CTC MEETING #25
NIST SOFA STORE FIRE SG REPORT

The SG kicked off their work with their first call on June 18, 2012. Since that call, they had 9 additional calls. The focus of the SG is to review and evaluate the recommendations noted in the NIST report. Based on their review, they are submitting 5 Code change proposals for CTC to review and consider. These proposals are summarized as follows:

- Proposal 1 (page 1): IFC – Periodic inspections
- Proposal 2 (page 6): IFC – Record keeping
- Proposal 3 (page 14): IFC – Employee qualifications (appendix)
- Proposal 4 (page 16): IFC – Sprinklers for upholstered furniture or mattresses
- Proposal 5 (page 19): IEBC – Change of occupancy impacting a required fire protection system

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PROPOSAL # 1

Renumber 2012 IFC Sections 106.3 and 106.4 as 106.4 and 106.5, respectively, insert a new Section 106.3, and amend Section 113.2, to read as follows:

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:

1. Buildings classified in miscellaneous Group U occupancies that are associated with residential Group R-3 occupancies.

2. Buildings classified in residential Group R-3 occupancies that do not contain more than two dwelling units.

3. Buildings designed and constructed in accordance with the *International Residential Code* that do not contain health care facilities.

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 separations, 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*.

106.3.2 Inspecting entity. Periodic building fire safety inspections required by Section 106.3 shall be conducted by the *fire code official*, unless the *fire code official* determines

that it lacks the required resources to conduct such inspection, in which case the *fire code official* shall require that such inspections be conducted by an *approved* third party.

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.

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, whichever is less.

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 periodically 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.

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, including Section 104.3.

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SECTION 113
FEES

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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: 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 material 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.

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.

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."

Upon investigation 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 residential Group R-3 occupancies that do contain more than two dwelling units, Group U occupancies associated with Group R-3 occupancies, and buildings designed and 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, fire plan examiner and fire code official 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.

Section 106.3.1 defines the scope of periodic building fire safety inspections to include the maintenance of means of egress, fire separations, 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 it lacks the required resources to conduct such inspection, in which case the fire code official shall require that such inspections 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 not have sufficient resources to do so. The fact that certain jurisdictions may have insufficient resources to conduct such inspection does not negate the importance of having it conducted. In recognition of this fact, this section would require that when the fire code official chooses not to conduct a required periodic building fire safety inspection, that the building owner would be required to have such inspection 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. 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 inspectors, they would be required to hire only inspectors 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 hire certified inspectors. Approved third party individuals conducting such inspections 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 at least once every 5 years, whichever is less. 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 absolute maximum time to be allowed between such inspections. Shorter periods between inspections may be established by the fire code official based upon an assessment of the risk of a building.

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.

Cost Impact: The code change proposed will not increase the cost of construction.
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PROPOSAL # 2

Amend 2012 IFC Section 107.2 and 49 other sections of the International Fire Code all relating to recordkeeping, to read as follows:

SECTION 107

MAINTENANCE

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107.2 ~~Testing and operation.~~ ~~Equipment requiring periodic testing or operation to ensure maintenance shall be tested or operated as specified in this code.~~

~~107.2.1 Testing and inspection records.~~ ~~Required test and inspection records shall be available to the *fire code official* at all times or such records as the *fire code official* designates shall be filed with the *fire code official*.~~

Recordkeeping. A written record of the periodic inspections, tests, servicing, and other operations and maintenance required by this code or the reference standards and any other required recordkeeping set forth therein, shall be maintained on the premises or other *approved* location for a minimum of 3 years, unless a different period of time is specified in this code or referenced standards. The *fire code official* has the authority to prescribe the form and format of such recordkeeping. Such records shall be made available for inspection by any *fire code official*, and a copy of such records shall be provided to such *fire code official* upon request. The *fire code official* has the authority to require that certain required records be filed with the *fire code official*. When approved, the *fire code official* has the authority to allow electronic filings, and electronic records in lieu of written records.

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405.5 ~~Record keeping~~ Recordkeeping. Records ~~shall be maintained~~ of required emergency evacuation drills shall be maintained in accordance with the provisions of Section 107.2 and shall include the following information:

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406.2 Frequency. Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be ~~kept and made available to the *fire code official* upon request~~ maintained in accordance with Section 107.2.

408.4.4 Emergency drills. Emergency drills of the on-site emergency response team shall be conducted on a regular basis but not less than once every three months. Records of drills conducted shall be maintained in accordance with the provisions of Section 107.2.

408.5.2 Staff training. Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Records shall be maintained in accordance with the

provisions of Section 107.2. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.

408.10.2 Staff training. Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Records shall be maintained in accordance with the provisions of Section 107.2. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.

507.5.2 Inspection, testing and maintenance. Fire hydrant systems shall be subject to periodic tests as required by the *fire code official*. Records shall be maintained in accordance with the provisions of Section 107.2. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, *alterations* and servicing shall comply with *approved* standards.

507.5.3 Private fire service mains and water tanks. Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with NFPA 25 at the following intervals:

1. Private fire hydrants (all types): Inspection annually and after each operation; flow test and maintenance annually.

2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.

3. Fire service main piping strainers: Inspection and maintenance after each use.

Records shall be maintained in accordance with the provisions of Section 107.2.

604.3.1 Schedule. Inspection, testing and maintenance of emergency and standby power systems shall be in accordance with an *approved* schedule established upon completion and approval of the system installation. Records shall be maintained in accordance with the provisions of Section 107.2.

604.3.2 ~~Written record~~ Records. ~~Written records~~ Records of the inspection, testing and maintenance of emergency and standby power systems shall include the date of service, name of the servicing technician, a summary of conditions noted and a detailed description of any conditions requiring correction and what corrective action was taken. Such records shall be ~~kept on the premises served by the emergency or standby power system and be available for inspection by the *fire code official*~~ maintained in accordance with the provisions of Section 107.2.

604.5.1.1 Activation test record. Records shall be maintained ~~on the premises for a minimum of three years and submitted to the *fire code official* upon request~~ in accordance with the provisions of Section 107.2. The record shall include the location of the emergency lighting tested, whether the unit passed or failed, the date of the test, and the person completing the test.

604.5.2.1 Power test record. Records shall be maintained ~~on the premises for a minimum of three years and submitted to the *fire code official* upon request~~ in accordance with the provisions of Section 107.2. The record shall include the location of the emergency lighting tested, whether the unit passed or failed, the date of the test, and the person completing the test.

606.6 Testing of equipment. Refrigeration equipment and systems having a refrigerant circuit containing more than 220 pounds (100 kg) of Group A1 or 30 pounds (14 kg) of any other group refrigerant shall be subject to periodic testing in accordance with Section 606.6.1. ~~A written record of required testing~~ Records shall be maintained ~~on the premises~~ in accordance with the provisions of Section 107.2. Tests of emergency devices or systems required by this chapter shall be conducted by persons trained and qualified in refrigeration systems.

606.15 Records. A ~~written~~ record ~~shall be kept~~ of refrigerant quantities brought into and removed from the premises shall be maintained in accordance with the provisions of Section 107.2. ~~Such records shall be available to the *fire code official.*~~

609.3.3.3 Records. Records for inspections shall state the individual and company performing the inspection, a description of the inspection and when the inspection took place. Records for cleanings shall state the individual and company performing the cleaning and when the cleaning took place. Such records shall be completed after each inspection or cleaning~~, maintained on the premises for a minimum of three years and be copied to the *fire code official* upon request~~ and maintained in accordance with the provisions of Section 107.2.

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. Records shall be maintained in accordance with the provisions of Section 107.2. 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.

703.4 Testing. Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. ~~A written record~~ Records shall be maintained ~~and be available to the *fire code official*~~ in accordance with the provisions of Section 107.2.

901.6.2 Records. Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained ~~on the premises for a minimum of three years and shall be copied to the *fire code official* upon request~~ in accordance with the provisions of Section 107.2.

901.6.2.1 Records information. Initial records shall include the name of the installation contractor, type of components installed, manufacturer of the components, location and number of components installed per floor. Records shall also include the manufacturers' operation and maintenance instruction manuals. Such records shall be maintained ~~on the premises~~ in accordance with the provisions of Section 107.2 for the life of the installation.

904.5 Wet-chemical systems. Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 17A and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

904.6 Dry-chemical systems. Dry-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 17 and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

904.7 Foam systems. Foam-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 11 and NFPA 16 and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

904.8 Carbon dioxide systems. Carbon dioxide extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 12 and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

904.9 Halon systems. Halogenated extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 12A and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

904.10 Clean-agent systems. Clean-agent fire-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 2001 and their listing. Records shall be maintained in accordance with the provisions of Section 107.2.

907.8 Inspection, testing and maintenance. The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with Sections 907.8.1 through 907.8.5 and NFPA 72. Records shall be maintained in accordance with the provisions of Section 107.2.

907.8.2 Testing. Testing shall be performed in accordance with the schedules in NFPA 72 or more frequently where required by the *fire code official*. Records shall be maintained in accordance with the provisions of Section 107.2.

> **Exception:** Devices or equipment that are inaccessible for safety considerations shall be tested during scheduled shutdowns where *approved* by the *fire code official*, but not less than every 18 months.

907.8.3 Smoke detector sensitivity. Smoke detector sensitivity shall be checked within one year after installation and every alternate year thereafter. After the second calibration test, where

sensitivity tests indicate that the detector has remained within its *listed* and marked sensitivity range (or 4-percent obscuration light grey smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to a maximum of five years. Where the frequency is extended, records of detector-caused nuisance alarms and subsequent trends of these alarms shall be maintained in accordance with the provisions of Section 107.2. In zones or areas where nuisance alarms show any increase over the previous year, calibration tests shall be performed.

907.8.5 Maintenance, inspection and testing. The building *owner* shall be responsible to maintain the fire and life safety systems in an operable condition at all times. Service personnel shall meet the qualification requirements of NFPA 72 for maintaining, inspecting and testing such systems. ~~A written record~~ Records shall be maintained ~~and shall be made available to the *fire code official*~~ in accordance with the provisions of Section 107.2.

909.20.2 ~~Written record~~ Records. ~~A written record~~ Records of smoke control system testing and maintenance shall be maintained ~~on the premises~~ in accordance with the provisions of Section 107.2. The ~~written~~ record shall include the date of the maintenance, identification of the servicing personnel and notification of any unsatisfactory condition and the corrective action taken, including parts replaced.

912.6 Inspection, testing and maintenance. All fire department connections shall be periodically inspected, tested and maintained in accordance with NFPA 25. Records shall be maintained in accordance with the provisions of Section 107.2.

913.5 Testing and maintenance. Fire pumps shall be inspected, tested and maintained in accordance with the requirements of this section and NFPA 25. Records shall be maintained in accordance with the provisions of Section 107.2.

913.5.2 Generator sets. Engine generator sets supplying emergency or standby power to fire pump assemblies shall be periodically tested in accordance with NFPA 110. Records shall be maintained in accordance with the provisions of Section 107.2.

913.5.3 Transfer switches. Automatic transfer switches shall be periodically tested in accordance with NFPA 110. Records shall be maintained in accordance with the provisions of Section 107.2.

1030.8 Testing and maintenance. All two-way communication systems for *areas of refuge* shall be inspected and tested on a yearly basis to verify that all components are operational. When required, the tests shall be conducted in the presence of the *fire code official*. Records shall be maintained in accordance with the provisions of Section 107.2.

2006.5.3.2.2 ~~Documentation~~ Records. The airport fueling-system operator shall maintain records of all training administered to its employees in accordance with the provisions of Section 107.2. ~~These records shall be made available to the *fire code official* on request.~~

2006.6.4 Testing. Emergency fuel shutoff devices shall be operationally tested at intervals not exceeding three months. The fueling-system operator shall maintain ~~suitable~~ records ~~of these tests~~ in accordance with the provisions of Section 107.2.

2006.19.1 Inspections. Hoses used to fuel or defuel aircraft shall be inspected periodically to ensure their serviceability and suitability for continued service. The fuel-service operator shall maintain records in accordance with the provisions of Section 107.2 of all tests and inspections performed on fueling hoses. Hoses found to be defective or otherwise damaged shall be immediately removed from service.

2006.19.1.2 Monthly inspection. A more thorough inspection, including pressure testing, shall be accomplished for each hose on a monthly basis. This inspection shall include examination of the fuel delivery inlet screen for rubber particles, which indicates problems with the hose lining. Records shall be maintained in accordance with the provisions of Section 107.2.

2305.2.1 Inspections. Flammable and *combustible liquid* fuel-dispensing and containment equipment shall be periodically inspected where required by the *fire code official* to verify that it is in proper working order and not subject to leakage. Records shall be maintained in accordance with the provisions of Section 107.2.

2306.2.1.1 Inventory control for underground tanks. Accurate daily inventory records shall be maintained and reconciled on underground fuel storage tanks for indication of possible leakage from tanks and piping. ~~The records~~ Records shall be ~~kept at the premises or made available for inspection by the *fire code official* within 24 hours of a written or verbal request~~ maintained in accordance with the provisions of Section 107.2 and shall include records for each product showing daily reconciliation between sales, use, receipts and inventory on hand. Where there is more than one system consisting of tanks serving separate pumps or dispensers for a product, the reconciliation shall be ascertained separately for each tank system. A consistent or accidental loss of product shall be immediately reported to the *fire code official*.

2808.6 Static pile protection. Static piles shall be monitored by an *approved* means to measure temperatures within the static piles. Internal pile temperatures shall be monitored and recorded weekly. Records shall be ~~kept on file at the facility and made available for inspection~~ maintained in accordance with the provisions of Section 107.2. An operational plan indicating procedures and schedules for the inspection, monitoring and restricting of excessive internal temperatures in static piles shall be submitted to the *fire code official* for review and approval.

5003.2.9 Testing. The equipment, devices and systems listed in Section 5003.2.9.1 shall be tested at the time of installation and at one of the intervals listed in Section 5003.2.9.2. ~~Written records of the tests conducted or maintenance performed~~ Records shall be maintained in accordance with the provisions of Section ~~107.2.1~~ 107.2.

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5003.3.1.1 Records. ~~Accurate records shall be kept~~ Records of the unauthorized discharge of hazardous materials by the permittee shall be maintained in accordance with the provisions of Section 107.2.

5603.2 Transaction record. The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of *explosive materials*. ~~Such a record~~ Records shall be maintained in accordance with the provisions of Section 107.2 for a period of five years~~, and shall be furnished to the *fire code official* for inspection upon request~~.

Exception: Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of three years.

5603.6 Hazard communication. Manufacturers of *explosive materials* and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR Part 1910.1200, and Section 407 in accordance with the provisions of Section 107.2.

5704.2.11.5.1 Inventory control. Daily inventory records ~~shall be maintained~~ for underground storage tank systems shall be maintained in accordance with the provisions of Section 107.2.

5704.2.13.1.4 Tanks abandoned in place. Tanks abandoned in place shall be as follows:

1. Flammable and *combustible liquids* shall be removed from the tank and connected piping.

2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.

3. The tank shall be filled completely with an *approved* inert solid material.

4. Remaining underground piping shall be capped or plugged.

5. A record of tank size, location and date of abandonment shall be ~~retained~~ maintained in accordance with the provisions of Section 107.2.

6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

5706.5.4.5 Commercial, industrial, governmental or manufacturing. Dispensing of Class II and III motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles located at commercial, industrial, governmental or manufacturing establishments is allowed where permitted, provided such dispensing operations are conducted in accordance with the following:

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14. Persons responsible for dispensing operations shall be trained in the appropriate mitigating actions in the event of a fire, leak or spill. Training records shall be maintained by the dispensing company ~~and shall be made available to the *fire code official* upon request~~ in accordance with the provisions of Section 107.2.

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5806.4.8.2 Corrosion protection. The vacuum jacket shall be protected by *approved* or *listed* corrosion-resistant materials or an engineered cathodic protection system. Where cathodic protection is utilized, an *approved* maintenance schedule shall be established. Exposed components shall be inspected at least twice a year. ~~Maintenance~~ Records of maintenance and inspection events shall be ~~recorded and those records shall be~~ maintained ~~on the premises for a minimum of three years and made available to the *fire code official* upon request~~ in accordance with the provisions of Section 107.2.

Reason: 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 material 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.

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.

Recommendation 2(c) of the NIST report recommended that that all state and local jurisdictions implement aggressive and effective fire inspection and enforcement programs that address detailed recordkeeping.

Upon investigation of recommendation 2(c) of the NIST report, changes are proposed to Section 107.2 and 49 other sections of the International Fire Code that address recordkeeping.

The proposed change to Section 107.2 accomplishes several things with regard to recordkeeping. Most significantly, it standardizes recordkeeping requirements for periodic inspection, testing, servicing and other operational and maintenance requirements of the International Fire Code.

The change to Section 107.2 would now make it clear that records must be maintained in writing, and it would authorize the fire code official to accept electronic recordkeeping and filings in lieu of written records and filings. The change would also make clear that records must be maintained for a period of not less than 3 years, and would authorize the fire code official to prescribe the form and format of such records.

The changes proposed to the forty nine other sections of the International Fire Code are intended to standardize recordkeeping requirements throughout the code by making a reference for required recordkeeping back to Section 107.2 in each such section.
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PROPOSAL # 3

Add a new Appendix K to the International Fire Code to read 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 CODE OFFICIAL, FIRE INSPECTOR AND FIRE PLAN EXAMINER QUALIFICATIONS

K101.1. Fire code official, 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 code official*, fire inspector or fire plan examiner unless certified through a recognized certification program for such position.

Reason: 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 material 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.

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> 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.

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."

Upon investigation of recommendation 3 of the NIST report a new Appendix K is proposed.

The purpose of this proposal is to provide optional criteria for qualifications of employees who administer enforcement of the Fire Code or 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 newly hired fire code officials, fire inspectors and fire plan examiners to have had previous experience in Fire Code enforcement, but would merely require that they possess the certification in the job category in which they are employed. This proposal is similar in scope to Section A101 of Appendix A of the International Building Code where suggested qualifications for building official, chief inspector, inspector and plan examiner are established.

Cost Impact: The code change proposed will not increase the cost of construction.
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PROPOSAL # 4

Add Section 904.1.3 to the International Existing Building Code to read as follows:

SECTION 904
FIRE PROTECTION

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* when:

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: 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 that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

Reason: 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 material 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.

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."

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."

Upon investigation 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.

Cost Impact: The code change proposed will not increase the cost of construction.
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PROPOSAL # 5

Amend Sections 1001.1, 1001.2, 1004.1, 1012.1, 1012.1.1.1, 1012.1.1.2, 1012.2.1 and 1012.2.2 of the International Existing Building Code, to read as follows:

1001.1 Scope. The provisions of this chapter shall apply where a change of occupancy occurs, as defined in Section 202, including:

1. Where the occupancy classification is not changed; [or]
2. Where there is a change in occupancy classification or the occupancy group designation changes[.]; or
3. Where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code*.

1001.2 Change in occupancy with no change of occupancy classification. A change in occupancy, as defined in Section 202, with no change of occupancy classification or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code* shall not be made to any structure that will subject the structure to any special provisions of the applicable International Codes, including the provisions of Sections 1002 through 1011, without the approval of the code official. A certificate of occupancy shall be issued where it has been determined that the requirements for the change in occupancy have been met.

1001.2.1 Repair and alteration with no change of occupancy classification. Any repair or alteration work undertaken in connection with a change of occupancy that does not involve a change of occupancy classification shall conform to the applicable requirements for the work as classified in Chapter 4 and to the requirements of Sections 1002 through 1011.

Exception: As modified in Section 1205 for historic buildings.

1001.3 Change of occupancy classification. Where the occupancy classification of a building changes, the provisions of Sections 1002 through 1012 shall apply. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group.

1001.3.1 Partial change of occupancy classification. Where a portion of an existing building is changed to a new occupancy classification, Section 1012 shall apply.

1001.4 Certificate of occupancy required. A certificate of occupancy shall be issued where a change of occupancy occurs that results in a different occupancy classification as determined by the *International Building Code*.

* * *

SECTION 1004
FIRE PROTECTION

1004.1 General. Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a change of occupancy classification or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code*.

* * *

SECTION 1012
CHANGE OF OCCUPANCY CLASSIFICATION

1012.1 General. The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code*. Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy shall be as set forth in Sections 1012.1.1 through 1012.1.4. A change of occupancy, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.2.

1012.1.1 Compliance with Chapter 9. The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.

1012.1.1.1 Change of occupancy classification without separation. Where a portion of an existing building is changed to a new occupancy classification or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code* and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the International Building Code for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

1012.1.1.2 Change of occupancy classification with separation. Where a portion of an existing building that is changed to a new occupancy classification or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code* and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the International Building Code for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 for the new occupancy classification and with the requirements of this chapter.

1012.2 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 1012.2.1 and 1012.2.2.

> **1012.2.1 Fire sprinkler system.** Where a change in occupancy classification occurs or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code* that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code, such system shall be provided throughout the area where the change of occupancy occurs.
>
> **1012.2.2 Fire alarm and detection system.** Where a change in occupancy classification occurs or where there is a change in use or occupancy with a fire protection threshold requirement in Chapter 9 of the *International Building Code* that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code, such system shall be provided throughout the area where the change of occupancy occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the change of occupancy occurs and shall be automatically activated.

Reason: 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 material 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.

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> 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."

Upon investigation of recommendation 4 of the NIST report, a review of where in the family of I codes to put requirements for upgrading to automatic sprinkler protection for occupancies manufacturing, storing or mechandizing upholstered furniture and mattresses occurred. During this review the study group noted that the International Existing Building Code applies the concept of "change of occupancy" broadly and not only to capture a change in the Group, but a change in the occupancy classification with a change in the Group, (see the classification breakdowns under each Group in Chapter 3 of the International Building Code).

The definition for Change of Occupancy drills down to a change "in the purpose of level of activity" for applying more current requirements of the IEBC and the IBC.

> **CHANGE OF OCCUPANCY.** A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code.

SECTION 1001
GENERAL

> **1001.1 Scope.** The provisions of this chapter shall apply where a change of occupancy occurs, as defined in Section 202, including:
>
> 1. Where the occupancy classification is not changed; or
>
> 2. Where there is a change in occupancy classification or the occupancy group designation changes.

SECTION 1012
CHANGE OF OCCUPANCY CLASSIFICATION

> **1012.1 General.** The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group.

What the study group noted was that when applying principals of fire protection, Chapter 9 of the International Building Code has use and levels of activity breakdowns separate and, in some cases, distinct from the occupancy classifications found in Chapter 3 of the International Building Code. In many cases these breakdowns are more significant than those found in Chapter 3 of the International Building Code.

What this proposal does is to suggest the insertion of language into Chapter 10 of the International Existing Building Code that would provide for capturing the fire protection thresholds found in Chapter 9 of the International Building Code as additional, and in many cases more accurate, triggers for the installation of fire protection systems and devices when a change of use or occupancy occurs within an existing building.