coverage in the building. The purpose of the radio coverage in the building is to take the existing signal outside the building and amplify it. The exceptions provide an option for wired systems as an alternative and also if it is determined by the fire code official that emergency coverage is not needed, then it need not be provided. Obviously, both of these exceptions will require that the code official be consulted by the design professional.

There are two reasons for leaving an exception for the wired systems. One is because some fire service representatives have asked for the option to be there so they can make the decision whether or not to deal with the radio repeater system. Note that it is not automatically available, only if approved, so in your jurisdiction you won't have to approve it. The other reason for the wired option is because there are situations where you cannot solve the problem with radio repeater technology because the space is designed to prevent any radio waves from getting in or out, (lead shielding for example), in those cases the ability will exist for the local code officials to approve, (actually to require as well), a wired system if they agree it is the proper method for that space.

**511.2:** The provisions for signal strength are viewed as critical and need to be uniformly applied. As such, they have been relocated from the proposed appendix and incorporated into the body of the code.

**511.3:** There is clearly a need for existing buildings to be provided with coverage. However, requiring an existing wired system to be updated within 18 months when the system is operational or can be repaired is viewed as excessive. Further, an 18 month threshold is rather arbitrary and really should be left up to the adopting authority to decide the time frame for compliance for existing buildings.

**907.2.12.2:** This comment is intended to clarify where wired systems are provided and approved, it can be used in lieu of a radio system and provides the technical language concerning how the system is to be installed.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April/2005, the CTC has held fifteen meetings - all open to the public. This public comment is a result of the CTC's investigation of the area of study entitled "NIST World Trade Center Recommendations". The CTC web page for this area of study is: <http://www.iccsafe.org/cs/cc/ctc/WTC.html>

*Public Comment 2:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**SECTION 511  
EMERGENCY RESPONDER RADIO COVERAGE**

**511.1 Emergency responder radio coverage in new buildings.** All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

**Exceptions:**

1. Where approved by the building code official and the fire code official, a wired communication system shall be permitted to be installed or maintained in lieu of an approved radio coverage system.
2. Where it is determined by the fire code official that the radio coverage system is not needed.

**511.2 Emergency responder radio coverage in existing buildings.** Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage according to one of the following: within 18 months of receiving notice of such deficiency from the fire code official.

1. Whenever existing wired communication system cannot be repaired or is being replaced, or where not approved in accordance with Section 511.1 Exception 1.
2. Within a time frame established by the adopting authority.

**511.3 Technical Requirements.** Systems, components, and equipment required to provide emergency responder radio coverage system shall comply with Sections 511.3.1 through 511.3.2.5.

**511.3.1 Radio signal strength.** The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in Sections 511.3.1.1 and 511.3.1.2.

**403.1.1 511.3.1.1 Minimum signal strength into the building.** A minimum signal strength of -95 dBm shall be receivable within the building.

**403.1.2 511.3.1.2 Minimum signal strength out of the building.** A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.

**403.2 511.3.2 System design.** The emergency responder radio coverage system shall be designed in accordance with Sections 511.3.2.1 through 511.3.2.5.

**403.2.1 511.3.2.1 Amplification Systems Allowed.** Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with FCC certified signal boosters, or other system approved by the fire code official in order to achieve the required adequate radio coverage.

**403.2.2 511.3.2.2 Technical criteria.** The fire code official shall maintain a document providing the specific technical information and requirements for the emergency responder radio coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information.

**403.2.3 511.3.2.3 Secondary power.** Emergency responder radio coverage systems shall be provided with an approved emergency power supply. The emergency power supply shall be capable of operating the emergency responder radio coverage system for a period of at least twelve hours. When primary power is lost, the power supply to the emergency responder radio coverage system shall automatically transfer to the emergency power supply.

**403.2.4 511.3.2.4 Signal Booster requirements.** If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a NEMA4 type water proof cabinet.
2. Battery systems used for the emergency power source shall be contained in a NEMA4 type water proof cabinet.
3. The system shall include automatic alarming of malfunctions of the signal booster and batteries used as the emergency power supply. Trouble alarms shall be automatically transmitted to an approved central station or proprietary supervising station, or when approved by the fire code official, shall sound an audible signal at a constantly attended location.
4. Equipment shall have FCC Certification prior to installation.

**403.2.5 511.3.2.5 Additional frequencies and change of frequencies.** The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC.

**403.3 511.4 Installation requirements.** The installation of the public safety radio coverage system shall be in accordance with Sections 511.4.1 through 511.4.5.

**403.3.1 511.4.1 Approval prior to installation.** No amplification system capable of operating on frequencies licensed to any public safety agency by the FCC shall be installed without prior coordination and approval of the fire code official.

**403.3.2 511.4.2 Permit required.** A construction permit as required by Section 105.7.11 shall be obtained prior to the installation of the emergency responder radio coverage system.

**403.3.3 511.4.3 Minimum qualifications of personnel.** The minimum qualifications of the system designer and lead installation personnel shall include:

1. A Valid FCC issued General Radio Operators License, and
2. Certification of in-building system training issued by a nationally recognized organization, school or a certificate issued by the manufacturer of the equipment being installed.

The agency may waive these requirements upon successful demonstration of adequate skills and experience satisfactory to the fire code official.

**403.3.4 511.4.4 Acceptance test procedure.** When an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 90 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal areas.
2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system.
3. A maximum of two nonadjacent areas will be allowed to fail the test.
4. In the event that three of the areas fail the test, in order to be more statistically accurate, the floor may be divided into 40 equal areas. A maximum of four nonadjacent areas will be allowed to fail the test. If the system fails the 40-area test, the system shall be altered to meet the 90 percent coverage requirement.
5. A test location approximately in the center of each grid area will be selected for the test, then the radio will be enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire area. If the test fails in the selected test location, that grid area shall fail, and prospecting for a better spot within the grid area will not be allowed.
6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values.



7. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to insure spurious oscillations are not being generated by the subject signal booster. This test will be conducted at time of installation and subsequent annual inspections.

~~1403.3.5~~ **511.4.5 FCC compliance.** The emergency responder radio coverage system installation and components shall also comply with all applicable Federal regulations, including but not limited to, Federal Communications Rules (47 CFR 90.219).

~~1403.4~~ **511.5 Maintenance.** The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 511.5.1 through 511.5.3.

~~1403.4.3~~ **511.5.1 Testing and proof of compliance.** The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Section ~~1403.4.3~~ 511.4.4.
2. Signal boosters shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.
3. Backup batteries and power supplies shall be tested under load of a period of one hour to verify that they will properly operate during an actual power outage. If within the one hour test period the battery exhibits symptoms of failure, the test shall be extended for additional one hour periods until the integrity of the battery can be determined.
4. All other active components shall be checked to verify operation within the manufacturer's specifications.
5. At the conclusion of the testing a report shall be submitted to the fire code official which shall verify compliance with Section ~~1403.3.4~~ 511.4.4.

~~1403.4.4~~ **511.5.2 Additional frequencies.** The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

~~1403.4.5~~ **511.5.3 Field testing.** Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field-testing to verify the required level of radio coverage.

~~1402.4~~ **502.1 Definitions.** ~~For the purpose of this appendix, certain terms are defined as follows:~~ The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**AGENCY.** Any emergency responder department within the jurisdiction that utilizes radio frequencies for communication. This could include, but not be limited to, various public safety agencies such as fire department, emergency medical services and law enforcement.

~~907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system.~~ ~~An approved emergency responder radio coverage system shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. Where a wired communications system is approved in lieu of an emergency responder radio coverage system in accordance with section 511, the wired fire department communications systems shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 509, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.~~

~~1404.4 Permit~~ **105.7.11 Radio coverage system.** A construction permit is required for installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

(Renumber subsequent sections)

**509.1 (IBC [F] 911.1) (Supp) Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m<sup>2</sup>) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system, where a fire department communications system is provided.
3. through 17. (No change to current text)

Delete entire Appendix I as follows:

## **APPENDIX I EMERGENCY RESPONDER RADIO COVERAGE**

**Commenter's Reason:** This Public Comment has taken the work completed by the CTC work group and included further modifications. The further revision is a result of the comments from the Code Development Committee when they provided direction to relocate the Appendix into the body of the code. Therefore, the difference between this Public Comment and the Public Comment from the CTC work group is that Appendix I is deleted and the requirements are placed into Section 511.

As the appendix was relocated into the code, some minor clarifications occurred. Based on the Public Comment from the CTC work group, the following revisions are made:

1. 511.5 – The two sections from the Appendix I103.4 and I103.4.1 have been combined into one section for simplicity.
2. 907.2.12.2 – the term “emergency responder” is added since the correct term is “emergency responder radio coverage system”. This is editorial.
3. 105.7.11 – this permit requirement is added to Chapter 1. Since the appendix is deleted, the permit requirement also needs to be located within the code. This is editorial.
4. Appendix I – The entire appendix is relocated into the code. This was a request of the Code Development Committee and can be seen in their Reason Statement in Report on Hearings.
5. IFC 509.1 (IBC 911.1) – this section is revised to address the fact that a fire command center may not have a fire department communications system, when emergency responder radio coverage is provided.

*Public Comment 3:*

**Tim Pate, City & County of Broomfield Building Department, representing Colorado Chapter of ICC, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**511.1 Emergency responder radio coverage in new high rise buildings.** All new high rise buildings as defined in Section 403.1 of the International Building Code buildings shall have approved radio coverage for emergency responders within the building.

**511.2 Emergency responder radio coverage in existing high rise buildings.** Existing high rise buildings as defined in Section 403.1 of the International Building Code buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage within 18 months of receiving notice of such deficiency from the fire code official.

#### **APPENDIX I EMERGENCY RESPONDER RADIO COVERAGE FOR HIGH RISE BUILDINGS**

**I101 Scope.** Systems, components, and equipment required to provide emergency responder radio coverage in high rise buildings shall be in accordance with this appendix.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** The proponent of this revision states “Large buildings have historically provided barriers to radio communications within them. This is the reason high rise buildings are required to install hard wired, two-way communications systems. The typical system has phone jacks strategically located throughout the building (in stairways, elevator lobbies, and inside elevators), with hand sets available to emergency responders in the lobby or the fire control room. However, problems with this solution include: ...”

Sections 511.1 and 511.2 specify that radio coverage is required for all buildings. These sections do not require installation of an Emergency Responder radio communication system (ERRCS). The proposed G53 requires installation of an ERRCS in high rise buildings. Requirements of ERRCS noted in Section 403.7 in G53 are in lieu of the two way communication system which has been required in high rise buildings for many years. Sections 511.1 and 511.2 are not correlated with the revisions proposed under G53. The proposed Sections 511.1 and 511.2 could be misconstrued where requirements could be applied to any building regardless of size, materials used in construction of the building, number of stories and similar. For example, a three tier open parking garage would otherwise be subject to requirements of the proposed Section 511.

*Public Comment 4:*

**Lawrence G. Perry, AIA representing Building Owners and Managers Association (BOMA) International, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**511.2 Emergency responder radio coverage in existing buildings.** Existing buildings that do not have approved radio coverage for emergency responders shall be provided with approved radio coverage to the extent, and within a time frame, established by the adopting authority. ~~within the building shall be provided with such coverage within 18 months of receiving notice of such deficiency from the fire code official.~~

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** During the lengthy consideration of this code change proposal after the Palm Springs code development hearings, by both a task group and then the full ICC Code Technology Committee, it became clear that the potential impact on existing buildings of this change will be significant. However, without a mechanism in place within a jurisdiction to determine which buildings need to have improved coverage, and how existing buildings would be assessed to determine whether they already have adequate coverage, any attempt to specifically establish provisions for existing buildings is flawed. In many jurisdictions, any retroactive code requirement will simply be deleted from the code.

The original code change proposal simply required that every existing building be brought into compliance with the new radio coverage provisions within 18 months. However, the clock did not begin ticking until one was notified that their building did not currently have adequate coverage. This missing link is a significant flaw. However, proposing that somehow every single building in a jurisdiction be tested to determine whether additional measures would be needed is an even more significant flaw. The separately-submitted CTC public comment seeks to limit the application for existing buildings to high-rise buildings, underground buildings, and large assembly facilities. The CTC comment still lacks criteria for determining the existing coverage provided within these existing buildings, and leaves the time frame for compliance to the adopting authority.

This comment seeks to further the approach used in the CTC comment (which requires the adopting authority to establish the time frame for compliance), and simply provides a 'heads-up' to adopting jurisdictions that if they wish to apply these provisions to existing buildings, they will need to determine which buildings, or which types of buildings, are to be covered, and what the appropriate time frame for compliance should be.

*Public Comment 5:*

**Tim Pate, City & County of Broomfield Building Department, representing Colorado Chapter of ICC, requests Disapproval.**

**Commenter's Reason:**

1. There are no standards for installation of the proposed Emergency Responder Radio Communication System (ERRCS). For systems such as: fire alarm and detection, sprinkler, standpipe and similar, NFPA Standards outlines how these systems have to be installed. When these systems are installed per the referenced standards, they are accepted as compliant systems. However, the proposed ERRCS does not have any provisions regarding installation of this system. After installation, the ERRCS has to be tested to verify that the test criteria are met. If installed systems do not pass the test criteria, they have to be modified and re-tested until final acceptance of the system. This is not an accepted industry procedure.
2. Installation of the ERRCS in ALL new and existing buildings is not reasonable and would be onerous.
3. Justification presented for installation of this system is for the Large and High Rise buildings. However the proposed Sections 511.1 and 511.2 mandate installation of these systems in ALL buildings.
4. There are no code provisions except for the proposed language in G-53 which would require installation of this system in a high rise building.
5. The term "Emergency Responder Radio Coverage" could be interpreted as any emergency responder and any municipal agency with a radio system might mandate installation of this system.

*Public Comment 6:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Disapproval.**

Commenter's Reason: The Code Development Committee Reason statement for approval of this code change provides excellent rationale for Disapproval of this change. "The committee indicated, however, that there are substantial issues which need to be resolved, including:

- applicability to "all" buildings would be unreasonable;
- the application to existing buildings would be onerous;
- there is no exception for single family residences;
- deleting the fire department communications system would eliminate a useful backup system..."

**All Buildings.** The proposal as written applies to ALL buildings. Regardless of how many persons stand up to testify that 'well, golly, we'd never require EVERY building to have to do an assessment or to install equipment', if it is in the code, that is the requirement, and it introduces unreasonable requirements into the code. The scope of the proposal needs to be significantly revised in order to clearly state: which types of buildings are required to be assessed to determine if equipment needs to be installed, who is responsible for undertaking the assessment, and what criteria must be used to determine if equipment needs to be installed.

**Existing Buildings.** As written, the proposal essentially abandons the hard-wired communication system required in high-rise buildings under the current code. This is an unreasonable approach, and will likely meet with strong opposition in many jurisdictions where large numbers of buildings have these systems installed. Additionally, as written, EVERY existing building in a jurisdiction is covered by this proposal, and would be required at some point to do something. What, and when, is unclear, which makes for unacceptable code requirements. The existing building section would require upgrades within 18 months of being notified of a deficiency by the fire code official, but the proposal provides no mechanism for the jurisdiction to make this determination. This will lead to widely-varying application, with some jurisdictions assuming all existing buildings are OK until they find a problem during a response, and some jurisdictions assuming all existing buildings must assess their current coverage and 'prove' that upgrades are not required.

The extent to which buildings need to provide equipment to ensure adequate emergency responder radio coverage depends partly on the building, partly on the surroundings (which may change over time as additional buildings go up or come down), and partly on the infrastructure that the local jurisdiction provides. This proposal as written passes the entire obligation to the owners of EVERY building in a jurisdiction. As proposed, there will be enormous costs for buildings to determine whether they have adequate coverage, or enormous costs for the local emergency responders to assess every building in the jurisdiction. Even larger are the costs involved for those buildings that would need to provide additional equipment to ensure adequate coverage, regardless of the quality of the coverage provided in the area. As written, a jurisdiction need not ever spend another cent to upgrade any part of their system, as the proposal passes the entire burden onto the building stock of the jurisdiction. Historically, there has been a reluctance by the fire service to rely on equipment that they themselves do not maintain (hose lines in buildings is one example).

The lengthy technical provisions proposed for the appendix are inappropriate. If the technical provisions are adequately developed, they should be contained in the body of the code or in a referenced standard.

*Public Comment 7:*

**Russ Wayman, San Carlos, CA, representing himself, requests Disapproval.**

**Commenter's Reason:**

1. Installation of this system in ALL new and existing buildings is not reasonable and is onerous.
2. The industry has not developed a Standard for installation of the Emergency Responder Radio Communication System. After installation of this system has been completed, this system has to be tested to verify that the test criteria are met. There are no assurances that multiple reinstallations or upgrades would not be required after the initial installation.
3. The term "Emergency Responder Radio Coverage" could be interpreted as any emergency responder and any municipal agency with a radio system might mandate installation of this system.

Final Action: AS AM AMPC\_\_\_\_\_ D

## F95-07/08

### 607.3 (New)

#### *Proposed Change as Submitted:*

**Proponent:** Ed Donoghue, Edward Donoghue Associates, Inc.

#### **Add new text as follows:**

**607.3 Fire service access elevator lobbies.** Where fire service access elevators are required by Section 3007 of the *International Building Code*, fire service access elevator lobbies shall be maintained free of storage and furnishings.

**Reason:** In this specific proposal the focus is upon storage and furnishings within the fire service access elevator lobby. The fire service access elevator in high rise buildings over 120 feet above fire department vehicle access is a tool for fire fighters to enhance their ability to gain access to and undertake necessary staging activities in. Therefore, any obstructions located in lobbies associated with such elevators in the form of storage or furnishings, whether combustible or non-combustible, could hamper their ability to fully use such features. Prohibiting storage and furnishings in fire service access elevators also eliminates potential fire loads in such areas.

**Background:** As a result of the September 11, 2001 attacks on the World Trade Center, code provisions for emergency egress from tall buildings are being re-examined. There is renewed interest in the use of elevators for both occupant egress and fire fighters access. Therefore a Workshop on the Use of Elevators in Fires and Other Emergencies was held March 2-4, 2004, in Atlanta, Georgia. The workshop was cosponsored by American Society of Mechanical Engineers (ASME International), National Institute of Standards and Technology (NIST), International Code Council (ICC), National Fire Protection Association (NFPA), U.S. Access Board, and the International Association of Fire Fighters (IAFF).

The workshop focused on two general topics:

1. Use of Elevators by Fire fighters and
2. Use of Elevators by Occupants during Emergencies

To follow up on the ideas generated at the workshop, 2 task groups were formed; one for each topic. Their goals are:

- Review the suggestions from the Workshop on the Use of Elevators in Fires and other Emergencies.
- Develop a prioritized list of issues.
- Conduct a hazard analysis of the prioritized list of issues to see if there are any residual hazards.
- Draft code revisions for those issues that survive the process and the task group members still want addressed.

The membership of these task groups is broad and includes representatives from the elevator industry and manufacturers of devices such as fire alarms, the fire service, model codes and standards development organizations, and the accessibility community as well as fire protection engineers, architects and specialists in human factors and behavior. Since February 2005 the groups have each been conducting a hazard analysis on their assigned topic. The results of the hazard analysis focused upon the fire fighter needs is nearing completion.

The task group studied 16 different cases. In these cases a particular hazard followed by a cause/trigger was reviewed. The result of the hazard interacting with cause/trigger events may create a particular incident/effect. To address possible incident/effects corrective actions are proposed. Such corrective actions are then reviewed to see if they create any residual hazards. The hazard analysis then carries out each of the residual hazards with additional corrective actions until the hazard is mitigated. It is strictly a hazard analysis (i.e. not probabilistic) and certain assumptions were made such as a single fire start in a high rise building.

The code changes generated by this analysis are related both to the summary of corrective actions resulting from the hazard analysis and the existing language related to fire service access elevators placed into the 2007 supplement.

These proposals will work with the 2007 supplement requirements for fire service access elevators to address these concerns. It should be noted that the hazard analysis assumed a lobby to be directly connected with the fire service access elevator thus making the result of the analysis consistent with the philosophical approach found in the 2007 Supplement.

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

#### **Committee Action:**

**Approved as Modified**

#### **Modify the proposal as follows:**

**607.3 Fire service access elevator lobbies.** Where fire service access elevators are required by Section 3007 of the *International Building Code*, fire service access elevator lobbies shall be maintained free of storage ~~and furnishings~~.

**Committee Reason:** The proposal was approved because the committee agreed that it is desirable to have a specific prohibition on storage in fire service access elevator lobbies in the code to increase the likelihood that the lobby will be fully available for fire department operations. The modification removes language that the committee felt could result in unreasonable and inconsistent interpretation and enforcement.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Brian Black, BDBlack Codes, Inc., representing National Elevator Industries, Inc., requests Approval as Modified by this public comment.**

**John J. O'Donoghue, representing International Association of Fire Fighters, requests Approval as Modified by this public comment.**

**Jack J. Murphy, representing Fire Safety Directors Association of Greater New York, requests Approval as modified by this public comment.**

Further modify proposal as follows:

**607.3 Fire service access elevator lobbies.** Where fire service access elevators are required by Section 3007 of the *International Building Code*, fire service access elevator lobbies shall be maintained free of storage and furniture.

**Commenter's Reason:** Based on the Committee's concerns with the words "furnishings", this proposal has been modified to include "furniture", which captures the basic intent of the original proposal and provides more enforceable language.

Final Action:        AS            AM            AMPC\_\_\_\_        D

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## **F97-07/08**

### **608, 602.1 (New)**

*Proposed Change as Submitted:*

**Proponent:** Ronald Marts, Telcordia Technologies, representing AT&T, BellSouth, SBC, PacBell, Ameritech, SNET, Qwest, Cincinnati Bell

#### **1. Revise IFC as follows:**

**608.1 (Supp) Scope.** Stationary storage battery systems having an electrolyte capacity of more than 50 gallons (189L) for flooded lead acid, Nickel Cadmium, and VRLA, or a total battery weight (excluding racks or cabinets) of 1000 pounds for Lithium-Ion, and Lithium Metal Polymer and Nickel Metal Hydride, used for facility standby power, emergency power, or uninterrupted power supplies shall comply with this section and with Table 608.1.

**TABLE 608.1 (Supp)  
BATTERY REQUIREMENTS**

Requirement	Non-Recombinant Batteries		Recombinant Batteries			Other
	Flooded Lead Acid Batteries	Flooded Nickel Cadmium (Ni-Cd) Batteries	Valve Regulated Lead Acid (VRLA) Batteries	Lithium-Ion	<u>Nickel Metal Hydride</u>	Lithium Metal Polymer
Safety Caps (608.2)	Venting caps (608.2.1)	Venting caps (608.2.1)	Self-resealing flame-arresting caps (608.2.2)	No caps	<u>Self-resealing flame-arresting caps (608.2.2)</u>	No caps
Thermal Runaway Management	Not required	Not required	Required (608.3)	Not required	<u>Required (608.3)</u>	Required (608.3)
Spill Control	Required (608.5)	Required (608.5)	Not required	Not required	<u>Not Required</u>	Not Required
Neutralization	Required (608.5.1)	Required (608.5.1)	Required (608.5.2)	Not required	<u>Required (608.5.2)</u>	Not Required
Ventilation	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Not Required	<u>Required (608.6.1; 608.6.2)</u>	Not Required
Signage	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)	<u>Required (608.7)</u>	Required (608.7)
Seismic Control	Required (608.8)	Required (608.8)	Required (608.8)	Required 608.8	<u>Required (608.8)</u>	Required 608.8
Fire Detection	Required (608.9)	Required (608.9)	Required (608.9)	Required 608.9	<u>Required (608.9)</u>	Required 608.9

**608.2.2 Recombinant batteries.** Valve-regulated lead-acid (VRLA), nickel metal hydride, or other types of sealed, recombinant batteries shall be equipped with self-resealing flame-arresting safety vents.

**608.3 (Supp) Thermal runaway.** VRLA and lithium metal polymer, and nickel metal hydride battery systems shall be provided with a listed device or other approved method to preclude, detect, and control thermal runaway.

**608.5 (Supp) Spill control and neutralization.** An approved method and materials for the control and neutralization of a spill of electrolyte shall be provided in areas containing lead-acid, nickel-cadmium, or other types of batteries with freeflowing liquid electrolyte. For purposes of this paragraph, a “spill” is defined as any unintentional release of electrolyte.

**Exception:** VRLA, Lithium-Ion, Lithium Metal Polymer, nickel metal hydride, or other types of sealed batteries with immobilized electrolyte shall not require spill control.

**608.5.1 Non-recombinant battery neutralization.** For battery systems containing lead-acid, nickel-cadmium, or other types of batteries with free-flowing electrolyte, the method and materials shall be capable of neutralizing a spill from the largest ~~lead-acid battery cell or block~~ to a pH between 7.0 and 9.0.

**608.5.2 (Supp) Recombinant battery neutralization.** For VRLA, nickel metal hydride, or other types of sealed batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest VRLA cell or block in the room to a pH between 7.0 and 9.0.

**Exception:** Lithium-Ion and Lithium Metal Polymer batteries shall not require neutralization.

**608.6 Ventilation.** Ventilation of stationary storage battery systems shall comply with Sections 608.6.1 and 608.6.2.

**608.6.1 (Supp) Room ventilation.** Ventilation shall be provided in accordance with the *International Mechanical Code* and one of the following:

1. For flooded lead acid, flooded Ni-Cad, ~~and~~ VRLA, and nickel metal hydride batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 ft3/min/ft2) [0.0051m3/s m2] of floor area of the room.

**Exception:** Lithium-Ion and Lithium Metal Polymer batteries shall not require ventilation beyond what is normally required in accordance with the *International Mechanical Code*.

## 2. Revise IMC as follows:

**[F] 502.4 (Supp) Stationary storage battery systems.** Stationary storage battery systems, as regulated by Section 608 of the *International Fire Code*, shall be provided with ventilation in accordance with this chapter and Section 502.4.1 or 502.4.2.

**Exception:** Lithium-ion and Lithium Metal Polymer batteries shall not require ventilation beyond what is normally required by this code.

**[F] 502.4.1 Hydrogen limit in rooms.** For flooded lead acid, flooded nickel cadmium, ~~and~~ VRLA and nickel metal hydride batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room.

**[F] 502.4.2 Ventilation rate in rooms.** Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (cfm/ft2) [0.00508 m3/(s • m2)] of floor area of the room.

## 3. Add new definition as follows:

**602.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

### BATTERY TYPES

**Nickel metal hydride battery.** An electrochemical secondary (rechargeable) alkaline battery where the charge carriers (positive Hydrogen ions) are stored in non-gaseous form in a metal alloy hydride material.

**Reason:** This proposed change adds Nickel Metal Hydride (NMH) batteries to Section 608. NMH batteries are currently undergoing tests by several end users for use as stationary battery back-up systems where lead acid and VRLA batteries are currently used. Section 608 has become the "battery" section of the code, where several requirements can be addressed for each technology battery. The new definition is required for clarity.

This proposed change also includes an enhancement to rooms where Lithium-Ion and Lithium Metal Polymer batteries are located by requiring general ventilation in accordance with the IMC.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because there was no detailed information provided on nickel-metal hydride batteries for the committee to evaluate in determining if the proposed tabular requirements are appropriate or not. The battery name implies that it involves hydrogen but that information could not be determined from testimony.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Ronald Marts, Telcordia Technologies, representing AT&T, BellSouth, SBC, PacBell, Ameritech, SNET, Qwest, Cincinnati Bell, requests Approval as Submitted.**

**Commenter's Reason:** The original proposal was submitted to include Nickel Metal Hydride (NMH) batteries to Section 608. The committee disapproved the proposed change for two reasons: 1) detailed information was not supplied that would have supported the tabular requirements; 2) the battery name implies that it involves hydrogen but specific information could not be determined at testimony.

With regards to both the tabular requirements and the hydrogen concentration:

1. Safety caps are self-resealing, flame arresting caps, similar to VRLA batteries.
2. Thermal runaway management is required and the systems are built in to the battery systems.
3. Spill control is not required. Chemical components are contained in a hermetically sealed case and do not expose the user to hazardous chemicals. In this respect, they are also similar to the VRLA battery.
4. Neutralization, like the VRLA, is required in the event of a cell rupture.
5. Ventilation is required, yet the amount of hydrogen gas released is minimal and according to MSDS, less than that of a flooded lead acid battery. Regardless, the ventilation requirements in Section 608.6.1 ask for *maximum* hydrogen concentration to be 1.0 percent of the total room volume. Ventilation systems will be designed accordingly.
6. Like all batteries, signage, seismic control, and fire detection is required.

Final Action: AS AM AMPC\_\_\_ D

## F102-07/08, Part I 610 (New), 601.1

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

### PART I – IFC

#### 1. Add new section as follows:

**SECTION 610**  
**EMERGENCY SHOWER AND EYE WASH STATION**

**610.1 General.** In Group I-2 and I-5 occupancies in areas where chemicals are used that could necessitate the immediate flushing with water after an exposure, an emergency shower and eye wash station shall be installed and maintained in accordance with Section 411 of the *International Plumbing Code*.

#### 2. Revise as follows:

**601.1 Scope.** The provisions of this chapter shall apply to the installation, operation and maintenance of fuel-fired appliances and heating systems, emergency and standby power systems, electrical systems and equipment, mechanical refrigeration systems, elevator recall, stationary storage battery systems, ~~and~~ commercial kitchen hoods, and emergency shower and eye wash stations.

**Reason:** This proposal will require the installation of an eye wash and eye shower in Group I-2 occupancies and Group I-5 occupancies (dependent on another code change to create the I-5). The eye wash and shower will be required in areas of the facility where hazardous chemicals are being used. IPC Section 411 currently has design criteria and requirements for emergency shower and eye wash stations when they are installed.

This change will correlate the IBC and IFC with Federal Regulations for these facilities.

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

### PART I – IFC

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the proposal is vague as to where the eyewash station would be required and that it does not indicate for whom it would be installed. OSHA regulation 1910.51 has better detailed requirements on the subject. Also disapproved for consistency with the action of the IPC committee on Part II.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted for Part I.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**



Modify proposal as follows:

**SECTION 610  
EMERGENCY SHOWER AND EYE WASH STATION**

**610.1 General.** In Group I-2 and I-5 occupancies in ~~areas where chemicals are used~~ laboratories where corrosive or infectious materials are used that would necessitate the immediate flushing with water after an exposure, an emergency shower and eye wash station shall be installed and maintained in accordance with Section 411 of the *International Plumbing Code*.

(Portions of Part I not shown remain unchanged)

**Commenter's Reason:** Comments at the public hearing wanted to see a limited application of this requirement. The proposal has been revised to limit the application to laboratories in Group I-2. Therefore, this proposal will only require the installation of an eye wash and eye shower in Group I-2 occupancies in laboratories where hazardous chemicals are being used.

This provision will provide consistency and correlation of the I-Codes with mandated Federal Regulations for Group I-2 occupancies. In other words, the Federal Regulations already require the emergency shower and eye wash. Without the inclusion of this information in the I-Codes, a new facility could be constructed and completed only to find out that they need to go back and install emergency shower and eye wash. If the I-Codes contain this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has "approved" the facility.

The requirement for Group I-5 occupancies is removed here in this Public Comment.

Final Action: AS AM AMPC\_\_\_\_ D

**F102-07/08, Part II  
IPC Table 403.1 (IBC [P] 2902.1)**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**PART II – IPC**

Revise table as follows:

**TABLE 403.1 (IBC TABLE [P] 2902.1) (Supp)  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>**

No.	Classification	Occupancy.	Description	Water closets (Urinals See Section 419.2)		Lavatories		Bathtubs or Showers	Drinking Fountains (See Section 410.1)	Other
				Male	Female	Male	Female			
5	Institutional	I-2, I-5	Hospitals, ambulatory nursing home patients <sup>b</sup>	1 per room <sup>c</sup>		1 per room <sup>c</sup>		(See Section 411)	1 per 100	1 service sink and 1 <u>emergency shower and eye wash<sup>e</sup></u>

(Portions of table not shown remain unchanged)

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.
- b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. Where emergency shower and eye wash is required by Section 610.1 of the *International Fire Code*.
- f. The minimum number of required drinking fountains shall comply with Table 403.1 and Chapter 11 of the *International Building Code*.

**Reason:** This proposal will require the installation of an eye wash and eye shower in Group I-2 occupancies and Group I-5 occupancies (dependent on another code change to create the I-5). The eye wash and shower will be required in areas of the facility where hazardous chemicals are being used. IPC Section 411 currently has design criteria and requirements for emergency shower and eye wash stations when they are installed.

This change will correlate the IBC and IFC with Federal Regulations for these facilities.

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

**PART II – IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** The committee disapproved this proposal for 2 reasons: 1) The creation of a Group I-5 occupancy by G33-07/08 Part I was disapproved by the IBC general committee and 2) placing a contingent requirement for emergency showers and eyewash (based upon another code’s requirement) is inconsistent with how Table 403.1 is used. Where requirements are placed in the table, they are mandatory and not dependent on outside decision processes.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted for Part II.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**TABLE 403.1 (IBC TABLE [P] 2902.1)  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>A</sup>**

No.	Class.	Occp.	Descr.	Water closets (Urinals See Section 419.2)		Lavatories		Bathtubs or Showers	Drinking Fountains (See Section 410.1)	Other
				Male	Female	Male	Female			
5	Institutional	I-2, I-5	Hospitals, ambulatory nursing home patients <sup>b</sup>	1 per room <sup>c</sup>		1 per room <sup>c</sup>		(See Section 411)	1 per 100	1 service sink and 1 emergency shower and eye wash <sup>e</sup>

e. Where emergency shower and eye wash is required by Section 610.1 of the *International Fire Code*.

(Portions of Part II not shown remain unchanged)

**Commenter’s Reason:**

IPC Section 411 currently has design criteria and requirements for emergency shower and eye wash stations when they are installed. This provision will provide consistency and correlation of the I-Codes with mandated Federal Regulations for Group I-2 occupancies. In other words, the Federal Regulations already require the emergency shower and eye wash. Without the inclusion of this information in the I-Codes, a new facility could be constructed and completed only to find out that they need to go back and install emergency shower and eye wash. If the I-Codes contain this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has “approved” the facility.

The requirement for Group I-5 occupancies is removed here in this Public Comment for consistency with our public comment to Part I – IFC which would limit this application to only laboratories in Group I-2.

Final Action: AS AM AMPC\_\_\_\_\_ D

**F103-07/08**

**701.1**

*Proposed Change as Submitted:*

**Proponent:** Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee

**Revise as follows:**

**701.1 Scope.** The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for enclosing floor openings and shafts in existing buildings. New construction on new floor openings in existing buildings shall comply with the *International Building Code*.

**Reason:** The addition of this language provides for clarity to separate the issue of the construction of new floor openings in existing buildings from the need to enclose existing floor openings in existing buildings, which is addressed by Section 704 Floor Openings and Shafts. The current language has had numerous questions if new construction for the enclosure of an existing floor can comply with the provisions of Section 704 or if they must comply with the requirements of the IBC. The proposed language will clarify the intent of the code

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

**Committee Action:** **Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the current text "New construction..." would include new floor openings in existing buildings, making the proposal redundant.

**Assembly Action:** **None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**701.1 Scope.** The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for enclosing floor openings and shafts in existing buildings. ~~New construction buildings or~~ and new floor openings in existing buildings shall comply with the *International Building Code*.

**Commenter's Reason:** In its disapproval, the committee expressed concern that the proposal to specifically call out that new floor openings in existing buildings are required to comply with the IBC would be redundant. This is not the case because ICC staff has received a substantial number of calls for assistance on exactly this question. Without approval of the proposal it will remain unclear that the term 'new construction' applies not only to new buildings, but to the creation of new openings during the course of alterations to existing buildings. In order to remove any confusion, it is proposed to modify the language that was originally proposed.

Final Action:      AS              AM              AMPC\_\_\_\_              D

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## **F105-07/08**

### **703.1, 107.2**

*Proposed Change as Submitted:*

**Proponent:** John C. Dean, National Association of State Fire Marshals (NASFM)

**Revise as follows:**

**703.1 Maintenance.** The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be visually inspected annually, properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

**107.2 Inspection, testing and operation.** Passive fire systems and equipment requiring periodic testing or operation to ensure maintenance shall be inspected, tested or operated as specified in this code.

**Reason:** Currently there is no requirement for fire-resistance-rated construction to be inspected. In many areas around the country there is no formal, organized inspection program in place and as such countless buildings go without ongoing inspections. The requirement to maintain and repair suggests that this has to occur if a situation is found to exist. Even in regulated occupancies, problems exist with various coatings and spray applied fire-resistant materials<sup>1</sup>. Without any requirement to inspect these elements, conditions could exist for years before being noticed and repaired. This creates a false sense of security and puts building occupants at risk. The code has been formulated to require certain fire resistive features. It only stands to reason that these features should be periodically inspected to insure that they are, and remain, compliant for the life of the building.

<sup>1</sup> Findings from the *Initial Report of the Partnership for Safer Buildings*. The National Association of State Fire Marshals. March 2003. [http://www.firemarshals.org/mission/catastrophic/initial\\_report.asp](http://www.firemarshals.org/mission/catastrophic/initial_report.asp).

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

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**703.1 Maintenance.** The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be visually inspected by the owner annually; and properly repaired, restored or replaced when damaged, altered, breached or penetrated. Where concealed, such elements shall not be required to be visually inspected by the owner unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

**107.2 Inspection, Testing and operation.** ~~Passive fire systems and~~ Equipment requiring periodic testing or operation to ensure maintenance shall be ~~inspected~~, tested or operated as specified in this code.

**Committee Reason:** The proposal was approved because the committee felt that it provides for the periodic inspection of fire-resistance-rated construction. The modification clarifies who is to conduct the annual inspection and that permanently concealed elements are not expected to be inspected; Section 107.2 is also returned to the current text.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Disapproval.**

Commenter's Reason: The committee statement indicates that this item was approved because "the committee felt that it provides for the periodic inspection of fire-resistance-rated construction."

This change would either be a meaningless, 'feel-good' addition to the code, or an enormously complicated, enormously expensive, and enormously time-consuming new requirement. The fact that it could be either indicates how extensively flawed the proposal is.

The proposal includes no obligation for any documentation of these annual inspections, and testimony provided in Palm Springs supporting this change indicated it was not a big obligation, as the inspections could be done on a piecemeal basis as the 'owner' visited different parts of the facility. Well, 10 months from now, the owner of the hotel may not be 100% sure they've been in every guest room and peeked at every wall, ceiling, and floor, but since they don't have to document anything, they probably will decide they've seen them all.

Testimony in Palm Springs further pointed out the flaws in the proposal. In something like a ballroom with 50' high ceilings, someone testified that one could quickly do the 'inspection' with a pair of binoculars, unless of course, there is an access panel in the ceiling, because then one is obligated to go up 50' to open the panel. There were widely varying opinions about what extent of 'visual inspection' would be required: could one assess the 100' long, 50' high ballroom wall from across the room, or would one need to look all along the entire 5,000 SF surface of the wall?

This proposal is a step in the wrong direction. It introduces the notion that maintenance of fire-resistance-rated construction is a once-a-year concern. Current code text makes it a continual obligation.

Since 'accessible' is a defined term (per 201.3 of the IFC, which cites the IBC definitions), any concealed element would require inspection only if there were an access panel or door located between 15" and 48" above the floor, as that is the allowable range for accessible elements. Ceiling tiles, which are also noted, would never be 'accessible' per the defined term, as they would be located above any accessible reach range.

Final Action: AS AM AMPC\_\_\_ D

**F108-07/08**

**703.5 (New), 703.1.2**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**1. Add new text as follows:**

**703.5 Incidental accessory occupancies in Group I-1, I-2 and R-4 occupancies.** Where located in existing Group I-1, I-2 and R-4 occupancies, the incidental accessory occupancies listed in Table 508.2.5 (Supp) of the International Building Code shall be separated from the remainder of the building by a fire barrier constructed in accordance with Section 706 of the International Building Code or a horizontal assembly constructed in

accordance with Section 711 of the *International Building Code* or both, with not less than a one-hour fire-resistance rating. Openings shall be protected by smoke-actuated automatic-closing or self-closing fire doors with a 3/4-hour fire rating.

**Exception:** Where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

## 2. Revise as follows:

**703.1.2 Smoke barriers.** Required smoke barriers shall be maintained to prevent the passage of smoke and all openings protected with approved smoke barrier doors or smoke dampers. Construction elements designed to resist the passage of smoke shall be maintained to prevent the passage of smoke.

**Reason:** The incidental use areas identified in IBC 508.2 are portions of a building where there is an increased potential for fire. As a result of the increased hazard, these areas are required to be separated by either 1-HR fire rated construction or provided with sprinklers when in a new building. This proposal does not mandate compliance with requirements for new construction. For example, waste collection rooms, linen collection rooms, and paint shops are required to have 1-HR separation **and** sprinklers in new construction.

Group I occupancies have a higher life hazard than other occupancies, therefore, this proposal only addresses existing Group I occupancies. This proposal will require that the separation between the incidental use areas and the remainder of the building is constructed to resist the passage of smoke. Incidental use areas are frequently adjacent to, or have direct access, corridors. Providing construction to limit the spread of smoke will increase the integrity of the corridor during evacuation.

The "construction capable of resisting passage of smoke" is currently required in the IBC. This construction is by definition not a smoke barrier, and the IFC currently only requires maintenance of smoke barriers. Therefore, the revision to IFC 703.1.2 is added to include a maintenance requirement for the construction designed to resist the passage of smoke.

This proposal will correlate the IFC with Federal regulations for these facilities.

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

### Committee Action:

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the proposal would create conflict with the IBC treatment of non-separated mixed uses. It was also judged to be more restrictive than the IBC, which would create a scoping conflict between the two codes. It was also unclear as to the meaning of the term "incidental accessory occupancies".

### Assembly Action:

**None**

## *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

### *Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

Modify proposal as follows:

**703.5 Incidental accessory occupancies in Group I-1, I-2 and R-4 Occupancies.** ~~Where located~~ In existing Group I-1, I-2 and R-4 occupancies, ~~the~~ incidental accessory occupancies listed in Table 508.2.5 (Supp) of the *International Building Code* shall be separated from the remainder of the building by a fire barrier constructed in accordance with Section 706 of the *International Building Code* or a horizontal assembly constructed in accordance with Section 711 of the *International Building Code* or both, with not less than a one-hour fire-resistance rating. Openings shall be protected by smoke-actuated automatic-closing or self-closing fire doors with a 3/4-hour fire rating.

#### **Exceptions:**

1. Where the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Where only the incidental accessory occupancy is protected by an automatic extinguishing system, the separation between the incidental accessory occupancy and the remainder of the building shall be allowed to be of construction designed to resist the passage of smoke.

**703.1.2 Smoke barriers.** Required smoke barriers shall be maintained to prevent the passage of smoke and all openings protected with approved smoke barrier doors or smoke dampers.

**703.1.3 Construction designed to resist the passage of smoke.** Construction elements designed to resist the passage of smoke shall be maintained to prevent the passage of smoke.

**Commenter's Reason:** Incidental accessory occupancies identified in IBC Table 508.2.5 (2007 Supplement) are portions of a building where there is an increased potential for fire. As a result of the increased hazard, these areas are required to be separated by either 1-HR fire rated construction or provided with sprinklers when in a new building. And in some cases, the choice is not either rated construction or fire sprinklers. For example, waste collection rooms, linen collection rooms, and paint shops are required to have 1-HR separation **and** sprinklers in new construction. This Public Comment does not mandate compliance with requirements for new construction.

Group I and R-4 occupancies have a higher life hazard than other occupancies, therefore, this Public Comment only addresses existing Group I and R-4 occupancies. This proposal will require that the separation between the incidental accessory occupancies and the remainder of the building is constructed to resist the passage of smoke. Fire rated construction is not required, only construction which will resist the passage of smoke. Incidental accessory occupancies are frequently adjacent to, or have direct access, corridors. Providing construction to limit the spread of smoke will increase the integrity of the corridor during evacuation.

The Code Development Committee disapproved this item because it was unintentionally more restrictive than new construction. Incidental accessory occupancies in new construction can be either 1) fully sprinklered, 2) separated by 1=HR fire barrier, or 3) separated by construction designed to resist the passage of smoke with fire sprinklers in the incidental accessory occupancy only. It was unintentional, but option #3 was not included in the original proposal. The option to separate with construction to resist passage of smoke has been added and can be found in the new Exception #2.

IBC 508.2.5 currently requires "construction capable of resisting passage of smoke" to be installed to protect new incidental accessory occupancies even with the installation of fire sprinkler system. This type of construction is by definition not a smoke barrier; a smoke barrier is 1-HR construction. Therefore, the sentence requiring maintenance of construction designed to resist passage of smoke has been removed from Section 703.1.2 and relocated to a new section. The new section IFC 703.1.3 is added to include the maintenance requirement for the construction designed to resist the passage of smoke.

This Public Comment will provide consistency and correlation of the IFC with mandated Federal Regulations for Group I-2 occupancies. In other words, the Federal Regulations already require this separation. If the IFC contains this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the fire code official has "approved" the facility.

Final Action: AS AM AMPC\_\_\_\_ D

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## F109-07/08

### 703.5 (New)

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **Add new text as follows:**

**703.5 Separation of sleeping rooms.** In existing Group R-4 occupancies, sleeping rooms shall be separated from other portions of the building by construction with not less than a ½ hour fire-resistance rating. Openings shall be protected by smoke-actuated automatic-closing or self-closing fire doors. Sleeping room doors shall be 20-minute fire rated, or 1¾ inch thick, solid wood-core construction.

**Exception:** Walls need only resist the passage of smoke where buildings are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, and doors are automatic-closing or self-closing.

**Reason:** This proposal will include requirements that only apply to existing R-4 occupancies. The requirements will require that the sleeping areas are provided with a fire separation from the rest of the building. This separation will provide a higher level of protection for the occupants in their sleeping rooms.

Annually, multiple deaths occur in these facilities. This proposal will address that problem in existing buildings. If the building is sprinklered, the fire rating of the wall is not needed.

This proposal will correlate the IFC requirements with Federal requirements for these facilities.

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

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it would result in text more restrictive than the IBC or IRC because the IBC only requires separation of sleeping units from one another, not from other parts of the building, and because Group R-4 can be built non-sprinklered to the IRC.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**703.5 Separation of sleeping rooms in Group R-4.** In existing Group R-4 occupancies, sleeping rooms shall be separated from ~~other non-sleeping room~~ portions of the building by construction with not less than a ½ hour fire-resistance rating. Openings shall be protected by smoke-actuated automatic-closing or self-closing fire doors. Sleeping room doors shall be 20-minute fire rated, or 1¾ inch thick, solid wood-core construction.

**Exception:** Walls need only resist the passage of smoke where buildings are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, and doors are automatic-closing or self-closing.

**Commenter's Reason:** This Public Comment requires that the sleeping areas are provided with a separation from areas of the building not used for sleeping. This separation will provide a higher level of protection for the occupants in their sleeping rooms.

Annually, multiple deaths occur in these facilities. This proposal will address that problem in existing buildings. If the building is sprinklered, the fire rating of the wall is not needed.

This Public Comment will provide consistency and correlation of the IFC with mandated Federal Regulations for R-4 occupancies. In other words, the Federal Regulations already require this separation. Without the inclusion of this information, a new facility could be constructed and completed only to find out that they need to go back and modify or install this separation. If the IFC contains these requirements, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has "approved" the facility.

Final Action: AS AM AMPC\_\_\_\_\_ D

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## **F110-07/08**

### **703.5 (New), 701.1**

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **1. Add new section as follows:**

**703.5 Smoke barriers.** Existing Group I-2 occupancies shall be subdivided by smoke barriers to create smoke compartments in accordance with Sections 703.5.1 through 703.5.4.

**703.5.1 Smoke compartments.** At least two smoke compartments shall be provided in existing Group I-2 occupancies where the following criteria apply:

1. The floor is used by patients for sleeping or treatment, and
2. The floor has an occupant load of 50 or more persons.

**703.5.2 Size of smoke compartments.** Smoke barriers shall be constructed so that smoke compartments do not exceed 22,500 square feet (2092 m<sup>2</sup>) and the travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barriers shall be constructed in accordance with Section 709 of the *International Building Code*.

**703.5.3 Area of refuge.** At least 30 net square feet (2.8 m<sup>2</sup>) per patient shall be provided within the aggregate area of corridors, patient rooms, treatment rooms, lounge or dining areas and other low-hazard areas on each side of each smoke barrier. On floors not housing patients confined to a bed or litter, at least 6 net square feet (0.56 m<sup>2</sup>) per occupant shall be provided on each side of each smoke barrier for the total number of occupants in adjoining smoke compartments.

**703.5.4 Independent egress.** A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

#### **2. Revise as follows:**

**701.1 Scope.** The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for ~~fire-resistance-rated construction and protection of enclosing~~ floor openings and shafts in existing buildings. New construction shall comply with *the International Building Code*.

**Reason:** This proposal will require the retroactive installation of smoke barriers in Group I-2 occupancies to create smoke compartments. Group I-2 occupancies by definition contain patients who are not capable of self-preservation.

Smoke compartments are used during firefighting operations to move patients horizontally on a floor to a safe location. This horizontal movement provides additional time for the safety of the patients who typically cannot evacuate on their own. Moving patients to the adjacent smoke compartment allows the movement of more patients to a safe location in a more efficient and timely manner. If the fire continues, and patients need to be further evacuated, that can still occur and the patients can be further evacuated to outside or to an adjacent floor.

New construction under IBC 407.4 requires smoke compartments on every floor used for patient sleeping or treatment regardless of occupant load, and for all other stories with an occupant load of 50 or more. This retroactive provision is somewhat less restrictive in that it only applies on floors used for patient sleeping or treatment, and then only applies when the occupant load is 50 or more. Even though it is less restrictive than new construction, this proposal will provide an acceptable level of safety without requiring full compliance with the current code requirements.

The requirements for the size of the area of refuge in Section 703.5.3 and egress from the smoke compartment in Section 703.5.4 are consistent with the requirements in the IBC.

The scope in Section 701.1 is revised in two ways. First, to include the provisions for the construction of fire barriers. Second, the sentence is revised by changing "enclosing" shafts to "protecting" shafts. In Table 704.1, the owner has the option in most cases to resolve the issue of an unenclosed vertical opening by either enclosing the shaft, or providing a fire sprinkler system. Protection of the shaft is a more accurate depiction of the options available to the owner.

This proposal will correlate the IFC with Federal regulations for these facilities.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved for consistency with the action taken on F108- and F109-07/08 and also because the introduction of federal terminology will create conflicts with the IBC.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**703.5 Smoke barriers.** Existing Group I-2 occupancies shall be subdivided ~~by smoke barriers to create~~ into smoke compartments in accordance with Sections 703.5.1 through 703.5.4.

**703.5.1 Smoke compartments.** Smoke barriers shall be provided to subdivide every story into at least two smoke compartments ~~shall be provided~~ in existing Group I-2 occupancies where the following criteria apply:

1. The floor is used by patients for sleeping or treatment, and
2. The floor has an occupant load of 50 or more persons

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** This Public Comment will require the retroactive creation of smoke compartment in Group I-2 occupancies by the installation of smoke barriers. Group I-2 occupancies by definition contain patients who are not capable of self-preservation.

Smoke compartments are used during firefighting operations to move patients horizontally on a floor to a safe location. This horizontal movement provides additional time for the safety of the patients who typically cannot evacuate on their own. Moving patients to the adjacent smoke compartment allows the movement of more patients to a safe location in a more efficient and timely manner. If the fire continues, and patients need to be further evacuated, that can still occur and the patients can be further evacuated to outside or to an adjacent floor.

New construction under IBC 407.4 requires smoke compartments on every floor used for patient sleeping or treatment regardless of occupant load, and for all other stories with an occupant load of 50 or more. This retroactive provision is somewhat less restrictive in that it only applies on floors used for patient sleeping or treatment, and then only applies when the occupant load is 50 or more. Even though it is less restrictive than new construction, this proposal will provide an acceptable level of safety without requiring full compliance with the current code requirements.

The requirements for the size of the area of refuge in Section 703.5.3 and egress from the smoke compartment in Section 703.5.4 are consistent with the requirements in the IBC.

This provision will provide consistency with the IBC with mandated Federal Regulations for I-2 occupancies. In other words, the Federal Regulations already require this separation. If the IFC contains this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has "approved" the facility.

Final Action: AS AM AMPC\_\_\_\_ D



# F111-07/08

## 704.1

### *Proposed Change as Submitted:*

**Proponent:** Maureen Traxler, Department of Planning & Development, City of Seattle, WA

### **Revise as follows:**

**704.1 Enclosure.** Interior vertical shafts, Openings through floor/ceiling assemblies, including but not limited to stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

**Reason:** The term "shaft" is defined in IBC Section 702.1 as "an enclosed space extending through one or more stories of a building, connecting vertical openings in successive floors, or floors and roof." IFC Section 201.3 states that IBC definitions apply to the IFC for terms not defined by the IFC. The current IFC uses circular language in stating that shafts, which are defined as enclosed spaces, must be enclosed or protected. It's more logical to say that openings through floors are required to be enclosed by a shaft or otherwise protected. The proposed language is similar to IBC Section 707.2.

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

### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it is too broad in scope and that the current text works better. Also, the proposal is more restrictive than the IBC---the IBC permits unenclosed openings but the proposal does not take that into account, creating conflict between the codes.

### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

### *Public Comment:*

**Maureen Traxler, Department of Planning and Development, City of Seattle, WA, requests Approval as Submitted.**

**Commenter's Reason:** This proposal makes no change to the substance of Section 704.1; it merely makes it consistent with the IBC by coordinating with the term used in Table 704.1, and with the IBC definition of "shaft".

Table 704.1 describes the conditions requiring protection as "vertical openings connecting two or more stories", "escalator openings connecting four or less stories...". As defined in the IBC, a shaft is "An enclosed space extending through one or more stories of a building, connecting vertical openings in successive floors, or floors and roof." The dangerous condition sought to be corrected in IFC Section 704 isn't the presence of shafts, but rather their absence.

The purpose of the section is to require that openings between floors be enclosed. Since a "shaft" is defined as "an enclosed space" requiring that shafts be enclosed doesn't add any degree of protection.

Final Action: AS AM AMPC\_\_\_ D

# F112-07/08

## 704.1

### *Proposed Change as Submitted:*

**Proponent:** Maureen Traxler, Department of Planning & Development, City of Seattle, WA

### **Revise as follows:**

**704.1 Enclosure.** Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

**Exception: Openings through floor/ceiling assemblies need not be enclosed or protected where the code in effect when the openings were created would not require shaft enclosures or other protection.**

**Reason:** Section 704.1 is inconsistent with the requirements of the IBC and the IEBC by requiring retrofit of shaft enclosure or sprinkler protection when the other codes would allow existing conditions to remain. Chapter 34 of the IBC allows buildings to be maintained according to the code in effect when it was built, and allows alterations to be done without making other areas of the building comply with the requirements for new construction. The IEBC, even at Level 3, the highest level of alteration, allows shafts other than stairways to remain in their original condition—required stairways are only required to be enclosed up to the highest work area.

More problematic is the inconsistency between Section 704.1 and IBC requirements for new construction. For example, the third row of Table 704.1 requires one-hour protection or a sprinkler system for openings connecting three to five stories. IBC Section 707.2 has 10 pertinent exceptions that the IFC does not recognize. Another example of an inconsistency is the seventh row in Table 704.1 which implies that some protection is required for escalator openings connecting more than 4 stories. The IBC in contrast, allows escalator and convenience stairway openings to connect an unlimited number of stories. (IBC 707.2 exception 2).

A retroactive requirement should not be more stringent than the requirements for new construction. A building that receives its Certificate of Occupancy should not immediately be subject to additional requirements. It is much more reasonable to allow conditions that were permitted by the code in effect when the building was constructed.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the proposed exception would prevent the retroactive enclosure of many openings, which is the fundamental purpose of Section 704.1.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Maureen Traxler, Department of Planning and Development, City of Seattle, WA, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**704.1 Enclosure.** Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

~~**Exception:** Openings through floor/ceiling assemblies need not be enclosed or protected where the code in effect when the openings were created would not require shaft enclosures or other protection~~ are permitted to comply with the *International Building Code* in lieu of complying with Section 704.

**Commenter's Reason:** The provisions of IFC Section 704.1 are more stringent than the IBC requirements for new construction. For example, Table 704.1 requires “vertical openings connecting three to five stories” in occupancies other than Group I to have “1-hour protection or automatic sprinklers throughout”. The only exceptions are for Group R occupancies, and for open parking garages and ramps. By contrast, IBC Section 707.2 has approximately seven exceptions that could apply in the same situations as this provision of IFC Table 704.1.

For example, as the codes are currently written, an enclosed parking garage may have an opening between floors that is unprotected because it complies with IBC Section 707.2 exception 8. However, IFC Table 704.1 will require a one-hour enclosure or a sprinkler system throughout the building.

Similarly, IBC Section 707.2 exception 2 would allow a Group B building to have an escalator connecting six stories if the opening was protected with automatic fire shutters are each floor. IFC Table 704.1 would prohibit this. A jurisdiction’s building department would issue a permit for this building, but that same building would violate the Fire Code.

It’s unfair to building owners and designers for the Building and Fire codes to have conflicting provisions. This proposal provides a reasonable and simple way of resolving the conflict.

Final Action: AS AM AMPC\_\_\_\_\_ D

# F113-07/08

## Table 704

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

**Revise table as follows:**

**TABLE 704.1  
VERTICAL OPENING PROTECTION REQUIRED**

OCCUPANCY CLASSIFICATION	CONDITIONS	PROTECTION REQUIRED
All, other than Groups I and R-4	Vertical openings connecting two stories	No protection required <sup>a,b</sup>
All, other than Groups I and R-4	Vertical openings connecting three to five stories	1-hour protection or automatic sprinklers throughout <sup>a,b</sup>
All, other than Groups I and R-4	Vertical openings connecting more than five stories	1-hour protection <sup>a,b</sup>
All, other than Groups I and R-4	Atriums and covered mall buildings	1-hour protection or automatic sprinklers throughout
<u>R-4</u>	<u>Vertical openings connecting two or more stories</u>	<u>1/2-hour protection or automatic sprinklers throughout</u>

(Portions of table and footnotes not shown remain unchanged)

**Reason:** Group R-4 occupancies contain clients and client rooms that are just as susceptible to the travel of smoke, heat and fire through vertical shafts as other occupancies. It is critical to protect the clients in these facilities.

This proposal will correlate the IFC with Federal regulations for board and care facilities.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it would be more restrictive than the IBC or IRC because they allow unprotected openings in new construction which this proposal would not allow. The committee's opinion is that the proper approach would be to change the new building requirements in the IBC and IRC before making this proposal.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**TABLE 704.1  
VERTICAL OPENING PROTECTION REQUIRED**

OCCUPANCY CLASSIFICATION	CONDITIONS	PROTECTION REQUIRED
R-4	Vertical openings connecting two or more stories	<del>1/2-hour protection</del> or Automatic sprinklers throughout

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** Group R-4 occupancies contain clients and client rooms that are just as susceptible to the travel of smoke, heat and fire through vertical shafts as other occupancies. It is critical to protect the clients in these facilities.

This Public Comment is submitted to correlate with the action taken on G36 07-08. As a result, all R-4 occupancies will need to be sprinklered. Therefore the ability to substitute ½-HR construction for sprinklers to protect vertical openings is not appropriate.

This Public Comment will provide consistency and correlation of the IFC with mandated Federal Regulations for R-4 occupancies. In other words, the Federal Regulations already require fire sprinklers as well as the recently approved G36 07-08. If the IFC contains this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has "approved" the facility.

Final Action: AS AM AMPC\_\_\_\_\_ D

## F114-07/08

### 801.1

#### *Proposed Change as Submitted:*

**Proponent:** Jon Napier, Fire Department, City of Kent, WA, representing Washington State Building Code Council

#### **Revise as follows:**

**801.1 Scope.** The provisions of this chapter shall govern interior finish, interior trim, furniture, furnishings, decorative materials and decorative vegetation in buildings. Sections 803 through 808 of this code shall be applicable to existing buildings. Section 803 of the *International Building Code* and Sections 804 through 808 shall be applicable to new and existing buildings.

**Reason:** The intent of this change is to clarify which codes are to be used for new buildings and which ones are used for existing buildings. This chapter has been completely rewritten and while Section 803 of the IBC is referenced in Section 803.1, it should be included in the scope of the chapter to make it more clear to check the IBC for requirements for the application of interior finishes and interior trim. The change specifically identifies which sections are to be used only for existing buildings and which ones to use for new and existing buildings.

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

**Committee Action:** **Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the current text adequately portrays the applicability of Chapter 8 to new and existing buildings.

**Assembly Action:** **None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Jon Napier, Kent Fire Department, representing Washington State Building Code Council, requests Approval as Modified by this public comment.**

#### **Modify proposal as follows:**

**801.1 Scope.** The provisions of this chapter shall govern interior finish, interior trim, furniture, furnishings, decorative materials and decorative vegetation in buildings. Existing buildings shall comply with Sections 803 through 808 of this code and Sections 804 through 808 shall be applicable to new and existing buildings. ~~Existing buildings shall comply with Sections 803 through 808 of this code and Sections 804 through 808 shall be applicable to existing buildings. New buildings shall comply with Sections 804 through 808 and Section 803 of the *International Building Code* and Sections 804 through 808 shall be applicable to new and existing buildings.~~

**Commenter's Reason:** The intent of this change is to clarify which codes are to be used for new and existing buildings. I have restructured the paragraph, since Palm Springs, so it is clearer for the code reader as to the requirements for each category of building. The change specifically identifies which sections are to be used only for existing buildings and which ones to use for new and existing buildings.

Final Action: AS AM AMPC\_\_\_\_\_ D

# F115-07/08

803; 803.1; 803.1.1, 803.1.2 (New); 803.8 (New), 803.8.1 (New); Chapter 45

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

## 1. Revise as follows:

### SECTION 803 INTERIOR WALL, FLOOR AND CEILING FINISH AND TRIM IN EXISTING BUILDINGS

**803.1 General.** The provisions of this section shall limit the allowable flame spread and smoke development of interior wall, floor and ceiling finishes and interior wall and ceiling trim in existing buildings based on location and occupancy classification.

**803.1.1 Wall and ceiling finishes.** Interior wall and ceiling finishes shall be classified in accordance with Section 803 of the *International Building Code*. Such materials shall be grouped in accordance with ASTM E 84, as indicated in Section ~~803.1.1.1~~ 803.1.1.1, or in accordance with NFPA 286, as indicated in Section ~~803.1.2~~ 803.1.1.2.

#### Exceptions:

1. Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls and ceilings.
2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the *International Building Code* shall not be subject to interior finish requirements.

~~803.1.1~~ **803.1.1.1 Classification in accordance with ASTM E 84.** Interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed index when tested in accordance with ASTM E 84.

- Class A: flame spread index 0-25; smoke-developed index 0-450.
- Class B: flame spread index 26-75; smoke-developed index 0-450.
- Class C: flame spread index 76-200; smoke-developed index 0-450.

~~803.1.2~~ **803.1.1.2 (Supp) Classification in accordance with NFPA 286.** Interior wall or ceiling finishes shall be allowed to be tested in accordance with NFPA 286. Finishes tested in accordance with NFPA 286 shall comply with Section 803.1.2.1. Interior wall and ceiling finish materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.2.1, shall be allowed to be used where a Class A classification in accordance with ASTM E 84 is required.

**803.1.2 Floor finishes.** Interior floor finishes shall be classified in accordance with Section 804 of the *International Building Code*.

(Renumber subsequent sections)

## 2. Add new text as follows:

**[B] 803.8 (IBC 804.4) Floor finish and floor covering.** In all occupancies, interior floor finish and floor covering materials installed in exit enclosures, exit passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 803.8.1.

**[B] 803.8.1 (IBC 804.4.1) Minimum critical radiant flux.** Interior floor finish and floor covering materials in exit enclosures, exit passageways and corridors shall not be less than Class I in Groups I-2 and I-3 and not less than Class II in Groups A, B, E, H, I-4, M, R-1, R-2 and S. In all areas, floor covering materials shall comply with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630).

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) are permitted in any area where Class II materials are required.

**3. Add standard to Chapter 45 as follows:**

**CPSC**

16 CFR Part 1630-2000      Standard for the Surface Flammability of Carpets and Rugs

**Reason:** The IBC currently requires a fire resistance rating of floor coverings in new construction. However, the IFC does not indicate that either that required flame spread rating must be maintained, or that a new floor covering installed in an existing building must also comply with the same requirements.

This proposal will provide consistency with the requirements in the IBC and allow for the regulation of new floor coverings within an existing facility and for maintenance of the floor coverings.

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

**Analysis:** Review of proposed new standard CPSC 16 CFR Part 1630-2000 indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria.

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that application of the DOC "pill test" to interior floor finishes other than carpet is outside the scope of the standard (which is applicable to carpets only). No referenced standard is offered for floor materials other than carpet. Retroactive application would be onerous and it is unclear as to how the critical radiant flux of existing carpeting would be determined. Adding the scoping limitation to "newly installed" would be more reasonable.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Submitted.**

**Commenter's Reason:** This proposal was disapproved by the Code Development Committee because they felt it was more appropriate in the IBC. These requirements currently are in the IBC and are as follows:

**804.4 Interior floor finish requirements.** In all occupancies, interior floor finish and floor covering materials in exit enclosures, exit passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 804.4.1.

**804.4.1 Minimum critical radiant flux.** Interior floor finish and floor covering materials in exit enclosures, exit passageways and corridors shall not be less than Class I in Groups I-2 and I-3 and not less than Class II in Groups A, B, E, H, I-4, M, R-1, R-2 and S. In all areas, floor covering materials shall comply with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630).

**Exception:** Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) are permitted in any area where Class II materials are required.

You will notice that the requirements are identical to the proposed requirements for the IBC. That is the reason that the [B] is located in the proposed Section 803.8. The proposed revisions to Section 803.1 are needed administratively to add the requirements in Section 803.8.

The situation is that the IBC currently requires a fire resistance rating of floor coverings in new construction. However, the IFC does not indicate that the required flame spread rating must be maintained. And beyond that, if a building complied when new and is now replacing flooring, there is nothing in the IFC that would indicate that a new floor covering installed in an existing building must also comply with the same requirements.

This proposal will provide consistency with the requirements in the IBC and allow for the regulation and maintenance of floor coverings within an existing facility.

Final Action:      AS              AM              AMPC \_\_\_\_              D

# F116-07/08, Part I

## Table 803.3

**NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS ON THE CONSENT AGENDA. PART II IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY FOLLOWING ALL OF PART I.**

*Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

### PART I – IFC

**Revise table as follows:**

**TABLE 803.3  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY<sup>k</sup>**

Group	Sprinklered <sup>l</sup>			Nonsprinklered		
	Exit enclosures and exit passageways <sup>a,b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>	Exit enclosures and exit passageways <sup>a,b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>
B, E, M, R-1, R-4	B	C	C	A	B	C
<u>R-4</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>A</u>	<u>B</u>	<u>B</u>

(Portions of table and footnotes not shown remain unchanged)

**Reason:** Table 803.3 in the IFC governs wall and ceiling finish in existing buildings. Table 803.3 in the IBC governs wall and ceiling finish in new buildings.

The change that occurs in this proposal is to increase the flame spread rating from Class C to Class B in rooms and areas within Group R-4 occupancies. These occupancies house clients that in many cases need assistance to evacuate. The increased level of safety afforded by requiring a Class B rating will provide additional time for evacuation before the room is totally involved in fire.

This proposal is consistent with Federal regulations for board and care facilities.

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

### PART I – IFC

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee had several concerns with the proposal, including that federal licensing requirements should remain a choice, not an IFC mandate because the code cannot accommodate widely varying licensure requirements. Also, changing the class of interior finish for non-sprinklered Group R-4 in the proposal would be in conflict with the IBC interior finish requirements for new buildings. Applying the provisions to existing buildings would create an undue burden in requiring changes to existing interior finishes.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted for Part I.**

*Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Submitted.**

**Commenter's Reason:** This item was divided into two parts at the Hearing in Palm Springs. Part I was heard by the IFC Development Committee and Part II was heard by the IBC Fire Safety Committee, with the following outcome:

1. The IFC Development Committee disapproved Part I because it was felt that this requirement should be in the IBC.
2. The IBC Fire Safety Committee approved Part II as submitted. Therefore, it will be in the IBC.

This Public Comment is completing the process of correlating the IFC and IBC. The flame spread rating for interior finish in Group R-4 will be required to be Class B in the IBC. This Public Comment will correlate the IFC with the flame spread requirements in the IFC for existing structures. These occupancies house clients that in many cases need assistance to evacuate. The increased level of safety afforded by requiring a Class B rating will provide additional time for evacuation before the room is totally involved in fire.

Without the inclusion of this information in the IFC, a new facility could be constructed and completed. The IFC would not require that it be maintained to the same level of flame spread classification. The IBC contains this requirement, and it will eliminate confusion and frustration for the IFC to contain a consistent requirement.

Final Action: AS AM AMPC\_\_\_ D

**NOTE: PART II REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE**

**F116-07/08, PART II – IBC FIRE SAFETY**

Revise table as follows:

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

Group	Sprinklered <sup>l</sup>			Nonsprinklered		
	Exit enclosures and exit passageways <sup>a,b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>	Exit enclosures and exit passageways <sup>a,b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>
B, E, M, R-1, R-4	B	C	C	A	B	C
R-4	<u>B</u>	<u>C</u>	<u>C</u>	<u>A</u>	<u>B</u>	<u>B</u>

(Portions of table and footnotes not shown remain unchanged)

**Reason:** Table 803.3 in the IFC governs wall and ceiling finish in existing buildings. Table 803.3 in the IBC governs wall and ceiling finish in new buildings.

The change that occurs in this proposal is to increase the flame spread rating from Class C to Class B in rooms and areas within Group R-4 occupancies. These occupancies house clients that in many cases need assistance to evacuate. The increased level of safety afforded by requiring a Class B rating will provide additional time for evacuation before the room is totally involved in fire.

This proposal is consistent with Federal regulations for board and care facilities.

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

**PART II – IBC FIRE SAFETY**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** The committee agreed that it was appropriate for the allowable flame spread index in Group R-4, interior wall and ceiling finishes, to be reduced in some instances. Occupants with Group R-4 in many cases need assistance to evacuate. The increased level of safety afforded by requiring a lower maximum flame spread index (Class B rating) provides additional time for evacuation of the structure.

**Assembly Action:**

**None**

**F117-07/08**

**803.5.1, 803.5.1.1; Chapter 45 (New)**

*Proposed Change as Submitted:*

**Proponent:** Marcelo M. Hirschler, GBH International

**1. Revise as follows:**

**803.5.1 (Supp) Textile wall coverings.** Textile wall coverings shall comply with one of the following:

1. The textile wall or ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by automatic sprinklers installed in accordance with Section 903.3.1.1 or 903.3.1.2. Test specimen preparation and mounting shall be in accordance with ASTM E 2404.
2. The textile wall covering shall meet the criteria of Section 803.5.1.1 ~~or 803.5.1.2~~ when tested in the manner intended for use in accordance with NFPA 265 using the product-mounting system, including adhesive, of actual use, or
3. The textile wall or ceiling covering shall meet the criteria of Section 803.1.2.1 when tested in accordance with NFPA 286 using the product-mounting system, including adhesive, of actual use.



**2. Delete without substitution:**

~~803.5.1.1 Method A test protocol. During the Method A protocol, flame shall not spread to the ceiling during the 40 kW exposure. During the 150 kW exposure, the textile wall covering shall comply with all of the following:~~

- ~~1. Flame shall not spread to the outer extremity of the sample on the 8-foot by 12-foot (203 mm by 305 mm) wall.~~
- ~~2. The specimen shall not burn to the outer extremity of the 2-foot wide (610 mm) samples mounted in the corner of the room.~~
- ~~3. Burning droplets deemed capable of igniting textile wall coverings or that burn for 30 seconds or more shall not form.~~
- ~~4. Flashover, as defined in NFPA 265, shall not occur.~~
- ~~5. The maximum net instantaneous peak heat release rate, determined by subtracting the burner output from the maximum heat release rate, does not exceed 300 kW.~~

(Renumber subsequent section)

**2. Add standard to Chapter 45 as follows:**

**ASTM**

E 2404-07 Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics

**Reason:** This proposal does several things:

1. It clarifies that NFPA 265 method A no longer is contained within the standard and needs to be eliminated from the code.
2. It clarifies that NFPA 265 is unsuitable for testing ceiling coverings but ASTM E 84 and NFPA 286 can be used for testing ceiling coverings.
3. It recommends that a standard practice be referenced for testing textile wall and ceiling coverings and expanded vinyl wall and ceiling coverings in the Steiner tunnel test, ASTM E 84. The committee on fire standards, ASTM E05, developed a standard practice, entitled **Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics**, specifically for a mandatory way of preparing test specimens and mounting them in the tunnel. This replaces optional guidance on mounting methods found in the Appendix of ASTM E 84 and ensures testing consistency.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it would be inappropriate to apply the proposed requirements to existing wall coverings that predate the code.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Bob Eugene, Underwriters Laboratories, Inc., requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**803.5.1 (Supp) Textile wall coverings.** Textile wall coverings shall comply with one of the following:

1. The ~~textile wall or ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by automatic sprinklers installed in accordance with Section 903.3.1.1 or 903.3.1.2. Testing of newly installed textile wall or ceiling coverings shall be prepared and mounted~~ ~~Test specimen preparation and mounting shall be~~ in accordance with ASTM E 2404.
2. The textile wall covering shall meet the criteria of Section 803.5.1.1 when tested in the manner intended for use in accordance with NFPA 265 using the product-mounting system, including adhesive, of actual use, or
3. The textile wall or ceiling covering shall meet the criteria of Section 803.1.2.1 when tested in accordance with NFPA 286 using the product-mounting system, including adhesive, of actual use.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** This proposal does several things:

1. The modification responds to the Committee concern regarding application of new test methods existing wall coverings that predate the code by adding the text, "Testing of newly installed textile wall or ceiling coverings ..."

2. It reaffirms that NFPA 265 method A no longer is contained within the standard and needs to be eliminated from the code to conform with ICC policy CP#28 Section 3.6.2.2.
3. It reaffirms that NFPA 265 is unsuitable for testing ceiling coverings but ASTM E 84, UL 723 and NFPA 286 can be used for testing ceiling coverings.
4. It provides that a standard practice be referenced for testing textile wall and ceiling coverings and expanded vinyl wall and ceiling coverings in the Steiner tunnel test, (ASTM E 84, UL 723), for newly installed products. The committee on fire standards, ASTM E05, developed a standard practice, entitled Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling.

*Public Comment 2:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

**Replace proposal as follows:**

**804.1 General.** The provisions of this section shall limit the allowable flame spread and smoke development of newly introduced interior wall and ceiling finishes in existing buildings based on location and occupancy classification as required by Table 803.3 and in accordance with Section 804.2. Existing interior wall and ceiling finishes, and other newly introduced interior wall and ceiling finishes, in existing buildings shall be classified in accordance with Section 803 of this code.

**804.2 Textile wall coverings.** Where used as interior wall finish materials, newly introduced textile wall coverings in existing buildings shall comply with one of the following

1. The textile wall or ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by automatic sprinklers installed in accordance with Section 903.3.1.1 or 903.3.1.2. Test specimen preparation and mounting shall be in accordance with ASTM E 2404.
2. The textile wall covering shall meet the criteria of Section 803.5.1.1 when tested in the manner intended for use in accordance with NFPA 265 using the product-mounting system, including adhesive, of actual use, or 804.2.3 NFPA.
3. The textile wall or ceiling covering shall meet the criteria of Section 803.1.2.1 when tested in accordance with NFPA 286 using the product-mounting system, including adhesive, of actual use.

**Add standard to chapter 45 as follows:**

ASTM

E 2404-07 Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics

Commenter's Reason: Textile wall coverings are fire tested by three methods in the IFC and in the IBC: (a) ASTM E 84 (Steiner tunnel), (b) NFPA 265 (room-corner test specific for textiles) or (c) NFPA 286 (general room-corner test).

In the past there were two options for fire testing of textile wall coverings in accordance with NFPA 265: Method A test protocol (which is a screening test using 2 feet strips) or Method B, which lines the entire room. The NFPA Fire Tests committee has eliminated Method A from the NFPA 265 test method and has included the following statement: "A.1.4 Earlier editions of this test method contained two test protocols for testing textile wall coverings: Method A (a screening test, now shown as an option in Annex C) and Method B (fully lined walls). In the present edition, Method B is the only mandatory test protocol." Therefore, the option of using the screening test contained in Method A needs to be restricted to existing textile wall coverings.

The ASTM committee on fire standards, ASTM E05, has developed a mounting method for testing textile wall coverings when using ASTM E 84 (Steiner tunnel test), namely ASTM E 2404. ASTM E 2404 is not a test method but a mounting method that was developed specifically for use when testing textile wall coverings in the ASTM E 84 Steiner tunnel test. The mounting method in ASTM E 2404 is also used, and has always been used, for vinyl and paper wall and ceiling coverings. Proposal F118, approved by the fire code development committee at the February 2008 hearings, already incorporated ASTM E 2404 into the IFC.

A new section is proposed to be added to Chapter 8 in response to the committee's comments, during the original code development hearings. There was no suggestion during the hearings that NFPA 265 or NFPA 286 or ASTM E 84 with the mounting method in ASTM E 2404 were inappropriate for textile wall coverings. A concern was expressed that the new language should not be applicable to materials already installed in existing buildings. Therefore, when the committee reviewed the proposal, it felt that, when these materials are newly introduced into existing buildings, they should be addressed in a new section as opposed to being in section 803, because section 803 addresses existing materials in existing buildings, as follows:

*803 - INTERIOR WALL AND CEILING FINISH AND INTERIOR WALL AND CEILING TRIM IN EXISTING BUILDINGS*

*803.1 General. The provisions of this section shall limit the allowable flame spread and smoke development of interior wall and ceiling finishes and interior wall and ceiling trim in existing buildings based on location and occupancy classification. Interior wall and ceiling finishes shall be classified in accordance with Section 803 of the International Building Code. Such materials shall be grouped in accordance with ASTM E 84, as indicated in Section 803.1.1, or in accordance with NFPA 286, as indicated in Section 803.1.2.*

*Exceptions:*

- 1. Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls and ceilings.*
- 2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the International Building Code shall not be subject to interior finish requirements.*

Chapter 8 of the IFC already has sections for interior wall and ceiling finish in existing buildings (803) and for interior wall and ceiling trim in new and existing buildings. This comment creates a new section 804 specific for newly introduced interior wall and ceiling finish in existing buildings. This new section will not address existing interior wall and ceiling finish materials, while section 803 addresses both new and existing materials.

A parallel proposal was approved for Chapter 8 of the IBC.

Final Action:            AS                    AM                    AMPC\_\_\_\_\_            D

# F119-07/08

## 803.8 (New), 802.1 (New), Chapter 45 (New)

### *Proposed Change as Submitted:*

**Proponent:** Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

#### **1. Add new text and definition as follows:**

**803.8 Site-fabricated stretch systems.** Where used as interior wall or interior ceiling finish materials, site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

**802.1 (Supp) General.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**SITE-FABRICATED STRETCH SYSTEM.** A system, fabricated on site and intended for acoustical, tackable or aesthetic purposes, that is comprised of three elements:

1. A frame constructed of plastic, wood, metal or other material used to hold fabric in place.
2. A core material (infill, with the correct properties for the application), and
3. An outside layer, comprised of a textile, fabric or vinyl, that is stretched taunt and held in place by tension or mechanical fasteners via the frame.

#### **2. Add standard to Chapter 45 as follows:**

##### **ASTM**

E 2573-07 Standard Practice for Specimen Preparation and Mounting of Site-Fabricated Stretch Systems to Assess Surface Burning Characteristics.

**Reason:** The ASTM committee on fire standards, ASTM E05, has issued a standard practice, ASTM E 2573, Standard practice for specimen preparation and mounting of site-fabricated stretch systems. Until now there was no correct mandatory way to test these systems. These systems are now being used extensively because they can stretch to cover decorative walls and ceilings with unusual looks and shapes. The systems consist of three parts: a fabric (or vinyl), a frame and an infill core material. The testing has often been done of each component separately instead of testing the composite system. That is an inappropriate way to test and not the safe way to conduct the testing. Now that a consensus standard method of testing exists, the code should recognize it. The proposed definition was taken from the standard, ASTM E 2573, word for word.

This type of product is not exclusive to any individual manufacturer. Three examples, taken from different manufacturers, are shown as illustrations.





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

**Analysis:** Similar requirements and definition are proposed for the *International Building Code* in code change proposal FS167-07/08.

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that it would be unreasonable to apply a test for new materials retroactively. Previously approved curtain and drape material may have passed the E 84 test but might not pass the E 2573 test. If the intent is to apply to new materials, Section 803 is the wrong place to include it.

**Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Bob Eugene, Underwriters Laboratories, Inc., requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**803.8 Site-fabricated stretch systems.** Where used as newly installed interior wall or interior ceiling finish materials, site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

(Portions of proposal not shown remain unchanged)

**Commenter's Reason:** The addition of the words "newly installed" respond to the Committee concern that the testing requirements would be applied retroactively to existing materials that may have passed the Steiner tunnel test, but may not pass the ASTM E2573 test.

After a further review of IFC Chapter 8, this location was deemed to be the most appropriate location. New construction would be regulated under IBC Chapter 8. Companion text was approved as submitted for the IBC in proposal FS167-07/08.

The ASTM committee on fire standards, ASTM E05, has issued a standard practice, ASTM E 2573, Standard practice for specimen preparation and mounting of site-fabricated stretch systems. Until now there was no correct mandatory way to test these systems. These systems are now being used extensively because they can stretch to cover decorative walls and ceilings with unusual looks and shapes. The systems consist of three parts: a fabric (or vinyl), a frame and an infill core material. The testing has often been done of each component separately instead of testing the composite system. That is an inappropriate way to test and not the safe way to conduct the testing. Now that a consensus standard method of testing exists, the code should recognize it for newly installed products. The proposed definition was taken from the standard, ASTM E 2573, word for word.

*Public Comment 2:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

**Replace proposal as follows:**

**804.1 General.** The provisions of this section shall limit the allowable flame spread and smoke development of newly introduced interior wall and ceiling finishes in existing buildings based on location and occupancy classification as required by Table 803.3 and in accordance with Section 804.2. Existing interior wall and ceiling finishes, and other newly introduced interior wall and ceiling finishes, in existing buildings shall be classified in accordance with Section 803 of this code.

**804.2 Site-fabricated stretch systems.** Where used as interior wall or interior ceiling finish materials, newly introduced site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

**Add a definition of site-fabricated stretch systems to Section 802, as follows:**

**802.1 (Supp) General.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**SITE-FABRICATED STRETCH SYSTEM.** A system, fabricated on site and intended for acoustical, tackable or aesthetic purposes, that is comprised of three elements:

1. A frame constructed of plastic, wood, metal or other material used to hold fabric in place.
2. A core material (infill, with the correct properties for the application), and
3. An outside layer, comprised of a textile, fabric or vinyl, that is stretched taut and held in place by tension or mechanical fasteners via the frame.

**Add standard to Chapter 45 as follows:**

**ASTM**

E 2573-07 Standard Practice for Specimen Preparation and Mounting of Site-Fabricated Stretch Systems to Assess Surface Burning Characteristics.

**Commenter's Reason:** These site-fabricated stretch system materials are interior finish materials that are stretched taut across walls or ceilings (with a frame, which holds a fabric and core). Examples are shown in the photographs presented with the proposal. Therefore they must be fire tested like all other interior wall and ceiling materials, using either ASTM E 84 (Steiner tunnel test) or NFPA 286 (room-corner test). ASTM E 2573 is not a test method but a mounting method that was developed specifically for use when testing these materials in the ASTM E 84 Steiner tunnel test.

It is important to point out that these materials are not curtains or drapes because they are not free hanging like curtains. Therefore it would be inappropriate for them to be tested by using NFPA 701, or any other test that was developed for free-hanging materials. NFPA 701 is a test for vertically hanging fabrics.

A new section is proposed to be added to Chapter 8 in response to the committee's comments, during the original code development hearings. There was no suggestion during the hearings that this test was inappropriate for the site-fabricated stretch system materials. A concern was expressed that the new language should not be applicable to materials already installed in existing buildings. Therefore, when the committee reviewed the proposal, it felt that, when these materials are newly introduced into existing buildings, they should be addressed in a new section as opposed to being in section 803, because section 803 addresses existing materials in existing buildings, as follows:

**803 - INTERIOR WALL AND CEILING FINISH AND INTERIOR WALL AND CEILING TRIM IN EXISTING BUILDINGS**

**803.1 General.** *The provisions of this section shall limit the allowable flame spread and smoke development of interior wall and ceiling finishes and interior wall and ceiling trim in existing buildings based on location and occupancy classification. Interior wall and ceiling finishes shall be classified in accordance with Section 803 of the International Building Code. Such materials shall be grouped in accordance with ASTM E 84, as indicated in Section 803.1.1, or in accordance with NFPA 286, as indicated in Section 803.1.2.*

Exceptions:

1. Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls and ceilings.
2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the International Building Code shall not be subject to interior finish requirements.

Chapter 8 of the IFC already has sections for interior wall and ceiling finish in existing buildings (803) and for interior wall and ceiling trim in new and existing buildings. This comment creates a new section 804 specific for newly introduced interior wall and ceiling finish in existing buildings. This section will not address existing interior wall and ceiling finish materials, while section 803 addresses both new and existing materials.

A parallel proposal was approved for Chapter 8 of the IBC.

Final Action: AS AM AMPC\_\_\_\_\_ D

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## F124-07/08

**805.1.1.2, 805.1.1.3 (New), 805.1.1.4, 805.1.2.2, , 805.1.2.3 (New), 805.1.2.4, 805.2.1.2, 805.2.1.3 (New), 805.2.1.4, 805.2.2.2, 805.2.2.3 (New), 805.2.2.4, 805.3.1.2, 805.3.1.3 (New), 805.3.1.4, 805.3.2.3 (New), 805.3.2.4, 805.4.1.1, 805.4.1.2, 805.4.1.3 (New), 805.4.1.4, 805.4.2.2, 805.4.2.3 (New), 805.4.2.4, 805.5 through 805.5.2.4 (New), Chapter 45**

### *Proposed Change as Submitted:*

**Proponent:** Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

#### **1. Revise as follows:**

**805.1.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

#### **2. Add new text as follows:**

**805.1.1.3 Alternate provision.** In lieu of compliance with Section 805.1.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.1.1.3**~~ **805.1.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.1.1.1 and 805.1.1.2 or 805.1.1.3.

#### **3. Revise as follows:**

**805.1.2.2 Heat release rate.** Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 100 kW.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

**4. Add new text as follows:**

**805.1.2.3 Alternate provision.** In lieu of compliance with Sections 805.1.2.2, newly introduced mattresses shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.1.2.3**~~ **805.1.2.4 Identification.** Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.2.2.1 and 805.2.2.2 or 805.1.2.3.

**5. Revise as follows:**

**805.2.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

**6. Add new text as follows:**

**805.2.1.3 Alternate provision.** In lieu of compliance with Section 805.2.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.2.1.3**~~ **805.2.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.2.1.1 and 805.2.1.2 or 805.2.1.3.

**7. Revise as follows:**

**805.2.2.2 Heat release rate.** Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows:

1. The peak rate of heat release for the single mattress shall not exceed 100 kW.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single mattress during the first 10 minutes of the test shall not exceed 25 MJ.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

**8. Add new text as follows:**

**805.2.2.3 Alternate provision.** In lieu of compliance with Section 805.2.2.2, newly introduced mattresses shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.2.2.3**~~ **805.2.2.4 Identification.** Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.2.2.1 and 805.2.2.2 or 805.2.2.3.

## 9. Revise as follows:

**805.3.1.2 (Supp) Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

~~**Exception:** In Use Condition I, II and III occupancies, as defined in the *International Building Code*, upholstered furniture in rooms or spaces protected by approved smoke detectors that initiate, without delay, an alarm that is audible in that room or space.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

## 10. Add new text as follows:

**805.3.1.3 Alternate provision.** In lieu of compliance with Section 805.3.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.3.1.3**~~ **805.3.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.3.1.1 and 805.3.1.2 or 805.3.1.3.

**805.3.2.3 Alternate provision.** In lieu of compliance with Sections 805.3.2.1 and 805.3.2.2, newly introduced mattresses shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~**805.3.2.3**~~ **805.3.2.4 Identification.** Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.3.2.1 and 805.3.2.2 or 805.3.2.3.

## 11. Revise as follows:

**805.4.1.1 (Supp) Ignition by cigarettes.** Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with NFPA 260 ~~and shall meet the requirements for Class I~~ one of the following:

1. Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261, or
2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

**805.4.1.2 (Supp) Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

## 12. Add new text as follows:

**805.4.1.3 Alternate provision.** In lieu of compliance with Section 805.4.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.



~~805.4.1.3~~ **805.4.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.1.1 and 805.4.1.2 or 805.4.1.3.

**13. Revise as follows:**

**805.4.2.2 (Supp) Heat release rate.** Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows.

1. The peak rate of heat release for the single mattress shall not exceed 100 kW.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single mattress during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

**14. Add new text as follows:**

**805.4.2.3 Alternate provision.** In lieu of compliance with Sections 805.4.2.1 and 805.4.2.2, newly introduced mattresses shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~805.4.2.3~~ **805.4.2.4 Identification.** Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.2.1 and 805.4.2.2 or 805.4.2.3.

**805.5 All other occupancies.** The requirements in Sections 805.5.1 through 805.5.2 shall apply to all other occupancy groups.

**805.5.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.5.1.1 through 805.5.1.4.

**805.5.1.1 Ignition by cigarettes.** Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following:

1. Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or,
2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

**805.5.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.
2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

**805.5.1.3 Alternate provision.** In lieu of compliance with Section 805.5.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

**805.5.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.5.1.1 and 805.5.1.2 or 805.5.1.3.

~~**Exception:** Private owners of upholstered furniture in private dwellings shall be permitted to remove the tags.~~

**805.5.2 Mattresses.** Newly introduced mattresses shall meet the requirements of Sections 805.5.2.1 through 805.5.2.4.

**805.5.2.1 Ignition by cigarettes.** Newly introduced mattresses shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with DOC 16 CFR Part 1632 and shall have a char length not exceeding 2.0 inches (51 mm).

**805.5.2.2 Heat release rate.** Newly introduced mattresses shall have limited rates of heat release when tested in accordance with DOC 16 CFR 1633, as follows.

1. The peak rate of heat release for the single mattress shall not exceed 200 kW during the first 30 minutes of test.
2. The total energy released by the single mattress during the first 10 minutes of the test shall not exceed 15 megajoules (MJ).

**805.5.2.3 Alternate provision.** In lieu of compliance with Section 805.2.2.2, newly introduced mattresses shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

**805.5.2.4 Identification.** Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.5.2.1 and 805.5.2.2 or 805.5.2.3.

**Exception:** Private owners of mattresses in private dwellings shall be permitted to remove the tags.

## **15. Add standards to Chapter 45 as follows:**

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006 Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources

## **CPSC**

16 CFR 1633-2006 Standard for the Flammability (Open Flame) of Mattress Sets

**Reason:** This is a general proposal for revising the requirements for upholstered furniture and mattresses, which are widely acknowledged to be the most important items causing fire fatalities in the US. In fact, the tragedy that killed 9 firefighters in the line of duty in Charleston, SC, on June 18, 2007 was the most visible example of this problem. The firefighters died because the upholstered furniture warehouse was full of furniture that did not meet any type of fire safety requirements. The National Association of State Fire Marshals (NASFM) petitioned the Consumer Product Safety Commission (CPSC) in 1993 that upholstered furniture fire legislation be put in place, perhaps following the British model. NASFM petitioned for federal regulation requiring that upholstered furniture be safe from ignition by cigarettes and by small open flames. CPSC has still not acted in August of 2007. In the 14 intervening years some 8,000 people have died in the US in fires that started in upholstered furniture. Those deaths should have been prevented and many would have been prevented if regulation was in place. CPSC is still unable to act, as it has no quorum for commissioners to vote and it is therefore important for someone else to act.

1. The IFC is not a regulation but it can require that upholstered furniture used everywhere meet certain fire safety standards, and that is what this proposal does.
2. The standards required for upholstered furniture involve low heat release and resistance to smoldering ignition (by cigarettes).
3. For heat release, the proposal introduces for all furniture requirements based on the same test as is required for the high risk occupancies with requirements in the code, namely CA TB 133 (or ASTM E 1537).
4. For resistance to smoldering ignition, the proposal introduces the same tests that are being used, on a voluntary basis, by the major upholstered furniture manufacturer trade associations, namely UFAC (Upholstered Furniture Action Council, NFPA 260) and BIFMA (Business and Institutional Manufacturers Association, NFPA 261). The standards are already included in the code, for several high risk occupancies. In fact, the addition of this requirement is really mostly a reflection of reality, since the overwhelming majority of US upholstered furniture meets it.
5. The proposal presents an alternate option, in that it allows furniture made with individual components that comply with BS 5852 crib 5 to be used as an alternative to the use of the heat release test in CA TB 133/ASTM E 1537. Upholstered furniture sold in the United Kingdom has had to comply with BS 5852 since the late 1980s and that has resulted in dramatic improvements in fire safety associated with upholstered furniture.
6. The BS 5852 test is simple to conduct and requires minimal equipment or instrumentation. Therefore, this should make it easier for furniture manufacturers and individual suppliers to check whether they meet the requirements. Moreover, BS 5852 does not require testing of the entire upholstered furniture (or mattress) item, but each component can be tested individually. Again, this should make checking for conformance easier for manufacturers.
7. The proposal also includes in the code the mandatory federal requirements for fire safety of mattresses, which have been in effect since July 1, 2007 throughout the United States, based on 16 CFR 1633 (and in California, based on CA TB 603) and the ones that have existed for many years, based on CPSC's 16 CFR 1632. This is not an option in the US any more, but the proposal recognizes the international use of the IFC.
8. Once more, for mattresses, the option of complying with BS 5852 is given, for international users of the IFC.
9. This proposal recognizes that CA TB 129/ASTM E 1590 is a more severe requirement than CA TB 603/16 CFR 1633 and therefore makes the distinction that mattresses in high risk environments must meet the more severe fire test. This does not represent a change.
10. The proposal also eliminates the remainder of the sprinkler exceptions, because it is clear that the only proper way to get new furniture and mattresses introduced is by ensuring that all of it meets the proper fire safety requirements.
11. The proposal eliminates the exception for a smoke detector in a detention occupancy cell. This exception needs to be deleted, as it is still there because of incomplete proposals in the last cycle. The companion exception, in the section on mattresses, does not

exist. Moreover, it makes no sense for an exception associated with an alarm sounding in the cell since the inmate cannot leave the cell even when notified even when notified of a fire. The upholstered furniture needs to meet the proper fire safety requirements. An exception for smoke detectors still exists for the patient's own furniture in the section on nursing homes and that is not addressed by this proposal. This portion is also being presented as a stand-alone proposal.

12. The proposal brings consistency to the smoldering ignition requirements by allowing all upholstered furniture resistance to smoldering ignition to be conducted with either of the two tests, NFPA 260 or NFPA 261, in 805.4.1.1. This portion is also being presented as a stand-alone proposal for the only occupancy where the option is missing.

An alternate proposal is also being presented that does not include the option of using BS 5852.

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

**Analysis:** The action on this proposal should be consistent with the action on Code Change F123-07/08.

**Analysis:** Review of proposed new standard BS 5852:2006 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Analysis:** Review of proposed new standard CPSC 16 CFR 1633-2006 indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria.

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was approved because the committee felt that the proposed regulations would be unenforceable for all occupancies and that they should be applicable to newly introduced items only. Accordingly, the committee felt that removal of the sprinkler exceptions would be unreasonable. The committee also felt that the retroactive application of the proposed regulations would prohibit furniture transfers (such as occur between parents and their children going off to college or setting up housekeeping, etc.) and that the financial impact would be onerous and disproportionate to the benefits to be derived. Additionally, there were no fire statistics presented that would support the change.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

**Replace proposal as follows:**

**805.1.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.1.1.1 ~~through and~~ ~~805.1.1.2~~ 805.1.1.4.

**805.1.1.3 Alternate provision.** In lieu of compliance with Section 805.1.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~805.1.1.3~~ **805.1.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.1.1.1 and 805.1.1.2 or 805.1.1.3.

**Add new standard to Chapter 45 as follows:**

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006      Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smoldering and Flaming Ignition Sources

**Commenter's Reason:** his change would do nothing else than permit an alternate option for testing of upholstered furniture in Group I-1 board and care facilities. Instead of testing to ASTM E 1537 or CA TB 133, this provision will allow upholstered furniture component testing to the British Standard, as being required in the United Kingdom for many years. The advantage of allowing the alternate testing is that individual materials are allowed to be tested. If the foam and the cover fabric meet the requirements of BS 5852 crib 5 then it has been shown that the upholstered furniture item will provide excellent fire safety. Allowing this option will simply provide more choices without decreasing fire safety.

Attached below are five tables. The first one has data from tests I conducted with a UK sofa (complying with BS 5852) and with three US sofas ("Residential Upholstered Furniture in the United States and Fire Hazard", M.M. Hirschler, Business Communications Company Fifteenth Ann. Conference on Recent Advances in Flame Retardancy of Polymeric Materials, June 7-9, 2004, Stamford, CT, Ed. M. Lewin, p. 300-315, Norwalk, CT, 2004).

	<b>US Sofa 1</b>	<b>US Sofa 2</b>	<b>US Sofa 3</b>	<b>UK Sofa</b>
Ignition Source	BS 5852 1	BS 5852 2	BS 5852 2	BS 5852 2
Extinguishment@ (s)	485	480	486	No ignition
Pk RHR (kW) (before extinguishment)	4,802	2,641	4,394	2
Time to flashover (s)	410	465	447	No ignition
Time to Pk RHR (s)	440	498	485	No ignition
Time before self-propagating fire (s)	310	378	372	No ignition
Total Heat Release @ 600 s (MJ)	292	251	359	No ignition
Flashover RHR in Test Room (kW)	1,000	1,000	1,000	1,000
Total Smoke Release @ 540 s (in m <sup>2</sup> )	889	2,535	6,389	No ignition
Maximum Smoke Release (Code, in m <sup>2</sup> )	1,000	1,000	1,000	1,000
Mass of Sofa (kg)	290	276	275	56
Mass Loss Before Extinguishment (kg)	6.1	4.6	9.1	No ignition
Maximum Toxic Smoke Concentration in Test Room Before Extinguishment (g/m <sup>3</sup> ) *	295	212	420	No ignition
Toxic Smoke Incapacitation Limit (g/m <sup>3</sup> )	15	15	15	15
Time to Toxic Smoke Incapacitation Concentration in Test Room (s)	310	420	384	No ignition
Toxic Smoke Lethality Limit (g/m <sup>3</sup> ) *	30	30	30	30
Time to Toxic Smoke Lethality Concentration in Test Room (s)	340	441	411	No ignition

The second through fourth tables show the fire death rates in the United Kingdom and in the US, based on official UK statistics and NFPA fire loss statistics.

Year	UK Population (millions)	US Population (millions)	Fire Fatalities per Million UK	Fire Fatalities per Million US
1988	57.0	245.8	3.4	3.9
1997	58.9	267.8	1.5	2.5
2002	60.2	287.6	1.1	1.7
2004	59.8	> 285	0.1	> 1.5

Year	Fires	Fire Fatalities	Fire Injuries
1994	0	0	0
1995	Not available	Not available	Not available
1996	1	0	0
1997	7	0	5
1998	14	0	2
1999	8	1	1
2000	13	0	3
2001	41	1	9
2002	58	0	19
Total	142	2	39

**Table 4. US Fire Losses in Homes Where Upholstered Furniture is the Item First Ignited**

Year	Fires	Fire Fatalities
1980	36,850	1,356
1981	33,830	1,360
1982	27,480	1,185
1983	24,560	1,099
1984	24,080	1,093
1985	23,110	931
1986	22,120	1,068
1987	20,760	1,030
1988	20,180	1,098
1989	18,050	883
1990	16,360	867
1991	16,160	676
1992	15,190	631
1993	14,330	653
1994	13,970	669
1995	13,300	659
1996	12,790	652
1997	11,800	655
1998	11,580	543
1999	11,000	472
2000	10,320	632
2001	9,490	639
2002	8,840	502

The fifth table shows the benefits resulting from the UK upholstery regulations, as published in a study commissioned by the British Department of Trade and Industry (*UK Government Consumer Safety Research*, "Effectiveness of the Furniture and Furnishings (Fire) (Safety) Regulations 1988", Consumer Affairs Directorate, Dept. Trade and Industry, London, UK, June 2000 [Research conducted by Professor Gary Stevens, Univ. of Surrey, Guildford, UK].)

**Table 5 - Benefits Resulting From UK Upholstery Regulations up to 1997**

Benefit measure	Annual benefit 1992	Annual benefit 1997	Cumulative benefit 1988-1997
Number of dwelling fires	3,715	8,769	42,754
Total lives saved	169	362	1,856
Lives saved for upholstery as item first ignited	65	138	710
Total non-fatal injuries saved	1,548	3,315	17,000
Injuries saved for upholstery as item first ignited	526	1,126	5,774
Loss adjusted cost saving £m/yr	23	53	249
Final cost saving £m/yr	507	10,835	5,567
Total cost saving £m/yr	530	1,138	5,615

*Public Comment 2:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**805.2.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.2.1.1 through ~~805.2.1.3~~ 805.2.1.4.

**805.2.1.3 Alternate provision.** In lieu of compliance with Sections 805.2.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~805.2.1.3~~ **805.2.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.2.1.1 and 805.2.1.2 or 805.2.1.3.

Add new standard to Chapter 45 as follows:

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006      Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources.

**Commenter's Reason:** This change would do nothing else than permit an alternate option for testing of upholstered furniture in Group I-2 nursing homes and hospitals. Instead of testing to ASTM E 1537 or CA TB 133, this provision will allow upholstered furniture component testing to the British Standard, as being required in the United Kingdom for many years. The advantage of allowing the alternate testing is that individual materials are allowed to be tested. If the foam and the cover fabric meet the requirements of BS 5852 crib 5 then it has been shown that the upholstered furniture item will provide excellent fire safety. Allowing this option will simply provide more choices without decreasing fire safety.

Included in my Public Comment #1 to proposal F124-07/08 are five data tables which are applicable to this public comment as well but which, for purposes of space conservation, are not repeated here. Please refer to and consider those tables as part of THIS reason statement.

*Public Comment 3:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**805.3.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.3.1.1 through ~~805.3.1.3~~ 805.3.1.4.

**805.3.1.3 Alternate provision.** In lieu of compliance with Sections 805.3.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~805.3.1.3~~ **805.3.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.3.1.1 and 805.3.1.2 or 805.3.1.3.

Add new standard to Chapter 45 as follows:

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006      Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources.

**Commenter's Reason:** This change would do nothing else than permit an alternate option for testing of upholstered furniture in Group I-3 detention and correction facilities. Instead of testing to ASTM E 1537 or CA TB 133, this provision will allow upholstered furniture component testing to the British Standard, as being required in the United Kingdom for many years. The advantage of allowing the alternate testing is that individual materials are allowed to be tested. If the foam and the cover fabric meet the requirements of BS 5852 crib 5 then it has been shown that the upholstered furniture item will provide excellent fire safety. Allowing this option will simply provide more choices without decreasing fire safety.

Included in my Public Comment #1 to proposal F124-07/08 are five data tables which are applicable to this public comment as well but which, for purposes of space conservation, are not repeated here. Please refer to and consider those tables as part of THIS reason statement.

*Public Comment 4:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**805.4.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.4.1.1 through ~~805.4.1.3~~ 805.4.1.4.

**805.4.1.3 Alternate provision.** In lieu of compliance with Sections 805.4.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

~~805.4.1.3~~ **805.4.1.4 Identification.** Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.1.1 and 805.4.1.2 or 805.4.1.3.

Add new standard to Chapter 45 as follows:

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006      Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources.

**Commenter's Reason:** This change would do nothing else than permit an alternate option for testing of upholstered furniture in Group R-2 college and university dormitories. Instead of testing to ASTM E 1537 or CA TB 133, this provision will allow upholstered furniture component testing to the British Standard, as being required in the United Kingdom for many years. The advantage of allowing the alternate testing is that individual materials are allowed to be tested. If the foam and the cover fabric meet the requirements of BS 5852 crib 5 then it has been shown that the upholstered furniture item will provide excellent fire safety. Allowing this option will simply provide more choices without decreasing fire safety.

Included in my Public Comment #1 to proposal F124-07/08 are five data tables which are applicable to this public comment as well but which, for purposes of space conservation, are not repeated here. Please refer to and consider those tables as part of THIS reason statement.

*Public Comment 5:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**805.5 Group E occupancies.** The requirements in Sections 805.5.1 shall apply to newly introduced upholstered furniture in Group E occupancies.

**805.5.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.5.1.1 through 805.5.1.4.  
**805.5.1.1 Ignition by cigarettes.** Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following: (a) mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or (b) the components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

**805.5.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

**805.5.1.3 Alternate provision.** In lieu of compliance with Sections 805.5.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

**805.5.1.4 Identification.** Newly introduced upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.5.1.1 and 805.5.1.2 or 805.5.1.3.

Add new standard to Chapter 45 as follows:

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

**BS 5852:2006**      **Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources.**

**Commenter's Reason:** This change would require upholstered furniture in Group E occupancies to be the same as in other high risk occupancies. This would include the same sprinkler exceptions available for other occupancies. The requirements for cigarette ignition tests are those that have existed, in fact, in the US for many years, based on the UFAC and BIFMA tests, identical to the NFPA tests. The proposed change recognizes that educational establishments are areas where the potential exists for losses with some of our most vulnerable population. The issues associated with the use of BS 5852 have been explained in other public comments and are not being repeated here.

Note also that the original proposal addressed all occupancies and this comment is more narrowly focused on one occupancy only, namely Group E, where students and children are at risk.

*Public Comment 6:*

**Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.**

Replace proposal as follows:

**805.6 Group R occupancies other than Group R-2 college and university dormitories.** The requirements in Section 805.6.1 shall apply to newly introduced upholstered furniture in Groups R occupancies other than college and university dormitories classified in Group R-2.

**805.6.1 Upholstered furniture.** Newly introduced upholstered furniture shall meet the requirements of Sections 805.5.1.1 through 805.5.1.4.

**805.6.1.1 Ignition by Cigarettes.** Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following: (a) mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or (b) the components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

**805.6.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 or California Technical Bulletin 133, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, Section 903.3.1.2 or Section 903.3.1.3, as appropriate.

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, Section 903.3.1.2 or Section 903.3.1.3, as appropriate.

**805.6.1.3 Alternate provision.** In lieu of compliance with Sections 805.6.1.2, newly introduced upholstered furniture shall be permitted to comply with the requirements of ignition source 5 of British Standard BS 5852, when all materials of the product are shown to pass the test.

**805.6.1.4 Identification.** Newly introduced upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.6.1.1 and 805.6.1.2 or 805.6.1.3.

**Exception:** Private owners of upholstered furniture in private dwellings shall be permitted to remove the tags.

Add new standard to Chapter 45 as follows:

**British Standards Institution**  
**389 Chiswick High Road**  
**London, W4 4AL, United Kingdom**

BS 5852:2006      Methods of Test for Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources.

**Commenter's Reason:** This change would require upholstered furniture in Group R occupancies other than Group R-2 college and university dormitories to be the same as in other high risk occupancies. This would include the same sprinkler exceptions available for other occupancies. The requirements for cigarette ignition tests are those that have existed, in fact, in the US for many years, based on the UFAC and BIFMA tests, identical to the NFPA tests. The proposed change recognizes that residential occupancies are the areas where the greatest level of fire losses occur with upholstered furniture. NFPA just published a study on "Home fires that began with upholstered furniture" (Marty Ahrens, May 2008), which shows the following data:

**Home Structure Fires that Began with Upholstered Furniture**

Year	Fires	Civilian deaths	Civilian injuries	Direct property damage (\$millions)
2003	7,500	650	960	\$294
2004	7,600	700	820	\$290
2005	7,100	530	930	\$365

Clearly there is a problem that needs to be solved.

The issues associated with the use of BS 5852 have been explained in other public comments and are not being repeated here.

Note also that the original proposal addressed all occupancies and this comment is more narrowly focused on one occupancy only, namely Group R (other than the Group R-2 college and university dormitories, already covered), where most of the fire losses occur.

Final Action:      AS              AM              AMPC\_\_\_\_\_      D



# F127-07/08

## 807.1

### *Proposed Change as Submitted:*

**Proponent:** Philip M. Chandler, NY State Office of Fire Prevention and Control

### **Revise as follows:**

**807.1 General requirements.** In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.

#### **Exceptions:**

1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.
2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

In Groups I-1 and I-2, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.

Fixed or movable walls and partitions, paneling, wall pads and crash pads, applied structurally or for decoration, acoustical correction, surface insulation or other purposes, shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 807.2 and NFPA 701 or shall be noncombustible.

**Reason:** It is well recognized that dormitories, especially those housing college students, present an elevated set of fire risk factors. Students often away from home for the first time, crowded conditions, experimentation with alcohol and controlled substances, smoking and use of candles and incense, not to mention a general feeling of invincibility of this age group, are all factors increasing the possibility of fire. Fire prevention experts have long recognized this fact and accordingly have worked to counter these risks with greater stringencies in the design, construction, maintenance and management of these occupancies. Section 807.1 of the IFC and its prohibition of combustible decorative materials not meeting the flame propagation standards of NFPA 701 in dormitories in Group R-2 is a good example. And not without good reason, as in the Chapel Hill fraternity fire and the Providence College fire of 1977 where ten students were killed, combustible interior trim and decorative materials were identified as playing a major role in the spread and development of the fire. (Comeau, Ed, "Campus Fire Safety," in, Cote, Arthur E. P.E., ed., *Fire Protection Handbook, Nineteenth Edition, Vol. 1*, Quincy, National Fire Protection Association, 2003: 5-99.)

Notwithstanding the above, in our zeal to prevent loss of life and limb, we have in fact gone overboard in our regulation of dormitory interior decoration. According to 807.1 college students are not allowed to post pictures of mom, team pennants, holiday cards, posters of Bob Dylan, you name it, on the walls of their own bedrooms. Nor can young coeds living at street level in inner city dormitories provide for their privacy and security by placing curtains over their windows. To be sure, no one is advocating that dormitory residents be allowed to cover every available inch of wall and ceiling with combustible materials that will most certainly enhance the growth and spread of any fire. Rather in the proposed addition of two exceptions to 807.1, we are attempting to balance the legitimate needs of dormitory residents to personalize their own spaces in accordance with their own individual tastes, preferences and privacy concerns with the over-arching need to provide for their life-safety.

In Exception 1, we are liberalizing the use of combustible materials on windows and walls only, excluding ceilings and the risk of drop-down fire spread. We allow only an amount sufficient to accommodate the real-world lifestyle of today's students. And in all cases we require the dormitories to be fully equipped with automatic sprinkler systems. For those institutions already sprinklered, we feel that this level of protection will adequately offset the relaxation of restrictions. To those institutions that have not yet sprinklered all of their existing dormitories, we feel that the market-driven need to deliver what their customers demand and can get elsewhere, will provide an added incentive to install sprinklers sooner than later. We feel strongly that sprinklers save lives.

In Exception 2, we provide for only the most basic level of personalization of dormitories. A level exactly the same as already allowed for residents of occupancies in Groups I-1 and I-2: alcohol and drug centers, half-way-houses, mental hospitals and detoxification centers, to name a few. Is it unreasonable to allow these residents the right to tack a photograph from home on the wall while denying the same right to homesick college students?

There are some that might argue that Exception 2 relies on an overly subjective assessment standard for establishing the acceptable limits of combustible decoration: Does it produce a risk of fire spread or not? They might prefer an arbitrarily set percentage of allowable combustibles as opposed to a more open-ended standard. However we in the code enforcement community have already adopted and embraced this criterion as evidenced by the language in 807.1 in regard to Groups I-1 and I-2. We as professionals are well equipped to determine if a fire hazard exists in a dormitory when dealing with such minute quantities of decorative materials without recourse to our slide rules and tape measures.

Apart from all that has been said above, consider one more reason to liberalize 807.1: its lack of practicality. If we are persistent in our efforts to enforce this provision as written, as many of us have been, seeking 100 percent compliance, we are more than likely to completely alienate students and institutional administrators as well. Fire prevention is accomplished through education as much as it is by code enforcement and engineering. If we are the ones that are seen as the grinch that stole freedom of personal expression and individuality, if we are the ones handing out fines for an American flag on the wall, our ability to get in front of students and faculty and positively influence their life-safety decisions will be severely compromised, and for what? A few scraps of paper or strips of cloth? There are laws, rules and regulations, that regardless of how well intended, are simply draconian in their impact. The cost of their enforcement is counter-productive and counter-intuitive to their purpose. Prohibition comes to mind. We feel that the proposed exceptions to 807.1 provide a more realistic and humane standard without putting the public at increased risk of harm by fire.

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

**Committee Action:** **Disapproved**

**Committee Reason:** The proposal was disapproved because the committee expressed concerns over the lack of any apparent rationale for allowing the 50% coverage in Exception #1 and also whether such regulations might not be bordering on becoming a civil rights/freedom of speech issue. Additionally, it was felt that Exception #2 is too subjective and provides no guidance as to what "limited quantities" are, who is to make the determination that a fire spread hazard is not present or how the hazard might be analyzed and determined.

**Assembly Action:** **None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Philip M. Chandler, New York State Department, Office of Fire Prevention & Control, requests Approval as Submitted.**

**Commenter's Reason:** The Committee identified three reasons for its disapproval of proposal [F127-07/08](#). These reasons are concern for possible infringement of constitutionally protected free speech, "lack of apparent rationale for allowing the 50 percent coverage in Exception #1," and the seemingly vague and overly subjective criteria of Exception #2.

The issue of free speech is in fact at the very heart of the proposed modification of IFC 807.1, as this code section itself threatens the First Amendment right of free speech. As currently written, all combustible decorations and hangings, including photographs, paintings, posters and for that matter, American flags, are effectively prohibited, as very few of these items are noncombustible or meet the flame propagation performance criteria of NFPA 701. The proposed modifications of [F127-07/08](#) are a remedy. It is a well accepted principle in American law that there can be life-safety issues that override First Amendment rights; even school children learn that maliciously "yelling fire in a crowded theatre" is not protected speech. However, we maintain that combustible decorations do not rise to such a risk threshold as to be banned entirely, only reasonably regulated.

With the above in mind, the 50 percent sprinkler allowance of Exception #1 should be seen as a numerically perfect and reasonable compromise between those asserting that all combustible decorations in dormitories present an over-arching threat to life-safety and those asserting that there is an insufficient threat to life-safety to warrant abrogation of protected individual expression. Additionally, for those institutions not yet sprinklered, this exception provides a great inducement to install them. Those that already have sprinklers may rest assured that when properly designed and installed, they will provide wall to wall coverage and at the very least, provide a tenable environment for escape of the occupants in the event of fire. The IFC has provided a 50 percent compromise for sprinklered occupancies elsewhere without supporting data (807.1.2) and presumably as an inducement for sprinkler installation, has also relaxed building height requirements (1019.2), fire-resistance standards (1017.1) and egress criteria (1016.1); to do so here in regards to decorations would be logically consistent.

As for the Committee's assertion that Exception #2 is overly vague and subjective, consider that the concept of "such limited quantities that a hazard of fire development or spread is not present," is precisely the litmus test already adopted by the IFC in regards to I-1 and I-2 occupancies. Who analyzes the fire risk in those occupancies and according to what standards is the hazard there determined? Some might argue that these occupancy classifications are completely dissimilar: I-1 and I-2 are supervised, while R-2 dormitories are not. However this is not the case. First of all, the very definition of a dormitory in IBC 310.2 rests on the assumption that they are under "single management." R-2 dormitories are among the most tightly regulated of all occupancies. It is reasonable to expect that among all of the professionals exercising oversight of dormitories, including code enforcement personnel, are those that have adequate knowledge of fire behavior to recognize an honest-to-goodness fire hazard when present.

Final Action:      AS              AM              AMPC \_\_\_\_\_              D

# F132-07/08

## 903.2.1.3, 903.2.1.4 (IBC [F] 903.2.1.3, [F] 903.2.1.4)

### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

### **Revise as follows:**

**903.2.1.3 (IBC [F] 903.2.1.3) Group A-3.** An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than the level of exit discharge.

~~**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.~~

**903.2.1.4 (IBC [F] 903.2.1.4) Group A-4.** An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than the level of exit discharge.

~~**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.~~

**Reason:** The intention of the exception was for gymnasiums and similar areas where the probable occupant load was significantly less than what would be determined based on a square footage per occupant factor. These facilities have become multi-use and the occupant load is frequently higher than what was anticipated or expected when the exception was developed, and the fire load can vary based on the used to far exceed what would be expected for a sporting area.

For example, a community recreation center is constructed with no sprinklers over the gymnasium floor. The same area is also utilized for receptions and various community activities such as work fairs, rummage sale, art exhibits, emergency shelters for persons displaced by natural disasters, etc. Such uses could even include eating, sleeping, and fire loads far in excess of a few uniforms and leather volleyballs.

**Cost Impact:** Since the rest of the building will be sprinklered, the additional cost is only for additional sprinkler lines.

### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the current exception that is aimed at limited-use facilities is needed and that the "exclusive" use of the area for participant sports is the key to successful application and must be strictly enforced by the fire code official at the outset of a project. Changes to the use of the area after occupancy should be reviewed as an illegal change in use that must be regulated.

### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

### *Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Submitted.**

**Commenter's Reason:** This public comment allows for the facility to be construction without any restrictions on use or the need for the local fire code official to track each and every event in each and every location where this exception was utilized within the jurisdiction.

The intention of the exception was for gymnasiums and similar areas where the probable occupant load was significantly less than what would be determined based on a square footage per occupant factor. These facilities have become multi-use and the occupant load is frequently higher than what was anticipated or expected when the exception was developed, and the fire load can vary based on the used to far exceed what would be expected for a sporting area.

For example, a community recreation center is constructed with no sprinklers over the gymnasium floor. The same area is also utilized for receptions and various community activities such as work fairs, rummage sale, art exhibits, emergency shelters for persons displaced by natural disasters, etc. Such uses could even include eating, sleeping, and fire loads far in excess of a few uniforms and leather volleyballs.

Final Action: AS AM AMPC\_\_\_ D

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## F133-07/08

### 903.2.2 (IBC [F] 903.2.2)

#### *Proposed Change as Submitted:*

**Proponent:** Jeff Hugo, National Fire Sprinkler Association

#### **Revise as follows:**

**903.2.2 (IBC [F] 903.2.2) (Supp) Group E.** An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than ~~20,000~~ 12,000 square feet (~~1858~~ 1115 m<sup>2</sup>) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge that serves that portion of the building.

**Exception:** An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

**Reason:** The continuity of mission is important for educational occupancies. If a community loses a school that community cannot quickly recover to resume normal school activities. There are several similarities between educational and several other occupancies, therefore sprinkler requirements should also be similar. Reducing the fire area from 20,000 s.f. to 12,000 s.f. will aid in fire fighter rescue, smaller area of damage, and a quicker recovery to school programs if a sprinkler system is not chosen. Although through consistent fire drills, deaths are rare, but the possibility exists for a large loss of life in educational occupancies. A threshold of 20,000 square feet is one of the highest minimum sprinkler thresholds in the code and exists without good reason. Some states have already mandated complete sprinkler protection in educational occupancies.

In most cases it is not economically feasible to build a school without sprinkler protection. The cost savings for a community to build a school is introduced when the decision to install sprinklers is done at the early stages of the project where they can take advantage of the sprinkler trade ups for building construction. Another factor to consider is federal, state, and local tax monies available to build and repair schools. A fire sprinkled school will cost less to insure, less to rebuild, less liability to the school system, less injuries, less taxes, and less downtime. According to statistics only 24% of the nation's schools have fire sprinklers. However the average fire loss when sprinklers are present are \$2,800 versus \$12,900 having no sprinklers, resulting in a 78% reduction in damage.

Fires during lockdowns, hostage, or terrorist events are now a concern than during the legacy codes where the 20,000 s.f. threshold evolved from. A fire during a lockdown is a lose-lose event for the administrators' and children. Fire sprinklers can control the fire during the lockdown in lieu of endangering the children exiting during the lockdown or prohibiting egress caused by the fire.

Statistics from a four year period of 1999-2002, there were an estimated average of 7,070 structure fires in educational occupancies along with 113 injuries and \$112 million in property damage. K-12 schools make up 5,230 fires, 88 injuries, and \$74 million in fire damage. This is money from the taxes we pay, and these are our children getting burned and injured. Fire sprinklers can reduce the cost while increasing fire protection. Including fire sprinklers during the design process can significantly reduce the construction cost.

#### **Bibliography:**

*EDUCATIONAL PROPERTIES*, National Fire Protection Association, September 2006

*Practical Information on Crisis Planning: A Guide for Schools and Communities*, US Dept of Education, Jan. 2007

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

#### **Committee Action:**

**Approved as Submitted**

**Committee Reason:** The proposal was approved because the committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide increased life safety and property protection in buildings that are an essential part of a community. Whereas several previous proposals sought to sprinkle all schools without exception, this proposal includes a reduced but reasonable threshold that is similar to other sprinkler thresholds in Section 903.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Gene Boecker, Code Consultants, Inc., representing himself, requests Disapproval.**

**Commenter's Reason:** The proposal sought to change downward the threshold for sprinkler protection in school from 20,000 SF to 12,000 SF without sufficient justification. That fact that there are other thresholds in the code for sprinkler protection is not a justifiable reason. The proponent's comment about fires as a result of lock-downs, hostage or terrorist events is irrelevant to the SF assigned for sprinkler protection. No substantiation was presented to show that 12,000 SF would be a proper number nor were there reports provided showing that any of these events have occurred and what relationship the fire area had on the situation.

Statistics were presented regarding fires in K-12 facilities during the period 1999-2002 indicating the number of structure fires, property damage costs and total number of fires. There was no documentation provided to show whether any of these schools had sprinkler protection or limited fire area compartmentation. Consequently there is no documentation provided to demonstrate that the reduction in area would result in any improvement in the situation.

The reduction to 12,000 SF means that for a two-story school with a double loaded corridor, a fire barrier would need to be constructed at every other classroom to keep the area within the limits. While many schools would likely opt for sprinklers over the cost and bother of compartmentation, the compartmentation option exists and is important for schools in areas with limited water supply. In some areas, the cost for the sprinkler tap and water reserve fee would be approximately the same as that for the fire barriers.

This proposal is asking for a reduction in the area without adequate justification and for that reason it should be returned to the proponent so that a proper defense of the fact can be prepared.

*Public Comment 2:*

**Jonathon D. Hamrick, Florida Department of Education, requests Disapproval.**

**Commenter's Reason:** The proponent's reasoning is based solely on a perceived problem that has not been documented, and is based on schools being used as shelters and because of school lockdowns. No evidence or studies were presented to support this change, only a perceived problem. Not all E occupancy buildings over 12,000 square feet in fire areas are used as shelters. School lockdown policies have been developed to address the evacuation when an actual fire occurs while the school is in lockdown whether the building is equipped with a fire sprinkler system or not.

*Public Comment 3:*

**Jason Thompson, PE, National Concrete Masonry Association (NCMA), representing Masonry Alliance for Codes and Standards (MACS), requests Disapproval.**

**Commenter's Reason:** In our opinion there has been no significant technical justification to support the reduction in the threshold trigger for requiring automatic sprinklers in Group E fire areas from the current 20,000 sq ft to the 12,000 sq ft proposed in this code change. In the Committee's Reason it is stated that the decrease in the threshold will provide increased life safety, however, the sprinkler requirement is not a life safety issue as evidenced by the Exception which allows the omission of the automatic sprinkler system requirement where every classroom has at least one exterior door at ground level. That is clearly a life safety exception to the sprinkler requirement even if the threshold were reduced to 12,000 sq ft.

Furthermore, the Committee indicated that several previous proposals sought to require sprinklers in schools regardless of the threshold area and that this proposed threshold was reasonable. However, there have been other code change proposals that have been submitted ever since this requirement went into the 2000 International Building Code (IBC) that included reduced sprinkler thresholds below the 20,000 sq ft, and they were all disapproved by the ICC Class A voting members.

This is truly a property protection issue which should be justified on the basis that a reduced threshold will enhance property protection and reduce overall fire protection costs for schools. However, the data provided in the Reason statement for the code change did not provide such information. In fact, some of the substantiation actually support the fact that the sprinklers will not provide a significant additional degree of property protection. The statistics indicate that the average fire loss when sprinklers are present is \$2,800 whereas the average fire loss is \$12,900 without sprinkler protection. This is only a difference of \$10,000. That is a relatively low dollar average loss for a nonsprinklered school. Furthermore, there was no justification provided to indicate that there would be some return in investment for sprinklering buildings of Group E occupancies at the 12,000 sq ft threshold as compared to the 20,000 sq ft threshold that now exists. And, obviously, one of the biggest problems in sprinklering schools occurs where schools are most often being built: in the suburban and rural areas of the country where growth is occurring and the population is shifting. In these areas the water supplies are often marginal or totally inadequate for providing automatic sprinkler protection. In those cases, on-site water supplies are necessary. They can add very significant cost to the sprinkler system and will require significant maintenance over the life of the school which also adds to the cost of the sprinkler system.

A viable option is needed to allow for schools to be constructed in these areas without having to mandate the installation of automatic sprinkler systems. The current threshold of 20,000 sq ft has proven to be adequate over the years as a reasonable fire compartment size to allow being nonsprinklered in Group E educational occupancies. This larger size fire compartment will also facilitate the use of open plan school designs which would be greatly penalized and made less functional if a 12,000 sq ft sprinkler threshold is approved.

In conclusion, we believe that the tried and tested 20,000 sq ft sprinkler threshold for Group E occupancies should not be reduced without significant technical justification based upon a detailed cost analysis to show that there is an overall property protection benefit, especially for schools constructed in areas with limited or inadequate water supplies. Therefore, we strongly believe that the ICC Class A voting members should disapprove this code change proposal by approving this Public Comment.

Final Action:      AS                  AM                  AMPC\_\_\_\_                  D

# F135-07/08

## 903.2.6 (IBC [F] 903.2.6)

### *Proposed Change as Submitted:*

**Proponent:** Jesse J. Beitel, Hughes Associates, Inc., representing American Home Furnishings Alliance and National Home Furnishings Association

### **Revise as follows:**

**903.2.6 (IBC [F] 903.2.6) Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. Where a Group M fire area is located more than three stories above grade plane; ~~or~~
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>); ~~or~~
4. Where a Group M occupancy is used primarily for the display and sale of upholstered furniture.

**Reason:** This proposal is submitted jointly by the American Home Furnishings Alliance (AHFA) and the National Home Furnishings Association (NHFA) in the interest of making furniture retail and warehouse facilities safer for employees, customers and first responders. AHFA represents manufacturers and importers of residential furniture, some of whom also operate branded retail stores. NHFA's membership comprises 2,800 corporate entities representing 10,000 retail furniture stores in all 50 states and several foreign countries.

The proposal to require sprinklers for Group M occupancies containing significant amounts of upholstered furniture recognizes that, under certain circumstances, all upholstered furniture will ignite and contribute to the fuel load of a fire. There is no such thing as totally fire safe upholstered furniture.

The AFHA and the NHFA have examined proposals for exempting vendors of certain constructions of furniture and concluded that such exemptions would be impractical for local code officials to enforce. This is the case because the internal construction of furniture cannot be established reliably without deconstructing it.

Further, materials and constructions touted as more fire resistant have not proven so to the satisfaction of fire authorities. The U.S. Consumer Product Safety Commission (CPSC) has tested furniture with combustion modified polyurethane foam such as that required in California and the United Kingdom and found that such foam does not meaningfully improve fire performance when furniture is exposed to an open flame. Other researchers have found that constructions employing the fire-blocking barriers now prevalent in mattresses do not reliably slow the progression of furniture fires. This is likely due to the variety of upholstery fabrics and seating geometries typical of furniture as compared to mattresses.

The most protective code measure would establish uniform, easily enforceable sprinkler requirements and not base safety considerations on differences in furniture construction that may or may not exhibit better fire performance in a retail setting.

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

### **Committee Action:**

**Approved as Modified**

### **Modify the proposal as follows:**

**903.2.6 (IBC [F] 903.2.6) Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
2. Where a Group M fire area is located more than three stories above grade plane;
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>);  
or
4. Where a Group M occupancy is used ~~primarily~~ for the display and sale of upholstered furniture.

**Committee Reason:** The proposal was approved because the committee felt that it is a good first step supported by the furniture industry in attempting to deal with the hazards presented by upholstered furniture. The committee indicated its sense that future efforts on the topic need to address Group F and S upholstered furniture occupancies as well and that a reasonable sprinkler threshold needs to be added to provide some relief to the small businesses that will now be affected. The modification removes a subjective term that the committee felt could create serious enforcement inconsistencies.

### **Assembly Action:**

**None**

### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Michael E. Dell’Orfano, South Metro Fire Rescue, representing Fire Marshal’s Association of Colorado, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**903.2.6 (IBC [F] 903.2.6) Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

- 1 through 3. (No change to current text)
- 4. Where a Group M occupancy is used for the display and sale of upholstered furniture and the area of the upholstered furniture exceeds 6,000 square feet.

**Commenter’s Reason:** F135-07/08 was approved as modified at the code hearings in Palm Springs by deleting the word “primarily”. This public comment recommends a further modification in order to establish a reasonable threshold for the sprinkler requirement, as recommended by the code development committee. Lacking any technical guidance for the zero-square-foot threshold that was established by F135-07/08, it is recommended that the new threshold fall between zero and 12,000 square feet (where all Group M occupancies must be sprinklered), but also above the thresholds established for high-piled storage of furniture (usually around 2,500 square feet). Therefore, a half-way point was chosen at 6,000 square feet.

*Public Comment 2:*

**Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.**

**Further modify proposal as follows:**

**903.2.6 (IBC [F] 903.2.6) Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

- 1. Where a Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>);
- 2. Where a Group M fire area is located more than three stories above grade plane; or
- 3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>);  
or
- 4. Where a Group M occupancy is used for the display and sale of ~~upholstered~~ furniture.

**Commenter’s Reason:** If the committee approved proposal enters the code, it will require sprinklers regardless of the size of the store or the number of pieces of upholstered furniture. There is no definition of upholstered. It will be an enforcement headache. The original proponent says I won’t have upholstered furniture, and then the business isn’t going well and they add a line of upholstered furniture. Now the building has to be sprinklered. This public comment will make it applicable to all furniture sales establishments. That will of course apply to any building supply store or big box multiple merchandise store which has a small selection of furniture.

*Public Comment 3:*

**Gene Boecker, Code Consultants, Inc., representing himself, requests Disapproval.**

**Commenter’s Reason:** This code change needs to be overturned as it is significantly flawed in its present form. The threshold was reduced without adequate justification.

First: As modified the threshold is being dropped from 12,000 SF to 2 SF – one piece of upholstered furniture. The change makes it a requirement to sprinkler the entire building (not just the retail area or fire area) because one piece of upholstered furniture is located somewhere on the sales floor.

Second: The code text would ignore the rest of the facility. The same facility that is prohibited from having a single piece of upholstered furniture on the sales floor could have many pieces of upholstered furniture in the office. In fact there are probably more pieces of upholstered furniture in most offices than in many furniture stores.

Third: There is no quantification for the material that makes up “upholstered” furniture. How much upholstery is a problem? The amount in a headrest? What type of upholstery is a problem? Cotton fabric sheet over a steel panel? Fire retardant treated foam? If there was a threshold based on a cone calorimeter test there would be a testable quantification. As written there is only a subjective condition and the code official has no guidance for what is acceptable and what is not.

The proposal places an excessive burden on all the parties involved and little guidance as to application while ignoring upholstered furniture in other occupancies. The proposal is lopsided and not appropriate for the code.

Final Action:      AS                  AM                  AMPC\_\_\_\_                  D

## F140-07/08

### 903.3.1.2 (IBC [F] 903.3.1.2)

#### *Proposed Change as Submitted:*

**Proponent:** Jeffrey M. Shapiro, PE, International Code Consultants, representing National Multi Housing Council

#### **Revise as follows:**

**903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems.** ~~Where allowed in buildings of~~ In Group R occupancies, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R.

**Reason:** The proposed change is intended to clarify application of the code with respect to NFPA 13R systems. The title of NFPA 13R is "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height," with the key word being "occupancies." Currently, Section 903.3.1.2, by referring to "buildings of Group R," implies that NFPA 13R systems would not be permitted in any portion of a mixed use occupancy, which is inappropriate. In a mixed use containing Group R, it is entirely appropriate to permit NFPA 13R as a basis for sprinkler protection in the residential portion of the building, as well as accessory uses within residential areas. Other areas are, however, be required to be protected in accordance with NFPA 13. The proposal makes this clear.

Note that Section 903.2.7 still requires fire sprinklers throughout all buildings with a Group R fire area, so by changing Section 903.3.1.2 to refer to "occupancies," there is no impact on the requirement that the entire building containing a Group R fire area must be sprinklered.

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

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee disagreed that the proposal is a simple clarification and clean-up of the section and felt that there is also sufficient ambiguity in Section 903.3.1 and all of its subsections to create a need for a complete re-work of that section and all of its subsections. It was felt that this section could be viewed as a specific requirement that would override Section 903.3.1 which could be viewed as only the general requirement and that mixed uses could claim on that basis that non-residential parts of the building do not need to comply with NFPA 13. Based on the proposed wording, it was also felt that this revised section could mandate the use of NFPA 13R for all Group R occupancies

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Jeffrey Shapiro, PE, International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this public comment.**

#### **Replace proposal with the following:**

**903.3.1 Standards.** Sprinkler systems shall be designed and installed in accordance with Sections 903.3.1.1, unless otherwise permitted by Sections 903.3.1.2 or 903.3.1.3.

**903.3.1.1 NFPA 13 sprinkler systems.** Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1.

**903.3.1.1.1 Exempt locations.** Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.
5. Fire service access elevator machine rooms and machinery spaces.



**903.3.1.2 NFPA 13R sprinkler systems.** ~~Where allowed in buildings of Group R, up to and including four stories in height, a~~ Automatic sprinkler systems ~~shall be in Group R occupancies up to and including four stories in height shall be permitted to be~~ installed throughout in accordance with NFPA 13R.

**903.3.1.2.1 Balconies and decks.** Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units where the building is of Type V construction, provided there is a roof or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

**903.3.1.3 NFPA 13D sprinkler systems.** ~~Where allowed,~~ Automatic sprinkler systems ~~installed~~ in one- and two-family dwellings shall be ~~permitted to be~~ installed throughout in accordance with NFPA 13D.

**Commenter's Reason:** The proposed revision addresses the request of the code development committee for a comprehensive cleanup of this section. Although our original intent was simply to clarify application of the code with respect to NFPA 13R systems, the committee made it clear that they wanted the whole section fixed. That has now been done.

Final Action: AS AM AMPC\_\_\_ D

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## F143-07/08

### 903.3.1.3 (IBC [F] 903.3.1.3)

*Proposed Change as Submitted:*

**Proponent:** Betsy Voss Lease, Christole, Incorporated/Bert Clemons, Brown County Partnership, Accessibility Committee

**Revise as follows:**

**903.3.1.3 (IBC [F] 903.3.1.3) NFPA 13D sprinkler systems.** Where allowed, automatic sprinkler systems in one- and two-family dwellings and congregate living facilities with 16 or fewer occupants shall be installed throughout in accordance with NFPA 13D.

**Reason:** The intent of this change is to clarify that an NFPA 13D sprinkler system is permitted in Group R-3 and R-4 congregate residences. NFPA Handbook states that and NFPA13D system is appropriate for "one- and two-family dwellings or equivalent." The question is what would be what is considered "equivalent." It is not longer appropriate to define 'family' by blood or marriage. Facilities that operate similar to single family homes can include small fraternities, sororities, convents, monasteries, and group homes where residents are capable of self preservation. Currently Group R-2 and Group R-4 with 16 or fewer occupants can comply with Group R-3 requirements in the codes (Section 310.1). The Exception in Section 903.2.5 allows for an NFPA13D system to be installed in Group I-1 facilities. Court cases have shown that **not** treating small group homes similar to single family residences is a discriminatory and a possible violation of the Fair Housing Act. This section should be consistent with this intent.

The choice to make the proposal for adding "and congregate living facilities with 16 or fewer occupants" rather than change the entire requirement to Group R-3 and R-4 was based on two factors. The limit for an NFPA 13D system is 16 occupants. There are some R-3 facilities that are not similar to single family homes where it would not be appropriate to allow this type of system – such as the Group R-1 with 10 or fewer occupants now referenced to Group R-3 as part of code change G47-06/07.

The state of Indiana has passed a law requiring all group homes to be sprinklered by 2012. It is important that it is clear what sprinkler system is appropriate for these facilities.

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

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that there was no technical justification provided to substantiate the proposed change.

**Assembly Action:**

**None**

*Individual Consideration Agenda*

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Gene Boecker, Code Consultants, Inc., representing himself, requests Approval as Submitted.**

**Commenter's Reason:** The committee voted to disapprove because they felt there was no technical justification for a change. This is not a change. It is a clarification.

NFPA 13D states that it is applicable to residential type structures with an occupant load up to 16. That is precisely the same delineation as what is in the proposed text. NFPA 13D includes these types of facilities in its scope. The code change makes it clear that these are appropriate types of systems based on NFPA's scoping. The same concept is used for NFPA 13R systems. It should be applied here as well.

G36-07/08 was modified so that R-4 occupancies must be sprinklered regardless if they use the International Residential Code or else the IBC construction requirements. Currently, if the R-4 Residential care facility is constructed according to the International Residential Code no sprinkler protection of any kind is required. If it is constructed according to the International Building Code it could be interpreted that group homes must meet a compliance with NFPA 13 or 13R. These are significantly more expensive than an NFPA 13D system. It would seem prudent that if we are attempting to encourage sprinkler protection and design in accordance with the IBC, the sprinkler protection should be as limited as practical. The 2000 IBC specifically stated that Group R-4 facilities between 9 and 16 occupants could use the NFPA 13D system. The change that brought about a general reference to sprinklers for Group R created this confusion. It was never identified that an NFPA 13D was not adequate for these types of facilities where residents are capable of self-preservation.

As stated in the proponent's supporting statement, the courts hold that a residential care facility should be treated as residential. The way the codes are set now, it establishes a double standard – one for the IBC and another for the IRC. The proposal, while recognizing the need for sprinkler protection, places the least burdensome system as the base line – consistent with NFPA committee application.

These are residential type facilities with a very limited number of occupants living in a setting that replicated a single family home. The most appropriate thing is to maintain the zero-threshold for sprinkler protection for residential occupancies but to use the NFPA standard that is most appropriate for the application.

### *Public Comment 2:*

### **Dominic Marinelli, United Spinal Association, requests Approval as Submitted.**

**Commenter's Reason:** G36-07/08 was approved as modified with the result being a change to Group R-4 requirements as follows:

**R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff. Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code or shall comply with the *International Residential Code* provided the building is protected by an automatic extinguishing system installed in accordance with Section 903.2.7.**

~~**Exception:** Facilities complying with the *International Residential Code* need not meet the construction requirements of a Group R-3 provided that the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

(Portions of proposal not shown remain unchanged)

**Committee Reason:** The proposal was approved based upon the proponent's reason which is concerned with the life safety of occupants in Group R-4 occupancies this relates to both their ability to evacuate quickly and the number of occupants. The modification is felt to be cleaner language than the currently proposed exception. The meaning of the language is the same. There were some concerns expressed by committee members that proper justification for requiring sprinklers was not provided by the proponent.

Therefore, all Group R-4 facilities are required to be sprinklered, even if constructed under the IRC. It is now especially important that it be clear which sprinkler system is appropriate for congregate residences under Group R-3 and R-4.

Because of the way that 903.3.1.3 is currently written, some code officials are interpreting that NFPA13D systems cannot be used in congregate residences, even those capable of self preservation and with 16 or few residents. There reasons are that while a group home may act like a single family residence, the residents are not family. The 2000 IBC specifically allowed Group R-4 to use NFPA13D sprinkler systems for Group R-4 homes with 9 to 16 residents, and did not require any sprinkler system for group homes with 8 or fewer residents. This information was lost when all Group R facilities were required to be sprinklered and the reference was changed to a general reference in Section 903.3 (Section 903.2.7, F45-00). At no time was it ever indicated that NFPA13D systems were not adequate for group homes. We are not asking for any exceptions, just that the group homes be able to install sprinkler systems that are safe and cost effective. This is especially important when group homes are moving into existing single family homes and are trying to meet change of occupancy requirements. The difference between the NFPA13D system and NFPA13R system can be several thousand dollars for just the water meter alone.

### *Public Comment 3:*

### **Betsy Voss Lease, representing Christole, Incorporated, requests Approval as Modified by this public comment.**

**Modify proposal as follows:**

**903.3.1.3 (IBC [F] 903.3.1.3) NFPA 13D sprinkler systems.** Where allowed, automatic sprinkler systems in one- and two-family dwellings and ~~Group R-3 and R-4~~ congregate living facilities ~~with 16 or fewer occupants~~ shall be installed throughout in accordance with NFPA 13D.

**Commenter's Reason:** We offer the additional modification to clarify that NFPA13D system should only be used in facilities that are equivalent to one- and two-family dwellings where people are capable of self-preservation. Modifications to Chapter 3 has clarified the congregate residences (e.g. boarding houses, sororities, fraternities) with 16 or fewer occupants where residents do not need supervision are Group R-3. Group R-4 is defined as 16 or fewer residents with supervision and who are capable of self preservation. Thus the 'with 16 or fewer occupants' is redundant. The Federal Fair Housing Act requires prohibits discrimination for housing, so the requirements for both should be the same for these small congregate residences.

The IFC committee said in their reason for disapproval that there was no technical justification for this change. In the 2000 IBC, Group R-4 facilities were specifically permitted to use NFPA13D systems. The change to make all Group R facilities sprinklered made the reference a general one. There was no justification provided to indicate that the Group R-4 facilities should not still be allowed to use the NFPA13D system. At this time, which system they can use is unclear, so some code official are interpreting to current language to require a NFPA 13R system. To require small group homes to use a NFPA13R system would entail a cost significant enough that many of these facilities would not be able to afford housing – not only in the cost of the system, but in the cost for the larger water meter.

Final Action: AS AM AMPC\_\_\_\_ D

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## F150-07/08

### 903.6.1

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **Revise as follows:**

**903.6.1 Pyroxylin plastics.** ~~All structures occupied for the manufacture or storage of articles of cellulose nitrate (pyroxylin) plastic shall be equipped with an approved automatic fire extinguishing system. An automatic sprinkler system shall be provided in all existing buildings where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).~~ Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute per square foot (68 L/min/m<sup>2</sup>) over the area of the vault.

**Reason:** The current requirement for newly constructed facilities in the IFC/IBC is as follows:

**903.2.4.3 Pyroxylin plastics.** An automatic sprinkler system shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).

The requirements for existing structures are more restrictive than the requirements for new construction. If this section is not revised, then a new facility could be constructed that is not required to install fire sprinklers. However, after construction is completed, and it becomes an existing structure, then fire sprinklers would be required.

This proposal will provide consistency between the requirements for new and existing facilities.

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

#### **Committee Action:**

**Disapproved**

**Committee Reason:** The proposal was disapproved because the committee felt that the hazard level of pyroxylin plastic warrants the current threshold of any amount. It was also acknowledged that the IBC and IFC are not correlated on this topic but it was suggested that the IBC threshold should be reduced to any amount to achieve the correlation.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.**

#### **Modify proposal as follows:**

**903.6.1 Pyroxylin plastics.** An automatic sprinkler system shall be provided in all existing buildings where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled ~~in quantities exceeding 100 pounds (45 kg).~~ Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute per square foot (68 L/min/m<sup>2</sup>) over the area of the vault.

**903.2.4.3 (IBC [F] 903.2.4.3) Pyroxylin plastics.** An automatic sprinkler system shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).

**903.2.12.3 (IBC [F] 903.2.12.3) Pyroxylin plastics.** An automatic sprinkler system shall be provided in buildings where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled. Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute per square foot (68 L/min/m<sup>2</sup>) over the area of the vault.

**Commenter's Reason:** The current requirement for newly constructed facilities in the IFC/IBC is as follows:

**903.2.4.3 Pyroxylin plastics.** An automatic sprinkler system shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).

The requirements for existing structures are more restrictive than the requirements for new construction since the threshold for existing building is 0 pounds compared to the threshold of 100 pounds for new construction.

The original proposal attempted to raise the threshold for sprinklers in existing facilities to 100 pounds (same as new construction). The Code Development Committee disapproved that proposal with the instructions to go the other direction and lower the threshold for new construction to 0 pounds.

This Public Comment is submitted to accomplish the task from the Code Development Committee. This Public Comment will require fire sprinklers in all structures that use or store pyroxylin plastics, and create correlation between the requirements for new and existing facilities.

Section 903.2.4.3 is deleted and relocated to 903.2.12.3 because under 903.2.4.3 it only applied to Group H occupancies. The relocation will allow its application to all buildings whether classified as Group H or not.

This Public Comment will provide consistency between the requirements for new and existing facilities.

Final Action:           AS           AM           AMPC\_\_\_\_           D

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## **F153-07/08**

### **903.6.2 (New), 903.6.3 (New)**

#### *Proposed Change as Submitted:*

**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

#### **Add new text as follows:**

**903.6.2 Group I-1.** An automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed throughout all existing buildings with a fire area containing a Group I-1 occupancy.

**903.6.3 Group I-2.** An automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed throughout all existing buildings with a fire area containing a Group I-2 occupancy.

**Reason:** This proposal recognizes the need to provide fire sprinkler protection for some of the existing Group I occupancies. These facilities have a high potential for life loss and contain patients/clients who are incapable of self-preservation.

A new Group I-1 or I-2 occupancy would be required to be protected by fire sprinklers in addition to other construction requirements. This proposal does not mandate compliance with current code, however, it does require fire sprinklers in existing Group I-1 and I-2 occupancies where the life safety of the patients is most in need.

The installation of a fire sprinkler system will provide an increased level of safety to provide protection in place or within a separate smoke compartment of the building without necessitating a full evacuation.

In 2005, Kimberly D. Rohr and John R. Hall, Jr., of the Association's Fire Analysis and Research Division presented some pretty startling statistics regarding the efficacy of automatic extinguishing equipment. The data examined was for the years 1989 to 1998 (the last year for which good data on sprinklers is available) and measured the average number of civilian deaths per thousand fires in various types of facilities. In stores and offices the figures were 1.0 to 0.3 respectively; in health care facilities for the aged or sick 4.9 per thousand fires in non-sprinklered buildings compared to 1.2 in those that were protected with fire sprinklers.

There was also a significant decline in property damage costs per fire; down 66 percent in health care occupancies when the facility is protected by a fire sprinkler system.

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

#### **Committee Action:**

**Disapproval**

**Committee Reason:** The proposal was disapproved because the committee felt that the proposal was not warranted since the occupants in Group I-1 occupancies are capable of self-preservation. The committee also observed that even the federal government is taking a more measured approach. The committee preferred code change F154-07/08.

#### **Assembly Action:**

**None**

#### *Individual Consideration Agenda*

**This item is on the agenda for individual consideration because a public comment was submitted.**