

**CTC Meeting #28**  
**September 16 - 17, 2013**  
**NIST Report on the Charleston Sofa Fire**

The following 2013 Group B changes have been compiled for the above noted CTC Area of Study. Included in this report are code changes which received a public comment following the 2013 Group B Committee Action Hearings. These changes are intended to serve as the agenda for the CTC in order to establish CTC positions, if any, for the upcoming 2013 Group B Public Comment Hearings. THIS REPORT ONLY INCLUDES THOSE CODE CHANGES FOR WHICH CTC HAS TAKEN A POSITION ON A CODE CHANGE

**ADM38-13**  
**F126-13**  
**F345-13**

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**ADM38-13**  
**IFC: 106.3 (New), 113.2**

**Proposed Change as Submitted**

**Proponent:** Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee  
(cbaldassarra@rjagroup.com)

**Add new text to the International Fire Code as follows:**

**IFC [A] 106.3 Periodic building fire safety inspections.** In addition to any other inspections required or authorized by this code, all buildings shall be subjected to periodic building fire safety inspections in compliance with the requirements of Sections 106.3.1 through 106.3.6.

**Exceptions:** Periodic building fire safety inspections shall not be required in any of the following:

1. Buildings classified as Group U occupancies that are associated with Group R-3 occupancies.
2. Dwelling units in Group R-2 and Group R-3 occupancies.
3. Dwelling units constructed in accordance with the *International Residential Code*.

**IFC [A] 106.3.1 Scope.** The scope of periodic building fire safety inspections shall include the maintenance of safeguards as required by Section 107.1; the maintenance of the means of egress, fire-resistance-rated construction, and fire protection systems; storage arrangements, including hazardous material and combustible material storage; evidence of unlawful alterations; compliance with the fire safety and evacuation plan requirements of Chapter 4; recordkeeping, housekeeping and such other requirements as determined by the *fire code official*.

**IFC [A] 106.3.2 Inspecting entity.** Periodic building fire safety inspections required by Section 106.3 shall be conducted by the *fire code official*.

**Exception:** Where the *fire code official* determines that periodic fire safety inspections shall be conducted by an *approved third party*.

**IFC [A] 106.3.3 Inspector qualifications.** *Fire code officials and approved third parties conducting periodic building fire safety inspections required by Section 106.3 shall, at a minimum, be certified through a recognized fire inspector certification program.*

**Exception:** *Where the building is subject to a building fire safety inspection program approved by the fire code official.*

**IFC [A] 106.3.4 Frequency of inspection.** *The minimum required frequency of periodic building fire safety inspections shall be determined by the fire code official based upon the fire code official's assessment of the risk or once every 5 years.*

**IFC [A] 106.3.5 Filings.** *Inspection reports for periodic building fire safety inspections conducted by an approved third party in accordance with Section 106.3.2 shall be submitted to the fire code official in accordance with the frequency of inspection schedule established by the fire code official in accordance with Section 106.3.4. The fire code official has the authority to prescribe the form and format of such report.*

**IFC [A] 106.3.6 Not a limitation on inspection authority.** *Periodic building fire safety inspections required by Section 106.3 shall not be construed to limit the fire code official's inspection authority pursuant to other sections of this code.*

*(Renumber subsequent sections)*

**Revise the International Fire Code as follows:**

### **IFC [A] SECTION 113 FEES**

**IFC [A] 113.2 Schedule of permit fees.** *A fee for each permit, and fees associated with establishing a program to implement the requirement for periodic building fire safety inspections in accordance with Section 106.3, shall be paid as required, in accordance with the schedule as established by the applicable governing authority.*

**Reason:** This proposed change is a result of the CTC's investigation of the area of study entitled "NIST Charleston Sofa Store Fire Recommendations". The scope of the activity is noted as:

Review the NIST and other investigative reports on the fire that occurred on the evening of June 18, 2007 in the Sofa Super Store in Charleston, South Carolina to identify issues that can be addressed by the International Codes.

In connection with their investigation, NIST analyzed the fire ground, consulted with other experts, and performed computer simulations of fire growth alternatives. Based on these analyses, NIST concluded that the following sequence of events is likely to have occurred. A fire began in packing material and discarded furniture outside an enclosed loading dock area. The fire spread to the loading dock, then into both the retail showroom and warehouse spaces. During the early stages of the fire in the two latter locations, the fire spread was slowed by the limited supply of fresh air. This under-ventilation led to generation of a large mass of pyrolyzed and only partially oxidized effluent. The smoke and combustible gases flowed into the interstitial space below the roof and above the suspended ceiling of the main retail showroom. As this space filled with unburned fuel, the hot smoke also seeped through the suspended ceiling into the main showroom and formed a hot smoke layer below the suspended ceiling. Up to this time, the extent of fire spread into the interstitial space was not visible to fire fighters in the store. If the fire spread had been visible to the fire fighters in the store, it would have provided a direct indication of a fire hazard in the showroom. Meanwhile, the fire at the back of the main showroom and the gas mixture below the suspended ceiling were both still fuel rich. When the front windows were broken out or vented, the inflow of additional air allowed the heat release rate of the fire to intensify rapidly and added air to the layer of unburned fuel below the suspended ceiling enabling the ignition of the unburned fuel/air mixture. The fire swept from the rear to the front of the main showroom extremely quickly, and then into the west and east showrooms. Nine fire fighters were killed in the Sofa Super Store fire. NIST developed eleven recommendations to help mitigate such future losses.

Recommendation 2 of the NIST report reads as follows:

**"Model Building and Fire Code Enforcement:** NIST recommends that all state and local jurisdictions implement aggressive and effective fire inspection and enforcement programs that address:

- a) all aspects of the building and fire codes;
- b) adequate documentation of building permits and alterations;
- c) means of fire protection systems inspection and detailed recordkeeping;
- d) frequency and rigor of fire inspections, including follow-up and auditing procedures; and
- e) guidelines for remedial requirements when inspections identify deviations from code provisions."

Following a review of recommendation 2 of the NIST report, a new section, 106.3, is proposed.

Section 106.3 requires that all buildings, with certain exceptions as listed in the section, be subjected to periodic building fire

safety inspections in accordance with the requirements of Sections 106.3.1 through 106.3.6. The exception includes dwelling units in Group R-2 and Group R-3 occupancies, Group U occupancies associated with Group R-3 occupancies, and dwelling units constructed in accordance with the International Residential Code.

The purpose of requiring periodic building fire safety inspections is to help ensure that buildings are operated and maintained in accordance with the intent of the International Fire Code, as set forth in Section 101.3. There is little benefit to having an International Fire Code that includes periodic inspection, testing and maintenance requirements intended to ensure that a building is maintained in a safe condition unless there is a mechanism inherent in such code that provides the fire code official with reasonable assurances that they are being complied with. The 18<sup>th</sup> century phrase "a chain is only as strong as its weakest link" appropriately describes the reality of Building and Fire Codes being adopted in a jurisdiction, but not comprehensively enforced.

The NIST report offers several other recommendations that are not addressed in this proposal. The CTC has investigated all of the NIST recommendations and has, as deemed appropriate, submitted separate code changes in response. These separate code change proposals address the following: fire inspector, and fire plan examiner qualifications and certifications; detailed recordkeeping requirements; and required automatic sprinkler protection for existing Group F-1, M and S-1 occupancies that manufacture, store or sell upholstered furniture or mattresses that undergoing an Alteration 3 renovation. It is these proposals, coupled with the proposed requirement for a periodic building fire safety inspection, which will help fire code officials in their efforts to ensure that all buildings, not just buildings storing or selling upholstered furniture and mattresses, are constructed, operated and maintained in a manner that provides a prudent level of fire safety for building occupants and firefighters. The importance of fire prevention in the overall safety to building occupants and the protection of property cannot be overemphasized. It is interesting to note that the report "America Burning", a report published by the Federal Government in the early 1970's, recommended a "balance" of 50/50 between public fire department expenditures on suppression and fire prevention. This report can be found at <http://www.usfa.fema.gov/downloads/pdf/publications/fa-264.pdf>.

Section 106.3.1 defines the scope of periodic building fire safety inspections to include the maintenance of means of egress, fire-resistant-rated construction, and fire protection systems; evidence of unlawful alterations; compliance with the fire safety and evacuation plan required by Chapter 4 of the Fire Code; recordkeeping, housekeeping and such other requirements as determined by the fire code official.

Section 106.3.2 requires that periodic building fire safety inspections be conducted by the fire code official unless the fire code official determines that the inspection shall be conducted by an approved third party.

Section 106.3.2 acknowledges that the primary and preferred entity authorized to conduct periodic building fire safety inspections is the fire code official, but recognizes that certain jurisdictions may choose to require such inspection to be conducted by an approved third party. This section places no duty or liability on the fire code official to conduct periodic building fire safety inspections, it merely identifies them as the primary and preferred entity to do so.

Section 106.3.3 establishes qualifications for the inspector conducting periodic building fire safety inspections. Such inspector qualification requirement would not apply to buildings that are subjected to a building fire safety inspection program when approved by the fire code official. This section requires that inspectors conducting such inspections, at a minimum, be certified through a recognized fire inspector certification program. If the fire code officials choose to conduct periodic building fire safety inspections, they would be required to have such inspections conducted by individuals that meet this certification requirement. However, as previously stated, the fire code official has no duty or liability to conduct such inspections and therefore no obligation to employ certified inspectors. Approved third party individuals conducting such inspections, except as noted above, would be required to comply with this certification requirement. The section authorizes the fire code official to accept any recognized certification program for such fire inspectors.

Section 106.3.4 requires that the minimum frequency of periodic building fire safety inspections be determined by the fire code official based upon the fire code official's assessment of the risk or once every 5 years. As stated previously, certain buildings, as identified in Section 106.3, would not require periodic building fire safety inspections. For those buildings requiring periodic building fire safety inspections, 5 years was chosen as the maximum time to be allowed between such inspections, unless the fire code official's assessment of the building risk determines that a shorter or longer period should apply.

A building risk assessment would require that many factors be considered on a case-by-case basis, including but not limited to consideration of the building's occupancy Group; occupant load; building height and floor area; construction type and features; fire protection systems; layout and use of the building; size, type and configuration of the fuel load; vulnerability of the building occupants; history and severity of noncompliance with fire safety requirements; incidence of fire and other considerations relevant to the fire risk presented to building occupants and firefighters by such building.

Section 106.3.5 requires that inspection reports for periodic building fire safety inspections conducted by an approved third party be submitted to the fire code official in accordance with the frequency of inspection schedule established by the fire code official. This requirement would help the fire code official identify those buildings not in compliance with the periodic building fire safety inspection requirement. Fire code officials can then take appropriate enforcement action against such building owners to achieve compliance. The proposed change would also allow the fire code official to prescribe the form and format of such report, thereby facilitating its review.

Section 106.3.6 makes it clear that the periodic building fire safety inspection required by Section 106.3 does not limit the fire code official's authority to inspect a building under other provisions of the International Fire Code, including Section 104.3.

The proposed change to Section 113.2 would authorize the fire code official to establish fees associated with implementing a periodic building fire safety inspection program. Jurisdictions that act on this authority would help provide themselves with the economic resource they require to administer the program.

This proposal is submitted by the ICC Code Technology Committee. The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The 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/CTC/Pages/default.aspx>. Since its inception in April/2005, the CTC has held twenty-five meetings - all open to the public. In 2012, three of the 25 face-to-face meetings were held. In addition to the CTC meetings, the CTC established Study Groups (SG) of interested parties for each of the areas of study. These SG's are responsible for reviewing the available information and making recommendations to the CTC. All totaled, the SG's held over 70 conference calls in 2012.

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

SOFA-CTC-PUBLIC COMMENTS-09/03/13

Group B

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## Committee Action Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** The certification program is too narrow. It is necessary to clarify that the 'risk assessment' would allow for both more or less than a 5 year time frame. Would the Group R-2 and R-3 exceptions include residential facilities such as dormitories and congregate residences where there might be the same privacy issues as apartments? The proposal seems to regulate the fire official rather than the building. It is unclear on how the fees for this will be addressed.

**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 self, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**IFC [A] 106.3 Periodic building fire safety inspections.** In addition to any other inspections required or authorized by this code, all buildings shall be subjected to periodic building fire safety inspections in compliance with the requirements of Sections 106.3.1 through 106.3.6.

~~**Exceptions:** Periodic building fire safety inspections shall not be required in any of the following:~~

- ~~1. Buildings classified as Group U occupancies that are associated with Group R-3 occupancies.~~
- ~~2. Dwelling units in Group R-2 and Group R-3 occupancies.~~
- ~~3. Dwelling units constructed in accordance with the *International Residential Code*.~~

**IFC [A] 106.3.3 Inspector qualifications.** *Fire code officials* and *approved* third parties conducting periodic building fire safety inspections required by Section 106.3 shall, at a minimum, be certified through a recognized fire inspector certification program or have a level of applicable experience commensurate with the duties assigned as determined by the jurisdiction.

~~**Exception:** Where the building is subject to a building fire safety inspection program approved by the *fire code official*.~~

**IFC [A] 106.3.4 Frequency of inspection.** The minimum required frequency of periodic building fire safety inspections shall be determined by the *fire code official* ~~based upon the *fire code official's* assessment of the risk~~ or at least once every 5 years. For low hazard occupancies the fire code official may extend the length of time between periodic inspections beyond 5 years.

### **IFC [A] SECTION 113 FEES**

**IFC [A] 113.2 Schedule of permit fees.** A fee for each permit, and ~~a fees associated with establishing a program to implement the requirement~~ for periodic building fire safety inspections in accordance with Section 106.3, shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

*(Portions of proposal not shown remain unchanged)*

**Committer's Reason:** To address the committee concerns the following modifications were made.

In IFC [A] 106.3 the exceptions are proposed to be deleted. The Scope and Applicability of the Fire Code is already provided for in Sections 101 and 102.

In IFC [A] 106.3.3 language has been added to broaden the qualifications by providing for the jurisdiction to set a level of applicable experience as a qualification.

IFC [A] 106.3.4 was modified to take out a reference to "risk assessment" which caused the greatest objection and to clarify as requested by the committed that the fire code official can set a schedule greater than every five years for some occupancies.

The language in the fee section was clarified. If the jurisdiction establishes a schedule as already permitted by this section for periodic inspections it will apply.

**ADM38-13**

## F126-13

### 903.2.4, 903.2.7, 903.2.9

#### **Proposed Change as Submitted**

**Proponent:** Steve Thomas, Colorado Code Consulting, LLC representing self (stthomas@coloradocode.net)

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

**903.2.4 Group F-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. ~~A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).~~

**903.2.7 Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group M fire area is located more than three stories above grade plane.
3. 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>).
4. ~~A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m<sup>2</sup>).~~

**903.2.9 Group S-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m<sup>2</sup>).
5. ~~A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).~~

**Reason:** The original proponent offered no technical justification in the original proposal. The fire event that was used to support the original emotional proposal was located in a building that was 59,000 square feet in area. It was not provided with fire sprinklers. The code currently requires that this size building be provided with fire sprinklers. Previous legacy codes have also required fire sprinklers in this size building. This requirement is over-restrictive and should be removed from the code.

When the provisions were revised in the 2012 IFC, the revision was not tied to FIRE AREA, but instead was based on some area of the upholstered furniture and mattresses. It is not clear how the areas are measured. Is it the area of the space, display or building that requires the fire sprinklers? This vague language makes enforcement more difficult.

The second issue is that the provisions in these sections conflicts with provision in Section 3206.2 for high piled combustible storage (HPCS). It creates a loophole because the IFC high piled combustible storage provisions set an area threshold of 500 square feet when the height of mattress storage is > 6 feet in a public-accessible area. The provision for Group M occupancies for upholstered mattresses and furniture sets an occupancy area threshold of 5,000 square feet. The committee wasn't thinking about HPCS when they considered the proposal and it was further amended on the floor.

Finally, loss history has never been presented substantiating why upholstered furniture and mattresses warrant a different threshold for sprinkler protection.

**Cost Impact:** This will reduce the cost of construction.

903.2.4-F-THOMAS

## **Committee Action Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The justification to remove the requirements for sprinklers where upholstered furniture is manufactured, stored and displayed was not seen as adequate. It was noted that although the building in Charleston should have been sprinklered previous to these requirements being implemented into the IFC that the current requirements were still necessary. The hazard of upholstered furniture was equated to being similar to that of hazardous materials. One concern raised regarding the current requirements was an example of a smaller store just over 5000 square feet that displays one or two upholstered chairs.

**Assembly Action:**

**None**

## **Individual Consideration Agenda**

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

### *Public Comment 1:*

**Steve Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter ICC, requests Approval as Modified by this Public Comment.**

**Replace the proposal as follows:**

**903.2.4 Group F-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group F-1 occupancy where the floor area used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).

**903.2.7 Group M.** An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group M fire area is located more than three stories above grade plane.
3. 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>).
4. A Group M occupancy where the floor area used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m<sup>2</sup>).

**903.2.9 Group S-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m<sup>2</sup>).

5. A Group S-1 occupancy where the floor area used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).

**Commenter's Reason:** It was obvious that the committee and the opposition felt that it was important to provide sprinklers in occupancies that contain upholstered furniture and mattresses. Therefore, this public comment makes the language clearer to understand the intent of the requirement. The current language is confusing. It is not clear what the area includes. In discussion with staff and other people involved in this change, the intent is to require sprinklers when the floor area of the actual material exceeds the threshold. The proposed language clarifies this and agrees with the interpretation of ICC.

### *Public Comment 2:*

#### **Gary Lampella, City of Redmond, representing Oregon Building Officials Association, requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

**903.2.7 Group M.** An *automatic sprinkler system* in accordance with Section 903.3.1.1 shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M *fire area* exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group M *fire area* is located more than three stories above grade plane.
3. 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>).
4. ~~A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m<sup>2</sup>).~~

**903.2.7.1 Display and sale of upholstered furniture or mattresses.** An automatic sprinkler system shall be provided throughout the fire area of a Group M occupancy used for the display and sale of upholstered furniture or mattresses where the fire area exceeds 5,000 square feet (464 m<sup>2</sup>).

**Commenter's Reason:** The current code as written is overly restrictive. We understand the hazards faced by first responders but the current text would require the entire building that contained an M occupancy exceeding 5,000 square feet that had any amount of upholstered furniture or mattresses to be fully sprinkled. This include an M occupancies that had one chair or one mattress displayed for sale. Properly designed and constructed fire-resistive assemblies have proven to be very effective in controlling fire spread and smoke. The code requires in Section 901.7 that in order reduce the fire area below the limits for fire protection you have to comply with Section 707.3.9. This would require a minimum 2-hour fire barriers or horizontal assemblies for an M occupancy. Limiting M occupancies to a maximum fire area of 5,000 of a fire area with 2-hour assemblies will provide the safety features needed for this type of commodity. The NIST fire report which these sprinkler requirements were based detailed the fire spread though different parts of the building that would not have occurred if 2-hour fire barriers had been present. Tying the requirement to fire area instead of the whole building approach lessens the impact on adjoining existing occupancies without reducing the level of protection for upholstered furniture and mattresses.

### *Public Comment 3:*

#### **Gary Lampella, City of Redmond, representing Oregon Building Officials Association, requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

**903.2.4 Group F-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. ~~A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).~~

**903.2.4.3 Group F-1 manufacture of upholstered furniture or mattresses.** An automatic sprinkler system shall be provided throughout the fire area of a Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses where the fire area exceeds 2,500 square feet (232 m<sup>2</sup>).

(Renumber following section.)

**Commenter's Reason:** The current code as written is overly restrictive. We understand the hazards faced by first responders but the current text would require the entire building that contained an F-1 occupancy exceeding 2,500 square feet that had any amount of upholstered furniture or mattresses being manufactured to be fully sprinkled. This includes F-1 occupancies that had one chair or one mattress being manufactured. Properly designed and constructed fire-resistive assemblies have proven to be very effective in controlling fire spread and smoke. The code requires in Section 901.7 that in order reduce the fire area below the limits for fire protection you have to comply with Section 707.3.9. This would require a minimum 3-hour fire barriers or horizontal assemblies for an F-1 occupancy. Limiting F-1 occupancies to a maximum fire area of 2,500 of a fire area with 3-hour assemblies will provide the safety features needed for this type of commodity. The NIST fire report which these sprinkler requirements were based detailed the fire spread though different parts of the building that would not have occurred if 3-hour fire barriers had been present. Tying the requirement to fire area instead of the whole building approach lessens the impact on adjoining existing occupancies without reducing the level of protection for upholstered furniture and mattresses.

#### *Public Comment 4:*

### **Gary Lampella, City of Redmond, representing Oregon Building Officials Association, requests Approval as Modified by this Public Comment.**

**Replace the proposal as follows:**

**903.2.9 Group S-1.** An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m<sup>2</sup>).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m<sup>2</sup>).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m<sup>2</sup>).
5. ~~A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m<sup>2</sup>).~~

**903.2.9.1 Storage of upholstered furniture or mattresses.** An automatic sprinkler system shall be provided throughout the fire area of a Group S-1 occupancy used for the storage of upholstered furniture or mattresses where the fire area exceeds 2,500 square feet (232 m<sup>2</sup>).

*(Renumber following sections.)*

**Commenter's Reason:** The current code as written is overly restrictive. We understand the hazards faced by first responders but the current text would require the entire building that contained an S-1 occupancy exceeding 2,500 square feet that had any amount of upholstered furniture or mattresses being stored to be fully sprinkled. This includes S-1 occupancies that had one chair or one mattress being stored. Properly designed and constructed fire-resistive assemblies have proven to be very effective in controlling fire spread and smoke. The code requires in Section 901.7 that in order reduce the fire area below the limits for fire protection you have to comply with Section 707.3.9. This would require a minimum 3-hour fire barriers or horizontal assemblies for an S-1 occupancy. Limiting S-1 occupancies to a maximum fire area of 2,500 of a fire area with 3-hour assemblies will provide the safety features needed for this type of commodity. The NIST fire report which these sprinkler requirements were based detailed the fire spread though different parts of the building that would not have occurred if 3-hour fire barriers had been present. Tying the requirement to fire area instead of the whole building approach lessens the impact on adjoining existing occupancies without reducing the level of protection for upholstered furniture and mattresses.

#### **F126-13**

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

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### **F345-13**

#### **Appendix K (New)**

### **Proposed Change as Submitted**

**Proponent:** Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee  
(cbaldassarra@rjagroup.com)



Add new text as follows:

**Appendix K**  
**Employee Qualifications**

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

**SECTION K101**  
**FIRE INSPECTOR**  
**AND FIRE PLAN EXAMINER QUALIFICATIONS**

**K101.1. Fire inspector and fire plan examiner.** The fire code official shall appoint or hire such number of officers, fire inspectors, fire plan examiners, assistants and other employees as shall be authorized by the jurisdiction. A person shall not be appointed or hired as a fire inspector or fire plans examiner who has less than five years' experience as a contractor, engineer, architect, a member of the fire service, or a member of a fire prevention organization. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. Fire inspectors and fire plan examiners shall be certified through a recognized certification program for such position.

**Reason:** This proposed change is a result of the CTC's investigation of the area of study entitled "NIST Charleston Sofa Store Fire Recommendations". The scope of the activity is noted as:

Review the NIST and other investigative reports on the fire that occurred on the evening of June 18, 2007 in the Sofa Super Store in Charleston, South Carolina to identify issues that can be addressed by the International Codes.

In connection with their investigation, NIST analyzed the fire ground, consulted with other experts, and performed computer simulations of fire growth alternatives. Based on these analyses, NIST concluded that the following sequence of events is likely to have occurred. A fire began in packing material and discarded furniture outside an enclosed loading dock area. The fire spread to the loading dock, then into both the retail showroom and warehouse spaces. During the early stages of the fire in the two latter locations, the fire spread was slowed by the limited supply of fresh air. This under-ventilation led to generation of a large mass of pyrolyzed and only partially oxidized effluent. The smoke and combustible gases flowed into the interstitial space below the roof and above the suspended ceiling of the main retail showroom. As this space filled with unburned fuel, the hot smoke also seeped through the suspended ceiling into the main showroom and formed a hot smoke layer below the suspended ceiling. Up to this time, the extent of fire spread into the interstitial space was not visible to fire fighters in the store. If the fire spread had been visible to the fire fighters in the store, it would have provided a direct indication of a fire hazard in the showroom. Meanwhile, the fire at the back of the main showroom and the gas mixture below the suspended ceiling were both still fuel rich. When the front windows were broken out or vented, the inflow of additional air allowed the heat release rate of the fire to intensify rapidly and added air to the layer of unburned fuel below the suspended ceiling enabling the ignition of the unburned fuel/air mixture. The fire swept from the rear to the front of the main showroom extremely quickly, and then into the west and east showrooms. Nine fire fighters were killed in the Sofa Super Store fire. NIST developed eleven recommendations to help mitigate such future losses.

Recommendation 3 of the NIST report reads as follows:

**"Qualified Fire Inspectors and Building Plan Examiners:** NIST recommends that all state and local jurisdictions ensure that fire inspectors and building plan examiners are professionally qualified to a national standard such as NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plan Examiner. Professional qualification may be demonstrated through a nationally accepted certification examination, such as the Fire Plan Examiner; Fire Inspector I and II, and Certified Fire Marshal."

Following a review of recommendation 3 of the NIST report a new Appendix K is proposed. This proposal is similar in scope and intent to Section A101.3 of Appendix A of the International Building Code where suggested qualifications for building official, chief inspector, inspector and plan examiner are established.

The purpose of this proposal is to provide optional criteria for qualifications of employees who enforce the Fire Code through inspections and plan examinations. A jurisdiction that wants to make this appendix a mandatory part of the code would need to specifically list this appendix in its adoption ordinance. In recognition of the fact that some jurisdictions are mandated by applicable state law to employ only persons licensed by the state to perform certain duties, the proposal was drafted as an Appendix.

This proposal would not require fire inspectors or fire plan examiners to have had previous experience in Fire Code enforcement, but would merely require that they possess experience in a related job category. It is not our intent to prohibit a plan review and inspection staff from hiring and training entry level employees. The training of entry level shall be supervised by trained and certified personnel.

This proposal is submitted by the ICC Code Technology Committee. The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The 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/CTC/Pages/default.aspx>. Since its inception in April/2005, the CTC has held twenty-five meetings - all open to the public. In 2012, three of the 25 face-to face meetings were held. In addition to the CTC meetings, the CTC established Study Groups (SG) of interested parties for each of the areas of study. These SG's are responsible for reviewing the available information and making recommendations to the CTC. All totaled, the SG's held over 70 conference calls in 2012.

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

APPENDIX K (NEW)-F-BALDASSARRA-CTC

### **Committee Action Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** The disapproval was based on the committee's judgment that the proposal has merit but is far from ready for the code, even if in an appendix. Suggested improvements included inclusion of entry-level personnel in the text (they were mentioned in the reason statement), provisions for continuing education need to be added and separate qualifications should be established for inspectors and plans examiners. Concern was also expressed that the proposed appendix could restrict a fire chief's options on how they administer their department by establishing employee qualification time frames that may conflict with state laws on the subject.

**Assembly Action:**

**None**

### **Individual Consideration Agenda**

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

*Public Comment:*

**Carl Baldassarra, P.E., FSFPE, Chairman, ICC Code Technology Committee (cbaldassarra@rjagroup.com) and Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azumiamia@yahoo.com), requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

#### **Appendix K Employee Qualifications**

*The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

#### **SECTION K101 FIRE INSPECTOR AND FIRE PLAN EXAMINER QUALIFICATIONS**

**K101.1. Fire inspector and fire plan examiner.** ~~The fire code official shall appoint or hire such number of officers, fire inspectors, fire plan examiners, assistants and other employees as shall be authorized by the jurisdiction.~~ A person shall not be appointed or hired as a fire inspector or fire plans examiner who has less than five years' experience as a contractor, engineer, architect, a member of the fire service, or a member of a fire prevention organization. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. Fire inspectors and fire plan examiners shall be certified through a recognized certification program for such positions.

#### **Exceptions:**

1. Fire inspectors under direct supervision of a fire inspector who meets the qualifications of this section.
2. Plan reviewers under direct supervision of a plan reviewer who meets the qualifications of this section.

**Commenter's Reason:** This is a joint public comment submitted on behalf of the ICC Code Technology Committee (CTC) and the ICC Fire Code Action Committee (FCAC).

The exceptions address the issues raised by the code development committee. This will allow for a jurisdiction to appoint a person who does not yet have the full experience and certification as long as there is a supervision or training program while this person gains the appropriate knowledge. It is the committee's intent that direct supervision means oversight of and assuming the responsibility for inspection or plan review work.

Continuing education requirements will be set by the certification entity. If the time frame would conflict with state requirements, the jurisdiction can modify the requirements.

**F345-13**

Final Action:

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