CTC Meeting #27
JUNE 17 – 18, 2013
NIST report on the Charleston sofa store fire

The following 2013 Group B changes have been compiled for the above noted CTC Area of Study. Code changes with an (*) indicate CTC sponsored code changes. These changes are intended to serve as the agenda for the CTC in order to establish CTC public comments, if any, for the upcoming 2013 Group B Final Action Hearings. THIS REPORT ONLY INLCUDES THOSE CODE CHANGES FOR WHICH CTC HAS TAKEN A POSITION ON A CODE CHANGE.

The committee action on the following two code changes is consistent with the CTC's position:
ADM 43-13* CAH: AS (recording keeping)
F126- 13 CAH: D (sofa sprinkler thresholds)

The study group held a call and has made public comment recommendations for the following (the recommendations follow the respective code changes):
EB48-13*
ADM38-13*
F345-13*

EB48 – 13
CAH: AM

Proponent: Carl Baldassarra, P.E., Chair, ICC Code Technology Committee

Revise as follows:

904.1 Automatic sprinkler systems. Automatic sprinkler systems shall be provided in all *work areas* when required by Section 804.2 or this section.

904.1.1 High-rise buildings. In high-rise buildings, work areas shall be provided with automatic sprinkler protection where the building has a sufficient municipal water supply system to the site. Where the *work area* exceeds 50 percent of floor area, sprinklers shall be provided in the specified areas where sufficient municipal water supply for design and installation of a fire sprinkler system is available at the site.

904.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the *work area* shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the provisions of the International Building Code for new construction.

904.1.3 Upholstered furniture or mattresses. *Work areas* shall be provided with automatic sprinkler protection in accordance with the *International Building Code* where any of the following conditions exist:

1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).
2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m^2),
3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).

Exception: Where an automatic sprinkler system is required by items 1, 2 or 3 and where the building does not have sufficient municipal water supply for the design and installation of an automatic sprinkler system available to the floor without installation of a new fire pump, *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces. The automatic smoke detection system shall activate the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

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 4 of the NIST report reads as follows:

> "NIST recommends that model codes require sprinkler systems and that state and local authorities adopt and aggressively enforce this provision:
>
> a) for all new commercial retail furniture stores regardless of size; and
>
> b) for existing retail furniture stores with any single display area of greater than 190 m^2 (2000 ft^2).
>
> An installed fire sprinkler system that complied with a national standard such as NFPA 13 [3] would have activated and would have controlled the fire growth. If the showrooms had been divided into smaller areas with fire barriers, the compartmentation would have slowed the spread of the fire as well."

Following a review of recommendation 4 of the NIST report, a new section, 904.1.3, is proposed to be added to the International Existing Building Code addressing Level 3 alterations. This new language would ensure that occupancies used for the mechandizing, storage or manufacture of upholstered furniture or mattresses have fire protection installed when the space occupied for these purposes undergo a Level 3 alteration.

Most of the targeted occupancies would already require the installation of automatic fire sprinkler systems if a Level 2 Alteration occurred, and Section 901.2 of the IEBC points to Chapters 7 and 8 as required to be complied with in such circumstance.

However, Chapter 8, specifically Section 804.2,2 as shown below, requires compliance when there are shared tenant egress paths or occupant loads of 30 or greater.

> **804.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2.** In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:
>
> 1. The work area is required to be provided with automatic sprinkler protection in accordance with the *International Building Code* as applicable to new construction; and
> 2. The work area exceeds 50 percent of the floor area.
>
> **Exceptions:**
>
> 1. Work areas in Group R occupancies three stories or less in height.
> 2. If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the *International Building Code*.

This proposal defers to the square footage thresholds found in Chapter 9 of the International Building Code once the work area reaches a Level 3 threshold. In reality, the impact is minimal as far as added occupancies that would be covered by this provision. What it does is eliminate a more complicated determination for identifying the requirement for providing the protection levels. The S-1 occupancies and the storage areas of the F-1 would be covered by Chapter 32 (High-Piled Combustible Storage) of the IFC, where the threshold to provide automatic sprinkler protection is currently 2500 ft^2.

OCCUPANT LOAD COMPARISON WITH SUGGESTED THRESHOLDS

(Section 804.2.2 applies to multitenant shared egress paths or with occupant load of 30 or greater)

Using IBC Table 1004.1.2

F-1 Factor 100 ft^2 gross per person 2500 ft^2=25 person
M Factor 30 ft^2/60 ft^2 (display areas) 5000 ft^2. = 167/83 persons
S-1 Factor 500 ft^2 gross per person 2500 ft^2 = 5* persons

*IFC **TABLE 3206.2 GENERAL FIRE PROTECTION AND LIFE SAFETY REQUIREMENTS** already requires automatic sprinkler protection for high-piled storage areas over 2500 ft^2.

Based upon the above analysis, there will be a cost increase for only a minimal subset of the affected occupancies.

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. 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 increase the cost of construction.

904.1.3 (NEW)-EB-BALDASSARRA-CTC.doc

EB48-13

Committee Action: **Approved as Modified**

Modify the proposal as follows:

904.1.3 Upholstered furniture or mattresses. *Work areas* shall be provided with automatic sprinkler protection in accordance with the *International Building Code* where any of the following conditions exist:

1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).
2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m^2),
3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).

~~Exception:~~ ~~Where an automatic sprinkler system is required by items 1, 2 or 3 and where the building does not have sufficient municipal water supply for the design and installation of an automatic sprinkler system available to the floor without installation of a new fire pump, *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces. The automatic smoke detection system shall activate the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.~~

Committee Reason: The proposal as approved will require sprinklers in work areas undergoing level 3 alterations in locations where upholstered furniture is stored, displayed or manufactured at the respective areas established. The provisions were seen as necessary due to the fire hazard presented by upholstered furniture. Using the trigger of a level 3 alteration was felt to be more reasonable than placing such requirements within Chapter 11 of the IFC. The modification simply removed the exception from the proposal. It was felt that smoke detection was not equivalent to an automatic sprinkler system and the need for installation of a fire pump should not relieve them of this requirement. The modification was consistent with the action taken on EB29-13.

Assembly Action: **None**

STUDY GROUP RECOMEMDATION:

The SG is not recommending a public comment. The issue addressed in the exception which was deleted can be dealt with on a local level.

ADM38 – 13
CAH: D

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 18th 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$_T$ 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.

106.3 (NEW)-ADM (IFC)-BALDASSARRA-CTC

ADM38-13

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**

STUDY GROUP RECOMEMDATION:

The SG recommends the submission of a public comment to address the committee's concern related to the 5 year time frame.

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.~~

F345 – 13
CAH: D

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.

F345- 13

Public Hearing:	Committee:	AS	AM	D	
	Assembly:	ASF	AMF	DF	

APPENDIX K (NEW)-F-BALDASSARRA-CTC

F345-13

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**

STUDY GROUP RECOMEMDATION:

The SG recommends the submission of the a public comment to address the committee's concern related to entry level personnel.

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.

Exceptions

1. Fire inspectors shall not be required to have a minimum of five years experience where working under the direct supervision of a fire inspector who is certified.

2. Plan reviewers shall not be required to have a minimum of five years experience where working under the direct supervision of a plan reviewer who is certified.