

F6-13
202 (IBC [F] 202)

Proposed Change as Submitted

Proponent: Elley Klausbruckner representing Klausbruckner & Associates Inc (ek@klausbruckner.com)

Revise as follows:

SECTION 202 (IBC [F] 202)
GENERAL DEFINITIONS

FLAMMABLE SOLID. A solid, other than a blasting agent or *explosive*, that is capable of causing fire through friction, absorption of moisture, spontaneous chemical change or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than ~~0.4~~ 0.0866 inch (~~2.5 mm~~ 2.2 mm) per second along its major axis.

Reason: The definition proposed is in line with GHS [Globally Harmonized System] which is now adopted by OSHA. When an MSDS is prepared today, a material classified as "Flammable Solids" is typically based on this definition and not the previous definition [existing language in the Fire Code]. For additional details please see <http://www.osha.gov/dsg/hazcom/ghs.html>.

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

202-FLAMMABLE SOLID-F-KLAUSBRUCKNER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the code change could be the beginning of a trend toward acceptance of OSHA definitions which are much different than IFC definitions and are focused on worker and work-place safety only.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Elley Klausbruckner, representing Klausbruckner & Associates Inc., requests Approval as Submitted.

Commenter's Reason: The issue that this code change is attempting to resolve has nothing to do with trends but is a practical one. Chemicals are classified by using data in the Materials Safety Data Sheet [MSDS]. Unlike flammable/combustible liquids, where locations are provided data entry of flashpoint and boiling point, data on combustibility of a dust, as well as method of testing, is typically not found on an MSDS. The MSDS will simply indicate "Combustible Dust" in the MSDS. The MSDS typically follows the definitions of OSHA as well as GHS. Therefore the person classifying the material [whether it be an AHJ or an industry] cannot determine for certain whether the dust is combustible based on the definitions in the fire code. Whether an individual classifies a material as Combustible Dust or not, based on the statement in an MSDS, it will subject that person classifying the product to liability.

Given that the definitions between OSHA and the Fire Code are close [self-sustained flame at a rate greater than 0.1 0.0866 inch (2.5 mm 2.2 mm) per second] this would be a minor adjustment in definitions.

F6-13

Final Action: AS AM AMPC____ D

F13-13

308.1.6.3 (New), 202 (New)

Proposed Change as Submitted

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs Building/Fire Safety Division, representing self (ACApfelbeck@Altamonte.org)

Add new text as follows:

308.1.6.3 Sky lanterns. No person shall release or cause to be released an untethered sky lantern.

Add new definition as follows:

SECTION 202 GENERAL DEFINITIONS

SKY LANTERN. An unmanned device with a combustible fuel source that incorporates an open flame in order to make the device airborne.

Reason: Sky lanterns contain an open flame used to heat the air inside the device to make it airborne. Once airborne, these devices are subject to winds and other atmospheric conditions so that the location of the landfall is completely unknown and uncontrolled by the user. Obviously, uncontrolled open flame devices descending out of the sky have the significant potential to start wildfires and structural fires.

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

308.1.6.3 (NEW)-F-APFELBECK

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

SKY LANTERN. An unmanned device with a combustible fuel source that incorporates an open flame in order to make the device airborne.

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee approved the code change based on the proponent's reason statement that untethered flaming sky effects pose an uncontrollable ignition hazard. The modification recognizes that the fuel package may not be limited to combustible fuel but could include flammable fuels as well.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

SKY LANTERN. An unmanned device ~~with a fuel source~~ that incorporates an open flame in order to make the device airborne.

(Portions of the proposal not shown remain unchanged.)

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

It is not necessary to describe that sky lanterns have a fuel source; the open flame describes the device, and the hazard, appropriately without reference to a fuel source.

F13-13

Final Action: AS AM AMPC_____ D

F16-13
315.3.2

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azumiamia@yahoo.com)

Revise as follows:

315.3.2 Means of egress. Combustible materials shall not be stored in exits, corridors or enclosures for stairways and ramps.

Reason: The code presently does not address storage of combustible materials in exit access corridors. The code prohibits storage in the exit, but says nothing about the corridor. This will provide the inspector with a tool to regulate the storage of combustible materials in a corridor.

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

315.3.2-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the provisions of current Section 1020 adequately cover the issue. It was also unclear as to what "storage" could be interpreted to be, such as one piece of furniture, or a single file cabinet. It was also noted that corridors are not required by the code and are not subject to the same stringent requirements as an exit would be.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

315.3.2 Means of egress. Combustible materials shall not be stored in exits, ~~corridors~~ or enclosures for stairways, enclosures for and ramps, or any exit access for 10 or more occupants.

Commenter's Reason: Disapproval of this item will allow a significant hole to remain in the IFC that is a direct contributor to past multiple-fatality fires. The committee statement, which indicates that Section 1020 adequately addresses this issue, is incorrect. Section 1020 only deals with exits, not exit access, which is a different part of the 3-part means of egress used by the IFC and IBC. The focus of this proposal is storage in an exit access (not an exit), which currently has no storage limitations.

The committee statement also complained about a lack of clarity associated with the term "stored," but this term is already in the existing code text. It was the intent of the original proposal to simply continue use of the existing term, and this comment maintains that approach.

This issue originated as a result of rolled carpet, padding and adhesive being stored in the corridor of a hotel where ICC was holding committee meetings. The hotel was being remodeled. Fire code officials who were present at the meeting were concerned about the risk that this storage created, and we looked for a code section that could be cited to ask management to remove these materials from the exit access corridor. To our surprise, we couldn't come up with any clear requirement in the IFC to address the issue (although many of us were sure that there was one).

It is understood that the committee had some heartburn with the original proposal targeting "corridors," because technically corridors aren't required to be provided. So, this comment takes a different approach. The basis of applying this provision to exit accesses serving 10 or more occupants is an attempt to find a "reasonable" threshold for the requirement while avoiding a specific limitation to corridors. IFC Table 1015.1 was used as a guide. It establishes a threshold at or above which two or more exits or exit access doorways must be provided for most occupancies, indicating that an increased level of safety is warranted for the means of egress.

F16-13

Final Action: AS AM AMPC____ D

F17-13

315.3.5 (New), 903.3.1.1.1 (IBC [F] 903.3.1.1.1)

Proposed Change as Submitted

Proponent: Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Add new text as follows:

315.3.5 Rooms and areas exempted from automatic sprinkler system requirements. Storage shall not be permitted in any room or area where automatic sprinklers have been omitted in accordance with Section 903.3.1.1.1.

Revise as follows:

903.3.1.1.1 (IBC [F] 903.3.1.1.1) Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment. Storage shall not be permitted in any room or area omitting automatic sprinklers.

Reason: These exceptions in the IBC go beyond the requirements of NFPA 13 by inserting a heat detection system. Storage needs to be specifically addressed by this section as this exemption can be interpreted to allow storage in an unsprinklered room. Sprinkler systems adjacent to these rooms are not mandated to increase design criteria to accommodate this unsprinklered space. Fires in unsprinklered rooms with unknown or unpermitted storage could overcome the sprinkler system.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

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

315.3.5 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the code change would lead to inconsistent enforcement due to the use of the subjective term "storage" and since sprinklers could be omitted from "storage" rooms storing materials such as those that are incompatible with water [903.3.1.1.1(2)] or materials that are noncombustible [903.3.1.1.1(4)]. Such determinations should be left to the fire code official and the design professional.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Hugo, CBO, representing National Fire Sprinkler Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

315.3.5 Rooms and areas exempted from automatic sprinkler system requirements. Combustible storage shall not be permitted in any room or area where automatic sprinklers have been omitted in accordance with Section 903.3.1.1.1.

903.3.1.1.1 (IBC [F] 903.3.1.1.1) Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment. Combustible storage shall not be permitted in any room or area omitting automatic sprinklers.

Commenter's Reason: Combustible storage in a room where sprinklers are exempt (in a fully sprinklered building) could permit a fire to grow and not be contained to the room of origin thus jeopardizing the surrounding automatic sprinkler system.

The size of the rooms or areas exempt from sprinklers in Section 903.3.1.1.1 is not defined or limited. A building could be fully sprinklered, use all the automatic sprinkler system tradeoffs and have an unlimited exempt area with combustible storage. This section gives the designer and code official authority to have sprinklers exempted, and a direct prohibition on what else can be in that room or area.

F17-13

Final Action: AS AM AMPC_____ D

F20-13
319 (New), 202 (New)

Proposed Change as Submitted

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs Building/Fire Safety Division, representing self (ACApfelbeck@Altamonte.org)

Add new text as follows:

SECTION 319
WILDLAND-URBAN INTERFACE AREAS

319.1 General. Buildings, structures or premises within wildland-urban interface areas shall comply with the International Wildland-Urban Interface Code.

SECTION 202
GENERAL DEFINITIONS

WILDLAND-URBAN INTERFACE AREA. That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

Reason: This code change:

1. Provides a definition for a "Wildland-Urban Interface Area" in the IFC Section 202 extracted from the definition in the IWUIC.
2. Provides a direct referral to the "Wildland-Urban Interface Code" in a new Section 319 within the IFC.

This code change will integrate the designation of a "Wildland-Urban Interface Area" and the reference International Wildland-Urban Interface Code as an integral part of the IFC. Rather than forcing a local jurisdiction to adopt the IWUIC separately, the IWUIC will be adopted as a reference when the IFC is adopted. The reason for this is two fold:

1. The base IFC should contain Wildland-Urban Interface requirements as an integral part of the document due to the expanding prevalence of these types of hazards that are confronted by the fire official. Users should not be forced to adopt a second document to be able to utilize the IWUIC and effectively address these types of conditions. Wildland-urban interface fire prevention is no different from the other base fire prevention requirements of the IFC and should be included as part of the model fire prevention code.
2. Adding the direct reference to the IWUIC into the IFC will not burden any jurisdiction with the requirement of the document unless there is an actual "Wildland-Urban Interface Area" within the jurisdiction. If there is a "Wildland-Urban Interface Area" within the jurisdiction, then the code should be specifying that the WUIA needs to be protected appropriately and set the standard of protection.

Cost Impact: This code change proposal will increase the cost of construction. Some WUIA that are not currently protected with a code, but should be protected, will end up with protection under this code change.

319 (NEW)-F-APFELBECK

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the applicability of the IWUIC would be better located in Chapter 1, Section 102 similar to the applicability statements for the IBC and the IRC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 319
WILDLAND-URBAN INTERFACE AREAS

~~**319.1 General.** Buildings, structures or premises within wildland-urban interface areas shall comply with the *International Wildland-Urban-Interface Code*.~~

102.6 Application of wildland-urban interface code. After a jurisdiction has designated an area as a wildland-urban interface area, the design and construction of new structures within that wildland-urban interface area shall comply with the International Wildland-Urban Interface Code and any *alterations, additions, changes in use or changes in structures required by this code, which are within wildland-urban interface areas and are within the scope of the International Wildland-Urban Interface Code, shall be made in accordance therewith.*

(Renumber following sections.)

SECTION 202
GENERAL DEFINITIONS

WILDLAND-URBAN INTERFACE AREA. That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

Commenter's Reason: The technical committee was not in opposition to the necessary link but just to the location. This comment places the link in the section recommended by the committee. Note that the language states that the application only starts **after** the jurisdiction has designated an area as a WUI area. In that way, areas that have not been designated as WUI areas by the jurisdiction will not be required to comply with the IWUIC code.

F20-13

Final Action: AS AM AMPC____ D

F23-13
403.3

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

403.3 Crowd managers. Trained crowd managers shall be provided for ~~facilities or~~ events where more than ~~1,000~~ 250 or more persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons. ~~Where approved by the fire code official, the ratio of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system or based upon the nature of the event.~~

Exceptions:

1. Where approved, the number of crowd managers shall be permitted to be reduced by up to 50 percent where the fire and life safety protection provided and the nature of the event warrant a reduction.
2. Gatherings exclusively for religious worship with an occupant load not exceeding 1,000.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The current code has no requirement for crowd managers until the occupant load in a public assembly reaches 1,000, then the code requires five trained crowd managers for an occupant load of 1001. This is illogical, especially since one of the events that generated this requirement, the Station Nightclub Fire, had an occupant load of less than 500. Smaller venues sometimes place the public at greater risk than large ones for many reasons, including the fact that larger facilities have greater requirements for other fire protection features. NFPA 1 and NFPA 101 require crowd managers in all public assemblies (except churches), so approving this code change will bring the two regulations closer to conformity.

The formatting change to place the potential reduction in the number of crowd managers in an exception is editorial; the exception was also changed to limit the reduction to half of the required number of crowd managers. Recent events have again emphasized that fire is not the only reason people will need to quickly exit a facility, so reducing the number strictly on the basis of a sprinkler system may be problematic. The exception for places of worship with occupant loads up to 1,000 recognizes the fact that people who are in these places of assembly normally have a greater awareness of their surroundings, and are more familiar with egress routes because they attend the church on a more regular basis than those at performances, who tend to be more transient.

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

403.3-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

403.3 Crowd managers. Trained crowd managers shall be provided for occupancies or events where more than 250 or more persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons.

Exceptions:

1. Where approved, the number of crowd managers shall be permitted to be reduced by up to 50 percent where the fire

- and life safety protection provided and the nature of the event warrant a reduction.
- 2. Gatherings exclusively for religious worship with an occupant load not exceeding 1,000.

Committee Reason: The committee approved the code change based on the proponent's reason statement. The modification makes it clear that the provisions apply to both indoor and outdoor venues.

Assembly Action: _____ **None**

Individual Consideration Agenda

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

Public Comment 1:

Dave Frable, representing U.S. General Services Administration, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

403.3 Crowd managers. Trained crowd managers shall be provided for assembly occupancies ~~or events~~ where more than 250 or more persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons.

Exceptions:

- 1. Where approved, the number of crowd managers shall be permitted to be reduced by up to 50 percent where the fire and life safety protection provided and the nature of the event warrant a reduction.
- 2. Gatherings exclusively for religious worship with an occupant load not exceeding 1,000.

Commenter's Reason: In the original reason statement the proponent states that the code change revisions were based on code text in NFPA 1 and NFPA 101 for assembly occupancies. The proponent further states that his intent was to have the requirements in the IFC and IBC consistent with the requirements in NFPA 1 and NFPA 101. However, the scope of the current code text appears to be much broader than the scope in NFPA 1 and NFPA 101 and now appears to be inconsistent with the requirements in NFPA 1 and NFPA 101. Therefore, we have revised the current code text to only require crowd managers for assembly occupancies and have deleted the text "or events" since this requirement would also apply to any event held outdoors where more than 250 person would congregate. For example, this would require outdoor wedding receptions as well as office picnics held in parks having more than 250 persons in attendance to require a crowd manager. We do not believe that the intent of the requirements for crowd managers that resulted from the Station Nightclub fire were to be applied to outdoor events such as those stated in the above examples. Last but not least, the fact that trying to enforce this requirement for all outdoor events of this size will be very difficult for the local code authority.

Public Comment 2:

Tim Ryan, representing The International Association of Building Officials, requests Disapproval.

Commenter's Reason: This proposal is overly restrictive in that such events as high school sporting events, large restaurants, wedding receptions, Bar Mitzvah's, etc., would be required to have a crowd manager. No data has been submitted that would indicate such events require trained crowd managers to increase the level of safety. The proponent identified one event, the Station Night Club fire, as the main supporting evidence for this requirement. It is questionable if the problems associated with the Station Night Club were the lack of codes or the lack of enforcement due to overcrowding.

F23-13

Final Action: AS AM AMPC____ D

F24-13

403.3.1

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Add new text as follows:

403.3.1 Training. Training for crowd managers shall be approved.

403.3.2 Duties. The duties of crowd managers shall include, but not be limited to:

1. Conduct an inspection of the area of responsibility and identify and address any egress barriers.
2. Conduct an inspection of the area of responsibility to identify and mitigate any fire hazards.
3. Verify compliance with all permit conditions, including those governing pyrotechnics and other special effects.
4. Direct and assist the event attendees in evacuation during an emergency.
5. Assist emergency response personnel where # requested.
6. Other duties required by the fire code official.
7. Other duties as specified in the fire safety plan

Reason: The Code requires "trained crowd managers", but doesn't provide any guidance or describe what that training should include. This has been an ongoing issue for enforcement personnel. This change is intended to address that void.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

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

403.3-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent that the code change provides needed specific guidance in the duties for crowd managers in support of the changes made in code change F23-13.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Tim Ryan, representing The International Association of Building Officials, requests Disapproval.

Commenter's Reason: The proponent's reasoning statement indicated that this change was submitted to provide guidance for or describe what training should be included for crowd managers. The proposed change does not achieve the proponent's intent. The

change only identifies duties but does not identify training or certification other than it has to be “approved” which is left to the enforcement official to decide. This creates inefficiencies between jurisdictions and is a very arbitrary requirement.

F24-13

Final Action: AS AM AMPC_____ D

F30-13

404.3.2, Table 405.2, 408.5.1.1 (New), 408.5.1.2 (New), 408.5.3, 408.5.5, 408.5.6 (New), 408.10.1.1 (New), 408.10.5, 408.10.6 (New)

Proposed Change as Submitted

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

Revise as follows:

404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating or evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6 Refuge areas
 - 4.7 4.6. Exterior areas for assisted rescue.
 - 4.8 4.7. Manual fire alarm boxes.
 - 4.9 4.8. Portable fire extinguishers.
 - 4.10 4.9. Occupant-use hose stations.
 - 4.11 4.10. Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

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

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

a. The frequency shall be allowed to be modified in accordance with Sections 408.3.2, 408.5.6 and 408.10.6.

b. Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with

Section 408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.

- c. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- d. Applicable to Group R-2 college and university buildings in accordance with Section 408.3.

408.5.1.1 Fire evacuation plan. The fire evacuation plan required by Section 404 shall include a description of special staff actions. Plans shall include the following in addition to the requirements of Section 404.

1. In Group I-1 Condition 2 occupancies, procedures for evacuation through a refuge area in an adjacent smoke compartment and then to an exterior assembly point.

408.5.1.2 Fire safety plans. A copy of the plan shall be maintained at the facility at all times. Plans shall include the following in addition to the requirements of Section 404:

1. Location and number of any residents sleeping rooms.
2. Location of any special locking or egress control arrangements.

408.5.3 Resident training. Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. In Group I-1 Condition 2 occupancies training shall include evacuation through an adjacent smoke compartment and then to an exterior assembly point. The training shall include actions to take if the primary escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

408.5.5 Resident participation. Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point and shall provide residents with experience in exiting through all required exits. All required exits shall be used during emergency evacuation drills.

408.5.6 Emergency evacuation drill deferral. In severe climates, the *fire code official* shall have the authority to modify the emergency evacuation drill frequency specified in Section 405.2.

408.10.1.1 Fire safety plans. A copy of the plan shall be maintained at the facility at all times. Plans shall include the following in addition to the requirements of Section 404:

1. Location and number of any residents sleeping rooms.
2. Location of any special locking or egress control arrangements.

408.10.5 Resident participation. Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point and shall provide residents with experience in exiting through all required exits. All required exits shall be used during emergency evacuation drills.

Exception: Actual exiting from emergency escape and rescue windows shall not be required. Opening the emergency escape and rescue window and signaling for help shall be an acceptable alternative.

408.10.6 Emergency evacuation drill deferral. In severe climates, the *fire code official* shall have the authority to modify the emergency evacuation drill frequency specified in Section 405.2.

Reason: The intent of this proposal is to clarify the requirements for Group I-1 and R-4 assembly points. It also clarifies the implementation of smoke compartments in the new Group I-1 Condition 2 as was approved for the 2015 IBC in the G 31-12. Finally it proposes severe climate flexibility for fire drill frequency.

The proposed change clarifies that Group I-1 Condition 2 “smoke compartment” refuge areas, as required in the G 31-12 Section 420, can be used as a temporary “refuge area” during evacuation prior to complete building evacuation..

The proposed code change allows for severe climate deferrals, similar to current Group E deferrals that are already allowed. This takes into consideration the possible danger to seniors inhabiting these occupancies, when they are required to go outside

during fire drills when possible inclement weather is occurring. The proposal allows the fire code official to modify drill frequency. The provision is left as a general provision purposely due to the variations of severe climate throughout the country, whether it be hot or cold, winter or summer or from storms. It leaves up to local discretion, the opportunity to allow modifications. (This is reflected in the additional section references in Note a to Table 405.2.) The modifications in actual practice may also include still conducting the drill, while not requiring residents to actually go outside during the drill at certain times of the year. The residents would still be trained to go outside to the outdoor assembly point during a real emergency situation.

The assembly point aspects of the proposed change are more clerical. The revisions are proposed essentially from the current wording in Group E clarifying that an assembly point is outdoors coinciding with the building evacuation concepts of both Group I-1 and R-4 irrelevant of the "Condition."

These changes are stand alone but have been coordinated with the Ad Hoc committee proposed IFC changes for Group I-2 so as not to conflict with those proposed changes. These changes have also been coordinated with the separate CTC proposed IFC changes for the Table 405.2 for fire and safety evacuation drills for both Groups I-1 and R-4.

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.

Cost Impact: None

404.3.2-F-BALDASSARRA-CTC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee approved the code change based on the proponent's reason statement that it clarifies the text and provides the fire code official with flexibility in requiring drills during inclement weather.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee and Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating or evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.4.1 4-5. Areas of refuge.
 - 4.4.2 4-7. Exterior areas for assisted rescue.
 - 4.5 4-6 Refuge areas associated with smoke barriers and horizontal exits
 - 4.6 4-8. Manual fire alarm boxes.
 - 4.7 4-9. Portable fire extinguishers.
 - 4.8 4-10 Occupant-use hose stations.

- 4.9 4.14. Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
 6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
 7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

(Portions of proposal not shown remain unchanged.)

Reason: There was concern that the three terms, “areas of refuge”, “exterior area for assisted rescue” and “refuge area”, may be confused. However, all three are necessary information for the fire safety plan. The relocation will eliminate confusion and clarify the distinction between the elements that can be found in a building.

This proposal is co-sponsored by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

F30-13

Final Action: AS AM AMPC____ D

F39-13
503.2.2

Proposed Change as Submitted

Proponent: Carl D. Wren, P.E., Austin Fire Department, representing self (carl.wren@austintexas.gov)

Revise as follows:

503.2.2 Authority. The fire code official shall have the authority to require or permit an increase or a decrease in the minimum access widths where ~~they are inadequate for fire or rescue operations~~ necessary to meet the public safety objectives of the jurisdiction.

Reason: Fire departments respond to many types of emergency situations and the jurisdictions they serve may have traffic safety criteria that have an impact on the design of access roadways used by emergency response vehicles. It would also seem to be a wise course of action for the fire service and ICC to acknowledge and, when it is possible, to assist in developing methods of improving the safety of the public by helping to prevent injuries and deaths from hazards other than fire.

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

503.2.2 -F-WREN

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

503.2.2 Authority. The fire code official shall have the authority to require or permit ~~an increase or a decrease in the minimum~~ modifications to the required access widths where they are inadequate for fire or rescue operations or where necessary to meet the public safety objectives of the jurisdiction.

Committee Reason: The committee agreed with the proponent that the code change provides the fire code official with greater flexibility to accommodate variables and changes in hazard associated with fire apparatus access roads. The modification clarifies that the authorized modification may be to increase or to decrease the width.

Assembly Action:

Disapproved

Individual Consideration Agenda

This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action of Disapproved.

F42-13
503.4.1

Proposed Change as Submitted

Proponent: Carl D. Wren, P.E., Austin Fire Department, representing self (carl.wren@austintexas.gov)

Revise as follows:

503.4.1 Traffic calming devices. ~~Traffic calming devices shall be prohibited unless approved by the fire code official. The fire code official and the jurisdiction's traffic engineer shall work collaboratively to plan, design, and install traffic calming devices. Approved traffic calming devices shall be designed to provide for adequate emergency vehicle access in addition to mitigating unsafe traffic conditions identified by the traffic engineer.~~

Reason: Fire departments respond to many types of emergency situations and the jurisdictions they serve may have traffic safety criteria that have an impact on the design of access roadways used by emergency response vehicles. The design of traffic calming features has been changing over the years as traffic engineers better understand measures that can change how people drive their vehicles. Since data available from the Centers for Disease Control indicate that annual traffic fatalities involving pedestrians likely exceed fire deaths in the United States (see http://www.edc.gov/motorvehiclesafety/pedestrian_safety/factsheet.html), it would also seem to be a wise course of action for the fire service and ICC to encourage collaboration with traffic engineers and, when it is possible, to assist in developing methods of improving the safety of the public by helping to prevent injuries and deaths from hazards other than fire.

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

503.4.1-F-WREN

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

503.4.1 Traffic calming devices. ~~Traffic calming devices in fire vehicle access routes shall only be permitted where necessary to mitigate unsafe traffic conditions that have been identified and documented by a registered design professional specializing in traffic engineering. The fire code official is authorized to approve such traffic calming devices provided that, in the opinion of the fire code official, adequate emergency vehicle access is maintained, and the jurisdiction's traffic engineer shall work collaboratively to plan, design, and install traffic calming devices. Approved traffic calming devices shall be designed to provide for adequate emergency vehicle access in addition to mitigating unsafe traffic conditions identified by the traffic engineer.~~

Committee Reason: The committee approved the code change because it lets the fire code official know that he is not operating alone, that there are other parties with an interest in traffic calming devices that need to have input and provides broader opportunities for cooperation. The modification uses the proper terminology for design professionals as is used elsewhere in the code and the revised wording provides the fire code official more flexibility than the original proposal for addressing the various types of traffic calming devices that may be proposed.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Tim Ryan, representing City of Overland Park, KS, requests Disapproval.

Commenter's Reason: Traffic calming design is used specifically for traffic safety particularly in residential neighborhoods. This level of safety usually is addressed by traffic engineers who use other standards such as AWPA and National Highway Patrol standards. Concerns should be addressed to those organizations to deal with traffic design.

F42-13

Final Action: AS AM AMPC_____ D

F45-13
507.4, Chapter 80

Proposed Change as Submitted

Proponent: Bob D. Morgan, P.E., Fort Worth, TX Fire Department representing Fire Advisory Board to North Central Texas Council of Governments

Revise as follows:

507.4 Water supply test date and information. The water supply test used for hydraulic calculation of fire protection systems shall be conducted in accordance with NFPA 291 and within one year of sprinkler plan submittal, or as otherwise approved by the fire code official. The fire code official shall be notified prior to the water supply test. Water supply tests shall be witnessed by the fire code official, as required or approved documentation of the test shall be provided to the fire code official prior to final approval of the water supply system. The exact location of the static/residual hydrant and the flow hydrant shall be indicated on the design drawings. All fire protection plan submittals shall be accompanied by waterflow test report information, or as otherwise approved by the fire code official. At a minimum, the waterflow test report shall indicate the documented fluctuation of the water supply system in question, in accordance with the water supply operator or authority, for an entire year. The fire protection designer shall then design the fire protection system including this fluctuation information, in accordance with the applicable referenced NFPA standard.

Add new standard to Chapter 80 as follows:

NFPA

291-13 *Recommended Practice for Fire Flow Testing and Marking of Hydrants* 507.4

Reason: Water supply system fluctuation is regularly ignored in fire protection design. Often times, a sprinkler system is designed based on a fire hydrant flow test that only represents one point in time throughout the year when water supply systems may fluctuate up to 50 psi in some areas or more, based on summer vs. winter demands of the systems. This information is critical to ensure that such fire protection systems are designed to account for this potential fluctuation.

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

Analysis: A review of the standard proposed for inclusion in the code, NFPA 291-13, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013.

507.4-F-MORGAN

Committee Action Hearing Results

For staff analysis of the content of NFPA 291-13 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on the fact that the code change belongs in Chapter 9 since its focus is on fire protection system calculations rather than on fire protection water supply. Also, gathering an entire year of test data can be problematic in areas of the country where testing can only be done for 4 or 5 months out of the year due to weather extremes.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bob D. Morgan, P.E., Fort Worth Fire Dept., representing Fire Advisory Board to North Central Texas Council of Governments, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

903.3.5 Water supplies. Water supplies for *automatic sprinkler systems* shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the *International Plumbing Code*. For connections to public waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

Commenter's Reason: This public comment replaces the original proposal by relocating the new wording to Chapter 9, as per the committee's reason statement for Disapproval. There is no longer a proposed change to Section 507.4, but rather to Section 903.3.5. Also, such information on pressure fluctuation is not only necessary to ensure that the minimum required pressure will be available for the fire sprinkler system, but also, to ensure that high pressures do not exceed boundaries of the sprinkler system. If the water pressure on a sprinkler system exceeds 100 psi, changes in the hanging methods are required. Also, if a fire pump is provided, it might be possible to exceed 175 psi, which is typically considered the maximum working pressure for a sprinkler system. These are just additional reasons for why it is critical to account for pressure fluctuations in the water supply. Obviously, fire flows can be affected by this, as well as other water-based fire protection systems, such as standpipes, which require a minimum 100 psi at the roof of high-rise buildings, and such may not be available due to pressure fluctuations. That is why the original proposal was made to water supply tests in general, in addition to the fact, that one would usually acquire that information at the time of water supply testing. However, the above public comment relocates the change to the applicable section of 903 to satisfy the committee's request. With regards to gathering of data, the above code change simply requires that pressure fluctuations be addressed as per the water supply authority, i.e. to the extent that such information is available, and further allows the fire code official to accept otherwise.

F45-13

Final Action: AS AM AMPC____ D

F54-13

604.1.2 (New) (IBC [F] 2702.1.2), Chapter 80

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

Add new text as follows:

604.1.1(IBC [F] 2702.1.1) Stationary generators. Stationary emergency and standby power generators required by this code shall be *listed* in accordance with UL 2200

604.1.2 (IBC [F] 2702.1.2) Group I-2 Occupancies. In Group I-2 occupancies, where an essential electrical system is located in flood hazard areas established in Section 1612.3 of the *International Building Code*, the system shall be located and installed in accordance with ASCE 24.

Add new standard to Chapter 80 as follows:

ASCE 24-05 Flood Resistant Design and Construction 604.1.2

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

There is no way to get to the requirements or limitations regarding generator placement for healthcare facilities that are in the standard if the code text for the specific code section does not take you there.

The Adhoc committee on healthcare identified this coordination oversight as it has been identified in healthcare facilities and that generators are being installed in areas subject to flooding, and although they were designed to meet the structural loads for the flooding, they would operationally fail.

There is no cost impact for these requirements because the compliance with ASCE 24 is required for these facilities; specific reference to ASCE for coordination of requirements applicable to healthcare facilities that require emergency or standby power systems per federal, state and licensing agency requirements and references. Also, both this section and this proposal are not intended to be retroactive in application. The AHC has a separate code change that would require facilities to do a risk assessment of existing installations.

It is an installation construction requirement that is not specifically addressed in the code; emergency and standby power by generators is necessary for life safety and preservation for healthcare and for other occupancies and uses as specified in 2702.

Note that G80-12 added requirements for essential electrical systems in I-2 occupancies. This is simply a continuation of that concept. This proposal is furthering the reliability of the essential electrical systems when they will be needed most by specifically referencing to ASCE 24. The additional language referencing Section 1612.3 is similar to that used in Section 3001.2 for elevators.

Cost impact: The code change proposal should not increase the cost of construction because compliance is already required by facility licensure requirements.

Analysis: The standard proposed for inclusion in the code, ASCE 24-05, is currently referenced in the IBC. An update in the year edition of that standard will be accomplished by an administrative standards update code change to be heard by the ADM Code Development Committee.

604.1.2 (NEW)-F-WILLIAMS-ADHOC

Committee Action Hearing Results

For staff analysis of the content of ASCE/SEI 24-05 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Approved as Modified

Modify the proposal as follows:

604.1.2 (IBC [F] 2702.1.2) Group I-2 Occupancies. In Group I-2 occupancies, in new construction or where the building is substantially damaged, where an essential electrical system is located in flood hazard areas established in Section 1612.3 of the *International Building Code*, the system shall be located and installed in accordance with ASCE 24.

(Portions of proposal not shown remain unchanged.)

Committee Reason: The committee approved the code change based on the proponent's reason statement and agreed that the proposal provides for important protection for critical systems. The modification clarifies that the applicability of the section would be to existing buildings only when they sustain substantial damage such as from the recent east coast hurricane.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

604.1.2 (IBC [F] 2702.1.2) Group I-2 Occupancies. In Group I-2 occupancies, ~~in new construction or where the building is substantially damaged~~, where an essential electrical system is located in flood hazard areas established in Section 1612.3 of the *International Building Code*, and where new or replacement essential electrical system generators are installed, the system shall be located and installed in accordance with ASCE 24.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The Adhoc committee recommends that generators be protected from floods sooner than when a building is substantially damaged. However, the Adhoc committee did not feel that generators should have to be protected if a flood plane was revised and no alterations were planned at that time. This modification will work with the hospital hazard vulnerability analysis and risk assessments. We believe that this proposal would require modifications when a substantial change is contemplated the trigger being the generator.

F54-13

Final Action: AS AM AMPC_____ D

F55-13

604.2.14.1.3 (IBC [F] 403.4.8.2) (New)

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing self (rjd@davidsoncodeconcepts.com)

Add new text as follows:

604.2.14.1 (IBC [F] 403.4.8.1) Standby power. A standby power system shall be provided. Where the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 of the International Building Code or horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both. System supervision with manual start and transfer features shall be provided at the fire command center.

604.2.14.1.1 Fuel supply. (No change to current text.)

604.2.14.1.2 Capacity. (No change to current text.)

604.2.14.1.3 (IBC [F] 403.4.8.2) Fuel line piping protection: Fuel lines supplying a generator set inside a building shall be separated from areas of the building other than the room the generator is located in by fire barriers or by an approved piping protective system that have a fire-resistance rating of not less than 2 hours. Where gypsum wallboard is used, joints on the piping side of the enclosure are not required to be taped. Access openings into the enclosure shall be protected by approved fire protection-rated assemblies.

(Renumber subsequent sections)

Reason: Currently IFC Section 604.2.14.1 and IBC Section [F] 403.4.8.1 require the generator to be protected from a fire within the occupancy by enclosure with 2 hour fire-resistance rated construction.

However, for diesel fueled generators it is common to supply the generators with a day tank and resupply the day tank via remote fuel oil tanks and the fuel line piping from those remote tanks to the generator can be exposed to the fire the generator has been protected against. Loss of the fuel line due to fire exposure has the same impact as loss of the generator itself from fire exposure. The wording only refers to "fuel lines" to also provide protection in those cases where a gaseous fuel supply is approved for use.

This proposal calls for fire-resistance protection of those portions of the fuel line piping that are located outside of the fire-resistance rated room the generator is located in. A portion of the new language was taken from IBC Section [F]415.10.6.4 where protection of HPM supply piping is provided for.

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

604.2.14.1.3 (NEW)-F-DAVIDSON

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on its concern that rather than simply requiring a 2-hour fire-resistance-rated assembly, the proposal specifies methods and materials that may or not be consistent with a 2-hour rated assembly. The committee also felt that there was inadequate justification for the change and noted that sprinkler protection was not credited in reducing the hazard of fire exposure cited in the reason statement.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Robert J Davidson, Davidson Code Concepts, LLC, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

604.2.14.1.3 (IBC [F] 403.4.8.2) Fuel line piping protection: Fuel lines supplying a generator set inside a building shall be separated from areas of the building other than the room the generator is located in ~~by fire barriers or by an approved piping protective system method or assembly~~ that have has a fire-resistance rating of not less than 2 hours. ~~Where gypsum wallboard is used, joints on the piping side of the enclosure are not required to be taped. Access openings into the enclosure shall be protected by approved fire protection-rated assemblies. Where the building is protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 the required fire-resistance rating may be reduced to 1 hour.~~

Commenter's Reason: In response to the committee concerns the specific methods have been deleted to instead refer to a generic requirement of protection with "an approved method or assembly". In recognition of the committee discussion this modified wording provides for acceptance of a wider base of solutions.

Recognition for sprinkler protection has been added with a reduction of the 2 hour protection to 1 hour when the building is protected throughout by an automatic sprinkler system in response to committee concerns.

Though there was one committee member that did not see the need for the protection, there were several members that agreed with the concept, but not the language that was initially proposed.

F55-13

Final Action: AS AM AMPC_____ D

F57-13

604.3 (New) [IBC [F] 2702.3 (New)]; Chapter 80 (IBC Chapter 35)

Proposed Change as Submitted

Proponent: Bob Eugene, representing Underwriters Laboratories (Robert.Eugene@ul.com)

Add new text as follows:

604.3 (IBC [F] 2702.3) Critical circuits. Cables used for survivability of critical circuits shall be listed in accordance with UL 2196. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

(Renumber subsequent sections)

Add new standard to Chapter 80 (IBC Chapter 35) as follows:

UL

2196-2001 Tests for Fire Resistive Cables, with revisions through December 7, 2003...604.3 (2703.2)

Reason: UL 2196 is the ANSI approved standard for tests of fire resistive cables. NFPA 20 (fire pumps) and NFPA 72 (fire alarm) include selective survivability requirements to assure integrity of certain critical circuits. NFPA 70 does not specify the applicable standard within the mandatory provisions of the code, but recognizes electrical circuit protective systems as an alternate to listed cables. An electrical circuit protective system is a field assembly of components that must be installed according to the listing requirements and manufacturer's instructions in order to maintain the listing for the system. There are more than two dozen electrical circuit protective systems listed in the UL Fire Resistance Directory.

Cost Impact: The code change proposal may or may not increase the cost of construction. Such systems are already commonly installed.

604.3 (NEW)-F-EUGENE

Committee Action Hearing Results

For staff analysis of the content of UL2196-2001 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Approved as Modified

Modify the proposal as follows:

604.3 (IBC [F] 2702.3) Critical circuits. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee agreed with the proponent's reason statement that the code change brings needed clarity regarding critical circuits and provides correlation with similar language used in many referenced standards, including NFPA 20, 70 and 72. Though the committee expressed some concern that the term "critical circuits" is not defined, it was pointed out that the phrase is widely used and described throughout nationally recognized standards and industry practices. The modification clarifies that the requirement only applies to required critical circuits.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Bob Eugene, representing UL LLC, requests Approval as Modified by Public Comment.

Further modify the proposal as follows:

UL	Underwriters Laboratories	Referenced in Code Section Number
Standard Reference Number	Title	
2196-2001	Tests for Fire Resistive Cables, with revisions through <u>December 7, 2003</u> <u>March 2012</u>	604.3 (2703.2)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal was originally submitted with the Group A proposals, but held over for the Group B proposals. The revisions to the standard, including ANSI approval, occurred after the original submittal and should be included in the 2015 edition of the codes.

Analysis: The edition of UL2196 that was submitted for review by the IFC Committee included the revisions through March, 2012. For the staff analysis of the content of this standard, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Public Comment 2:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

SECTION 202 GENERAL DEFINITIONS

Add new definition as follows:

CRITICAL CIRCUIT. A circuit that requires continuous operation to ensure safety of the structure and occupants.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: During the proposal stage an issue was raised by the committee that the term "critical circuit" is not defined. This proposed definition is based on the definitions in section 645.2 and 708.2 of the National Electrical Code (NFPA 70), which read as shown below. Article 645 deals with Information Technology Equipment and article 708 deals with Critical Operations Power Systems.

645.2: Critical Operations Data System. An information technology equipment system that requires continuous operation for reasons of public safety, emergency management, national security, or business continuity.

708.2: Critical Operations Power Systems (COPS). Power systems for facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity.

The National Electrical Code also states, in article 725 that:

Circuit Integrity (CI) Cable. Cable(s) used for remote control, signaling, or power-limited systems that supply critical circuits to ensure survivability for continued circuit operation for a specified time under fire conditions.

Circuit Integrity (CI) Cable or Electrical Circuit Protective System. Cables used for survivability of critical circuits shall be listed as circuit integrity (CI) cable. Cables specified in 725.154(A), (B), (D)(1), and (E), and used for circuit integrity, shall have the additional classification using the suffix "-CI". Cables that are part of a listed electrical circuit protective system shall be considered to meet the requirements of survivability.

Informational Note: One method of defining *circuit integrity* is by establishing a minimum 2-hour fire resistance rating when tested in accordance with UL 2196-2002, *Standard for Tests of Fire Resistive Cables*.
The same concept is shown in several articles, including 760, 770 and 800.

F57-13

Final Action: AS AM AMPC_____ D

F59-13, Part I

604 (IBC [F] 2702) among others; 907.5.2.2.5 (IBC [F] 907.5.2.2.5); IMC [F] 513.11, [F]513.11.1 (New); IWUIC 404.10.3; IEBC 805.4.5

Proposed Change as Submitted

Proponent: Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IFC COMMITTEE AND PART II WILL BE HEARD BY THE IEBC COMMITTEE AS TWO SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THOSE COMMITTEES.

PART I – INTERNATIONAL FIRE CODE

EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 402.7.3 Emergency Standby power. Covered mall buildings greater than 50,000 square feet (4645 m²) in area and open mall buildings greater than 50,000 square feet (4645 m²) within the established perimeter line shall be provided with standby emergency power systems that is are capable of operating the emergency voice/alarm communication system in accordance with Section 2702.

[F] 907.5.2.2.5 Emergency power. Emergency voice/alarm communications systems shall be provided with an approved emergency power source in accordance with Section 2702. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

[F] 2702.2.1 Group A occupancies. Emergency power shall be provided for emergency voice/alarm communication systems in Group A occupancies in accordance with Section 907.5.2.2.4.

[F] 2702.2.14 Covered and open mall buildings. Standby power shall be provided for voice/alarm communication systems in covered and open mall buildings in accordance with Section 402.7.3.

[F] 2702.2.1 Emergency voice/alarm communication systems. Emergency power shall be provided for emergency voice/alarm communication systems as required in Section 907.5.2.2.5. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

Revise the IFC as follows:

604.2.1 Group A occupancies. Emergency power shall be provided for emergency voice/alarm communication systems in Group A occupancies in accordance with Section 907.2.1.1.

604.2.13 Covered and open mall buildings. Covered mall buildings exceeding 50,000 square feet (4645 m²) and open mall buildings exceeding 50,000 square feet (4645 m²) within the established perimeter line shall be provided with standby power systems that are capable of operating the emergency voice/alarm communication system.

604.2.1 Emergency voice/alarm communication systems. Emergency power shall be provided for emergency voice/alarm communication systems as required in Section 907.5.2.2.5. 5. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

907.5.2.2.5 Emergency power. Emergency voice/alarm communications systems shall be provided with an ~~approved~~ emergency power source in accordance with Section 604. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

SMOKE CONTROL SYSTEMS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 404.7 Standby power. Equipment required to provide smoke control shall be provided with standby power in accordance with ~~connected to a standby power system in accordance with~~ Section 909.11.

[F] 909.11 Standby power Power systems. The ~~s~~Smoke control systems shall be provided with standby power in accordance with Section 2702. ~~shall be supplied with two sources of power. Primary power shall be from the normal building power systems. Secondary power shall be from an approved standby source complying with Chapter 27 of this code.~~

[F] 909.11.1 Equipment room. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gears and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. ~~The transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power.~~

909.20.6.2 Standby power. Mechanical vestibule and *stair* shaft ventilation systems and automatic fire detection systems shall be provided with ~~powered by an approved~~ standby power in accordance with Section 2702. ~~system conforming to Section 403.4.8 and Chapter 27.~~

909.21.5 Standby power. The pressurization system shall be provided with standby power in accordance with Section 2702. ~~from the same source as other required emergency systems for the building.~~

[F] 2702.2.2 Smoke control systems. Standby power shall be provided for smoke control systems as required in ~~in accordance with~~ Sections 404.7, 909.11, 909.20.6.2, and 909.21.5.

[F] 2702.2.20 Smokeproof enclosures. Standby power shall be provided for smokeproof enclosures as required by in ~~in~~ Section 909.20.6.2.

Revise the IFC as follows:

604.2.2 Smoke control systems. Standby power shall be provided for smoke control systems as required in ~~in accordance with~~ Section 909.11.

909.11 Standby power Power systems. The ~~s~~Smoke control systems shall be provided with standby power in accordance with Section 2702. ~~shall be supplied with two sources of power. Primary power shall be from the normal building power systems. Secondary power shall be from an approved standby source complying with Chapter 27 of this code.~~

909.11.1 Equipment room. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gears and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. ~~The transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power.~~

Revise the IMC as follows:

[F] 513.11 Power systems. ~~The sSmoke control system shall be supplied with standby power in accordance with Section 2702 of the International Building Code. two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with Chapter 27 of the International Building Code.~~

[F] 513.11.1 Equipment room. ~~The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire-resistance rated fire barriers constructed in accordance with Section 707 of the International Building Code or horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with NFPA 70.~~

EXIT SIGNS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 2702.2.3 Exit signs. ~~Emergency power shall be provided for exit signs as required in accordance with Section 1011.6.3. The system shall be capable of powering the required load for a duration of not less than 90 minutes.~~

Revise the IFC as follows:

604.2.3 Exit signs. ~~Emergency power shall be provided for exit signs as required in accordance with Section 1011.6.3. The system shall be capable of powering the required load for a duration of not less than 90 minutes.~~

MEANS OF EGRESS ILLUMINATION

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 2702.2.4 Means of egress illumination. ~~Emergency power shall be provided for means of egress illumination as required in accordance with Section 1006.3. The system shall be capable of powering the required load for a duration of not less than 90 minutes.~~

Revise the IFC as follows:

604.2.4 Means of egress illumination. ~~Emergency power shall be provided for means of egress illumination in accordance with Sections 1006.3 and 1104.5.1.~~

1104.5.1 Emergency power duration and installation. ~~Emergency power for means of egress illumination shall be provided in accordance with Section 604. In other than Group I-2, the emergency power system shall provide power shall be provided for not less than 60 minutes. and consist of storage batteries, unit equipment or an on-site generator. In Group I-2, the emergency power system shall provide power shall be provided for not less than 90 minutes. and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.~~

ELEVATORS AND PLATFORM LIFTS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 2702.2.5 Elevators and platform lifts. Standby power shall be provided for elevators and platform lifts as required in Sections 1007.4, 1007.5, 3003.1, 3007.9 and 3008.9.

[F] ~~2702.2.5 Accessible means of egress elevators.~~ Standby power shall be provided for elevators that are part of an *accessible means of egress* in accordance with Section 1007.4.

[F] ~~2702.2.6 Accessible means of egress platform lifts.~~ Standby power in accordance with this section or ASME A 18.1 shall be provided for platform lifts that are part of an *accessible means of egress* in accordance with Section 1007.5.

[F] ~~2702.2.19 Elevators.~~ Standby power for elevators shall be provided as set forth in Sections 3003.1, 3007.9 and 3008.9.

Revise the IFC as follows:

604.2.5 Accessible means of egress elevators. Standby power shall be provided for elevators that are part of an *accessible means of egress* in accordance with Section 1007.4.

604.2.6 Accessible means of egress platform lifts. Standby power in accordance with this section or ASME A18.1 shall be provided for platform lifts that are part of an *accessible means of egress* in accordance with Section 1007.5.

604.2.18 Elevators and platform lifts. Standby power shall be provided for elevators and platform lifts as required in Sections 607.2, 1007.4, and 1007.5.

Relocate IFC sections and renumber the remaining sections.

607.2 Standby power. 604.2.18 Elevators. In buildings and structures where standby power is required or furnished to operate an elevator, standby power shall be provided in accordance with Section 604. the eOperation of the system shall be in accordance with Sections 604.2.18.1 through 604.2.18.4 607.2.1 through 607.2.4.

607.2.1 604.2.18.1 Manual transfer. (No change to current text.)

607.2.2 604.2.18.2 One elevator. (No change to current text.)

607.2.3 604.2.18.3 Two or more elevators. (No change to current text.)

607.2.4 604.2.18.4 Machine room ventilation. (No change to current text.)

HORIZONTAL SLIDING DOORS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 2702.2.7 Horizontal sliding doors. Standby power shall be provided for horizontal sliding doors as required in in-accordance with Section 1008.1.4.3. The standby power supply shall have a capacity to operate a minimum of 50 closing cycles of the door.

Revise the IFC as follows:

604.2.7 Horizontal sliding doors. Standby power shall be provided for horizontal sliding doors as required in in-accordance with Section 1008.1.4.3. The standby power supply shall have a capacity to operate a minimum of 50 closing cycles of the door.

MEMBRANE STRUCTURES

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 2702.2.9 Membrane structures. Standby power shall be provided for auxiliary inflation systems in permanent membrane structures as required in in-accordance with Section 3102.8.2. Standby power shall be provided for a duration of not less than four hours. Auxiliary inflation systems in temporary air-supported and air-inflated membrane structures shall be provided in accordance with Section 3103.10.4 of Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with the International Fire Code.

Revise the IFC as follows:

604.2.9 Membrane structures. ~~Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 3103.12.6.1.~~

Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the International Building Code. Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with Section 3103.10.4.

3103.10.4 Auxiliary inflation systems power. Places of public assembly for more than 200 persons shall be furnished with an auxiliary inflation system capable of powering a blower with the capacity to maintain full inflation pressure with normal leakage in accordance with Section 3103.10.3 for a minimum duration of four hours. The auxiliary inflation system can be either a fully automatic auxiliary engine-generator set capable of powering one blower continuously for 4 hours, or a supplementary blower powered by an internal combustion engine which shall be automatic in operation. The system shall be capable of automatically operating the required blowers at full power within 60 seconds of a commercial power failure.

SEMICONDUCTOR FABRICATION FACILITIES

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 415.10.10 Emergency power system. An emergency power system shall be provided in Group H-5 occupancies in accordance with Section 2702. ~~where required in Section 415.10.10.1.~~ The emergency power system shall ~~be designed to supply power automatically to required the electrical systems specified in Section 415.10.10.1~~ when the normal electrical supply system is interrupted.

[F] 415.10.10.1 Required electrical systems. Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. through 6. (No change to current text.)
7. Manual and automatic fire alarm systems.
8. through 11. (No change to current text.)

[F] 2702.2.8 Semiconductor fabrication facilities. Emergency power shall be provided for semiconductor fabrication facilities as required in ~~in accordance with~~ Section 415.10.10.

Revise the IFC as follows:

604.2.8 Semiconductor fabrication facilities. Emergency power shall be provided for semiconductor fabrication facilities as required in ~~in accordance with~~ Section 2703.15.

2703.15 Emergency power system. An emergency power system shall be provided in Group H-5 occupancies in accordance with ~~where required by~~ Section 604. The emergency power system shall ~~be designed to~~ supply power automatically to ~~required the~~ electrical systems specified in Section 2703.15.1 when the normal supply system is interrupted.

HAZARDOUS MATERIALS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 414.5.3 Emergency or standby power. Where mechanical *ventilation*, treatment systems, temperature control, alarm, detection or other electrically operated systems are required by the *International Fire Code* or this code, such systems shall be provided with ~~an~~ emergency or standby power system in accordance with Section 2702 Chapter 27. **Exceptions:** 1.

[F] 414.5.3.1 Exempt applications. Emergency or standby power are not required for ~~the following~~ storage areas: 1.1. M mechanical ventilation systems provided for:

1. Storage of Class IB and Class IC flammable and combustible liquids in closed containers not exceeding 6.5 gallons (25 L) capacity.
 - 1.21.1. Storage areas for of Class 1 and 2 oxidizers.
 - 1.31.2. Storage areas for of Class II, III, IV and V organic peroxides.
 - 1.41.3. Storage, use and handling areas for of asphyxiant, irritant and radioactive gases.
 - 1.5. ~~For storage, use and handling areas for highly toxic or toxic materials, see Sections 6004.2.2.8 and 6004.3.4.2 of the *International Fire Code*.~~

[F] 414.5.3.2 Fail-safe engineered systems. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

[F] 421.8 Standby power. Mechanical *ventilation* and gas detection systems shall be ~~connected to a~~ provided with standby power system in accordance with Section 2702 Chapter 27.

[F] 2702.2.10 Hazardous materials. Emergency or standby power shall be provided in occupancies with hazardous materials as required in ~~in accordance with~~ Sections 414.5.3 and 421.8 and the *International Fire Code*.

Revise the IFC as follows:

604.2.10 Hazardous materials. Emergency or standby power shall be provided in occupancies with hazardous materials as required in the following in accordance with sections 5004.7 and 5005.1.5.:

Hazardous materials – 5001.3.3.10

Highly toxic and toxic gases - 6004.2.2.8, 6004.3.4.2

Organic peroxides - 6204.1.11

5004.7 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with ~~NFPA 70 and~~ Section 604.

Exceptions:

5004.7.1 Exempt applications. Standby or emergency power is not required for ~~M~~mechanical ventilation systems provided for:

1. Storage of Class IB and Class IC flammable and *combustible liquids* in closed containers not exceeding 6 1/2 gallons (25 L) capacity.
2. Storage areas for of Class 1 and 2 oxidizers.
3. Storage areas for of Class II, III, IV and V organic peroxides.
4. Storage areas for of asphyxiant, irritant and radioactive gases.
5. ~~For storage areas for highly toxic or toxic materials, see Sections 6004.2.2.8 and 6004.3.4.2.~~

5004.7.2 Fail-safe engineered systems. ~~6-~~ Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an *approved* fail-safe engineered system is installed.

5005.1.5 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, manual alarm, detection or other electrically operated systems are required in this code, such systems shall be provided with an emergency or standby power system in accordance with ~~NFPA 70 and~~ Section 604.

Exceptions: 1.

5005.1.5.1 Exempt applications. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an *approved* fail-safe engineered system is installed.

2. ~~Systems for highly toxic or toxic gases shall be provided with emergency power in accordance with Sections 6004.2.2.8 and 6004.3.4.2.~~

6004.2.2.8 Emergency power. Emergency power shall be provided for the following systems in accordance with the Section 604. and NFPA 70 shall be provided in lieu of standby power where any of the following systems are required:

1. through 7. *(No change to current text.)*

6004.2.2.8.1 Fail-safe engineered systems. Exception: Emergency power is ~~shall not be~~ required for mechanical exhaust ventilation, treatment systems and temperature control systems where *approved* fail-safe engineered systems are installed.

6204.1.11 Standby power. Standby power ~~in accordance with Section 604 shall be provided for storage areas of Class I and unclassified detonable organic peroxide. shall be provided in accordance with~~

Section 604 for the following systems used to protect Class I and unclassified detonable organic peroxide:

1. through 7. (No change to current text.)

6204.1.11.1 Fail-safe engineered systems. Exception: Standby power shall not be required for mechanical exhaust ventilation, treatment systems and temperature control systems where *approved* fail-safe engineered systems are installed.

HIGH RISE BUILDINGS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 403.4.8 Standby and emergency power. A standby power system complying with Section 2702 Chapter 27 and Section 3003 shall be provided for the standby power loads specified in 403.4.8.2. An emergency power system complying with Section 2702 shall be provided for the emergency power loads specified in Section 403.4.8.3. ~~Where elevators are provided in a high-rise building for accessible means of egress, fire service access or occupant self-evacuation, the standby power system shall also comply with Sections 1007.4, 3007 or 3008, as applicable.~~

[F] 403.4.8.1 Equipment room. Special requirements for standby power systems. If the standby or emergency power system includes is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. System supervision with manual start and transfer features shall be provided at the *fire command center*.

[F] 403.4.8.2 Standby power loads. The following are classified as standby power loads:

1. Power and lighting for the *fire command center* required by Section 403.4.6;
2. *Ventilation* and automatic fire detection equipment for *smokeproof enclosures*; and
3. Elevators.
4. Where elevators are provided in a high-rise building for accessible means of egress, fire service access or occupant self-evacuation, the standby power system shall also comply with Sections 1007.4, 3007 or 3008, as applicable.

[F] 403.4.9 Emergency power systems. An emergency power system complying with Chapter 27 shall be provided for emergency power loads specified in Section 403.4.9.1.

[F] 403.4.9.1 403.4.8.3 Emergency power loads. The following are classified as emergency power loads:

1. Exit signs and *means of egress* illumination required by Chapter 10;
2. Elevator car lighting;
3. *Emergency voice/alarm communications systems*;
4. Automatic fire detection systems;
5. *Fire alarm* systems; and
6. Electrically powered fire pumps.

[F] 2702.2.15 High-rise buildings. Emergency and standby power systems shall be provided in high-rise buildings as required in ~~in accordance with~~ Sections 403.4.8 and 403.4.9.

Revise the IFC as follows:

604.2.14 High-rise buildings. Standby power and emergency power, light and emergency systems in high-rise buildings shall be provided as required in Section 403 of the International Building Code, and shall be in accordance with Section 604. ~~comply with the requirements of Sections 604.2.14.1 through 604.2.14.3.~~

604.2.14.1 Standby power. A standby power system shall be provided. Where the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour *fire barriers* constructed in accordance with Section 707 of the *International Building Code* or *horizontal assemblies* constructed in accordance with Section 711 of the *International Building Code*, or both. System supervision with manual start and transfer features shall be provided at the *fire command center*.

604.2.14.1.1 Fuel supply. An on-premises fuel supply, sufficient for not less than 2-hour full-demand operation of the system, shall be provided.

Exception: When *approved*, the system shall be allowed to be supplied by natural gas pipelines.

604.2.14.1.2 Capacity. The standby system shall have a capacity and rating that supplies all equipment required to be operational at the same time. The generating capacity is not required to be sized to operate all of the connected electrical equipment simultaneously.

604.2.14.1.3 Connected facilities. Power and lighting facilities for the *fire command center* and elevators specified in Sections 403.4.8.2 and 403.6 of the *International Building Code*, as applicable, shall be transferable to the standby source. Standby power shall be provided for at least one elevator to serve all floors and be transferable to any elevator.

604.2.14.2 Separate circuits and luminaires. Separate lighting circuits and luminaires shall be required to provide sufficient light with an intensity of not less than 1 footcandle (11 lux) measured at floor level in all *means of egress corridors, stairways, smokeproof enclosures, elevator cars and lobbies, and other areas that are clearly a part of the escape route.*

604.2.14.2.1 Other circuits. Circuits supplying lighting for the *fire command center* and mechanical equipment rooms shall be transferable to the standby source.

604.2.14.3 Emergency systems. *Exit signs, exit illumination as required by Chapter 10, electrically powered fire pumps required to maintain pressure, and elevator car lighting are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply and shall be capable of being transferred to the standby source.*

Exception: *Exit sign, exit and means of egress illumination are permitted to be powered by a standby source in buildings of Group F and S occupancies.*

UNDERGROUND BUILDINGS

NOTE: *The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.*

Revise the IBC as follows:

[F] 405.8 Standby and emergency power. A standby power system complying with Section 2702 Chapter 27 shall be provided for the standby power loads specified in Section 405.8.1. An emergency power system complying with Section 2702 shall be provided for the emergency power loads specified in Section 405.8.2.

[F] 405.8.1 Standby power loads. The following loads are classified as standby power loads:

1. Smoke control system.
2. *Ventilation* and automatic fire detection equipment for *smokeproof enclosures*.
3. Fire pumps.
4. ~~Standby power shall be provided for eElevators, as required in~~ in accordance with Section 3003.

[F] 405.8.2 Pick-up time. The standby power system shall pick up its connected loads within 60 seconds of failure of the normal power supply.

[F] 405.9 Emergency power. An emergency power system complying with Chapter 27 shall be provided for emergency power loads specified in Section 405.9.1.

[F] 405.9.1 405.8.2 Emergency power loads. The following loads are classified as emergency power loads:

1. through 5. *(No change to current text.)*

[F] 2702.2.16 Underground buildings. Emergency and standby power shall be provided in underground buildings as required in in accordance with Sections 405.8 and 405.9.

Revise the IFC as follows:

604.2.15 Underground buildings. Emergency and standby power systems shall be provided in underground buildings ~~covered as required in Chapter 4 Section 405 of the *International Building Code* shall comply with Sections 604.2.15.1 and 604.2.15.2.~~ and shall be in accordance with Section 604.

604.2.15.1 Standby power. A standby power system complying with this section and NFPA 70 shall be provided for standby power loads as specified in Section 604.2.15.1.1.

604.2.15.1.1 Standby power loads. The following loads are classified as standby power loads:

1. ~~Smoke control system.~~
2. ~~Ventilation and automatic fire detection equipment for smokeproof enclosures.~~
3. ~~Fire pumps.~~
4. ~~Standby power shall be provided for elevators in accordance with Section 3003 of the *International Building Code*.~~

604.2.15.1.2 Pickup time. The standby power system shall pick up its connected loads within 60 seconds of failure of the normal power supply.

604.2.15.2 Emergency power. An emergency power system complying with this code and NFPA 70 shall be provided for emergency power loads as specified in Section 604.2.15.2.1.

604.2.15.2.1 Emergency power loads. The following loads are classified as emergency power loads:

1. ~~Emergency voice/alarm communication systems.~~
2. ~~Fire alarm systems.~~
3. ~~Automatic fire detection systems.~~
4. ~~Elevator car lighting.~~
5. ~~Means of egress lighting and exit sign illumination as required by Chapter 10.~~

GROUP I-3 OCCUPANCY DOOR LOCKS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part. See Part XX for this subject in the IEBC.

Revise the IBC as follows:

[F] 408.4.2 Power-operated doors and locks. Power-operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702. ~~and either emergency power or a remote mechanical operating release shall be provided.~~

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1.
2. Emergency power is not required when remote mechanical operating releases are provided.

[F] 2702.2.17 Group I-3 occupancies. Emergency power shall be provided for power operated doors and locks in Group I-3 occupancies as required in ~~in accordance with~~ Section 408.4.2.

Revise the IFC as follows:

604.2.16 Group I-3 occupancies. Power-operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 604. ~~and either emergency power or a remote mechanical operating release shall be provided.~~

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1.
2. Emergency power is not required when remote mechanical operating releases are provided.

AIRPORT TRAFFIC CONTROL TOWERS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

~~**[F] 2702.2.18 Airport traffic control towers.** Standby power shall be provided in airport traffic control towers in accordance with Section 412.3.4.~~

[F] 412.3.4 Standby power. A standby power system that conforms to Chapter 27 shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

1. ~~Pressurization equipment, mechanical equipment and lighting.~~
2. ~~Elevator operating equipment.~~
3. ~~Fire alarm and smoke detection systems.~~

Revise the IFC as follows:

604.2.17 Airport traffic control towers. A standby power system shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

1. ~~Pressurization equipment, mechanical equipment and lighting.~~
2. ~~Elevator operating equipment.~~
3. ~~Fire alarm and smoke detection systems.~~

SMOKE ALARMS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 907.2.11.4 Power source. In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system in accordance with Section 2702. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are not required to be equipped with battery backup where they are connected to an emergency electrical system that complies with Section 2702.

Revise the IFC as follows:

907.2.11.4 Power source. In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system in accordance with Section 604. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are not required to be equipped with battery backup where they are connected to an emergency electrical system that complies with Section 604.

EMERGENCY ALARM SYSTEMS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Revise the IBC as follows:

[F] 414.7.4 Emergency alarm systems. Emergency alarm systems shall be provided with emergency power in accordance with Section 2702.

[F] 2702.2.21 Emergency alarm systems. Emergency power shall be provided for emergency alarm systems as required by Section 414.7.4.

Revise the IFC as follows:

604.2.19 Emergency alarm systems. Emergency power shall be provided for emergency alarm systems as required by Section 414 of the International Building Code.

EMERGENCY RESPONDER RADIO COVERAGE SYSTEMS

NOTE: The normal convention for portraying code changes to duplicated texts is by showing the parallel section numbers (e.g., "907.5.2 (IBC [F] 907.5.2)" or "1011.6.3 (IFC [B] 1011.6.3)"). In this code change, however, for improved clarity, duplicate texts are shown for each code in this part.

Add a new Section 2702.2.21 to the IBC as follows:

[F] 2702.2.21 Emergency responder radio coverage systems. Standby power shall be provided for emergency responder radio coverage systems required in Section 915 and the *International Fire Code*. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.

Revise the IFC as follows:

510.4.2.3 Standby power. ~~Secondary power.~~ Emergency responder radio coverage systems shall be provided with an approved secondary source of standby power in accordance with Section 604. The secondary standby power supply shall be capable of operating the emergency responder radio coverage system for a period of at least duration of not less than 24 hours. When primary power is lost, the power supply to the emergency responder radio coverage system shall automatically transfer to the secondary power supply.

604.2.19 Emergency responder radio coverage systems. Standby power shall be provided for emergency responder radio coverage systems as required in Section 510.4.2.3. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.

FLARING SYSTEMS FOR MECHANICAL REFRIGERATION

Revise the IFC as follows:

606.12.5 Flaring systems. Flaring systems for incineration of flammable refrigerants shall be designed to incinerate the entire discharge. The products of refrigerant incineration shall not pose health or environmental hazards. Incineration shall be automatic upon initiation of discharge, shall be designed to prevent blowback and shall not expose structures or materials to threat of fire. Standby fuel, such as LP gas, and standby power shall have the capacity to operate for one and one-half the required time for complete incineration of refrigerant in the system. Standby electrical power, where required to complete the incineration process, shall be in accordance with Section 604.

WATER SUPPLY POWER

Revise the IWUIC as follows:

404.10.3 Standby power. Standby power shall be provided to pumps, controllers and related electrical equipment so that Stationary water supply facilities within the *wildland-urban interface area* that are dependent on electrical power can provide the required to meet adequate water supply. The standby power system shall be demands shall provide standby power systems in accordance with Section 2702 Chapter 27 of the *International Building Code*, and Section 604 of the *International Fire Code*. and NFPA 70 to ensure that an uninterrupted water supply is maintained. The standby power source shall be capable of providing power for a minimum of two hours.

Exceptions: *(No change to current text.)*

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal is part of a comprehensive rewrite of the I-Codes emergency and standby power requirements. Some edits are made to provide consistency in how standby power is referenced in the codes.

Part I - INTERNATIONAL FIRE CODE

Emergency voice/alarm communication systems: Emergency voice/alarm communication systems are required to include an emergency power source in IBC/IFC Section 907.5.2.2.5. A reference to these systems has been added to IBC 2702.2 and IFC 604.2. With the addition of this requirement it is no longer necessary to indicate that these systems are required in covered malls and Group A occupancies, which are just two of the many occupancies and building types that require emergency voice/alarm communication systems.

All reference in the IFC and IBC to emergency voice/alarm communication systems requires them to be provided with a source of emergency power, except for IBC Section 402.7.3. This oversight was corrected.

Smoke control systems: Smoke control systems are required to include a standby power source in IBC/IFC Section 909.11. In addition the IBC requires standby power to be provided for smoke control systems or components of the systems in Sections 404.7, 909.20.6.2, and 909.21.5. A reference to these section have been added to IBC 2702.2.

By referencing section 909.20.6.2 in Section 2702.2.2, it is no longer necessary to include Section 2702.2.20 smokeproof enclosure reference.

IBC/IFC 909.11 and IMC 513.11 were rather lengthy and included requirements for standby power equipment rooms. These were broken off and put in Section 909.11.1 and 513.11.1. The reference to automatically transferring to standby power within 60 seconds is included in a separate code proposal for Sections 2702.1 and 604.1, and does not need to be repeated here.

Exit signs: The proposal updates references to emergency power requirements by including the appropriate IFC and IBC code sections that specify requirements for emergency power supply and operation of Exit Signs.

Means of egress illumination: Details on system components in 1006.3.1 have been eliminated because these are covered in the revised IFC Section 604.1 and IBC Section 2702.1 requirements. The last part of IFC Section 1006.3 was renumbered 1006.3.1 to match the format used in the equivalent IBC requirements.

Elevators and platform lifts: In IBC Section 2702.2 and IFC Section 604.2, references to three types of elevators or platform lifts were consolidated into a single reference to elevators and platform lifts.

Requirements for the specific rating of the standby systems required in 3007.9 and 3008.9 were removed since they are covered under another comprehensive rewrite of IBC Section 2702.1 and IFC Section 604.1.

Elevator requirements in IFC Section 604.2.18 were relocated to IFC Section 607, which covers similar elevator requirements.

Horizontal sliding doors: The requirement for the standby power supply to have a capacity to operate a minimum of 50 opening and closing cycles of the door is based on requirements in NFPA 80, Section 9.4.2.2.2.

Membrane structures: The IBC and IFC require auxiliary inflation systems to be provided for air-supported and air-inflated membrane structures. (The IBC covers permanent membrane structures and the IFC covers temporary membrane structures). The differences are that permanent air-inflated membrane structures include standby power as covered by Section 2702 of the IBC. Temporary air-inflated membrane structures are required to include an automatic engine-generator set or a blower powered by an internal combustion engine to serve as an auxiliary inflation system in the event of a commercial power failure. These are not required to be permanently installed.

Semiconductor fabrication facilities: Automatic fire alarm systems are required to be provided with emergency power, which is consistent with NFPA 72.

Hazardous materials: Reference in Section 2702 of the IBC for emergency power for pyrophoric materials to be provided in accordance with the IFC was removed since backup power is not required in IFC Chapter 64.

IBC Section 414.5.3 and IFC Section 5004.7 were reformatted with no substantive changes to the systems that do not require emergency or standby power and fail-safe engineered systems.

In IBC Section 414.5.3 the requirements to provide emergency power for ventilation systems required by the IBC (or this code) were removed. This eliminates the need to provide emergency power for normal building ventilation systems as required by Section 1203.

In looking at the hazardous material related systems that require a secondary power source, they all fall under the definition of emergency power system as included in NFPA 110. Therefore reference to standby power was removed from this section.

References for emergency power were added to Sections 53, 54, 55, 57, 61 and 63 since these sections include requirements for system that require emergency power per Section 5001.3.3.10.

High rise buildings: The scope of IFC Section 604 covers emergency and standby power system, and yet sections 604.2.14.1 through 604.2.14.3 either duplicated requirements in revised Section 604.1, (covered under a separate proposal), or covered electrical system components that are not part of the standby or emergency power system. These requirements were eliminated. If the desire is to include these systems in the IFC they should be placed in a more appropriate location.

Underground buildings: Sections 604.2.15.1 through 604.2.15.2.1 duplicate some, but not all of the IBC requirements for underground buildings, and were therefore eliminated. If the desire is to include these details in the IFC they should be added in their entirety.

Group I-3 occupancy door locks: The proposal updates references to emergency power requirements by including the appropriate IFC and IBC code sections that specify requirements for emergency power supply and operation of power-operated door locks.

Airport traffic control towers: There is no reason to call out emergency and standby power requirements for aircraft traffic control towers. These requirements are specified for the types of electrical systems that will be provided, such as exit signs, egress illumination, elevators, smoke control, etc. In addition there is an error in some of the criteria since emergency power is required for fire alarm and smoke detection equipment and lighting of the means of egress. If the desire is to include a list of all possible emergency and standby power loads that can be included in these towers that can be done.

Smoke alarms: The proposal updates references to emergency power requirements by including the appropriate IFC and IBC code sections that specify requirements for emergency power supply and operation of Smoke Alarms.

Emergency alarms systems: Emergency power for emergency alarm systems is not currently required in either the IBC or the IFC, but it should be, based on the proposed definition of emergency power system.

Emergency responder radio coverage systems: Reference to standby power for emergency responder radio coverage systems was inadvertently left out of IBC Section 2702 and IFC Section 604.

Flaring systems for mechanical refrigeration: The proposal updates references to emergency power requirements by including the appropriate IFC code sections that specify requirements for emergency power supply and operation of flaring systems for mechanical refrigeration.

Clothes dryer exhaust systems: The proposal updates IMC references to stand-by power requirements by including the appropriate IBC code sections that specify requirements for stand-by power supply and operation of clothes dryer exhaust systems.

Water supply power: The proposal updates IWUI references to stand-by power requirements for pumps, controllers and related electrical equipment so that stationary water supply facilities within the *wildland-urban interface* by including the appropriate IFC and IBC code sections that specify requirements for stand-by power supply and operation of specified water supply equipment.

Cost Impact: This code change will increase the cost of construction

604.2.1(NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

PART I – IFC

Committee Action:

Approved as Modified

Modify the proposal as follows:

HIGH-RISE BUILDINGS

IBC [F] 403.4.8.1 Equipment room. If the standby or emergency power system includes a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. System supervision with manual start and transfer features shall be provided at the *fire command center*.

Exception: In Group I-2 Condition 2, manual start and transfer features for the critical branch of the emergency power are not required to be provided at the fire command center.

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee approved the code change based on the proponent's reason statement and agreed that the proposal accomplishes much needed revisions and clarifications to the emergency and standby power system requirements. The modification leaves the control of critical circuits in the hands of the hospital engineers.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

[F] 414.5.3 Emergency or standby power. Where required by the International Fire Code or this code mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are ~~required by the International Fire Code or this code,~~ such systems shall be provided with an emergency or standby power system in accordance with Section 2702.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This public comment clarifies that mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are only to be provided with an emergency or standby power system where required by the IFC or elsewhere in the IBC.

F59-13, Part I

Final Action: AS AM AMPC_____ D

F59-13, Part II

604 (IBC [F] 2702) among others; 907.5.2.2.5 (IBC [F] 907.5.2.2.5); IMC [F] 513.11, [F]513.11.1 (New); IWUIC 404.10.3; IEBC 805.4.5

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IFC COMMITTEE AND PART II WILL BE HEARD BY THE IEBC COMMITTEE AS TWO SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THOSE COMMITTEES.

PART II - INTERNATIONAL EXISTING BUILDING CODE

GROUP I-3 OCCUPANCY DOOR LOCKS

Revise the IEBC as follows:

IEBC 805.4.5 Emergency power source in Group I-3. Power-operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702 of the International Building Code.

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1.
2. Emergency power is not required where remote mechanical operating releases are provided.

~~Work areas in buildings of Group I-3 occupancy having remote power unlocking capability for more than 10 locks shall be provided with an emergency power source for such locks. Power shall be arranged to operate automatically upon failure of normal power within 10 seconds and for a duration of not less than 1 hour.~~

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal is part of a comprehensive rewrite of the I-Codes emergency and standby power requirements. Some edits are made to provide consistency in how standby power is referenced in the codes.

Part II - INTERNATIONAL EXISTING BUILDING CODE

Group I-3 occupancy door locks in the IEBC: The IEBC format was revised to more closely correlate with the IBC and IFC.

Cost Impact: This code change will increase the cost of construction

604.2.1(NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

PART II – IEBC

This code change was heard by the IEBC code development committee.

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved primarily related to concerns with references to sections not found in the IEBC. Specifically, exception 1 references Section 408.4.1 which is not found in the IEBC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IEBC 805.4.5 Emergency power source in Group I-3. Power-operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702 of the International Building Code.

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1 of the International Building code.
2. Emergency power is not required where remote mechanical operating releases are provided.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The original proposal for F59, Part II was correctly disapproved because reference to the IBC was not included in Exception 1. This has been corrected in this public comment, which accomplishes the following:

1. Correlates the requirements for how emergency and standby power throughout the family of I-Codes so they are treated in a consistent manner.
2. Correlates the requirements for providing emergency power for power operated sliding doors or power operated locks for swinging doors with the requirements in IBC section 408.4.2, which was revised as part of proposal F59-13.

F59-13, Part II

Final Action:

AS

AM

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F62-13

605.11, 605.11.3, 605.11.3.2, 605.11.3.3

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

605.11 Solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 605.11.1 through 605.11.4, the *International Building Code* and NFPA 70.

Exception: ~~Detached, nonhabitable Group U structures including, but not limited to, parking shade structures, carports, solar trellises and similar structures shall not be subject to the requirements of this section.~~

605.11.3 Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 605.11.3.1 through 605.11.3.3.3.

Exceptions:

- ~~1. Residential structures shall be designed so that each photovoltaic array is no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in either axis.~~
- ~~2. Panels/modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.~~

Exception: Detached, nonhabitable Group U structures including, but not limited to, parking shade structures, carports, solar trellises and similar structures.

605.11.3.2 Residential Solar photovoltaic systems for one- and two-family dwellings. ~~Access to residential Solar photovoltaic systems for one- and two-family dwellings shall be provided in accordance with Sections 605.11.3.2.1 through 605.11.3.2.45.~~

605.11.3.2.1 Size of solar photovoltaic array. Each photovoltaic array shall be limited to 150 feet (45 720 mm) by 150 feet (45 720 mm). Multiple arrays shall be separated by a 3-foot-wide (914 mm) clear access pathway.

605.11.3.2.12 Residential buildings with hip Hip roof layouts. ~~Panels/ and modules installed on residential buildings one- and two-family dwellings~~ with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels/ and modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.3.2.23 Residential buildings with a sSingle ridge roofs. ~~residential buildings one- and two-family dwellings~~ Panels/ and modules installed on residential buildings one- and two-family dwellings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels/ and modules are located.

Exception: This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.3.2.34 Residential buildings with rRoofs with hips and valleys. Panels/ and modules installed on residential buildings one- and two-family dwellings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.3.2.45 Residential building Allowance for smoke ventilation operations. Panels/ and modules installed on residential buildings one- and two-family dwellings shall be located no higher-less than 3 feet (914 mm) below-from the ridge in order to allow for fire department smoke ventilation operations.

Exception: Panels and modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.

605.11.3.3 Other than residential buildings one- and two-family dwellings. Access to systems for occupancies other than one- and two-family dwellings shall be provided in accordance with Sections 605.11.3.3.1 through 605.11.3.3.3.

Exception: Where it is determined by the fire code official that the roof configuration is similar to that of a one- or two-family dwelling, the residential access and ventilation requirements in Sections 605.11.3.2.1 through 605.11.3.2.4 shall be permitted to be used.

605.11.3.3.1 Access. There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76 200 mm) or less, ~~there-the clear perimeter around the edges of the roof shall be permitted to be reduced to a minimum 4-foot-wide (1290 mm) clear perimeter around the edges of the roof.~~

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal is primarily an editorial clarification to Section 605.11.3. There is only one section which contains new text, it is Section 605.11.3.2.1. The sections and their revisions are noted below:

- | | |
|-----------------|---|
| 605.11 Exc: | This exception eliminates all requirements for solar PV systems located on Group U structures. This exception inadvertently eliminates the requirements for listing of components, marking and location of disconnects. This exception is relocated to Section 605.11.3 so that it only eliminates the requirements for access and marking requirements. |
| 605.11.3 Exc 1: | This exception is actually a requirement; it is not an exception. Therefore, the exception is deleted and the text has been relocated to Section 605.11.3.2.1. |
| 605.11.3 Exc 2: | This is an exception based on the need for the ability to vertically ventilate smoke through the roof. Section 605.11.3.2.5 (renumbered from 605.11.3.2.4) deals with smoke ventilation. The exception is intended to apply to a specific set of requirements regarding smoke ventilation. If the exception is left in this section, it exempts these systems from all of the requirements in this entire section. Therefore this exception has been relocated to Section 605.11.3.2.5. |
| 605.11.3.2: | The title of this section is revised to correlate with the text of the section. The text only applies to one- and two-family dwellings so the term "residential" is removed from the title. |

Also, the section is revised by deleting the reference to 'access' since the subsections deal with more than access, and additional access requirements are found in 605.11.3.1.

605.11.3.2.1: This section originates from 605.11.3 Exception 1. It is relocated to the section which applies to dwellings and is inserted as a requirement.

Additionally, the 2nd sentence is added as a new requirement. The current requirements limit the size of each PV array but provide no guidance as to the required separation between multiple PV arrays. This requirement fills that void by requiring a 3 foot separation between PV arrays. The 3 foot distance is the same spacing requirement found around PV arrays to the edge of roof or to the ridge of the roof, and provides for access around the arrays.

- 605.11.3.2.2: Renumbered from 605.11.3.2.1. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.
- 605.11.3.2.3: Renumbered from 605.11.3.2.2. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.
- 605.11.3.2.4: Renumbered from 605.11.3.2.3. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.
- 605.11.3.2.5: Renumbered from 605.11.3.2.4. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.

Additionally, the exception is added which was previously located in Section 605.11.3. This exception is based on the need for the ability to vertically ventilate smoke through the roof, and Section 605.11.3.2.5 deals with smoke ventilation.

- 605.11.3.3: The text is revised to correlate with the previous revisions regarding one- and two-family dwellings.
- 605.11.3.3.1: This exception is reworded into an actual exception which states that the required clearance is allowed to be reduced to 4', rather than requiring a clearance of 4'.

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

605.11 #2-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement that the proposal is a needed editorial clean-up and minor technical improvement to the PV section that represents a collaborative effort of the fire service and the major subject stakeholders and results in a more logical presentation of the requirements.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

605.11 Solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 605.11.1 through 605.11.3 ~~605.11.4~~, the *International Building Code* and NFPA 70.

605.11.1 ~~605.11.3~~ Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 605.11.1.1 through 605.11.1.3.3 ~~605.11.3.1 through 605.11.3.3~~.

Exceptions:

1. Detached, nonhabitable Group U structures including, but not limited to, parking shade structures, carports, solar trellises and similar structures.
2. Roof access, pathways, and spacing requirements need not be provided where the fire chief has determined rooftop operations will not be employed.

605.11.1.1 605.11.3.1 Roof access points. Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.

605.11.1.2 605.11.3.2 Solar photovoltaic systems for Group R-3 buildings. Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 605.11.3.2.1 through 605.11.3.2.4.

Exception: These requirements shall not apply to structures designed and constructed in accordance with the International Residential Code.

605.11.1.2.1 605.11.3.2.1 Size of solar photovoltaic array. Each photovoltaic array shall be limited to 150 feet (45 720 mm) by 150 feet (45 720 mm). Multiple arrays shall be separated by a 3-foot-wide (914 mm) clear access pathway.

605.11.1.2.2 605.11.3.2.2 Hip roof layouts. Panels and modules installed on Group R-3 buildings ~~one- and two-family dwellings~~ with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels and modules are located. The access pathway shall be located at a location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.1.2.3 605.11.3.2.3 Single ridge roofs. Panels and modules installed on Group R-3 buildings ~~one- and two-family dwellings~~ with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels and modules are located.

Exception: This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.1.2.4 605.11.3.2.4 Roofs with hips and valleys. Panels and modules installed on Group R-3 buildings ~~one- and two-family dwellings~~ with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels and modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Exception: These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

605.11.1.2.5 605.11.3.2.5 Allowance for smoke ventilation operation. Panels and modules installed Group R-3 buildings ~~one- and two-family dwellings~~ shall be located no less than 3 feet (914 mm) from the ridge in order to allow for fire department smoke ventilation operations.

Exception: Panels and modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.

605.11.1.3 605.11.3.3 Other than one- and two-family dwellings-Group R-3 buildings. Access to systems for buildings ~~occupancies~~ other than those containing Group R-3 occupancies buildings shall be provided in accordance with Sections 605.11.2.3.1 605.11.3.3.1 through 605.11.2.3.3 605.11.3.3.3.

Exception: Where it is determined by the *fire code official* that the roof configuration is similar to that of a Group R-3 occupancy, the residential access and ventilation requirements in Sections 605.11.2.2.1 605.11.3.2.1 through 605.11.2.2.5 605.11.3.2.4 shall be permitted to be used.

605.11.1.3.1 605.11.3.3.1 Access. There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76 200 mm) or less, the clear perimeter around the edges of the roof shall be a minimum 4-foot-wide (1290 mm).

605.11.1.3.2 605.11.3.3.2 Pathways. The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:

1. The pathway shall be over areas capable of supporting fire fighters accessing the roof.
2. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.
3. Shall be a straight line not less than 4 feet (1290 mm) clear to skylights or ventilation hatches.
4. Shall be a straight line not less than 4 feet (1290 mm) clear to roof standpipes.
5. Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.

605.11.1.3.3 605.11.3.3.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.
2. Smoke ventilation options between array sections shall be one of the following:

- 2.1. A pathway 8 feet (2438 mm) or greater in width.
- 2.2. A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or gravity operated drop-out smoke and heat vents.
- 2.3. A 4-foot (1290 mm) or greater in width pathway and bordering all sides of non-gravity-operated drop out smoke and heat vents.
- 2.4. A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.

605.11.2 605.11.4 Ground-mounted photovoltaic arrays. Ground-mounted photovoltaic arrays shall comply with Sections 605.11 through ~~605.11.2~~ and this section. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground mounted photovoltaic arrays.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Proposals F62-13, F64-13, F69-13, F72-13, F73-13, F74-13 and RM96-13 all made revisions to Section 605.11 requirements for solar photovoltaic power systems. Most of the revisions accepted by the committee worked well together, with a few exceptions that need coordination/clarification.

This public comment to F62-13 shows what Section 605.11 will look like if all of the approved proposals are adopted. The changes included in this proposal accomplish the following:

1. Editorially show the new numbering system that results from F94-13 deleting Sections 905.11.1 through 905.11.2. (Note - ICC staff ultimately decide the numbering system to be used)
2. In new Section 605.11.1, proposal F62-13 removed what is shown as exception 2, but this section was modified by F69-13. This exception was retained.
3. In new Section 605.11.1.2 the exception was added by proposal RM96-13.
4. In new Section 605.11.1.3 both F62-13 and F72-13 (as modified) added wording which resulted in the title of the section reading "Other than one- and two-family dwellings Group R-3 buildings". This title was revised to only include "Group R-3 buildings". In addition the text in this section was editorially revised to clarify that it applies to buildings, other than those containing Group R-3 occupancies. In addition references to "one- and two-family dwellings" was changed to "Group R-3 buildings" in Sections 605.11.1.2.2 , 605.11.1.2.3, 605.11.1.2.4 and 605.11.1.2.5 for consistency.
5. New Section 605.11.2 deleted referenced to previous Section 605.11.2 since this section was deleted by proposal F64-13.

F62-13

Final Action: AS AM AMPC _____ D

F76-13
606.5 (New)

Proposed Change as Submitted

Proponent: Mona Casey, United Parents to Restrict Open Access to Refrigerant, representing the United Parents to Restrict Open Access to Refrigerant

Add new text as follows:

606.5 Access port protection. Refrigerant circuit access ports located outdoors shall be fitted with locking-type, tamper-resistant caps or shall be otherwise secured to prevent unauthorized access.

Exception: Refrigerant circuit access ports on equipment installed in controlled areas such as on roof tops with locked and alarmed access hatches or doors.

(Renumber subsequent sections.)

Reason: The purpose of this code change proposal is to add language to the code for securing refrigerant access ports, which will help reduce injuries and fatalities resulting from unauthorized access to refrigerant. Refrigerants are controlled substances that must be properly protected. The IMC currently has requirements for protection of refrigerant ports. This will add the requirements to the IFC to be consistent with the IMC. It will also provide the fire official with proper code language to enforce the requirement.

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

Analysis: Proposed Section 606.5 (without the exception) is identical to IMC Section 1101.10.

606.5 (NEW)-F-CASEY.doc

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides a safeguard against unauthorized tampering with readily accessible refrigerant ports and also provides correlation with the IMC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Barry Greive, representing Target Corporation, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

606.5 Access port protection. Refrigerant circuit access ports located outdoors shall be fitted with locking-type, tamper-resistant caps or shall be otherwise secured to prevent unauthorized access.

Exception: Refrigerant circuit access ports on equipment installed in controlled areas such as on roofs ~~tops~~ with locked and ~~alarmed~~ access hatches or doors.

Commenter's Reason: This change is needed to be consistent with the modification and approval made by the Mechanical Code Committee and the ICC Membership during the Cycle A Mechanical Code Hearings.

There was a lot of discussion regarding refrigeration systems behind locked areas such as enclosures including roofs with hatches. The Mechanical Committee and ICC Membership felt that the areas are already secured and made safe by locking methods and the need for alarming on top of that was not necessary.

The Fire Code and Mechanical Code need to be consistent for uniform enforcement.

Public Comment 2:

Steve Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter ICC, requests Disapproval.

Commenter's Reason: This requirement does not belong in the Fire Code. It is a construction requirement and is already covered in the IMC and IRC. The Fire Code is not a mechanical code. We do not need to duplicate code requirements in all of the codes just to make sure it is covered. The protection is adequately covered in the other codes. Section 606.1 of the Fire Code specifically requires refrigeration systems to be installed in accordance the IMC which already require the caps.

F76-13

Final Action: AS AM AMPC____ D

F80-13

606.12.1 (New), Chapter 80

Proposed Change as Submitted

Proponent: Jeffrey M. Shapiro, International Institute of Ammonia Refrigeration
(jeff.shapiro@intlcodeconsultants.com)

Revise as follows:

606.12.1 Standards. Refrigeration systems and the buildings in which such systems are installed shall be in accordance with ASHRAE 15.

606.12.1.1 Ammonia Refrigeration. Refrigeration systems using ammonia refrigerant and the buildings in which such systems are installed shall comply with the following standards:

1. IIAR-2 for system design and installation
2. IIAR-6 for maintenance and inspection
3. IIAR-7 for operating procedures
4. IIAR-8 for decommissioning.

Add standards to Chapter 80 as follows:

IIAR

International Institute of Ammonia Refrigeration
1001 N. Fairfax Street, Suite 503
Alexandria, VA 22314

IIAR-2-2014 Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems

IIAR-6-2014 Maintenance and Inspection of Closed-Circuit Ammonia Mechanical Refrigerating Systems

IIAR-7-2013 Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating

IIAR-8-2014 Decommissioning of Closed- Circuit Ammonia Mechanical Refrigerating Systems

Reason: The International Institute of Ammonia Refrigeration is completing a suite of standards to prescribe regulations for the safe design, installation, operation, maintenance, inspection and decommissioning of ammonia refrigeration systems. All of these documents will be ANSI standards. As the leading organization representing the interests of the ammonia refrigeration industry, IIAR believes that it is essential for facilities with ammonia refrigeration systems to follow the requirements in these standards, which are being written as enforceable documents, as a basis of providing for the safety of the these facilities as well as surrounding communities.

With the exception of IIAR-2, the remaining standards are at various stages of completion with respect to the ANSI process, and it is anticipated that all will be completed prior to conclusion of the 2013 ICC code cycle.

Note that IIAR-2 is already adopted by the IMC, and it is being proposed for adoption by the IFC as well because the standard includes requirements governing refrigerant leak detection alarms and other topics scoped to the IFC.

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

Analysis: A review of the standards proposed for inclusion in the code, IIAR-6, -7 and -8, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013. IIAR-2-99 with 2005 addendum is currently referenced in the IMC. An update in the year edition of that standard will be accomplished by an administrative standards update code change to be heard by the ADM Code Development Committee.

606.12.1 (NEW)-F-SHAPIRO

Committee Action Hearing Results

For staff analysis of the content of IIAR-2-2014 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Approved as Modified

Modify the proposal as follows:

606.12.1 Standards. Refrigeration systems and the buildings in which such systems are installed shall be in accordance with ASHRAE 15.

606.12.1.1 Ammonia Refrigeration. Refrigeration systems using ammonia refrigerant and the buildings in which such systems are installed shall comply with the following standards: 1. IIAR-2 for system design and installation,

- 2. ~~IIAR-6 for maintenance and inspection~~
- 3. ~~IIAR-7 for operating procedures~~
- 4. ~~IIAR-8 for decommissioning.~~

Add standards to Chapter 80 as follows:

IIAR

International Institute of Ammonia Refrigeration
1001 N. Fairfax Street, Suite 503
Alexandria, VA 22314

IIAR-2-2014	<i>Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems</i>
IIAR-6-2014	<i>Maintenance and Inspection of Closed-Circuit Ammonia Mechanical Refrigerating Systems</i>
IIAR-7-2013	<i>Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating</i>
IIAR-8-2014	<i>Decommissioning of Closed-Circuit Ammonia Mechanical Refrigerating Systems</i>

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides an appropriate referenced standard for refrigeration system design and installation. The modification deletes standards that are not yet approved and ready for publication.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing International Institute of Ammonia Refrigeration, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

606.12.1.1 Ammonia Refrigeration. Refrigeration systems using ammonia refrigerant and the buildings in which such systems are installed shall comply with IIAR-2 for system design and installation and IIAR 7 for operating procedures.

Add a standard to Chapter 80 as follows:

IIAR

International Institute of Ammonia Refrigeration
1001 N. Fairfax Street, Suite 503
Alexandria, VA 22314

IIAR-7-2013 *Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating*

(Portions of proposal not shown remain unchanged)

Commenter's Reason: At the time of the committee hearing, development of IIAR 7 was slightly behind schedule, and the standard had not yet been finalized. Accordingly, as the proponent of the proposal, we asked the committee to exclude IIAR 7 from consideration at that time. The standard has now completed the ANSI standard development process and has been finalized. A copy is available for download at <http://tinyurl.com/IIAR7>. IIAR 7 represents a significant step forward in refrigeration safety by establishing a minimum standard for mandatory operating procedures for ammonia refrigeration systems. Referencing this document in the IFC will give code enforcers a means to require that appropriate operating procedures be developed and maintained, which, when followed, will significantly reduce the risk of accidents.

Analysis: The draft of IIAR7-2013 was submitted with code change F80-13 and was reviewed by the IFC committee. For analysis of the content of IIAR7-2013 relative to CP #28, Section 3.6, please visit, <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>.

F80-13

Final Action: AS AM AMPC____ D

F84-13

607.5, 607.5.1, 607.5.2, 607.5.3

Proposed Change as Submitted

Proponent: Brian Black, BDBlack Codes, Inc., representing National Elevator Industry Inc.
(bdbblack@neii.org)

Revise as follows:

607.5 Standardized fire service elevator keys. Buildings with elevators equipped with Phase I emergency recall, Phase II emergency in-car operation, or a fire service access elevator shall be equipped to operate with a standardized fire service elevator key ~~approved by the fire code official~~ complying with ASME A17.1/CSA B44.

~~**Exception:** The owner shall be permitted to place the building's nonstandardized fire service elevator keys in a key box installed in accordance with Section 506.1.2.~~

~~**607.5.1 Requirements for standardized fire service elevator keys.** Standardized fire service elevator keys shall comply with all of the following:~~

- ~~1. All fire service elevator keys within the jurisdiction shall be uniform and specific for the jurisdiction. Keys shall be cut to a uniform key code.~~
- ~~2. Fire service elevator keys shall be of a patent-protected design to prevent unauthorized duplication.~~
- ~~3. Fire service elevator keys shall be factory restricted by the manufacturer to prevent the unauthorized distribution of key blanks. No uncut key blanks shall be permitted to leave the factory.~~
- ~~4. Fire service elevator keys subject to these rules shall be engraved with the words "DO NOT DUPLICATE."~~

~~**607.5.2 Access to standardized fire service keys.** Access to standardized fire service elevator keys shall be restricted to the following:~~

- ~~1. Elevator owners or their authorized agents.~~
- ~~2. Elevator contractors.~~
- ~~3. Elevator inspectors of the jurisdiction.~~
- ~~4. Fire code officials of the jurisdiction.~~
- ~~5. The fire department and other emergency response agencies designated by the fire code official.~~

~~**607.5.3 Duplication or distribution of keys.** No person shall duplicate a standardized fire service elevator key or issue, give, or sell a duplicated key unless in accordance with this code.~~

607.5.4 Responsibility to provide keys. The building owner shall provide up to three standardized fire service elevator keys where required by the fire code official, upon installation of a standardized fire service key switch or switches in the building.

Reason: The National Elevator Industry Inc. (NEII) agrees with the reason this section was added to the 2012 International Fire Code, that firefighters need a standardized fire service elevator key that is secure and that will work throughout a jurisdiction. However, this is already a requirement in the ASME A17.1/CSA B44 Safety Code for Elevators and Escalators referenced by the International Fire Code:

ASME A17.1-2010/CSA B44-10
SECTION 2.27
EMERGENCY OPERATION AND SIGNALING DEVICES

2.27.8 Switch Keys

The key switches required by 2.27.2 through 2.27.5 for all elevators in a building shall be operable by the FEO-K1 key. The keys shall be Group 3 Security (see 8.1). A separate key shall be provided for each switch. These keys shall be kept on the premises in a location readily accessible to firefighters and emergency personnel, but not where they are available to the public. This key shall be of a tubular, 7 pin, style 137 construction and shall have a biting code of 6143521 starting at the tab sequenced clockwise as viewed from the barrel end of the key. The key shall be coded "FEO-K1." The possession of the "FEO-K1" key shall be limited to elevator personnel, emergency personnel, elevator equipment manufacturers, and authorized personnel during checking of Firefighters' Emergency Operation (see 8.1 and 8.6.11.1).

Where provided, a lock box, including its lock and other components, shall conform to the requirements of UL 1037 (see Part 9).

NOTE (2.27.8): Local authorities may specify additional requirements for a uniform keyed lock box and its location to contain the necessary keys.

Group 3 Security is specified in Section 8.1:

8.1.4 Group 3: Emergency Operation

Group 3 covers access or operation of equipment by emergency, authorized, and elevator personnel.

Simply, this requirement is unnecessary because the need it purports to address is already covered by the code's referenced standard. However, there is a greater problem with having a requirement in the International Fire Code that conflicts with the firefighter key requirements of ASME A17.1/CSA B44.

The proponents of this code provision proposed in the 2012 cycle dismissed the conflict between the IFC and ASME code by claiming that Section 102.7 of the IFC resolves this by stating, "Where differences occur between the provisions of this code and the referenced standards, the provisions of this code apply." This argument may be true for most codes and standards referenced in the I-Codes, but is incorrect in this case.

In many jurisdictions in the United States (e.g., Wisconsin) the building code, fire code and elevator code are enacted by different pieces of legislation and regulated by entirely different state or municipal rules and agencies. Because of this, one department enforces the fire code, another the elevator code, and neither official is obligated or legally able to recognize the requirements of the other. In other words, Section 102.7 of the IFC does not "trump" the laws and rules that adopt and regulate these jurisdictions' elevator codes.

The result is that the State Fire Marshall will require one firefighters' elevator key (the IFC key), the Chief Elevator Inspector will require another (The ASME A17.1 FEO-K1 key), neither will have priority over the other, and the building owner will be continuously in violation of one law or the other.

The other major problem with this new section of the code is that, unlike the demands placed on proponents for most I-Code changes, no evidence was offered to support the need for this change. There was (and is) no evidence that firefighters have been hampered in fighting a building fire because some unauthorized person was using an ASME A17.1 FEO-K1 key at the time. No loss of life or property because some pizza delivery person was able to acquire a firefighter elevator key on the internet (as alleged in the testimony on this code change) and deny elevator use for firefighters or emergency personnel.

Ironically, we found that in Massachusetts the only reported misuses of firefighter keys were by EMTs. EMTs are authorized to be given the special IFC fire key by the existing code text!

A Captain in the Toronto Fire Department who has fought countless high-rise fires in his career dismissed the need for some special fire service elevator key that exceeds the requirements of ASME A17.1/CSA B44 by asking, "What can you do with it? Ride an elevator up and down, up and down until you're bored or sick?" As dismissive as the Captain's statement may be, it demonstrates how unnecessary it is for the IFC to create special requirements for keys that conflict with the ASME requirements that have been in place (and referenced by the IFC and IBC) for years. This code section "solves" a problem that does not exist while creating many more for the Fire Marshall, Elevator Inspector, and building owner.

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

607.5-F-BLACK

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on its agreement with testimony that indicated the current text is new to the 2012 edition and is widely approved by the fire service as providing much more specific, secure and comprehensive key criteria than the referenced standard. It was also noted that ASME A17.1 may not be readily available to fire code officials and would thus make enforcement difficult.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brian Black, BDBlack & Associates, Ltd., representing National Elevator Industry Inc. (NEII), requests Approval as Submitted.

Commenter's Reason: The Committee Reason as stated in the *2013 Report of the Committee Action Hearing Results* does not address the principle reason this proposal was submitted, that being that in scores of state and local jurisdictions in the US there are separate elevator laws that require conformance with the ASME A17.1/CSA B44 firefighter key requirements. Any different requirements adopted through reference to the ICC *International Fire Code* do not trump this legal reality. The Section of the IFC that states,

102.7.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

does not apply where a separate elevator law requires enforcement of the ASME A17.1/CSA B44 code.

The reality is that elevator manufacturers will install equipment with ASME A17.1/CSA B44 FEO-K1 keys to satisfy the initial inspection requirements enforced by the jurisdiction Elevator Inspector, leaving the building owner to battle between the Elevator Inspector and Fire Marshall after the installation is complete.

The statement that “. . . the current text is new to the 2012 edition and is widely approved by the fire service . . . “ is very confusing. The 2012 edition of the code has yet to be widely adopted, so the alleged approval is not apparent. Conversely, almost every state in the US has adopted an edition of the ASME A17.1/CSA B44 code that references use of its specified FEO-K1 firefighter key. The requirements for the FEO-K1 key were developed by the ASME A17 Emergency Operations Committee that included numerous members of the fire service profession.

Whether the IFC firefighter key is more secure than that specified by ASME A17.1/CSA B44 is an interesting supposition that has yet to be proven, but the question remains: What is the safety problem the IFC text is attempting to resolve? Research done by the ASME A17.1/CSA B44 Task Groups on the Use of Elevators in Fires indicates there has not been a significant problem of elevators being unavailable to firefighters because they were “captured” by persons unauthorized to have FEO-K1 keys.

Finally, the committee suggested enforcement could be difficult because the ASME A17.1/CSA B44 code may not be readily available to fire code officials. This is contradicted by the fact that the 2012 edition of the IFC already references ASME A17.1/CSA B44 in Sections 508.1.5 (elevator recall switch), 607.1 (Phase I and Phase II emergency recall) and 907.3.3 (fire detectors installed in accordance with ASME A17.1). Additionally, in many jurisdictions the Elevator Inspector can confirm compliance with the ASME A17.1/CSA B44 code.

F84-13

Final Action: AS AM AMPC_____ D

F90-13
609.2

Proposed Change as Submitted

Proponent: Barry Greive, representing Target Corporation (barry.greive@target.com)

Revise as follows:

609.2 Where required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

Exception: A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m³ or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m³/s) in accordance with Section 17 of UL 710B

Reason: This proposal is intended to bring consistency between the Fire Code and Mechanical Code provisions.

Section 609.1 of the Fire Code states that "Commercial kitchen exhaust hoods shall comply with the requirements of the International Mechanical Code." This statement lends itself to imply that they should be consistent. There are many situations where the amount of grease is very low to almost non-existent and a type 1 hood is not needed. This exception will bring greater consistency between the codes, better clarity to when a type 1 hood is needed, and a test method that must be followed to show compliance.

Cost Impact: This will not increase the cost of construction.

609.2-F-GRIEVE

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

609.2 Where required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

Exception: A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m³ or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m³/s) in accordance with ~~Section 17~~ of UL 710B.

Committee Reason: The committee agreed with the proponent's reason statement. The modification correlates with the IMC on the subject.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council (IFC), requests Disapproval.

Commenter's Reason: The proposed exception addresses the performance of the equipment, but not the accumulation of grease in the duct. While 5 mg/m³ is a small quantity, grease will continue to accumulate in the duct over time. Some minimum

requirements for construction, inspection and maintenance of the duct need to be added if this exception is to be permitted. The proposal does not identify any of these.

Over the last decade, the technology surrounding the installation and protection of grease ducts has evolved in response to growing concern over grease duct fires, and concerns over space. The protection of grease ducts under fire exposure conditions is an item of importance in securing constructions that are safe, and that are not a menace to adjacent construction or building occupants. Protection of grease ducts has long been addressed in the codes of many authorities, municipal and other agencies. Many types of enclosure materials are used to protect grease ducts. Some provisions for construction and maintenance of these non-Type 1 hoods needs to be included.

F90-13

Final Action: AS AM AMPC_____ D

F91-13

609.3.3.2, Chapter 80

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

609.3.3.2 Grease accumulation. If during the inspection it is found that hoods, grease-removal devices, fans, ducts or other appurtenances have an accumulation of grease, such components shall be cleaned in accordance with ANSI/IKECA C-10.

Add new standard to Chapter 80 as follows:

IKECA

International Kitchen Exhaust Cleaning Association
100 North 20th, Street, Suite 400
Philadelphia, PA 19103

C10-2011 *Standard for Cleaning of Commercial Kitchen Exhaust Systems...* 609.3.3.2

Reason: Commercial kitchen exhaust systems remove smoke, soot and grease-laden vapor resulting from cooking operations. These systems become contaminated with grease and cooking by-products over time. Accumulations of these combustible contaminants create a fire safety hazard to workers, patrons, other building occupants and property. Mitigation of this hazard requires periodic cleaning of commercial kitchen exhaust systems.

The first edition of ANSI/IKECA C10-2011, *Standard for Cleaning of Commercial Kitchen Exhaust Systems*, was developed by the IKECA Standards Development Committee Consensus Body. It approved the standard on September 1, 2011. It was approved as an American National Standard by the American National Standards Institute (ANSI) on December 9, 2011.

For many years, the commercial kitchen exhaust cleaning industry has relied on certain codes and standards. ANSI/IKECA C10 addresses many of the areas that these other standards and codes do not cover. The other codes include the *International Fire Code*® (Section 609 Commercial Kitchen Hoods; 904 Alternative Automatic Fire-Extinguishing Systems, including: 904.2.1 Hood suppression systems; 904.3.2 Actuation; 904.3.3 System interlocking; 904.3.5 Monitoring; 904.11 Commercial cooking systems; 904.11 thru 904.11.6.5), the *International Mechanical Code*® (Section 202 General Definitions; 506 Commercial Kitchen Grease Ducts and Exhaust Equipment; 507 Commercial Kitchen Hoods; 508 Commercial Kitchen Make Up Air; 509 Fire Suppression Systems; 917 (Solid Fuel) Cooking Appliances), the *ASHRAE*® *Handbook HVAC Applications* (Chapter 31, Ventilation of the Industrial Environment), and the *NFPA 96*®, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.

ANSI/IKECA C-10 is intended to determine the frequency and necessity for commercial kitchen exhaust system cleaning through inspection procedures, to define acceptable methods for cleaning exhaust systems and components, and to set standards for acceptable post-cleaning cleanliness.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This standard applies to, but is not limited to, Type I exhaust systems. This standard does not apply to residential kitchen exhaust systems, replacement air systems, fire extinguishing systems, heating and air-conditioning systems, dryer exhaust systems, and toilet exhaust systems.

The purpose of this standard is to enhance public safety by reducing the potential fire safety hazards associated with commercial kitchen exhaust systems through the performance of professional cleaning services, irrespective of the type of cooking equipment used and whether used in public or private facilities.

About IKECA: The International Kitchen Exhaust Cleaning Association (IKECA) formed in 1989 and became an ANSI accredited standards developer in 2008. IKECA was founded by a small group of exhaust kitchen exhaust cleaning specialists who were attending the same meeting. They had similar beliefs in the importance of proper and complete exhaust cleaning to the fire protection world. Within two years, these founders had created the first non-profit trade association for the kitchen exhaust cleaning industry.

Today, IKECA members represent some of the best in the industry from around the world. They are proud to have made significant contributions to the decrease in commercial kitchen fires in the U.S. The current membership is approximately 250. Headquartered in Philadelphia, IKECA is a member of the International Code Council. For more information, visit www.ikeca.org.

Additionally this Standard covers the required documentation associated with the cleaning and inspections of kitchen exhaust hoods. Currently there is no Standard recognized by the IFC for this purpose, and adoption of this Standard will enhance code compliance and enforcement.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

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

Analysis: A review of the standard proposed for inclusion in the code, IKECA C10-2011, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013.

609.3.3.2-F-ZUBIA-FCAC

Committee Action Hearing Results

For staff analysis of the content of IKECA C10-2011 relative to CP#28, Section 3.6, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides a needed standard to assist the fire code official in determining standards of and methods for cleaning hood and duct systems.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Glenn A. Dean, Virginia State Fire Marshal's Office, requests Disapproval.

Commenter's Reason: The ICC Fire Code Committee approved F91 "as submitted" on a 14-0 vote. The committee reason for accepting F91 was, "*The committee agreed with the proponent's reason statement that the code change provides a needed standard to assist the fire code official in determining standards of and methods for cleaning hood and duct systems.*" I too, agree that a standard for determining the need for cleaning is needed, but the adoption of F91 and the referenced ANSI/IKECA C10-2011 standard in its present form may not be it.

It's not an uncommon occurrence to adopt a change early in Virginia and F91 was a candidate for such early adoption until subsequent research revealed the following with items 3, 4 and 5 being the most substantial points:

1. The entire standard published by the International Kitchen Exhaust Cleaning Association (IKECA) is comprised of 31 pages including the covers, Table of Content, index, forward, list of committee members, proposal form, etc., leaving 20 pages for *the meat of the standard*. Of those 20 pages, 10 pages are definitions. That leaves 10 pages of *technical stuff*.
2. Of the 10 pages of technical stuff, there are 8 chapters. Chapter 4 is "pre-Cleaning Operations Inspection"; Chapter 5 is "Energy Source Protection"; Chapter 6 "Protection of Workspace Areas; Chapter 7 "By-Product Control Process Preparation"; Chapter 8 "Process Personnel Protection"; Chapter 9 "Cleaning Processes and Controls" (as I see it, the crux of the standard); Chapter 10 "Exhaust Duct Access and Labeling; and Chapter 11 "Exhaust Cleaning Process Reporting".
3. In these 10 pages of technical stuff, the word "should" appears 8 times. According to ANSI/IKECA C10, Chapter 2, the definition of "should" means, "Indicates a recommendation or that which is advised but not required." I believe the use of this type of advisory language is contrary to the normal practice of the I-Codes to say something "may" or "shall" be done.
4. Aside from the standard's definition of "certified", the body of the standard makes reference to using only certified personnel to perform certain duties 5 times. My question is, certified by whom? IKECA does have a certification program and information on that can be found at <http://www.ikeca.org/certification/types>. Beyond this, I know of no other certification program. So for me, it raises the question of whether or not this standard and its adoption would be self-serving to IKECA.

5. The depiction of a "depth gauge comb" is contained in the standard. The section that references that depiction states a determination for cleaning is made by scraping the comb along the duct surface. My initial reaction was very supportive because initially I viewed such gauge as less subjective to making a determination. Since then my view has changed. I suppose with a duct surface that appears to be clean enough, if I drag the comb far enough or repeatedly enough, if I were to find a single square inch of sufficient depth in a duct system composed of 50 square feet, by example, I can present the need for cleaning the system to the owner. I think a more definitive method needs to be employed such as limiting a single scrap to a distance of 1-inch, or a foot, or whatever is appropriate. Leaving the language as it is may allow some unscrupulous character to take advantage of a situation or system owner.

The F91 proposed change says that system "components shall be cleaned in accordance with ANSI/IKECA C-10" with the operative word being "cleaned". If confined to that and that only, and not when cleaning is to be performed, then Chapter 9 of the standard lists the methods of cleaning. My question then becomes, what is different between that and what's normally done? By referencing the standard, does this become a substantial benefit to adopt the standard? If the reference to the standard is for the method of cleaning only, then the change and commentary needs to strongly and clearly indicate that.

As an individual, I supported this change thinking it would assist in an important area. I thought a less subjective method of determining when a hood and duct systems needs to be cleaned or its level of cleanliness would be of benefit to all involved, but upon looking at this standard and finding the above, I submit it needs to overcome the defects of its self-serving possibility as it relates to certification, strengthening how the depth gauge comb is to be used to determine the need for cleaning, and getting rid of the advisory language, all of which forms the basis for this request disapprove the change.

F91-13

Final Action: AS AM AMPC____ D

F95-13

610.1, 610.2, 610.3 (New), 610.4, 610.5, 610.6 (New), 610.7, 5701.2, Chapter 80

Proposed Change as Submitted

Proponent: Andy Burke, Restaurant Technologies, Inc, representing self (aburke@rti-inc.com)

Revise as follows:

610.1 ~~General~~ Commercial Kitchen Cooking Oil Storage Tank Systems. Storage of cooking oil (grease) in commercial cooking operations utilizing aboveground tanks with a capacity greater than 60 gal (227 L) installed within a building shall comply with ~~Chapter 57~~ Sections 610.2 through 610.7. ~~Systems used to store cooking oils in larger than 60-gallon (227 L) above-ground tanks shall also comply with Sections 610.2 through 610.5.~~ For purposes of this section, cooking oil shall be classified as a Class IIIB liquid unless otherwise determined by testing.

610.2 Metallic Storage Tanks. Metallic cooking oil storage tanks shall be listed in accordance with UL 142 or UL 80, and shall be installed in accordance with ~~Section 5704~~ and the tank manufacturer's instructions.

610.3 Nonmetallic Storage Tanks. Nonmetallic cooking oil storage tanks shall be installed in accordance with the tank manufacturer's instructions and shall also comply with all of the following:

1. Tanks shall be designed in accordance with ASTM D1998 unless otherwise approved.
2. Tank capacity shall not exceed 200 gallons per tank.
3. Tanks shall be suitable for use with cooking oil and the maximum temperature to which the tank will be exposed during use.

610.3 ~~610.4 Other Storage Components~~ Cooking Oil Storage System Components. Cooking oil storage system components including shall include but are not limited to piping, connections, fittings, valves, tubing, hose, pumps, vents, and other related components used for the transfer of cooking oil from the cooking appliance to the storage tank, and from the storage tank to the discharge point, shall be installed in accordance with Section 5703.6 and are permitted to be of either metallic or non-metallic construction.

610.4.1 Design Standards. The design, fabrication, and assembly of system components shall be suitable for the working pressures and structural stresses to be encountered by the components.

610.4.2 Components in Contact with Heated Oil. Any system component that comes in contact with heated cooking oil shall be rated for the maximum intermittent and continuous operating temperatures expected in the system.

610.4.3 Plenums. Installation of non-metallic cooking oil system components shall be prohibited in concealed interstitial spaces used as return air plenums unless the components are fully enclosed within continuous noncombustible raceways or enclosures, approved gypsum board assemblies, or within materials listed and labeled for installation within a plenum.

610.4 ~~610.5~~ Tank Venting. Normal and emergency venting shall be provided for cooking oil storage tanks shall terminate outside the building as specified in Sections 5704.2.7.3 and 5704.2.7.4.

610.5.1 Normal Vents. Normal venting shall be located above the maximum normal liquid line, and shall have a minimum effective area at least as large as the largest filling or withdrawal connection.

610.5.2 Emergency Vents. Emergency relief venting shall be located above the maximum normal liquid line, and shall be in the form of a device or devices that will relieve excessive internal pressure caused by an exposure fire. For non-metallic tanks, the emergency relief vent shall be allowed to be in the form of construction.

610.6 Heating of Cooking Oil. Electrical equipment used for heating cooking oil in cooking oil storage systems shall be listed to UL 499 and shall comply with NFPA 70. Use of electrical immersion heaters shall be prohibited in non-metallic tanks.

~~610.5~~ **610.7 Electrical Equipment.** Electrical equipment used for the operation and heating of the cooking oil storage systems shall be listed and comply with NFPA 70.

Revise as follows:

5701.2 Nonapplicability. This chapter shall not apply to liquids as otherwise provided in other laws or regulations or chapters of this code, including:

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

11. Commercial cooking oil storage tank systems located within a building and designed and installed in accordance with Section 610.

Add new standards to Chapter 80 as follows:

ASTM

D 1998-06 Standard Specification for Polyethylene Upright Storage Tanks

UL

499-05 Standard for Electrical Heating Appliances

Reason: The section as written presents practical challenges to innovative restaurant technologies, which entirely eliminate manual handling of cooking oil. These systems provide personnel safety and environmental improvements to existing manual or semi-manual oil handling operations. The proposal seeks to address the following issues:

The requirements as currently written (added in 2012 version of the code) are based on used, spent, or inedible cooking oil. For systems which include fresh cooking oil supply, a foodstuff, tanks and components must be food grade. The metallic tank standards currently referenced are based on fuel oil storage tanks and do not meet food grade requirements. The proposal addresses this limitation by adding requirements for non-metallic tanks, with an associated recognized engineering tank standard adapted for use with cooking oil.

Current references to Chapter 57 are more relevant to industrial flammable and combustible liquid tank requirements. High flash point cooking oil in a restaurant back-of-house setting represents a different, and generally lower, hazard than commonly anticipated by Chapter 57. The proposed exemption to Section 5701.2 unifies all pertinent fire safety requirements into Section 610 and the standards referenced therein. This establishes the level of safety applicable to this hazard. This approach is consistent with other exceptions in Chapter 57, in particular the exception for fuel oil tanks connected with oil burning equipment. The proposal takes into consideration comments received from code officials and fire safety professionals.

Note: This proposal applies only to the storage of cooking oil, a Class IIIB liquid with a high flash point (typically above 500°F), which represents a low fire hazard when stored and used per the requirements of the proposal. All other flammable and combustible liquids must comply with Chapter 57.

As written, Section 610.4 requires tank venting to terminate outside of the building, as specified in Sections 5704.2.7.3 and 5704.2.7.4. These referenced sections allow tanks storing Class IIIB liquids to vent inside the building, based on the relatively low fire hazard associated with Class IIIB liquids. The proposal modifies the current requirements for venting to accurately reflect the level of protection for this hazard as established in Chapter 57.

The intent of the requirements as written, as described in the 2012 substantiation, was to add a level of protection to address the use of immersion heaters in storage tanks containing used cooking oil. The proposal addresses these concerns by requiring compliance to UL 499 and NFPA 70, and by restricting the use of immersion heaters to metallic tanks only. Furthermore, the proposal requires all other electrical equipment used with cooking oil storage tank systems to comply with NFPA 70 as well.

The limitations for installing non-metallic tubing or piping are consistent with the International Mechanical Code requirements.

Cost Impact: The code change proposal will not increase the cost of construction. The introduction of Section 610 to the 2012 IFC increased cost of construction by limiting cooking oil storage tanks to metallic construction. The proposal will allow for non-metallic tank construction, allowing costs to remain reasonable for this type of technology and usage. The proposal also provides cost efficiencies for support/compliance of environmental initiatives to limit/prevent the introduction of used cooking oil and used portable containers into liquid and solid waste streams.

Analysis: A review of the standard proposed for inclusion in the code, ASTM D1998-06, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013. UL 499-05 is currently referenced in the IMC.

610.1-F-BUR

Committee Action Hearing Results

For staff analysis of the content of ASTM D1998-06 and UL 499-05 relative to CP#28, Section 3.6, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on its agreement with testimony that indicated that the proposed standard ASTM D1998 is scoped to apply only to tanks with a capacity greater than 500 gallons, that the tank testing that has been done to ASTM D1998 so far does not speak to tank material degradation over time or to the storage of liquids with a temperature over 140-150 degrees F which are the limits of the standard. Concern was also expressed that the fire code official would be put in a position to approve the suitability of tanks and their materials without adequate technical information. The committee also felt that it was unacceptable to run piping in overhead return air plenums under any circumstances, to allow non-metallic relief valves for non-metallic tanks and was concerned as to where the normal and emergency tanks vents would discharge. The concept of the proposal was felt to be a good one but that more appropriate standard development and testing need to be done first.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Andy Burke, Restaurant Technologies, Inc., representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

610.1 Commercial Kitchen Cooking Oil Storage Tank Systems. Storage of cooking oil (grease) in commercial cooking operations utilizing aboveground tanks installed within a building to store cooking oils with a capacity greater than 60 gal (227 L) shall comply with Sections 610.2 through 610.7, and NFPA 30. For purposes of this section, cooking oil shall be classified as a Class IIIB liquid unless otherwise determined by testing.

610.2 Metallic Storage Tanks. Metallic cooking oil storage tanks shall be listed in accordance with UL 142 or UL 80, and shall be installed in accordance with the tank manufacturer's instructions.

610.3 Nonmetallic Storage Tanks. Nonmetallic cooking oil storage tanks shall be installed in accordance with the tank manufacturer's instructions and shall also comply with all of the following:

1. Tanks shall be ~~designed in accordance with ASTM D1998 unless otherwise approved.~~ listed for use with cooking oil, including the maximum temperature to which the tank will be exposed during use.
2. Tank capacity shall not exceed 200 gallons per tank.
3. ~~Tanks shall be suitable for use with cooking oil and the maximum temperature to which the tank will be exposed during use.~~

610.4 Cooking Oil Storage System Components. Cooking oil storage system components shall include but are not limited to piping, connections, fittings, valves, tubing, hose, pumps, vents, and other related components used for the transfer of cooking oil and are permitted to be of either metallic or non-metallic construction.

610.4.1 Design Standards. The design, fabrication, and assembly of system components shall be suitable for the working pressures, temperatures and structural stresses to be encountered by the components.

610.4.2 Components in Contact with Heated Oil. Any system component that comes in contact with heated cooking oil shall be rated for the maximum ~~intermittent and continuous~~ operating temperatures expected in the system.

~~**610.4.3 Plenums.** Installation of non-metallic cooking oil system components shall be prohibited in concealed interstitial spaces used as return air plenums unless the components are fully enclosed within continuous noncombustible raceways or enclosures, approved gypsum board assemblies, or within materials listed and labeled for such application.~~

610.5 Tank Venting. Normal and emergency venting shall be provided for cooking oil storage tanks.

610.5.1 Normal Vents. Normal venting vents shall be located above the maximum normal liquid line, and shall have a minimum effective area at least as large as the largest filling or withdrawal connection. Normal vents shall be permitted to vent inside the building.

610.5.2 Emergency Vents. Emergency relief venting vents shall be located above the maximum normal liquid line, and shall be in the form of a device or devices that will relieve excessive internal pressure caused by an exposure fire. For non-metallic tanks, the emergency relief vent shall be allowed to be in the form of construction. Emergency vents shall be permitted to vent inside the building.

610.6 Heating of Cooking Oil. Electrical equipment used for heating cooking oil in cooking oil storage systems shall be listed to UL 499 and shall comply with NFPA 70. Use of electrical immersion heaters shall be prohibited in non-metallic tanks.

610.7 Electrical Equipment. Electrical equipment used for the operation of cooking oil storage systems shall comply with NFPA 70.

Revise as follows:

5701.2 Nonapplicability. This chapter shall not apply to liquids as otherwise provided in other laws or regulations or chapters of this code, including:

11. Commercial cooking oil storage tank systems located within a building and designed and installed in accordance with Section 610 and NFPA 30.

Revise Chapter 80 standards as follows:

ASTM

D 1998-06 Standard Specification for Polyethylene Upright Storage Tanks

UL

499-05 Standard for Electrical Heating Appliances

Commenter's Reason: To speak to the IFC Committee's reasons for disapproval of this code change, an item-by-item discussion follows:

610.1, 610.3, 5701.2(11) and Chapter 80 reference: The IFC Committee expressed concerns about the scope of the referenced standard, ASTM D1998, as applies to non-metallic cooking oil storage tanks, specifically the capacity of the tanks, tank material degradation over time, and the storage of cooking oil at elevated temperatures. The Committee also expressed concern that the fire code official would be put in a position to approve tanks and their materials without adequate technical information. Based on these concerns, and with further discussions and recommendations from the fire code community, the Fire-CAC and NFPA 30, it is proposed to delete the ASTM standard referenced in 610.3 and Chapter 80 and replace with the requirement that non-metallic tanks must be listed for use with cooking oil.

610.4.1: Add temperature requirements to the design standards to address storage at elevated temperatures.

610.4.2: Eliminate the words "intermittent and continuous" to clarify that components shall be rated for the maximum exposure temperature.

610.4.3: To address the IFC Committee concerns about piping in overhead return air plenums, this paragraph will be removed.

610.5.1 and 610.5.2: The IFC Committee expressed concern as to where the normal and emergency vents would discharge. The proposal is to allow the tanks to vent to the inside of the building, understanding that the fire and health safety risk would be very low considering this would apply only to tanks storing cooking oil, a Class IIIB liquid with a high flash point, and also considering the low frequency, volume and speed with which transfer operations occur.

The IFC Committee expressed concerns about non-metallic relief valves for non-metallic tanks. For metallic tanks, venting requirements are contained in the tank standards referenced in 610.2 and no changes to these requirements are proposed. For non-metallic tanks, the vent devices will be included as part of the overall listing. Furthermore, the proposal to add the NFPA 30, Chapter 19 requirement includes venting requirements in accordance with NFPA 30, Chapter 22.

F95-13

Final Action:

AS

AM

AMPC ____

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F98-13
703

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azumiamia@yahoo.com)

Revise as follows:

SECTION 703
FIRE-RESISTANCE-RATED CONSTRUCTION INSPECTION AND MAINTENANCE OF CONSTRUCTION FEATURES

703.1 Maintenance General. ~~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) Construction features intended to limit the spread of fire or smoke shall be maintained.~~

703.2 Inspection and Maintenance. Construction features intended to limit the spread of fire or smoke Such elements shall be visually inspected by the owner annually and properly repaired, restored or replaced when damaged, altered, breached or penetrated.

Exception: ~~Where construction features are concealed, such elements shall not be required to be visually inspected~~ visual inspection by the owner is not required 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.

703.2.1 Openings. ~~Openings made therein in smoke-resistant or fire-resistance-rated assemblies for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods or self- or automatic-closing opening protectives capable of resisting the passage of smoke and or fire, as required to maintain the rating of the assembly. 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.~~

703.1.1 Fireblocking and draftstopping. ~~Required fireblocking and draftstopping in combustibile concealed spaces shall be maintained to provide continuity and integrity of the construction.~~

703.1.2 703.2.1.1 Smoke Openings in smoke barriers and smoke partitions. ~~Required smoke barriers and smoke partitions shall be maintained to prevent the passage of smoke. All openings~~ Openings protected with approved smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

703.1.3 Fire walls, fire barriers and fire partitions. ~~Required fire walls, fire barriers and fire partitions shall be maintained to prevent the passage of fire. All openings protected with approved doors or fire dampers shall be maintained in accordance with NFPA 80.~~

703.2 703.2.1.2 Opening protectives in fire-resistance rated assemblies. *(No change to current text)*

703.2.1 703.2.1.2.1 Signs. *(No change to current text)*

703.2.2 703.2.1.2.2 Hold-open devices and closers. *(No change to current text)*

703.2.3 703.2.1.2.3 Door operation. *(No change to current text)*

703.3 Ceilings. (No change to current text)

703.4 Testing. (No change to current text)

Reason: Chapter 7 and Section 703.1 have been expanded to clearly require that construction features intended to limit the spread of smoke must also be maintained.

Predominantly an editorial code change proposal to clarify the intent of the provisions.

Section 703.1 has been revised to provide a broadly-inclusive requirement to maintain any construction feature that was provided to limit the spread of smoke and/or fire. The parenthetical list in this section has been deleted since it was not all-inclusive. These changes improve the usability of the code and address topics that were previously overlooked, such as maintenance of draft stopping in attics.

The existing text in Section 703.1.1 and the first sentence of Sections 703.1.2 and 703.1.3 have been deleted because they are no longer necessary with the revised text of Section 703.1, which will now encompass fire blocking, draftstopping, smoke barriers, smoke partitions, firewalls, fire barriers and fire partitions.

The second sentence of Section 703.1.3 has been deleted because it is redundant. Section 703.2.1 covers maintenance of opening protectives.

NOTE: To assist in following the revisions proposed in this code change, below is a clean version of section 703 without underline and strikeout.

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

703-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as it appeared to delete important maintenance requirements for fire resistance such as “coatings and sprayed fire resistance.” It was noted that this chapter is in need of revision but this proposal appears to be deleting important provisions. It was stressed that Chapter 7 plays a key role in the IFC and provides for the long term performance of a building during a fire.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

**SECTION 703
FIRE-RESISTANCE-RATED INSPECTION AND MAINTENANCE OF CONSTRUCTION**

703.1 General Maintenance. ~~The integrity and any required rating of construction features intended to provide fire-resistance protection to structural elements or to limit the spread of fire or smoke shall be maintained. 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.~~

703.1.1 Inspection and repair. ~~Construction features intended to provide fire-resistance protection to structural elements or to limit the spread of fire or smoke~~ Such elements shall be visually inspected by the *owner* annually and properly repaired, restored or replaced when damaged, altered, breached or penetrated. Where concealed, such elements shall not be required to be visually inspected by the *owner* unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space.

703.1.2 Penetrations. ~~Openings made in fire and smoke-resistant construction 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.~~

703.1.3 703.1.4 Fireblocking and draftstopping. Required continuity and integrity of fireblocking and draftstopping in combustible concealed spaces shall be maintained. ~~to provide continuity and integrity of the construction.~~

703.1.4 703.1.2 Smoke barriers and smoke partitions. Required *smoke barriers* and smoke partitions shall be maintained, ~~to prevent the passage of smoke. All o~~penings protected with *approved* smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

703.1.5 703.1.3 Fire walls, fire barriers and fire partitions. Required *fire walls, fire barriers* and *fire partitions* shall be maintained, ~~to prevent the passage of fire. All openings protected with approved doors or fire dampers~~ Openings shall be protected by approved methods meeting the fire rating requirements for the assembly and shall be maintained in accordance with NFPA 80.

(Portions of code change not shown remain unchanged)

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This section has been revised to clarify the requirements for inspecting and maintaining fire and smoke-protection construction. The changes accomplish the following:

1. The revised title of Section 703 clarifies that this section covers inspection and maintenance of fire and smoke protection construction. Proposal F97 changed the title of Chapter 7 to FIRE AND SMOKE PROTECTION FEATURES, so it should not be necessary to repeat "fire and smoke protection" in this section title, since it will appear on the same page as the chapter title.
2. Existing section 703.1 was really long and covered many different areas. This section has been broken into three sections; 703.1, 703.1.1 and 703.1.2, and titles were inserted to reflect what is covered in each section.
3. A new charging statement was added to 703.1 to clarify that this section covers construction features intended to provide fire-resistance protection to structural elements or to limit the spread of fire or smoke, not just fire resistance ratings. Also, a laundry list of construction types was deleted that served no real purpose.
4. The title "Inspection and repair" was added to new Section 703.1.1, and clarification that the section covered construction features intended to provide fire-resistance protection to structural elements or to limit the spread of fire or smoke (same as 703.1).
5. The existing code requirements moved to new Section 703.1.2 starts with "Openings made therein for the passage of pipes, electrical conduit, wires", etc. To be consistent with terminology used in the current IBC the terms "openings" were changed to "penetrations". The requirements at the end of this section covering openings protected by doors were removed from this section, and are now covered in Sections 703.1.4 and 703.1.5.
6. Editorial changes were made to Section 703.1.3, 703.1.4 and 703.1.5, and new language was added to 703.1.5 to cover opening protection.

Finally, the revisions suggested in this public comment are consistent with the action taken on F97.

F98-13

Final Action: AS AM AMPC_____ D

F105-13
806.2

Proposed Change as Submitted

Proponent: Amy Carpenter, AIA, Pioneer Network Long Term Care Code Task Force

Revise as follows:

806.2 Artificial vegetation. Artificial decorative vegetation shall ~~meet the flame propagation performance criteria of NFPA 701. Meeting the flame propagation performance criteria of NFPA 701 shall be documented and certified by the manufacturer in an approved manner. Alternatively, the artificial decorative vegetation item shall be tested in accordance with NFPA 289, using the 20 kW ignition source, and shall have a maximum heat release rate of 100 kW.~~

Exception: In Groups R-2, I-1 and I-2, artificial vegetation shall be permitted in limited quantities such that a hazard of fire development or spread is not present.

Reason: The text stricken from section 806.2 is proposed because it is not a correct reference and should not be included. NFPA 701 is the standard for "flame propagation of Textiles and Films". The scope description, in the standard, is clear that it is for materials that will be used as curtains, drapes and window treatments, therefore it is not the correct reference standard, nor the correct test method, for artificial decorative vegetation that may be used in buildings.

In Groups R-2, I-1 and I-2 Condition 1, residents often seek to create a home-like environment and display decorative items, like a seasonal wreath at their unit entries. It is not always possible, or practical to determine compliance with NFPA 289, especially for items procured by individual residents. The language of this exception is similar to the permissions for decorative materials, in these use groups, under Section 807. Further, as all of these Occupancies are required to have sprinkler coverage, there is a reduced risk for detrimental effects of limited quantities of artificial vegetation.

Cost Impact: No cost impact

806.2-F-CARPENTER

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee felt that NFPA 289 was a more appropriate test for artificial vegetation. There was some concern with the language found in the exception but it was noted that such language is existing language found in other sections of 806.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

806.2 Artificial vegetation. Artificial decorative vegetation shall be tested in accordance with NFPA 289, using the 20 kW ignition source, and shall have a maximum heat release rate of 100 kW.

Exception: In Groups R-2, I-1 and I-2, artificial vegetation shall be permitted in limited quantities such that a hazard of fire development or spread is not present.

Commenter's Reason: This comment proposes to eliminate the exception from the proposal because it would allow the introduction of materials that can bring a severe fire problem. It would be difficult for a fire code official to assess properly what is a "limited quantity of artificial vegetation" that does not introduce a hazard of fire development or spread without a fire test. If a fire test has been conducted and the results are satisfactory, then the exception is unnecessary and if a fire test has been conducted and the results are unsatisfactory the exception becomes moot because the artificial vegetation would clearly introduce a significant fire hazard.

The intent of the submitter is clear: to allow an occasional seasonal wreath at the unit entry. However, it is also clear that some artificial Christmas trees that are used during the holiday season can introduce a very large amount of heat release when they burn. NIST tests in 1999 have shown that the heat release rate from a single natural Christmas tree can be as high as 5 MW. More recently, tests with some artificial Christmas trees have shown that even higher levels of heat release will result, particularly when the trees are constructed of polyolefin materials.

The fact that the change introduced by the proposal requires that the fire testing be done in accordance with a much better (albeit more severe and more expensive) fire test makes the probability of finding test results for decorative vegetation more unlikely and would lead to more fire code officials being required to make determinations of fire hazard with little or no basis.

If the code is silent, the fire code official in fact always has the leeway of allowing what the submitter wishes with a much lower probability of inadvertently introducing a severe fire problem.

F105-13

Final Action: AS AM AMPC_____ D

F108-13
806.3

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing self
(rjd@davidsoncodeconcepts.com)

Revise as follows:

806.3 Obstruction of means of egress. The required width of any portion of a *means of egress* shall not be obstructed by decorative vegetation. Natural cut trees shall not be located within an exit, corridor, or a lobby or vestibule.

Reason: Section 806.3 "Obstruction of the means of egress" is recommended for modification because the rapid manner in which a natural cut tree is consumed by fire with the associated release of heat and smoke would present a distinct hazard to egress regardless of whether it impinged on the required width of the means of egress. A burning tree could not be approached or passed by thus effectively blocking that portion of an egress path while spreading heat and smoke to additional portions of the means of egress. A significant impact would be a natural cut tree located within a lobby that has the allowed 50% of all egress capacity passing through the same lobby.

Cost impact: This proposal will not increase the cost of construction.

806.3-F-DAVIDSON

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal was approved as it simply prohibits natural cut trees within specific critical areas of the means of egress.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Dave Frable, representing U.S. General Services Administration, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

806.3 Obstruction of means of egress. The required width of any portion of a *means of egress* shall not be obstructed by decorative vegetation. Natural cut trees shall not be located within an exit, corridor, or a lobby or vestibule.

Exception: Where approved, natural cut trees can be placed in the building lobby where all the following condition are met:

1. The building is protected throughout by an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 or 903.3.1.2 as applicable.
2. The tree is located in the lobby for not more than 2 weeks.
3. The tree stands in a support device capable of containing a minimum two-day supply of water.
4. The water level in the tree support device is maintained at least 2 inches above the tree trunk and checked at least once daily.
5. The position of the tree is clear of exit routes by a distance equal to the height of the tree plus 6 feet.
6. There are no other combustibles likely to be ignited by a fire in the tree within 3 feet of the outer edges of the tree.
7. The maximum height of the tree does not exceed two-thirds of the ceiling height and.
8. The tree is sprayed with an approved non-toxic flame retardant coating.

Commenter's Reason: The intent of this proposed revision is to permit the fire code official flexibility when enforcing the requirements for the placement of natural cut trees during the holiday season in buildings having large lobbies.

Although the number of natural cut tree fires is low, the proponent is correct that these fires carry a higher level of hazard than other fires that occur in a structure. A NIST study in residential structures, supported by the U. S. Fire Administration, evaluated the following three objectives: 1) characterize the heat release rate of dry Fraser fir trees 2) demonstrate the ignition resistance of a tree with a high moisture content and 3) examine the impact of a residential sprinkler on the heat release rate of a dry tree that is on fire in a compartment.

The heat release rates of the trees which were allowed to dry ranged from 3.2 MW to 4.3 MW. The study found that trees that were kept in water, so that the needles maintained a moisture content in excess of 100 %, self-extinguished after being exposed to a flaming book of matches.

The data from the furnished sprinklered room experiment demonstrated that even under conditions of extreme fire growth, a single sprinkler was able to prevent flashover and limit the spread of fire to other objects. The peak heat release rate, from the sprinklered room, was limited to approximately 1.8 MW. The furnished non-sprinklered room experiment generated a post-flashover heat release rate in excess of 6 MW.

Based on the information from the NIST study and the additional requirements in the proposed exception we believe a reasonable degree of safety can be maintain for permitting on a temporary basis natural cut trees in buildings with large lobbies.

F108-13

Final Action: AS AM AMPC_____ D

F109-13

807 (IBC [F] 806)

Proposed Change as Submitted

Proponent: Amy Carpenter, representing Pioneer Network Long Term Care Code Task Force (acarpenter@lenhardtrodgers.net) and Wayne Jewell Township of Green Oak, MI representing self

Revise as follows:

SECTION 807 DECORATIVE MATERIALS OTHER THAN DECORATIVE VEGETATION IN NEW AND EXISTING BUILDINGS

807.1 (IBC [F]806.1) General. Combustible decorative materials, other than decorative vegetation, shall comply with Section 807.2 through 807.5.

~~807.1 (IBC [F]806.1) General requirements.~~ In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains draperies, hangings and other *decorative materials* suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with section 807.2 or be noncombustible.

Exceptions:

- ~~1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls. (relocated to Section 807.3 exception 2)~~
- ~~2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present. (relocated to Section 807.5.5)~~

~~In Groups I-1 and I-2, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited. (relocated to Section 807.5.6 and 807.5.7)~~

~~Fixed or movable walls and partitions, paneling, wall pads and crash pads, applied structurally or for decoration, acoustical correction, surface insulation or other purposes, shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings. (relocated to Section 807.3)~~

~~In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet Sections 807.2 and 807.3 the flame propagation performance criteria in accordance with Section 807.2 and NFPA 701 or shall be noncombustible.~~

807.1.1(IBC [F]806.1.1), 807.2 (IBC [F] 806.2) Noncombustible materials. The permissible amount of noncombustible decorative material shall not be limited.

807.1.2 (IBC [F]806.1.1), 807.3 (IBC [F] 806.3) Combustible decorative materials. In other than Group I-3, The permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall be flame resistant meeting the flame

~~propagation performance criteria of NFPA 701 in accordance with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which it is attached.~~

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish* if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered *decorative materials* or furnishings. (relocated from Section 807.1)

Exceptions:

1. In auditoriums in Group A, the permissible amount of *curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings meeting the flame propagation performance criteria of NFPA 701* shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the *International Building Code*.
2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of *curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceiling* shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1. (relocated and revised from Section 807.1, exception 1)
- ~~3.2. In Group B and M occupancies, the amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.~~

~~807.2(IBC [F] 806.2) 807.4 (IBC [F] 806.4) Acceptance criteria and reports.~~ Where required to be flame resistant, *curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings* shall be tested by an *approved* agency and meet the flame propagation performance criteria of NFPA 701, ~~or such materials shall be noncombustible.~~ Reports of test results shall be prepared in accordance with NFPA 701 and furnished to the *fire code official* upon request.

~~807.4 807.5 Occupancy-based requirements.~~ In occupancies specified in Group A, E and I-4 day care facilities, *combustible decorative materials not complying with Section 807.3 other than decorative vegetation* shall comply with Sections 807.5.1 807.4.4 through 807.4.4.2 807.5.7.

~~IFC 807.5.1 807.4.4 General.~~ ~~All of~~ The following requirements shall apply to all occupancies: to all Group A and E occupancies and Group I-4 day care facilities regulated by Sections 807.4.2 through 807.4.4:

- ~~1. Explosive or highly flammable materials:~~ Furnishings or decorative materials of an explosive or highly flammable character shall not be used.
- ~~2. Fire-retardant coatings:~~ Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.
- ~~3. Obstructions:~~ Furnishings or other objects shall not be placed to obstruct *exits*, access thereto, egress there from or visibility thereof.

~~807.5.2 807.4.2 Group A.~~ In Group A occupancies, the requirements in Sections ~~807.4.2.1 807.5.2.1~~ through ~~807.4.2.3 807.5.2.4~~ shall apply ~~to occupancies in Group A.~~

~~807.5.2.1 807.4.2.1 Foam plastics.~~ Exposed foam plastic materials and unprotected materials containing foam plastic used for decorative purposes or stage scenery or exhibit booths shall have a maximum heat release rate of 100 kW when tested in accordance with UL 1975, or when tested in accordance with NFPA 289 using the 20 kW ignition source.

Exceptions:

1. Individual foam plastic items or items containing foam plastic where the foam plastic does not exceed 1 pound (0.45 kg) in weight.
2. Cellular or foam plastic shall be allowed for trim in accordance with Section 804.2.

807.5.2.2 ~~807.4.2.2~~ Motion Picture Screens. The screens upon which motion pictures are projected in new and existing buildings shall either ~~meet the flame propagation performance criteria of NFPA 701-~~ comply with Section 807.4 or shall comply with the requirements for a Class B interior finish in accordance with Section 803 of the *International Building Code*.

807.5.2.3 ~~807.4.2.3~~ Wood use in ~~Group A-3~~ places of religious worship. In places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall ~~be allowed not~~ be limited.

807.5.2.4 ~~807.3 (IBC [F] 806.4)~~ Pyroxylin plastic. Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used ~~in Group A occupancies~~.

807.5.3 ~~807.4.3~~ Group E. Group E occupancies, shall comply with Sections ~~the requirements in Sections 807.4.3.1 807.5.3.1 through and 807.4.3.2 807.5.3.3 shall apply to occupancies in Group E.~~

807.5.3.1 ~~807.4.3.1~~ Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved smoke detection fire alarm* system installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

807.5.3.2 ~~807.4.3.2~~ Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

807.5.3.3 Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

807.5.4 ~~807.4.4~~ Group I-4, day care facilities. Group I-4 occupancies shall comply with, the requirements in Sections ~~807.4.4.1 807.5.4.1 through and 807.4.4.2 807.5.4.2 shall apply to day care facilities classified in Group I-4.~~

807.5.4.1 ~~807.4.4.1~~ Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved smoke detection fire alarm* system installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

807.5.4.2 ~~807.4.4.2~~ Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

807.5.4.3 Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

807.5.5 Dormitories in Group R-2. In Group R-2 dormitories, within sleeping units and dwelling units, the combustible decorative materials, shall be of limited quantities such that a hazard of fire development or spread is not present. *(relocated and revised from Section 807.1, exception 2)*

807.5.6 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall be of such limited quantities that a hazard of fire development or spread is not present.*(relocated from Section 807.1)*

IFC 807.5.7 Group I-3. In Group I-3, combustible *decorative materials* are prohibited. *(relocated from Section 807.1)*

Reason: The proposed revision is intended to be a clarification of the combustible materials permitted within a space. Specifically, to understand the different requirements for fabric-type decorative materials and paper-type decorative materials and what quantities of each are permitted in various use groups.

Currently, photographs and paintings, in some use groups, are required to be tested and certified to NFPA 701. The scope of this standard does not address paper items such as artwork and photographs and therefore was impossible to comply with.

The scope of NFPA 701 is as follows:

“1.1.1* Test Method 1

1.1.1.1 Test Method 1 shall apply to fabrics or other materials used in curtains, draperies, or other window treatments. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.

1.1.1.2 Test Method 1 shall apply to single-layer fabrics and to multi-layer curtain drapery assemblies in which the layers are fastened together by sewing or other means. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.

1.1.1.3 Test Method 1 shall apply to specimens having an areal density less than or equal to 700 g/m² (21 oz/yd²), except where Test Method 2 is required to be used by 1.1.2.”

Most revisions are editorial and serve to provide better clarity and to group requirements by use group.

807.1 – A general statement was needed so that the requirements match the Section title

The former text in 807.1 was re-organized and is now in Section 807.3 and 807.5 for better clarity.

807.2 – re-number only

807.3 - Since Group I-3 are limited to only non-combustible, the limitation is added to the front of the combustible materials.

The remainder of the sentence is revised for coordination with the next section on acceptance criteria and eliminating redundant reference to NFPA 701. That section starts out with “where required to be flame resistant”. The limitation to “curtains, draperies, hangings and other decorative materials suspended from walls or ceilings” is in the first paragraph in Section 807.1. The addition of the words “fabric” hangings and other “similar” combustible decorative materials is to differentiate between fabrics and films that are covered under NFPA Standard 701 and other materials used for decorative effect, that are discussed in 807.5 for each use group.

Exception 1 is specific to Group A for percentage of materials complying with 701.

Exception 2, curtains for dormitories is relocated from 807.1. It was reformatted to be consistent with the exception for auditoriums. Revised language shown below:

2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceiling of sleeping units and dwelling units in dormitories in Group R-2 shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.

Exception 3, reformatted to put groups first.

807.4 – Deleted text is not needed as this is addressed in 807.2. Added text is intended to specifically reference decorative items that are covered under the NFPA Standard.

807.5 – This proposed revision places requirements for multiple use groups in this section so the listing of groups was deleted. In addition, new section 807.1 already states this section is not applicable to decorative vegetation, so this language was deleted.

807.5.1 – these requirements should apply to all occupancies in this section. Titles at the beginning of each sentence were redundant and not proper code language.

807.5.2 – text re-organized for consistency. The intent is to clarify the following conditions are applicable to Group A

807.5.2.1 – Re-number only

807.5.2.2 - Re-number. This is a subsection of Group A criteria, so group not needed. Consistency between subsections.

807.5.2.3 – Re-number. This is a subsection of Group A criteria, so group not needed. Plus, only in the title, not the text. Consistency between subsections.

807.5.2.4 - Relocated to group with Group A requirements. This is a subsection of Group A criteria, so group not needed. Consistency between subsections.

807.5.3 - text re-organized for consistency. The intent is to clarify the following conditions are applicable to Group E

807.5.3.1 – Re-number. Change in Exception 2 is for consistency in language with Section 907.

807.5.3.2 – Re title and re-number only.

807.5.3.3 - This provide guidance within the classroom as to how much art work is permitted.

807.5.4 - The intent of the first sentence is to clarify that the general provisions are applicable for Group I-4. The phrase “day care facilities” is redundant.

807.5.4.1 – Re-number. Change in Exception 2 is for consistency in language with Section 907.

807.5.4.2 – Re-title and re-number only.

807.5.4.3 – This provide guidance within the classroom as to how much art work is permitted.

807.5.5 - Relocate existing exception 2 in 807.1 related to Group R-2 dormitories. Language is similar to paper in school corridors. NFPA 701 does not apply to Photos or paintings. All Group R are now required to be sprinklered, so the threat of flame spread is reduced. Revised language shown below:

807.5.5 (IBC [F] 806.5.5) Dormitories in Group R-2. In Group R-2 dormitories, within sleeping units and dwelling units, the combustible decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are shall be of limited quantities such that a hazard of fire development or spread is not present.

807.5.6 - Relocate existing Group I-1 and I-2 from 2nd paragraph of 807.1. New 807.3 would apply to curtains in all occupancies, including Group I-1 and I-2. This allowance is just for the paper permitted in the facilities. Revised language shown below:

IFC 807.5.6 Groups I-1 and I-2. In Groups I-1 and I-2, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are be of such limited quantities that a hazard of fire development or spread is not present.

807.5.7 – Re-located from 2nd paragraph of 807.1. Also scoped in 807.3

Cost Impact: None

807.1-F-CARPENTER.doc

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**SECTION 807
DECORATIVE MATERIALS OTHER THAN DECORATIVE VEGETATION IN NEW AND EXISTING BUILDINGS**

807.1 (IBC [F]806.1) General. Combustible decorative materials, other than decorative vegetation, shall comply with Section 807.2

through 807.5.

807.2 General. The following requirements shall apply to all occupancies:

- ~~1. Furnishings or decorative materials of an explosive or highly flammable character shall not be used.~~
- ~~2. Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.~~
- ~~3. Furnishings or other objects shall not be placed to obstruct exits, access thereto, egress there from or visibility thereof.~~
- ~~4. The permissible amount of noncombustible decorative materials shall not be limited.~~

~~**807.2 (IBC [F] 806.2) Noncombustible materials.** The permissible amount of noncombustible decorative material shall not be limited.~~

807.3 (IBC [F] 806.3) Combustible decorative materials. In other than Group I-3, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall ~~comply be flame resistant in accordance with~~ Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which ~~they are~~ it is attached.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish*, ~~shall comply with Section 803 if they cover 10 percent or more of the wall or of the ceiling area~~, and shall not be considered *decorative materials* or furnishings. (*relocated from Section 807.1*)

Exceptions:

1. In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the *International Building Code*.
2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceiling shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1. (*relocated and revised from Section 807.1, exception 1*)
3. In Group B and M occupancies, the amount of ~~combustible~~ fabric partitions suspended from the ceiling and not supported by the floor ~~shall comply with Section 807.4 and~~ shall not be limited.

807.4 (IBC [F] 806.4) Acceptance criteria and reports. Where required to ~~exhibit improved fire performance be flame resistant~~, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall be tested by an *approved* agency and meet the flame propagation performance criteria of Test 1 or Test 2, as appropriate of NFPA 701 or exhibit a maximum rate of heat release of 100kW when tested in accordance with NFPA 289, using the 20 kW ignition source. Reports of test results shall be prepared in accordance with the test method used NFPA 701 and furnished to the *fire code official* upon request.

807.5 Occupancy-based requirements. In occupancies, combustible decorative materials not complying with Section 807.3 shall comply with Sections 807.5.1 through 807.5.7.

807.5.1 General. The following requirements shall apply to all occupancies:

- ~~1. Furnishings or decorative materials of an explosive or highly flammable character shall not be used.~~
- ~~2. Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.~~
- ~~3. Furnishings or other objects shall not be placed to obstruct exits, access thereto, egress there from or visibility thereof.~~

~~**807.5.1-807.5.2 Group A.** In Group A occupancies, the requirements in Sections 807.5.2.1 through 807.5.2.4 shall apply to occupancies in Group A.~~

~~**807.5.1.1-807.5.2.4 Foam plastics.** Exposed foam plastic materials and unprotected materials containing foam plastic used for decorative purposes or stage scenery or exhibit booths shall have a maximum heat release rate of 100 kW when tested in accordance with UL 1975, or when tested in accordance with NFPA 289 using the 20 kW ignition source.~~

Exceptions:

1. Individual foam plastic items or items containing foam plastic where the foam plastic does not exceed 1 pound (0.45 kg) in weight.
2. Cellular or foam plastic shall be allowed for trim in accordance with Section 804.2.

~~**807.5.1.2-807.5.2.2 Motion Picture Screens.** The screens upon which motion pictures are projected in new and existing buildings shall either comply with Section 807.4 or shall comply with the requirements for a Class B interior finish in accordance with Section 803 of the *International Building Code*.~~

~~807.5.1.3-807.5.2.3~~ Wood use in places of religious worship. In places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall not be limited.

~~807.5.1.4-807.5.2.4~~ (IBC [F] 806.4) Pyroxylin plastic. Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used.

~~807.5.2-807.5.3~~ Group E. Group E occupancies, shall comply with Sections the requirements in Sections 807.5.3.1 through 807.5.3.3

~~807.5.2.1-807.5.3.4~~ Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved fire alarm system* installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

~~807.5.2.2-807.5.3.2~~ Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

~~807.5.2.3-807.5.3.3~~ Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

~~807.5.3-807.5.4~~ Group I-4, day care facilities. Group I-4 occupancies shall comply with, the requirements in Sections 807.5.4.1 through 807.5.4.2 .

~~807.5.3.1-807.5.4.1~~ Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved fire alarm system* installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

~~807.5.3.2-807.5.4.2~~ Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

~~807.5.3.3-807.5.4.3~~ Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

~~807.5.4-807.5.5~~ Dormitories in Group R-2. In Group R-2 dormitories, within sleeping units and dwelling units, the combustible decorative materials, shall be of limited quantities such that a hazard of fire development or spread is not present. (*relocated and revised from Section 807.1, exception 2*)

~~807.5.5-807.5.6~~ Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall be of such limited quantities that a hazard of fire development or spread is not present. (*relocated from Section 807.1*)

~~807.5.6-807.5.7~~ Group I-3. In Group I-3, combustible *decorative materials* are prohibited. (*relocated from Section 807.1*)

Committee Reason: This proposal was seen as a good clarification and organization of the requirements in Section 807. A modification was presented that combined elements from F110-13 and made some additional adjustments to clarify the proposal. Section 807.2 in the modification was relocated from the proposed location 807.5.1. Section 807.2 was relocated into item 4 in the new section 807.2. Other revisions related to the appropriate application of NFPA 701 and the addition of NFPA 289 as a viable test for decorative materials.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Dave Frable, representing U.S. General Services Administration, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

807.1 (IBC [F]806.1) General. Combustible decorative materials, other than decorative vegetation, shall comply with Section 807.2 through 807.5.

Exception: The provisions of Section 807 shall not apply to Group F, R-2 other than dormitories, R-3, S and U Occupancies.

807.3 (IBC [F] 806.3) Combustible decorative materials. In other than Group I-3, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached. See Section 807.5.6 for the requirements for Group I-3 occupancies.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish*, shall comply with Section 803 and shall not be considered *decorative materials* or furnishings. (*relocated from Section 807.1*)

Exceptions:

1. In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the *International Building Code*.
2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceiling shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1. (*relocated and revised from Section 807.1, exception 1*)
3. In Group B and M occupancies, the amount of combustible fabric partitions suspended from the ceiling and not supported by the floor shall comply with Section 807.4 and shall not be limited.

(*Portions of proposal not shown remain unchanged.*)

Commenter's Reason: This proposal narrows down the applicability of these provisions. This is consistent to how the occupancies were regulated previously. R-2 dormitories were regulated previously but not R-2 occupancies in general. Additionally, as currently written it would apply to individual apartment units. Occupancies such as F and S are locations where the public is not likely to be present unlike Group M or A occupancies. The reference to the Group I-3 restrictions are necessary as they may be easily missed where currently placed in the new section 807.5.6.

Public Comment 2:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

IFC 807.5.3 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall comply with Sections 807.5.3.1 through 807.5.3.4.

IFC 807.5.3.1 Group I-1 and Group I-2 Condition 1 within sleeping units and dwelling units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1, within sleeping units and dwelling units, combustible decorative materials are limited to not more than 50 percent of the aggregate wall area.

IFC 807.5.3.2 In Group I-1 and Group I-2 Condition 1 for areas other than within sleeping units and dwelling units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1, combustible decorative materials in areas other than within sleeping units and dwelling units are limited to not more than 30 percent of the aggregate wall area.

IFC 807.5.3.3 In Group I-2 Condition 2. In Group I-2 Condition 2 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1, the combustible decorative materials are limited to not more than 30 percent of the aggregate wall area.

IFC 807.5.3.4 Other areas in Groups I-1 and I-2. In Group I-1 and I-2 occupancies, in areas not equipped throughout by an *approved automatic sprinkler system*, the combustible decorative materials, shall be of such limited quantities that a hazard of fire development or spread is not present.

807.5.5 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall be of such limited quantities that a hazard of fire development or spread is not present.

807.5.4 807.5.6 Group I-3. (No change to text)

807.5.5 807.5.3 Group I-4, day care facilities. (No change to text)

807.5.5.1 807.5.3.1 Storage in corridors and lobbies. (No change to text)

807.5.5.2 807.5.3.2 Artwork in corridors. (No change to text)

807.5.5.3 807.5.3.3 Artwork in classrooms. (No change to text)

807.5.6 807.5.4 Dormitories in Group R-2. (No change to text)

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The renumbering is to put the groups addressed in alphabetical order for ease of use. Code change F109 was approved as modified as part of a coordination effort between F109 and F110. This is a good cleanup of the section and is indicated below as it will appear in the 2015 IBC. This change, along with the approval of F3, addressed the issues in F111 with the exception of the allowance for paper in assisted living facilities, nursing homes and hospitals.

The committee did not really express any reasons for not approving the percentages recommended. There was a floor modification that attempted to coordinate F111 with the coordination work being done with F109 and F110 which appeared to confuse the issue.

Section 807.5.5, dealing with Group I-2, while a relocation of existing language, is very open for interpretation and/or unenforceable. This proposal for Section 807.5.3, replaces Section 807.5.5, and pulls the more exact language in F111 to put it here to address situations in Group I-1 and I-2 facilities such as assisted living, nursing homes and hospitals.

SECTION 807 (IBC [F] 806) DECORATIVE MATERIALS OTHER THAN DECORATIVE VEGETATION IN NEW AND EXISTING BUILDINGS

807.1 (IBC [F]806.1) General. Combustible decorative materials, other than decorative vegetation, shall comply with Section 807.2 through 807.5.

807.2 (IBC [F]806.2) General. The following requirements shall apply to all occupancies:

1. Furnishings or decorative materials of an explosive or highly flammable character shall not be used.
2. Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.
3. Furnishings or other objects shall not be placed to obstruct *exits*, access thereto, egress there from or visibility thereof.
4. The permissible amount of noncombustible decorative materials shall not be limited.

807.3 (IBC [F] 806.3) Combustible decorative materials. In other than Group I-3, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish* shall comply with Section 803 and shall not be considered *decorative materials* or furnishings.

Exceptions:

1. In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the *International Building Code*.

2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceiling shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.
3. In Group B and M occupancies, the amount of combustible fabric partitions suspended from the ceiling and not supported by the floor shall comply with Section 807.4 and shall not be limited.

807.4 (IBC [F] 806.4) Acceptance criteria and reports. Where required to exhibit improved fire performance, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall be tested by an *approved* agency and meet the flame propagation performance criteria of Test 1 or Test 2, as appropriate of NFPA 701 or exhibit a maximum rate of heat release of 100kW when tested in accordance with NFPA 289, using the 20 kW ignition source. Reports of test results shall be prepared in accordance with the test method used and furnished to the *fire code official* upon request.

807.5 Occupancy-based requirements. In occupancies, combustible decorative materials not complying with Section 807.3 shall comply with Sections 807.5.1 through 807.5.7.

807.5.1 Group A. In Group A occupancies, the requirements in Sections 807.5.2.1 through 807.5.2.4 shall apply to occupancies in Group A.

807.5.1.1 Foam plastics. Exposed foam plastic materials and unprotected materials containing foam plastic used for decorative purposes or stage scenery or exhibit booths shall have a maximum heat release rate of 100 kW when tested in accordance with UL 1975, or when tested in accordance with NFPA 289 using the 20 kW ignition source.

Exceptions:

1. Individual foam plastic items or items containing foam plastic where the foam plastic does not exceed 1 pound (0.45 kg) in weight.
2. Cellular or foam plastic shall be allowed for trim in accordance with Section 804.2.

807.5.1.2 Motion Picture Screens. The screens upon which motion pictures are projected in new and existing buildings shall either comply with Section 807.4 or shall comply with the requirements for a Class B interior finish in accordance with Section 803 of the *International Building Code*.

807.5.1.3 Wood use in places of religious worship. In places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall not be limited.

807.5.1.4 Pyroxylin plastic. Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used.

807.5.2 Group E. Group E occupancies, shall comply with Sections the requirements in Sections 807.5.3.1 through 807.5.3.3

807.5.2.1 Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved* fire alarm system installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

807.5.2.2 Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

807.5.2.3 Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

807.5.3 Group I-4, day care facilities. Group I-4 occupancies shall comply with, the requirements in Sections 807.5.4.1 through 807.5.4.2 .

807.5.3.1 Storage in corridors and lobbies. Clothing and personal effects shall not be stored in *corridors* and lobbies.

Exceptions:

1. *Corridors* protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. *Corridors* protected by an *approved* fire alarm system installed in accordance with Section 907.
3. Storage in metal lockers, provided the minimum required egress width is maintained.

807.5.3.2 Artwork in corridors. Artwork and teaching materials shall be limited on the walls of *corridors* to not more than 20 percent of the wall area.

807.5.3.3 Artwork in classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.

807.5.4 Dormitories in Group R-2. In Group R-2 dormitories, within sleeping units and dwelling units, the combustible decorative materials, shall be of limited quantities such that a hazard of fire development or spread is not present.

807.5.5 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall be of such limited quantities that a hazard of fire development or spread is not present.

807.5.6 Group I-3. In Group I-3, combustible *decorative materials* are prohibited.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This proposal is being co-sponsored 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.

Public Comment 3:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

807.5.3 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall comply with Sections 807.5.3.1 through 807.5.3.4.

807.5.3.1 Group I-1 and Group I-2 Condition 1 within units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1, within sleeping units and dwelling units, combustible decorative materials placed on walls shall be limited to not more than 50 percent of the wall area to which they are attached.

807.5.3.2 In Group I-1 and Group I-2 Condition 1 for areas other than within units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1, combustible decorative materials placed on walls in areas other than within dwelling and sleeping units shall be limited to not more than 30 percent of the wall area to which they are attached.

807.5.3.3 In Group I-2 Condition 2. In Group I-2 Condition 2 occupancies, equipped throughout by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1, combustible decorative materials placed on walls shall be limited to not more than 30 percent of the wall area to which they are attached.

807.5.3.4 Other areas in Groups I-1 and I-2. In Group I-1 and I-2 occupancies, in areas not equipped throughout by an *approved automatic sprinkler system*, combustible decorative materials shall be of such limited quantities that a hazard of fire development or spread is not present.

807.5.5 Groups I-1 and I-2. In Groups I-1 and I-2 occupancies, combustible *decorative materials* shall be of such limited quantities that a hazard of fire development or spread is not present.

807.5.4 807.5.6 Group I-3. (No change to text)

807.5.5 807.5.3 Group I-4, day care facilities. (No change to text)

807.5.5.1 807.5.3.4 Storage in corridors and lobbies. (No change to text)

807.5.5.2 807.5.3.2 Artwork in corridors. (No change to text)

807.5.5.3 807.5.3.3 Artwork in classrooms. (No change to text)

807.5.6 807.5.4 Dormitories in Group R-2. (No change to text)

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: This comment proposes to integrate the proposed additional requirements (with sprinkler trade-offs) for Group I-1 and Group I-2 Condition 1 occupancies, as proposed by F111, within the accepted language of proposal F109. The proposed language would replace section 807.5.5 from the approved as modified version of proposal F109 by the new language in Section 807.5.3 . The renumbering is consistent with the alphabetical order of the occupancies.. The only other minor added changes made to the proposed language in F111 are the use of the words "decorative materials placed on walls" (because it is not possible to measure decorative materials placed other than on walls) and basing the limitation on the walls to which the decorative materials are attached because that provides added safety.

F109-13

Final Action: AS AM AMPC_____ D

F112-13

808.1, 808.2, 5003.8.7.1, 5003.9.10, 5005.1.10, 5704.3.2.1.1, 5705.2.4, Chapter 80

Proposed Change as Submitted

Proponent: Glen Carter, Justrite Manufacturing Company LLC

Revise as follows:

808.1 Wastebaskets and linen containers in Group I-1, I-2 and I-3 occupancies. Wastebaskets, linen containers and other waste containers, including their lids, located in Group I-1, I-2 and I-3 occupancies shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 or approved in accordance with FM 6921 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 509 of the International Building Code.

808.2 Waste containers with a capacity of 20 gallons or more in Group R-2 college and university dormitories. Waste containers, including their lids, located in Group R-2 college and university dormitories, and with a capacity of 20 gallons (75.7 L) or more, shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 or approved in accordance with FM 6921 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room constructed in accordance

5003.8.7.1 Construction. The interior of cabinets shall be treated, coated or constructed of materials that are nonreactive with the hazardous material stored. Such treatment, coating or construction shall include the entire interior of the cabinet. Cabinets shall either be listed in accordance with UL 1275 or approved in accordance to FM 6050 as suitable for the intended storage or constructed in accordance with the following: with Table 509 of the International Building Code.

5003.9.10 Safety cans. Safety cans shall be listed in accordance with UL 30, UL 1313, or approved in accordance with FM 6051 and FM 6052 when used to increase the maximum allowable quantities per control area of flammable or combustible liquids in accordance with Table 5003.1.1(1). ~~Safety cans listed in accordance with UL 1313 are allowed for flammable and combustible liquids when not used to increase the maximum allowable quantities per control area and for other hazardous material liquids in accordance with the listing.~~

5005.1.10 Liquid transfer. Liquids having a hazard ranking of 3 or 4 in accordance with NFPA 704 shall be transferred by one of the following methods:

1. From safety cans complying with UL 30, UL 1313 or with FM 6051 and FM 6052.
- 2 through 5 (*No change to current text*)

5704.3.2.1.1 Materials. Cabinets shall be listed in accordance with UL 1275, or approved in accordance to FM 6050, or constructed of approved wood or metal in accordance with the following:

5705.2.4 Class I, II and III liquids. Class I liquids or when heated to or above their flash points, Class II and Class III liquids shall be transferred by one of the following methods:

1. From safety cans complying with UL 30, UL 1313 or with FM 6051 and FM 6052 2 through 5 (No change to current text)

Add standards to Chapter 80 as follows:

FM

6050-96 Approval Standard for Storage Cabinets (Flammable and Combustible Liquids 6051 and 6052-76 Approval Standard for Safety Containers and Filling, Supply and Disposal Containers 6921-04 Approval Standard for Cabinets for Combustible Waste

Reason:

- 1) For those proposals adding the appropriate FM Approval standard: FM Approvals is a nationally and globally recognized laboratory who just like UL has construction specifications these safety products have to be built to, performance specification these safety products are tested to before an approval is issued.

FM Approvals publish an approval guide that lists all the products they have approved. And FM Approvals conducts periodic quality assurance audits to assure the approved products are manufactured to the same standards as those products and designs that were submitted for evaluation. All design changes are submitted to FM Approvals for their approval prior to those changes being allowed. The fire tests conducted by both organizations (UL & FM) on these products are to the same time temperature curve.

It is in this spirit that FM Approvals should be included in the IFC as a nationally & globally recognized approval laboratory.

- 2) For those proposals 5003.9.10, 5005.1.10, and 5705.2.4 I am proposing adding UL 1313 for Non-metallic Safety Cans. Non-metallic safety cans are tested the same way as metallic safety cans and are as safe or safer than the metallic safety cans. If you had ever seen a non-metallic safety can in a fire test you would no longer be a skeptical.
 - a) Intuitively, it is hard to imagine a safety can made of polyethylene surviving a fire test. I was curious about this concept until I witnessed our non-metallic safety can in a fire test conducted at UL. In the fire test, the safety can performed very admirably in the way the design met its goals, in not contributing to the spread of fire. Our non-metallic safety can vented on cue. As the vented vapors were being consumed by fire, the level of the liquid fuel lowered in the can. In turn the polyethylene started to melt but, only in the void above the fluid level. The liquid fuel level was protecting the can from melting further by absorbing the heat. As the fluid level went down the safety can's walls melted inward and further down the height of the can above the fuel level. This continued until all the fuel inside the safety can had been consumed while contained within the safety can's walls. There was no spew of fuel; no rupture of the safety can spreading fuel all over the area. That is exactly the intended result of a well-designed safety can. I believe once anyone has witnessed this test and understood the consequences they would be compelled to agree too.
 - b) There are numerous flammable and combustible liquids that are incompatible with metallic safety cans. As an example, isopropyl alcohol will begin to pit a metallic safety can until micro leaks begin to occur. The only safe and compatible solution for storage of this liquid and others is a non-metallic safety can.
 - c) A non-metallic safety can is definitely more robust during a drop test; our non-metallic safety can designs will rebound undamaged because of its superior thick wall strength. The metallic safety can in a drop test will result in a dented and crumpled shell. Both meet the criteria of a safety can but you cannot top the strength and resilience of the poly can.
 - d) Metallic and non-metallic safety cans both benefit work place safety and each are recognized by many local, state, and federal laws. Non-metallic safety cans would be a loss to the safety community if it is not recognized. It is hard to picture what legal & safe alternative will be available to those whose processes that currently requiring non-metallic safety cans. Non-metallic safety cans have long provided a safe solution over makeshift consumer gasoline cans or glass/plastic carboys etc...

Note: The FM 6051 and 6052 are a combined specification covering metallic and non-metallic safety cans.

- 3) I am proposing the deletion illustrated in section 5003.9.10 to allow non-metallic safety cans to be used to allow the increase of MAQs in a control area for those reasons described in 2 a), b), c), & d) above.

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

Analysis: A review of the standards proposed for inclusion in the code, FM 6050-96, FM 6051 and 6052-76 and FM 6921-04, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013. The standard UL 1313 is currently referenced within the IFC.

F112-808.1-F-CARTER

Committee Action Hearing Results

The following is an errata that was not posted to the ICC website.

The bolded current text was not printed with the original proposal:

808.2 Waste containers with a capacity of 20 gallons or more in Group R-2 college and university dormitories. Waste containers, including their lids, located in Group R-2 college and university dormitories, and with a capacity of 20 gallons (75.7 L) or more, shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 or approved in accordance with FM 6921 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room constructed in accordance **with Table 509 of the International Building Code.**

(Portions of proposal not shown remain unchanged)

For staff analysis of the content of FM 6050-96, FM 6051 and 6052-76 and FM 6921-04 relative to CP#28, Section 3.6, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Disapproved

Committee Reason: The proposal was not ready for implementation. One particular concern was that Section 5705.2.4 addresses heated liquids, which is outside the scope of the proposed referenced standard UL1313. Also there was confusion with the term "approved" as it is used differently within the proposal than as defined in Section 202. There was also concern that materials other than metal were being addressed in a section only dealing with metal containers.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

808.1 Wastebaskets and linen containers in Group I-1, I-2 and I-3 occupancies. Wastebaskets, linen containers and other waste containers, including their lids, located in Group I-1, I-2 and I-3 occupancies shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 or approved in accordance with FM 6921 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 509 of the International Building Code.

Exception: Portable containers complying with FM6921 and limited to clean waste recycling or disposal of patient records and does not exceed 96 gallons (363 L) shall not be required to be stored in an area classified as a waste and linen collection room.

(Portions of proposal not shown remain unchanged.)

Reason: This allows for the option of compliance with FM6921 and addresses the committees concern over the "approved" language. The scope of this public comment is limited to concerns with Group I-2 concerns and their 'green' recycling initiatives and patient privacy with regard to proper disposal of medical records.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls

which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This proposal is being co-sponsored 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.

F112-13

Final Action:

AS

AM

AMPC____

D

F119-13

903.2.1

Proposed Change as Submitted

Proponent: Daniel E. Nichols, P.E., New York State Department of State (dan.nichols@dos.ny.gov)

Revise as follows:

903.2.1 Group A. An *automatic sprinkler system* shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the *automatic sprinkler system* shall be provided throughout the floor area where the Group A-1, A-2, A-3 or A-4 occupancy is located, and in all floors from the Group A occupancy to, and including, the nearest *level of exit discharge* serving the Group A occupancy. For Group A-5 occupancies, the *automatic sprinkler system* shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.1.1 Group A-1. An *automatic sprinkler system* shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The *fire area* exceeds 12,000 square feet (1115 m²).
2. The *fire area* has an *occupant load* of 300 or more.
3. The *fire area* is located on a floor other than a *level of exit discharge* serving such occupancies.
4. The *fire area* contains a multitheater complex. When separate fire areas share exit or exit access components that have a cumulative occupant load of 300 or more.

903.2.1.2 Group A-2. An *automatic sprinkler system* shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The *fire area* exceeds 5,000 square feet (464 m²).
2. The *fire area* has an *occupant load* of 100 or more.
3. The *fire area* is located on a floor other than a *level of exit discharge* serving such occupancies.
4. When separate fire areas share exit or exit access components that have a cumulative occupant load of 300 or more.

903.2.1.3 Group A-3. An *automatic sprinkler system* shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The *fire area* exceeds 12,000 square feet (1115 m²).
2. The *fire area* has an *occupant load* of 300 or more.
3. The *fire area* is located on a floor other than a *level of exit discharge* serving such occupancies.
4. When separate fire areas share exit or exit access components that have a cumulative occupant load of 300 or more.

903.2.1.4 Group A-4. An *automatic sprinkler system* shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The *fire area* exceeds 12,000 square feet (1115 m²).
2. The *fire area* has an *occupant load* of 300 or more.
3. The *fire area* is located on a floor other than a *level of exit discharge* serving such occupancies.
4. When separate fire areas share exit or exit access components that have a cumulative occupant load of 300 or more.

Reason: Under the current provisions for sprinkler protection in assembly occupancies, the option of a fire area allows for compartmentation to be utilized in place of installing a sprinkler system. The issue with this arrangement is that multiple small

assembly occupancies can be placed in a single story building and not trigger a sprinkler system because of the installation of a rated corridor and separation wall.

This proposal adds the requirement that sprinkler systems shall be added when the convergence of more than 300 persons shares an exit. This is consistent with the intent of automatic sprinkler systems being required for life safety and to maintain tenable exiting in a fire event. A fire event that is near an exit is the same whether there are 300 occupants in one room or three rooms with 100 occupants each sharing an exit. This is also consistent with the requirement in the current IFC for A-1 occupancies in "multitheater complex", which is a requirement for anytime two or more theaters are in the same tenancy and does not consider occupant load as a trigger.

This proposal still provides options for those single story buildings with multiple tenancies that have separate exits and utilize the fire area separation concept; such as buildings with multiple restaurants with separate entrances and strip-style mall buildings.

The State of New York has had experience in both fire losses and new building construction with this topic. First, the Stouffer's Inn and conference center in 1981 killed 23 top-level executives when a fire in a common hallway trapped occupants in several small (50-100 person) conference rooms. Second, the fire area method of separating A-3 occupancies has provided a way to not sprinkler college and university lecture room buildings by separating the spaces but having room occupant loads approaching 1,000 people in the common hallway.

This proposal is submitted with the endorsement of the New York State Building Officials Conference, the New York State Fire Marshals and Inspectors Association, and the Association of Fire Districts of New York State.

Cost Impact: For buildings that have previously utilized the passive method of separating assembly occupancies when exiting is shared, this will increase the cost of construction due to the additional sprinkler requirement.

903.2.1-F-NICHOLS

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The terminology "when separate fire areas share exit or exit access components" was confusing. More specifically it was unclear what occupancies were sharing with the Group A occupancy. Second, concerns were raised with the deletion of the specific requirement for multi-theater complexes.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Daniel E. Nichols, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

903.2.1.6 Multiple fire areas. An automatic sprinkler system shall be provided where multiple fire areas of Group A-1, A-2, A-3, or A-4 occupancies share exit or exit access components and the combined occupant load of these fire areas is 300 or more.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: Much discussion was held on this topic in Dallas; mainly regarding the potential confusion of the language, the applicability to buildings with different types of assembly use groups, and coordination with other sections of the IBC.

This public comment has moved the originally proposed modifications to 903.2.1.1 through 903.2.1.4 to a new 903.2.1.6. This modification is done to address the different assembly use group issue. The language of the proposal has been modified to create a qualifier (...where multiple fire areas of Group A-1...) and the two conditions (1. share exit or exit access components and 2. the occupant load of the fire area is 300 or more). This is done to minimize confusion of when this section is used, as well as to direct the code user what the bounds of the occupant load are (i.e. the occupant load of the fire areas, not the exit or exit access components).

The multitheater complex is being retained. No changes to 903.2.1.1 through 903.2.1.4 are being considered in this proposal.

F119-13

Final Action:

AS

AM

AMPC_____

D

F120-13

903.2.1

Proposed Change as Submitted

Proponent: Carl D. Wren, P.E., Austin Fire Department, representing self (carl.wren@austintexas.gov)

Revise as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor area where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and ~~in~~ throughout all floors of the building ~~from~~ above or below the Group A occupancy to, and including, the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for fire areas containing Group A-1 occupancies and intervening floors of the building that impact the egress pathways where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The fire area contains a multitheater complex.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for fire areas containing Group A-2 occupancies and intervening floors of the building that impact the egress pathways where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building that impact the egress pathways where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for fire areas containing Group A-4 occupancies and intervening floors of the building that impact the egress pathways where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes and other accessory use areas in excess of 1,000 square feet (93 m2).

Reason: The current code language can be somewhat confusing since the charging language in 903.2.1 deals with the occupancy and certain building areas outside the occupancy but the language in subsections 903.2.1.1, 903.2.1.2, 903.2.1.3 and 903.2.1.4 require the "occupancy" to be protected by fire sprinklers while it addresses the thresholds in terms of the size of the "fire area". It is not the intent of this proposal to change the requirements of this section, only to clarify them.

Cost Impact: This code change is being proposed as an effort to clarify potentially confusing language and will not increase the cost of construction.

903.2.1F-WREN

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all floors of the building ~~from above or below~~ the Group A occupancy to, and including, the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for fire areas containing Group A-1 occupancies and intervening floors of the building ~~that impact the egress pathways~~ where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The fire area contains a multi-theater complex.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for fire areas containing Group A-2 occupancies and intervening floors of the building ~~that impact the egress pathways~~ where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building ~~that impact the egress pathways~~ where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for fire areas containing Group A-4 occupancies and intervening floors of the building ~~that impact the egress pathways~~ where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes and other accessory use areas in excess of 1,000 square feet (93 m2).

Committee Reason: The committee felt that this proposal better clarified the application of 903.2.1 than proposal F117-13. Several modifications were made to further clarify the application of the proposal. The first removes "above or below" and restores the term "from." This will address above or below grade situations as necessary. The next modification removes the language "that impact the egress pathways" as the language was felt difficult to enforce.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Gregory R. Keith, Professional heuristic Development, representing The Boeing Company, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the story floor where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all stories floors of the building from the Group A occupancy to, and including, the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for fire areas containing Group A-1 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The fire area contains a multi-theater complex.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for fire areas containing Group A-2 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m²).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for fire areas containing Group A-4 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes and other accessory use areas in excess of 1,000 square feet (93 m²).

Commenter's Reason: This public comment for approval as further modified is intended to be entirely editorial in nature. It replaces the term "floor(s)" with the term "story(s)" in two locations. Floor is not a defined term in the IBC or IFC. Story is a defined term: "That portion of a building included between the upper surface of a floor and the upper surface of the floor..." Additionally, Section 903.2.1 refers to the "level of exit discharge." That term is defined as, "The story at the point at which an exit terminates and an exit discharge begins." Replacement of the term "floor" with the term "story" will be consistent with current IBC/IFC terminology and will assist code users by clarifying the application of this important provision.

Public Comment 2:

Maureen Traxler, representing City of Seattle Dept of Planning & Development, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. ~~For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all floors of the building from the Group A occupancy to, and including, the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.~~

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided ~~for~~ throughout the floor where fire areas containing Group A-1 occupancies are located and ~~intervening floors~~ throughout all floors of the building from the Group A-1 occupancy to, and including, the nearest level of exit discharge serving the Group A-1 occupancy where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The fire area contains a multi-theater complex.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided ~~for~~ throughout the floor where fire areas containing Group A-2 occupancies are located and ~~intervening floors~~ throughout all floors of the building from the Group A-2 occupancy to, and including, the nearest level of exit discharge serving the Group A-2 occupancy of the building where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided ~~for~~ throughout the floor where fire areas containing Group A-3 occupancies are located and ~~intervening floors~~ throughout all floors of the building from the Group A-3 occupancy to, and including, the nearest level of exit discharge serving the Group A-3 occupancy of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided ~~for~~ throughout the floor where fire areas containing Group A-4 occupancies are located and ~~intervening floors~~ throughout all floors of the building from the Group A-4 occupancy to, and including, the nearest level of exit discharge serving the Group A-4 occupancy of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes and other accessory use areas in excess of 1,000 square feet (93 m2).

Commenter's Reason: The proposal clarified the questions of whether sprinklers are required only in the occupancy or also outside the occupancy. Another question arises, however, of whether sprinklers are required on the floor where the A occupancy is located, or in the fire area which may be different than the floor. The charging paragraph says sprinklers are required throughout the floor, but the subsections only require sprinklers in the fire area. (In both places, the sprinklers are required to extend to the level of exit discharge.) To clarify, this modification moves language from the charging paragraph to the subsections for each A group. The modification also clarifies what is meant by "intervening floors." The original proposal doesn't clearly state what the floors intervene between. Any redundancy created by the modification is justified by the additional clarity and ease of applying the Group A sprinkler requirements.

F120-13

Final Action: AS AM AMPC _____ D

F124-13
903.2.1.6 (New)

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

903.2.1.6 (IBC [F] 903.2.1.6) Assembly use on roofs. Where an occupied roof has an assembly use with an occupant load exceeding 100, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: Currently the code states that if you have a fire area containing an A-2 Assembly on a floor other than the floor of exit discharge, that floor level and all floors to the level of exit discharge must be sprinklered. Frequently, roof tops are being used and occupied as assemblies. Building owners will provide an open air roof-top bar or lounge, or other use similar to a Group A-2 occupancy on the roof of a building.

The roof of the building does not meet the definition of a fire area. So protection of the occupants can be less than what would otherwise be required if the occupancy was on a floor rather than on the roof.

The current fire sprinkler threshold for Group A-2 is an occupant load of 100. It is appropriate to apply this same threshold to the occupant load on the roof.

This proposal will require that when a roof top is occupied for an assembly use AND the occupant load exceeds 100, then the building must be protected with sprinklers. This proposal does not require that the roof top itself is sprinklered, but provides sprinkler protection on all floors to the level of exit discharge.

The reference to Section 903.3.1.2 is added, since this use can occur on the roof of multi-family housing facilities.

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

903.2.1.6 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

903.2.1.6 (IBC [F] 903.2.1.6) Assembly use occupancy on roofs. Where an occupied roof has an assembly use occupancy with an occupant load exceeding 100, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Committee Reason: Requiring an automatic sprinkler system within a building where a group A occupancy is located on the roof was felt to be a necessary lifesafety requirement. This is consistent with the requirements in Section 903.2.1 that protect the occupants from hazards they may need to egress through. The occupants of the Group A occupancy, whether within the building or on the roof, are unaware of the hazards in the building and need to evacuate through the building. There was some concern that this proposal along with F122-13 were overly restrictive. Sprinklers would be required when the occupant load of the Group A occupancy exceeds 100. The modification revises the term "use" to "occupancy" to be consistent with the use of the terms in the I-Codes.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Emory Rodgers, VDHCO, representing self, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.1.6 Assembly occupancy on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Commenter's Reason:

- Other Group A occupancies require sprinklers at 300 occupants not 100 that is only for A-2's. These other Group A's could have roof assemblies.
- The fire data clearly demonstrates there is no need to have such stringency for all other Group A occupancies
- In fact this Group A roof assembly and the 903.2.1 for Group A occupancies already will trigger sprinklers for any unsprinkled occupancy with a Group A-2 occupancy when on a 1st floor for that entire floor to be sprinkled or any other floors to sprinkle the entire building.
- Support the AM challenge for open parking garages and this AM challenge to allow 300 occupants for Group A-1's, A-3's and A-4's.

Public Comment 2:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.1.6 (IBC [F] 903.2.1.6) Assembly occupancy on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Exception: Open parking garages of Type I or II construction.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The proposed exception for open parking garages is consistent with the existing code requirement exception for open parking garages under Section 903.2.11.3 for "Buildings 55 feet or more in height".

It is becoming more common in the urban renewal areas throughout the US that jurisdictions are asking developers to provide additional recreational and green spaces for its citizens to enjoy within their own communities. Because of the limited space available it is not uncommon for such recreational and green spaces to be provided on the roofs of open parking garages. Based on the existing wording of this new Section (903.2.1.6) of code, these recreational and green spaces greater than 700 sq. ft. (based on 7 sq. ft. net /occupant) or 1500 sq. ft. (based on 15 sq. ft. net /occupant) would now require the open parking garage to be sprinklered. In other words, an open recreational or green space on a roof of an open parking structure that is more than a 26' to 39' square would require the garage to be sprinklered with a dry pipe sprinkler system that is initially a major cost to the project as well as a major monthly and yearly maintenance expense. Such an expense would most likely have an adverse affect on developers doing major city urban renewal projects from agreeing to provide such amenities for the local jurisdiction.

There is considerable supporting data for this proposed exception for open parking garages in the following national publications:

1. 2006 NFPA Fire Data Report, "Structure and Vehicle Fires in General Vehicle Parking Garages"
2. 2008 Parking Consultants Council Fire Safety Committee Report, "Parking Structure Fire Facts"

These fire reports provide the following justifications for support of this public comment:

1. There is an average of only 660 fire/year in **all** types of parking garages in the US. This represents only 0.006% of all the annual fires/year in the US in all occupancy classifications. These fires caused an annual average of under one death, 11 injuries. However, for parking garages constructed of Construction Type I or II, they account for only 200 fire/year with no fire deaths, and only 2 injuries/year. Therefore, fires in parking garages occur very infrequently, especially for Construction Type I or Type II parking garages.
2. No structural damage occurred in 98.7% of vehicle fires in parking garages.
3. Vehicle fires in parking garages typically do not spread (external spread of vehicle fires occurred in only 7% of the incidents).

Public Comment 3:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.1.6 (IBC [F] 903.2.1.6) Assembly occupancy on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Exception: Open Parking Garages of Construction Type I or II.

Commenter's Reason: This comment is not challenging the addition of a general requirement to sprinkler building areas beneath an unenclosed assembly use located on a roof. However, adding this requirement for buildings having a rooftop assembly area with an open parking garage beneath is excessive. There has been no documentation presented to suggest that such an arrangement would expose occupants of the open rooftop area to any significant risk. Although a vehicle fire below may transmit some smoke to the roof, it is incumbent on the proponent to demonstrate that the level of associated risk for such an event is acute to warrant a new requirement. Lacking that demonstration, the proposed exception, which has been limited to Type I and Type II construction, is appropriate, and it is consistent with many other allowances for open parking structures in the IBC and IFC.

Public Comment 4:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Disapproval.

Commenter's Reason: Adding requirements for levels below the roof to be protected without any consideration for the number of levels and the configuration of the means of egress from the roof is inappropriate. A single story building with a rooftop dining area or bar would be required to install sprinklers in the first floor even if it had no connection with the rooftop operation and shared no means of egress with that floor.

F124-13

Final Action: AS AM AMPC_____ D

F125-13

903.2.2 (New)

Proposed Change as Submitted

Proponent: Daniel E. Nichols, P.E., New York State Department of State (dan.nichols@dos.ny.gov)

Add new text as follows:

903.2.2 Group B. An automatic sprinkler system shall be provided throughout all buildings containing a Group B occupancy where a Group B fire area is located more than three stories above grade plane.

~~903.2.2~~ **903.2.2.1 Ambulatory Care Facilities.** (No Changes)

Reason: This proposal is to set a requirement for automatic sprinkler systems to be installed in mid-rise business occupancies. Currently, the only requirement for automatic sprinkler protection in Group B occupancies is when the building meets one of the specific hazard requirements in IFC 903.2.11, generally the occupied floor (30 people) over 55 feet in height requirement.

The State of New York has required the installation of automatic sprinkler systems in all buildings over 30 feet in height for the past 10 years. A majority of that reasoning is to require business and educational occupancies to have an automatic sprinkler system for buildings over 3 stories. The reasoning for this lower height for sprinkler protection is due to the following:

1. Firefighting operations on higher levels is increasing challenging. The IFC already implicitly recognizes the extra challenges by requiring standpipe systems at the 30 feet or more height measurement as well as aerial apparatus access roads (in Appendix D). With the excellent performance of automatic sprinkler systems, the hazards to firefighters is greatly reduced.
2. Group B occupancies create a fire control problem by a majority of floor spaces being open. With the change of the materials used to construct furnishings, smoke produces a greater obscuration of the environment and makes finding the source of the fire more difficult. Other open space floor plan occupancies, such as Group M and F-1 occupancies, already have sprinkler thresholds for buildings above three stories.
3. Group B occupancies are not required to have any automatic fire alarm or detection requirements. The requirement for automatic sprinkler systems to be monitored provides a system to give accelerated warning of a fire within the building, evacuates the area and starts first responders to the scene.
4. In 2011, a Fire Captain in Asheville, North Carolina died while operating on an upper floor of a mid-rise office building that was not sprinkler protected. Several crew members, including the deceased, ran out of breathing air which was attributed to the need for utilizing air during the stair ascent. An automatic sprinkler systems would have allowed firefighters, at a minimum, to not encounter such heavy smoke conditions on lower floors during entry and allow for their air supply to be more adequate for fire attack operations. Information on this fire and recommendations for the installation of fire suppression systems in these occupancies is found in the NIOSH firefighter fatality report # F2011-18.

Over the past 10 years, the State of New York has not been petitioned to omit the sprinkler system on the new construction of mid-rise office buildings (3-7 stories). Many find that the sprinkler system allows for the use of a Class 1 standpipe system. NFPA 14, the referenced standard for standpipe system installation, permits Class 1 standpipes to be of manual wet design. This allows a building with a marginal water supply to use either street pressure or a smaller fire pump to run the sprinkler system and allow the FD to pump the pressures required to the standpipe. Without the sprinkler system, the building is responsible for providing at least 100 psi for at least 750 GPM of flow (2 stairways minimum).

This proposal is submitted with the endorsement of the New York State Building Officials Conference, the New York State Fire Marshals and Inspectors Association, and the Association of Fire Districts of New York State.

Cost Impact: This proposal will add costs to the construction of 4 to 6 story buildings that are not already using sprinklers for a 'tradeoff' of other code requirements. Cost savings may be achieved by not requiring an automatic Class III standpipe, but a manual Class I standpipe.

903.2.2 (NEW)-F-NICHOLS

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal to add sprinklers for Group B occupancies more than 3 stories above grade plane was seen as overly restrictive. Section 903.2.11.3 already requires buildings with floor levels with an occupant load of 30 or more that are located 55 feet or more above the lowest level of fire department vehicle access to have an automatic sprinkler system. This was felt to be an adequate requirement. Also, loss data to support this requirement were not presented.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Daniel E. Nichols, requests Approval as Submitted.

Commenter's Reason: In Dallas, the comments asking for disapproval of this code change proposal mainly included validation of the need by fire reports as well as the reliance of the 55 foot sprinkler requirement for almost every use group.

As it applies to fire reporting, the NFPA report "U.S. Structure Fires in Office Properties" (November 2010) reports that only 20% of fires in office buildings occur during normally closed hours (10p-7a) but constitute 55% of direct property damage, or \$59.4 million over 5 years. Further, 19% of fires occurred on weekends but constituted 30% of associated property loss. Even in the executive summary, "These findings highlight the need for automatic detection and extinguishing equipment to protect these properties when they aren't occupied."

To correlate these findings with the original proposal- firefighting in upper floors of buildings is more hazardous than operating on grade level due to the need to use interior stairways to advance handlines and the need for the use of ladders for rescue, entry, and ventilation. Even though the IFC requires the installation of a standpipe system for buildings greater than 30 feet in height, providing an automatic sprinkler system in Group B occupancies when the building hits 4 stories is needed to address the need for fire control and safer firefighting operations in an occupancy with a record of damage in off-hours. The record of the buildings having a low civilian causality rate is noted; but doesn't provide to the needs of firefighters (as described in the original proposal).

To the use of the 55 foot requirement to handle sprinkler coverage, this proposal was submitted using identical language found for Group F-1, M, and S-1 occupancies as it relates to building height (above 3 stories). The fire area square footage requirements were not carried over since the proposal is not based on control areas, but firefighter access to upper levels. With the fire statistics seen in the NFPA report in office properties, it seems appropriate that a Group B is more like an A, F-1, M, and S-1 (all require sprinklers at 4 stories) rather than noncombustible fabrication and storage facilities.

F125-13

Final Action: AS AM AMPC____ D

F126-13

903.2.4, 903.2.7, 903.2.9

Proposed Change as Submitted

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

Revise as follows:

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

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. ~~A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).~~

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

1. A Group M fire area exceeds 12,000 square feet (1115 m²).
2. A Group M fire area is located more than three stories above grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. ~~A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).~~

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

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m²).
5. ~~A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).~~

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

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

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

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

Cost Impact: This will reduce the cost of construction.

903.2.4-F-THOMAS

Committee Action Hearing Results

Committee Action:

Disapproved

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

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

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

Replace the proposal as follows:

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

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group F-1 occupancy where the floor area used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

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

1. A Group M fire area exceeds 12,000 square feet (1115 m²).
2. A Group M fire area is located more than three stories above grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group M occupancy where the floor area used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).

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

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m²).
5. A Group S-1 occupancy where the floor area used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

Commenter's Reason: It was obvious that the committee and the opposition felt that it was important to provide sprinklers in occupancies that contain upholstered furniture and mattresses. Therefore, this public comment makes the language clearer to understand the intent of the requirement. The current language is confusing. It is not clear what the area includes. In discussion with

staff and other people involved in this change, the intent is to require sprinklers when the floor area of the actual material exceeds the threshold. The proposed language clarifies this and agrees with the interpretation of ICC.

Public Comment 2:

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

Replace the proposal as follows:

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

1. A Group M fire area exceeds 12,000 square feet (1115 m²).
2. A Group M fire area is located more than three stories above grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).

903.2.7.1 Display and sale of upholstered furniture or mattresses. An automatic sprinkler system shall be provided throughout the fire area of a Group M occupancy used for the display and sale of upholstered furniture or mattresses where the fire area exceeds 5,000 square feet (464 m²).

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

Public Comment 3:

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

Replace the proposal as follows:

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

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group F-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

903.2.4.3 Group F-1 manufacture of upholstered furniture or mattresses. An automatic sprinkler system shall be provided throughout the fire area of a Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses where the fire area exceeds 2,500 square feet (232 m²).

(Renumber following section.)

Commenter's Reason: The current code as written is overly restrictive. We understand the hazards faced by first responders but the current text would require the entire building that contained an F-1 occupancy exceeding 2,500 square feet that had any amount of upholstered furniture or mattresses being manufactured to be fully sprinkled. This includes F-1 occupancies that had one chair or one mattress being manufactured. Properly designed and constructed fire-resistive assemblies have proven to be very effective in controlling fire spread and smoke. The code requires in Section 901.7 that in order reduce the fire area below the limits for fire

protection you have to comply with Section 707.3.9. This would require a minimum 3-hour fire barriers or horizontal assemblies for an F-1 occupancy. Limiting F-1 occupancies to a maximum fire area of 2,500 of a fire area with 3-hour assemblies will provide the safety features needed for this type of commodity. The NIST fire report which these sprinkler requirements were based detailed the fire spread though different parts of the building that would not have occurred if 3-hour fire barriers had been present. Tying the requirement to fire area instead of the whole building approach lessens the impact on adjoining existing occupancies without reducing the level of protection for upholstered furniture and mattresses.

Public Comment 4:

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

Replace the proposal as follows:

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

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m²).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m²).
5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

903.2.9.1 Storage of upholstered furniture or mattresses. An automatic sprinkler system shall be provided throughout the fire area of a Group S-1 occupancy used for the storage of upholstered furniture or mattresses where the fire area exceeds 2,500 square feet (232 m²).

(Renumber following sections.)

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

F126-13

Final Action: AS AM AMPC _____ D

F127-13

903.2.5.2 (New) [IBC [F] 903.2.5.2] (New) 903.2.5.2.1 (New) [IBC [F] 903.2.5.2.1 (New)] 903.2.5.2.2 (New) [IBC [F] 903.2.5.2.2 (New)]

Proposed Change as Submitted

Proponent: Brad Emerick, Denver Fire Department representing the Fire Marshal's Association of Colorado (FMAC) and the Colorado Chapter of the ICC (CCICC) (brad.emerick@denvergov.org)

Add new text as follows:

903.2.5.2 (IBC [F] 903.2.5.2) Group H-3 Bulk storage of distilled spirits. Automatic Sprinkler system requirements for bulk storage of distilled spirits in wooden barrels and casks shall be in accordance with Sections 903.2.5.2.1 and 903.2.5.2.2.

903.2.5.2.1 (IBC [F] 903.2.5.2.1) Ceiling sprinklers. Distilled spirits stored in wooden barrels and casks in H-3 fire areas shall be protected with ceiling sprinklers in accordance with the requirements for relieving-style metal containers in-NFPA 30 for the following storage configurations

1. Double-row racks with a load depth of no more than 3 barrels per row on each rack and 10 feet or less in height, or
2. Single-row racks with no more than 4 barrels per row, and 10 feet or less in height

903.2.5.2.2 (IBC [F] 903.2.5.2.2) Engineered systems. An approved engineered automatic sprinkler system design or an automatic sprinkler system in accordance with other nationally-recognized standards or recommended practices acceptable to the fire code official is required for bulk storage of distilled spirits stored in wooden barrels and casks in Group H-3 fire areas for any of the following storage configurations.

1. Storage in multi-row racks with three or more rows of racks
2. The number of barrels or casks per row exceeds that specified in Section 903.2.5.2.1.
3. Storage height Greater than 10 feet.

(Renumber subsequent sections)

Reason: There is confusion about the applicability of flammable liquid (Chapter 57) and hazardous materials (Chapter 50) provisions to distilled spirits because of the exceptions for distilled spirits and wines stored in wooden barrels and casks in IFC Chapters 50 and 57 (and NFPA 30). The issue arises because of the growing popularity of "boutique" or "craft" distillers locating their operations in urban areas. The proposed language clarifies bulk storage provisions for distilled spirits but does not alter the intent. The proposed language does not affect provisions applicable to use, nor those applicable to liquor storage in retail or wholesale establishments.

First, note distilled spirits are Class 1C and Class 1B flammable liquids. They are primarily comprised of ethyl alcohol (ethanol) and water with concentrations ranging from approximately 19% to 99%. The boiling point of pure ethanol is approximately 178°F so an ethanol mixture with water will boil between 178°F and 212°F. The closed cup flash point for a 19% concentration of ethanol in water is 100°F and for a 58% concentration is 73°F making the mixtures in this range Class 1C flammable liquids (these values are not adjusted for altitude). Ethanol concentrations in water between 58% and 99% are Class 1B flammable liquids.

Second, the Building Code establishes occupancy. If a quantity of a Class 1B or Class 1C flammable liquid exceeding the maximum allowable quantity (MAQ), the room in which it is located is an H3 Occupancy. Please remember this applies to bulk storage (casks, barrels, metal containers, etc. exceeding 1.3 gallon capacities) and not liquor stores and wholesale distributors for which there are several exceptions.

Third, H occupancies have to be sprinklered. The sprinklering requirements for flammable and combustible liquids are outside the scope of NFPA 13. NFPA 13 points to NFPA 30 (Flammable and Combustible Liquids Code) for detailed requirements. Ethanol stored in any container larger than those excepted for retail – other than wood – is addressed there.

This is not because wood is inherently safer than metal, plastic or glass – it is not. It was probably inserted in the legacy code(s) back when casks were stored in liquid storage warehouses separated by hundreds of feet from one another and urban distilleries weren't contemplated. It was probably held over today because there is not yet an established sprinkler criteria for the storage of Class 1C flammable liquids in wooden barrels and casks. THIS HOWEVER DOES NOT MEAN THESE ROOMS SHOULD BE EXEMPT FROM SPRINKLERING REQUIREMENTS!

Fourth, there is no established sprinkler criteria for flammable and combustible liquids stored in wood casks. The modification proposed to Section 903.2.5.2 provides a baseline sprinkler criteria for distilled spirit storage quantities over the Class 1C flammable liquid MAQ, up to 10 feet in height, 2 racks (flu space) with 3 barrels per row in each rack, or single rack with 4 barrels per row. An engineered sprinkler design is required for quantities over the MAQ stored in a manner that exceeds any of these parameters. The language allows the fire code official the latitude to accept published recommended industry practices in lieu of an engineered design or test.

Relieving-style containers are identified because the wooden barrels and casks will release their contents when exposed to fire as the metal bands expand and the staves separate. Metal is identified because plastic and glass are much more vulnerable than wood. Ten foot height is identified as this envelopes the maximum storage heights of wooden barrels and casks typically seen in craft distilleries and is well below the 25 foot storage height permitted in NFPA 30 for relieving-style metal containers.

Last, please note that except for establishing a baseline sprinkler design criteria, the applicable code requirements have not been changed.

Cost Impact: This change will not affect the cost of construction.

903.2.5.2-F-EMERICK

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved based upon the proponent's request. This request by the proponent was related to the need to correlate with F285-13.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brad Emerick, Denver Fire Department, representing Fire Marshal's Association of Colorado (FMAC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

903.2.5.2 (IBC [F] 903.2.5.2) Group H-3 Bulk storage of distilled spirits in wooden barrels and casks. The bulk storage of distilled spirits in wooden barrels and casks shall be protected by an engineered automatic sprinkler system or by a sprinkler system designed in accordance with nationally-recognized standards or recommended practices acceptable to the fire code official. Automatic Sprinkler system requirements for bulk storage of distilled spirits in wooden barrels and casks shall be in accordance with Sections 903.2.5.2.1 and 903.2.5.2.2. ~~Automatic sprinkler protection in accordance with NFPA 30 for relieving style metal containers shall be considered to comply with the requirements of this section for the following configurations.~~

1. Double-row racks with a load depth of no more than 3 barrels per row on each rack and 10 feet or less in height, or
2. Single-row racks with no more than 4 barrels per row, and 10 feet or less in height

903.2.5.2.1 (IBC [F] 903.2.5.2.1) Ceiling sprinklers. ~~Distilled spirits stored in wooden barrels and casks in H-3 fire areas shall be protected with ceiling sprinklers in accordance with the requirements for relieving-style metal containers in NFPA 30 for the following storage configurations~~

1. ~~Double-row racks with a load depth of no more than 3 barrels per row on each rack and 10 feet or less in height, or~~
2. ~~Single-row racks with no more than 4 barrels per row, and 10 feet or less in height~~

903.2.5.2.2 (IBC [F] 903.2.5.2.2) Engineered systems. ~~An approved engineered automatic sprinkler system design is required for bulk storage of distilled spirits stored in wooden barrels and casks in Group H-3 fire areas for any of the following storage configurations.~~

1. ~~Storage in multi-row racks with three or more rows of racks~~
2. ~~The number of barrels or casks per row exceeds that specified in Section 903.2.5.2.1.~~
3. ~~Storage height Greater than 10 feet.~~

Commenter's Reason: The issue arises because of the growing popularity of "boutique" or "craft" distillers locating their operations in urban areas. Because there is no established sprinkler criteria for flammable and combustible liquids stored in wooden barrels and casks, the codes require an engineered design for the sprinkler protection in H3 fire areas regardless of the size operation

(explanation below*). But the quantity, storage volume, and storage height typically used in micro-distilleries typically do not present the hazard of large-scale operations. The proposed language specifies small-scale storage configurations where an "off the shelf" sprinkler design detailed per NFPA 30 may be used so the operators are not required to hire an engineer or have tests conducted in order to open their operations. The proposed language does not affect provisions applicable to use, dispensing or handling, or those applicable to liquor storage in retail or wholesale establishments.

The proposed language provides a sprinkler design criteria for distilled spirit storage quantities in excess of the Class 1B/1C flammable liquid MAQ, up to 10 feet in height. Either a 2 racks (flu space) with 3 barrels per row in each rack, or single rack with 4 barrels per row would be permitted. An engineered sprinkler design is required for any storage configuration that exceeds any of these parameters. The language allows an engineered design to be accepted in any case and also provides the fire code official latitude to accept published recommended industry practices in lieu of an engineered design or test.

Relieving-style containers are identified because the wooden barrels and casks will release their contents when exposed to fire as the metal bands expand and the staves separate. Metal is identified because plastic and glass are much more vulnerable than wood and the corresponding sprinkler criteria is too conservative. A 10' height is identified as this envelopes the maximum storage heights of wooden barrels and casks typically seen in craft distilleries while well below the 25' storage height permitted in NFPA 30 for relieving-style metal containers.

***Explanation for an engineered sprinkler design:**

There is confusion about the applicability of flammable liquid (Chapter 57), hazardous materials (Chapter 50), and NFPA 30 provisions to distilled spirits because of the exceptions for distilled spirits and wines stored in wooden barrels and casks contained therein.

First, note ethanol/water mixtures ranging from approximately 19% concentration of alcohol by volume (ABV) to pure ethanol (100% ABV) are Class 1C and Class 1B flammable liquids. Ethanol/water mixtures will boil between 178°F and 212°F at sea level. The closed cup flash point for a 19% concentration of ethanol in water is 100°F and for a 58% concentration is 73°F making the mixtures in this range Class 1C flammable liquids. Ethanol concentrations in water between 58% and 100% are Class 1B flammable liquids. These values are not adjusted for altitude.

Second, the Building Code establishes occupancy. If a quantity of a Class 1B or Class 1C flammable liquid exceeds the maximum allowable quantity (MAQ), the room in which it is located is an H3 Occupancy. Please remember this applies to bulk storage (casks, barrels, metal containers, etc. exceeding 1.3 gallon capacities) and not to liquor stores and wholesale distributors for which there are several exceptions.

Third, H occupancies have to be sprinklered. The sprinklering requirements for flammable and combustible liquids are outside the scope of NFPA 13. NFPA 13 points to NFPA 30 (Flammable and Combustible Liquids Code) for detailed requirements. Ethanol stored in any container larger than those exempted for retail – other than wood – is addressed there. This is not because wood is inherently safer than metal, plastic or glass – it is not. It is because there is not yet an established sprinkler criteria for the storage of Class 1B and 1C flammable liquids in wooden barrels and casks. THIS HOWEVER DOES NOT MEAN THESE ROOMS SHOULD BE EXEMPT FROM SPRINKLERING REQUIREMENTS!

Fourth, please note that except for establishing a baseline sprinkler design criteria, the applicable code requirements have not been changed.

F127-13

Final Action: AS AM AMPC_____ D

F131-13

903.2.11.3 (IBC [F] 903.2.11.3)

Proposed Change as Submitted

Proponent: Brad Emerick, Denver Fire Department representing the Fire Marshal's Association of Colorado (FMAC) and the Colorado Chapter of the ICC (CCICC) (brad.emerick@denvergov.org)

Revise as follows:

903.2.11.3 (IBC [F] 903.2.11.3) Buildings 55 feet or more in height. An automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

Exceptions:

1. Airport control towers.
2. Open parking structures.
3. Occupancies in Group F-2.

Reason: This proposal revises the language to specify a NFPA 13 sprinkler system is required in buildings meeting the height criteria. The proposed change only affects residential buildings on sloping sites where the lowest level of fire department vehicle access is significantly below grade plane. It has no other effect on sprinkler requirements related to the height of a building, namely IBC Section 540.2 which permits NFPA 13R sprinkler systems in residential buildings up to 60 feet in height – measured to the roof from grade plane (vs. lowest level of FD vehicle access).

If the lowest level of fire department vehicle access is at grade plane or on the high-elevation side of a sloping site, and the building height with respect to grade plane is 60 feet, then the highest occupied floor will be 10+ feet below this at a height of 50 feet or less – but below “55 feet to the highest occupied floor” in either case. Per IBC Section 540.2, a 13R sprinkler system is still permitted.

On a sloping site, where the lowest level of fire department vehicle access is on the low-elevation side of the site, firefighters are presented a building face taller in stories and feet than the nominal height of the building. If this face is tall enough that the highest occupied floor is 55 feet above them, the additional protection afforded by an NFPA 13 sprinkler system- especially with combustible construction – is warranted.

Cost Impact: This change will not affect the cost of construction.

903.2.11.3-F-EMERICK

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

903.2.11.3 (IBC [F] 903.2.11.3) Buildings 55 feet or more in height. An automatic sprinkler system ~~in accordance with Section 903.3.1.1~~ shall be installed throughout buildings that have one or more stories with a floor level having an occupant load of 30 or more ~~that is~~ located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

1. Airport control towers.
2. Open parking structures.
3. Occupancies in Group F-2.

Committee Reason: This proposal was approved as it helps to clarify how the height of the building is to be measured to determine whether a sprinkler system is required and through the modification the specific requirement for a NFPA 13 system was removed. There are likely very few situations that an NFPA 13R system would be applicable and the justification to restrict the type

of sprinkler systems to NFPA 13 was not provided. The modification further clarifies that the measurement is taken to the finished floor level and not to the ceiling of the story.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brad Emerick, Denver Fire Department, representing Fire Marshal's Association of Colorado (FMAC), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.2.11.3 (IBC [F] 903.2.11.3) Buildings 55 feet or more in height. An automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

1. Open parking structures.
2. Occupancies in Group F-2.

Commenter's Reason: The intent of this proposal is specifying an NFPA 13 sprinkler system in residential buildings that fall into the gap between the way heights are regulated in the codes; i.e., where a building is 60' or less in height above grade plane, but has an occupied floor more than 55' above the lowest level of fire department vehicle access (see figure).

Multi-story residential buildings 60' or less in height (measured from grade plane to the roof) are permitted to be sprinklered with an NFPA 13R system (Bldg 1 in figure).

However, such a building on a sloping site where the lowest level of fire department vehicle access is on the low side of the site, presents firefighters a building face taller than 60' (Bldg 2 in figure).

If this face is so tall that the highest occupied floor is 55 feet above them, the additional protection afforded by an NFPA 13 sprinkler system is warranted – especially since the top 4 stories of these buildings are now permitted to be combustible construction.

Notes:

- [1] the proposal only affects residential buildings exceeding the height criteria as a non-residential buildings are required to be sprinklered with NFPA 13 systems.
- [2] the proposal only affects multi-story residential buildings on sloping sites where the lowest level of fire department vehicle access is on the low side of the site. In other words, if the lowest level of fire department vehicle access to a 60'-tall residential building (measured from grade plane) is at grade plane or on the high-elevation side of a sloping site, a 13R sprinkler system is permitted.
- [3] The issue arises because of the difference in the two ways building height is regulated; i.e.:
Height 1: average grade elevation around the perimeter of the building (grade plane) up to the average roof elevation, and
Height 2: lowest level of fire department vehicle access up to the highest occupied floor.

F131-13

Final Action:

AS

AM

AMPC ____

D

F133-13

903.3.1.1 (IBC [F] 903.3.1.1), 903.3.1.1.2 (New) [IBC [F] 903.3.1.1.2]

Proposed Change as Submitted

Proponent: Marshall Klein, International Code Consultants, representing Multi Housing Council

Revise as follows:

903.3.1.1 (IBC [F] 903.3.1.1) NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

903.3.1.1.2 (IBC [F] 903.3.1.1.2) Bathrooms. In Group R occupancies, other than Group R residential care facilities, sprinklers shall not be required in bathrooms that do not exceed 55 square feet in area and are located within individual dwelling units or sleeping units, provided that walls and ceilings, including the walls and ceilings behind any shower enclosure or tub, are of noncombustible or limited-combustible materials with a 15-minute thermal barrier rating.

Reason: This change is necessary to reinstate an exception that has been in existence since 1976 but was nevertheless deleted from the 2013 edition of NFPA 13 with no technical justification. Because the 2015 I-codes will reference the 2013 edition of NFPA 13, it is necessary and appropriate for the IBC and IFC to reverse NFPA's unsupported action on this issue.

Although reinstating the small bathroom exception will have a limited impact on new construction because many bathrooms exceed the 55 sq. ft. area limit in the exception to accommodate wheelchair access, the more important consequence will be removing an unnecessary cost increase for building owners who choose to retrofit existing properties with small bathrooms that were built before it was common to provide wheelchair access. Codes and standards should not erect any unnecessary barriers to retrofitting sprinklers into existing properties, such as existing high-rise buildings.

Background: In the 1976 edition of the Life Safety Code, to encourage cost effective fire protection systems for apartment buildings, NFPA 101 Section 11-3.8.3.4.1 provided an exception to permit bathrooms that did not exceed 55 sq. ft within individual dwelling units to omit sprinklers when the apartment building was sprinklered in accordance with NFPA 13. The basis of the 55 sq. ft. area is that this area accommodates a "typical" small bathroom that contains a standard tub, a toilet and a sink...nothing more. This exception was later duplicated from NFPA 101 into the 1991 edition of NFPA 13 with the understanding that the next edition of NFPA 101 (1994) could delete the exception since NFPA 13 would have it covered. NFPA 101-1994 then, as planned, deleted the exception.

The situation remained "status quo" until the cycle that produced the 2010 edition of NFPA 13. A proposal to delete the bathroom exception for apartments was initially rejected by the NFPA 13 Committee during the ROP process (Code Proposal 13-202 Log #79) with the Committee Statement for rejection as "No technical data was provided supporting this change". During the ROC process, a public comment (Comment 13-141 Log #235) was submitted by the National Fire Sprinkler Association (NFSA), and the NFPA 13 Committee reversed itself by accepting the Comment, even though no new technical information had been provided. Nevertheless, the NFPA membership rejected this revision at NFPA's annual conference, and the 2010 edition of NFPA 13 retained the exception.

During the 2013 edition cycle for NFPA 13, the issue was raised again, and this time, still with no technical justification, NFPA accepted the change. As a result, NFPA 13-2013 (Section 8.15.8.1.1) only allows omission of sprinklers from in bathrooms in hotels and motels, not apartments.

The history of apartment unit bathroom fires is statistically minimal. According to the recent NFPA Home Structure Fire Report, January 2009, Table 9B, "Reported Apartment Structure Fires by Area of Origin 2003-2006 Annual Averages", out of 113,000 fires/year, only 1600 (1%) are in bathrooms. Given that we have more than 35 years of experience with the bathroom sprinkler exception being in place (since it was put into NFPA 101 in 1976), one would certainly expect anecdotal or statistical experience to indicate the existence of a problem, if there were one. On the contrary, apartments have consistently rank at the top of the list with respect to sprinkler reliability and performance statistics, and no statistical (or other) evidence was presented to or by the NFPA 13 committee to justify deletion of the bathroom sprinkler exception for apartments.

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

903.3.1.1-F-KLEIN

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

903.3.1.1.1 (IBC [F] 903.3.1.1) NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

903.3.1.1.2 (IBC [F] 903.3.1.1.2) Bathrooms. In Group R occupancies, other than ~~Group R-4 occupancies~~ ~~Group R residential care facilities~~, sprinklers shall not be required in bathrooms that do not exceed 55 square feet in area and are located within individual dwelling units or sleeping units, provided that walls and ceilings, including the walls and ceilings behind any shower enclosure or tub, are of noncombustible or limited-combustible materials with a 15-minute thermal barrier rating.

Committee Reason: The exception for bathrooms has been deleted in the 2013 edition of NFPA 13 with no technical justification. Therefore, to retain this exception for use with the IFC and IBC it is necessary to add a new section 903.3.1.1.2. In addition it was a concern that this particular allowance should be within the IBC and IFC as often the architects miss the 15 minute thermal barrier requirement that NFPA 13 requires. The modification simply replaces "Group R residential care facility" with the proper I-Code occupancy terminology Group R-4.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.3.1.1.2 (IBC [F] 903.3.1.1.2) Bathrooms. In Group R occupancies, ~~other than Group R-4 occupancies~~, sprinklers shall not be required in bathrooms that do not exceed 55 square feet in area and are located within individual dwelling units or sleeping units, provided that walls and ceilings, including the walls and ceilings behind any shower enclosure or tub, are of noncombustible or limited-combustible materials with a 15-minute thermal barrier rating.

Reason: The Group R-4 is limited to 16 occupants capable of self-preservation, therefore, the chance that they would need a NFPA 13 system (i.e., 5 stories or taller) is very limited. In addition, the Fair Housing Act, requires that group homes be treated the same as any other congregate residence. Therefore, the language shown struck should be removed. The Group R-4 occupancy should have the same allowance for these small bathrooms as all other Group R occupancies. There is very minimal fire hazards in this area.

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.

F133-13

Final Action:

AS

AM

AMPC_____

D

F135-13

903.3.1.2 (IBC [F] 903.3.1.2)

Proposed Change as Submitted

Proponent: Tim Pate, City and County of Broomfield, CO, representing Colorado Chapter Code Change Committee

Revise as follows:

903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies up to and including four stories ~~in height~~ above grade plane shall be permitted to be installed throughout in accordance with NFPA 13R.

Exception: The number of stories of Group R occupancies constructed in accordance with Section 510.2 and 510.4 of the International Building Code shall be measured from the horizontal assembly creating separate buildings.

Reason: There has been confusion as to where you measure the four story limitation for NFPA 13R sprinkler systems. This proposal clarifies the intent of NFPA 13R limitations by using the correct language for building height and addressing the use of these systems in podium buildings.

Cost Impact: This change will not affect the cost of construction.

903.3.1.2-F-PATE

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies up to and including four stories in height ~~above grade plane~~ shall be permitted to be installed throughout in accordance with NFPA 13R.

Exception: The number of stories of Group R occupancies constructed in accordance with Section 510.2 and 510.4 of the International Building Code shall be measured from the horizontal assembly creating separate buildings.

Committee Reason: This proposal was approved as it addresses the scenario where NFPA 13R systems are desired to be installed on residential buildings using the podium building allowance in Section 510.2 and 510.4 of the IBC. The modification clarifies that the number of stories in height is not related to grade plane. In addition the exception was revised to be part of the main section as the provisions of the exception are merely clarification of the application of the provisions in Section 510.2 and 510.4. The committee made it clear that it was not their intention to override the action taken on F134-13.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Brad Emerick, Denver Fire Department, representing Fire Marshal's Association of Colorado (FMAC), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems. Automatic sprinkler systems in accordance with NFPA 13R shall be permitted to be installed throughout ~~in~~ Group R occupancies in buildings up to and including four stories and 60 feet in height above

~~grade plane shall be permitted to be installed throughout in accordance with NFPA 13R. The number of stories of Group R occupancies constructed in accordance with Section 510.2 and 510.4 of the International Building Code shall be measured from the horizontal assembly creating separate buildings.~~

Commenter's Reason: This proposal clarifies the intent of NFPA 13R limitations by using the correct language for building height and correlating with the NFPA 13R committee with respect to separation of buildings.

It was never the intent to recognize the horizontal 3-hour separation permitted for "pedestal-style" buildings (IBC Section 510.2) as creating separate buildings for all code requirements like a Fire Wall does. Under the applicable special provision, the overall building may be considered as two separate buildings only for the purposes of:

- [1] determining area limitations,
- [2] continuity of fire walls,
- [3] limitation of number of stories, and
- [4] type of construction.

However the overall building still has to be safe and accessible for escape and for fire department suppression, search and rescue operations.

There is a breakpoint in the codes for building heights between 30 feet above the lowest level of fire department access and four stories above grade plane. This is the point where stair enclosures have to be 2-hour rated, where at least one stair is required to extend to the roof, when standpipes are required, where emergency escape and rescue windows are no longer required, etc.

This height correlates with the upper limit at which fire departments can conduct operations using ground ladders. Hand-carried ladders can typically only reach 30 to 40 feet above the grade from where they're set. A higher degree of safety has historically been required in buildings taller than this because an offensive attack will include – maybe exclusively – internal operations.

In residential buildings, this is also the threshold where sprinkler systems are required to be more robust; i.e., where NFPA 13 systems are required.

With the relaxation in requirements for residential pedestal buildings leading to the consolidation of combustibile framing (and the contents) in the highest stories, it makes no sense to also relax the sprinklering requirements for that portion of the building.

More stories means more time required for search and rescue.

Combustible construction with unprotected attics and floor/ceiling spaces means less time is provided.

Public Comment 2:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet in height above grade plane shall be permitted to be installed throughout in accordance with NFPA 13R. The number of stories of Group R occupancies constructed in accordance with Section 510.2 and 510.4 of the International Building Code shall be measured from the horizontal assembly creating separate buildings.

Commenter's Reason: Proposals F134 and F135 both affect Section 903.3.1.2, and it was the committee's intent to have both proposals incorporated into the section. The committee report doesn't clearly reflect this, so to avoid any possible confusion with respect to what the final text should be, this comment has been prepared to merge the content of F134 into F135. If this comment is approved, it is the intent that the final action on F135 will override F134 so that the final text of the section will include all of the intended revisions. .

F135-13

Final Action: AS AM AMPC____ D

F138-13

903.3, 903.3.8 (New), 903.4 (IBC [F] 903.4), 903.3.5.1 (IBC [F] 903.3.5.1), 903.3.5.2 (IBC [F] 903.3.5.2)

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

903.3 Installation requirements. *Automatic sprinkler systems* shall be designed and installed in accordance with Sections 903.3.1 through 903.3.87.

903.3.5.1.1 Limited area sprinkler systems.

~~Limited area sprinkler systems serving fewer than 20 sprinklers on any single connection are permitted to be connected to the domestic service where a wet automatic standpipe is not available. Limited area sprinkler systems connected to domestic water supplies shall comply with each of the following requirements:~~

- ~~1. Valves shall not be installed between the domestic water riser control valve and the sprinklers.~~

~~**Exception:** An approved indicating control valve supervised in the open position in accordance with Section 903.4.~~

- ~~2. The domestic service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13D or NFPA 13R.~~

903.3.5.1- 903.3.5.2 (IBC [F] 903.3.5.1- 903.3.5.2) Residential combination services. A single combination water supply shall be allowed provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R.

903.3.8 (IBC [F] 903.3.8) Limited area sprinkler systems. Limited area sprinkler systems shall be in accordance with the standards listed in Section 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

903.3.8.1 Number of sprinklers. Limited area sprinkler systems shall not exceed 6 sprinklers in any single fire area.

903.3.8.2 Occupancy hazard classification. Only areas classified by NFPA 13 as Light Hazard or Ordinary Hazard Group 1 shall be permitted to be protected by limited area sprinkler systems.

903.3.8.3 Piping arrangement. Where a limited area sprinkler system is installed in a building with an automatic-wet standpipe system, sprinklers shall be supplied by the standpipe system. Where a limited area sprinkler system is installed in a building without a wet-pipe automatic standpipe system, water shall be permitted to be supplied by the plumbing system provided that the plumbing system is capable of simultaneously supplying domestic and sprinkler demands.

903.3.8.4 Supervision. Control valves shall not be installed between the water supply and sprinklers unless the valves are of an approved indicating type that are supervised or secured in the open position.

903.3.8.5 Calculations. Hydraulic calculations in accordance with NFPA 13 shall be provided to demonstrate that the available water flow and pressure are adequate to supply all sprinklers installed in any single fire area with discharge densities corresponding to the hazard classification.

903.3.5.2 903.3.5.3 (IBC [F] 903.3.5.2 903.3.5.3) Secondary water supply. An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings in Seismic Design Category C, D, E or F as determined by the *International Building Code*. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the *automatic sprinkler system*. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception: Existing buildings.

903.4 (IBC [F] 903.4) Sprinkler system monitoring and alarms. All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised.

Exceptions:

1. Automatic sprinkler systems protecting one- and two-family dwellings.
2. Limited area systems ~~servicing fewer than 20 sprinklers in accordance with Section 903.3.8.~~
- 3 through 7 (No change to current text)

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This code section as it exists allows the protection of large areas by a system of automatic sprinklers that is not afforded the same level of protection required by NFPA standards 13, 13R and 25. Some of these include waterflow alarms, components listed for fire protection systems, fire department connections, testing and maintenance. This code change would reduce the number of sprinklers that may be supplied from a building plumbing system to six in a single fire area to eliminate the potential for multiple limited area sprinkler systems and combined water supply demands necessary to control a single fire event. It also limits the six sprinklers to a discharge density of Light Hazard or Ordinary Hazard Group I. The basis for these values provides coordination with longstanding requirements in NFPA 101, Life Safety Code, Section 9.7.1.2, which limits the number and discharge density of automatic sprinklers supplied from a plumbing system. Such a limit is reasonable in that it can allow for a pipe schedule design if the plumbing system is capable of satisfying the NFPA 13 pipe diameter requirements.

Cost Impact: This code change would increase the cost of construction

903.3-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal was approved as it is more reasonable to allow limited area sprinkler systems for 6 sprinklers versus 20. There was some concern that now that there are more controls associated with such systems that the number should be revised back to 20.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Emory Rodgers, VDHCO, representing self, requests Disapproval.

Commenter's Reason: Taking limited area sprinkler systems from 20 sprinkler heads to 6 based on assumptions that building officials would let owners do multiple limited area sprinkler systems, thereby allowing the owner to avoid where full sprinkler systems for the occupancy is a real stretch and to imagine that occurs frequently? Then limit area or occupancies such as A, M or B and not allow H. Only light hazards have ever been allowed.

That water lines for existing buildings could fail to supply the pressure or water volume is always possible. I can agree the calculations can support those assumptions. However, 90% of these systems are used today to allow existing buildings to be updated and renovated under the IEBC. Many limited systems use between 8 and 16 heads. Don't take away this viable and economical option to use spaces such as basements for dry storage, meat and food lockers, manger office or changing areas for employees in the A, B and M occupancies. This will force business owners to use spaces illegally without permits.

This will force small businesses to expend thousands of dollars to put in a fire line and water meter that does make the difference in the financial viability for anyone wanting to open a new small business.

Life safety and property protection is enhanced by this limited area sprinkler system that has been in the codes for decades with much success and not a lot of fire data to dispute that these limited are sprinkler systems are serving a fire safety need and a need to have light hazard storage space.

Let the proponents come back with a sensible and viable option that works for the many impacted building owners and small business stakeholders and that addresses real problems instead of seemly benefitting a few providing and installing fire systems.

Vote to overturn the committee with a simple majority and then I will introduce for denial that takes a simple majority.

F138-13

Final Action: AS AM AMPC_____ D

F139-13

903.3.5.2 (IBC [F] 903.3.5.2); IBC [F] 403.3

Proposed Change as Submitted

Proponent: Jeffrey M. Hugo, CBO, representing the National Fire Sprinkler Association (hugo@nfsa.org)

Revise as follows:

IBC [F] 403.3 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 and a secondary water supply where required by Section ~~903.3.5.2~~ 403.3.3.

~~903.3.5.2 (IBC [F] 903.3.5.2)~~ **IBC [F]403.3.3 Secondary water supply.** An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the International Building Code. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a duration of not less than 30 minutes

IBC [F] ~~403.3.3~~ 403.3.4 Fire pump room. Fire pumps shall be located in rooms protected in accordance with Section 913.2.1.

Reason: Secondary water supply for high rises is in Chapter 9, whereas the requirements for high rises are in Section 403 of the *International Building Code*. Since this secondary water supply requirement only applies to high rises it is more appropriate for designers and users in Section 403.3.3 of the *International Building Code*.

Cost Impact: Will not increase the cost of construction

903.3.5.2-FS-HUGO

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The secondary water supply requirements are very specific to high rise buildings and are more appropriately located within Section 403.3 of the IBC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Hugo, CBO, representing National Fire Sprinkler Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IBC [F] 403.3 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 403.3.3.

IBC [F]403.3.3 Secondary water supply. An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the International Building Code. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a duration of not less than 30 minutes

IBC [F] 403.3.4 Fire pump room. Fire pumps shall be located in rooms protected in accordance with Section 913.2.1.

IFC 914.3.3 Secondary water supply. An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the International Building Code. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception: Existing buildings.

Commenter's Reason: The proposal in the Committee Action Hearings did not make the change in the IFC. This public comment moves 903.3.5.2 of the IFC to 914.3.3. Approval of this public comment would make the IBC and the IFC the same in regards to secondary water for high rise buildings.

F139-13

Final Action: AS AM AMPC____ D

F148-13
905.4

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, representing Aon Fire Protection Engineering Corporation (al.godwin@aon.com)

Revise as follows:

905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required interior *exit stairway*, a hose connection shall be provided for each floor level above, ~~and~~ below and at grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the fire code official.
- 2 through 6 (*No change to current text*)

Reason: Since hose connections are placed at intermediate landings between floors, it is not clear as to which floor the hose connection serves. However, by not listing "at grade" the provision could be read that one is not required to serve the floor at grade, whichever intermediate landing that might be, leading to some challenges of its meaning. Hopefully, this provides clarification.

Cost Impact: This appears to be a correction. As such, it is not an increase in cost over what the original intent of the code provision should require.

905.4-F-GODWIN

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved as it will require the appropriate placement of hose connections including the floor level at grade. Note that there were some concerns with terminology such as "for each floor level" that may be better addressed by language that addresses stories. However, it was noted that use of the term "story" may lose locations such as penthouses and mezzanines.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Gregory R. Keith, Professional heuristic Development, representing The Boeing Company, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required *interior exit stairway*, a hose connection shall be provided for each floor level above, and below ~~and at~~ grade plane. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the fire code official.
- 2 through 6 (*No change to current text*)

Commenter's Reason: The original proposal intended to clarify that the provision applied to stories at grade. Unfortunately, it modified currently incorrect terminology. "Grade" is not a defined term in the IBC/IFC. However, "grade plane" is a defined term.

Returning to the original “above and below” language and adding “plane” after “grade” solves the problem. “Grade plane” is a defined term and represents a reference datum plane. “Story above grade plane” is also a defined term. Accordingly, all stories are either above or below grade plane. If a story is precisely at grade plane, it is above grade plane, by definition. Approval of this editorial modification will bring this standpipe provision into context with current IBC/IFC definitions and intent and will provide for more consistent interpretations.

Public Comment 2:

Gregory R. Keith, Professional heuristic Development, representing The Boeing Company, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required *interior exit stairway*, a hose connection shall be provided for each story ~~floor level~~ above, below and at grade. Hose connections shall be located at an intermediate ~~floor level~~ landing between stories ~~floors~~, unless otherwise approved by the fire code official.
2 through 6 (*No change to current text*)

Commenter’s Reason: When the IFC Code Committee approved this proposal, it mentioned in its reason statement, “Note that there were some concerns with terminology such as “for each floor level” that may be better addressed by language that addresses stories. “Floor” and “floor level” are not defined terms in the IBC/IFC. The term “story” is a defined term. This modification addresses that concern and uses proper terminology that will result in more consistent interpretations of this provision.

F148-13

Final Action: AS AM AMPC_____ D

F149-13
905.9 (IBC [F] 905.9)

Proposed Change as Submitted

Proponent: Bob D. Morgan, P.E., Fort Worth, TX Fire Department representing Fire Advisory Board to North Central Texas Council of Governments

Revise as follows:

905.9 (IBC [F] 905.9) Supervision. Supervision of standpipes shall be in accordance with Sections 905.9.1 and 905.9.2.

905.9.1 (IBC [F] 905.9.1) Valve Supervision. (*unchanged*)

905.9.2 (IBC [F] 905.9.2) Manual dry standpipes. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure and monitored by a low air pressure alarm.

Reason: Improves the integrity of such systems for utilization in a fire event, which could otherwise have all hose valves opened or develop multiple leaks without anyone knowing until such system is charged with water.

Cost Impact: The code change proposal will increase the cost of construction of such systems to install an air compressor and low air pressure alarm.

905.2-F-MORGAN

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The requirement for supervision and monitoring were felt better addressed by the maintenance requirements in NFPA 25. There was concern with how this would alert appropriate persons to a problem. The benefit to such equipment compared to the potential maintenance cost would be small. A concern was noted that if the standpipes were not being maintained in accordance with NFPA 25 the equipment as proposed would also not be maintained.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bob D. Morgan, P.E., Fort Worth Fire Dept, representing Fire Advisory Board to North Central Texas Council of Governments, requests Approval as Modified by this Public Comment.

Modify proposal as follows:

905.9 (IBC [F] 905.9) Supervision. Supervision of standpipes shall be in accordance with Sections 905.9.1 and 905.9.2.

905.9.1 (IBC [F] 905.9.1) Valve Supervision. (*unchanged*)

905.9.2 (IBC [F] 905.9.2) Manual dry standpipes. Manual dry standpipe systems shall be monitored with supervisory air pressure having a low air pressure alarm. This alarm shall have an approved exterior audible device. Where a fire alarm system is installed, actuation of the low air pressure alarm shall be monitored as a supervisory alarm. ~~supervised with a minimum of 10 psig and a maximum of 40 psig air pressure and monitored by a low air pressure alarm.~~

Commenter's Reason: The originally submitted wording has been adopted in the North Texas region for several years with great success in ensuring such dry standpipes' integrity. The primary issue addressed is vandals opening hose valves, such that the standpipe does not serve its intended purpose in a fire event when needed, resulting in significant firefighting delays, due to lack of immediate water availability. The proposal has been modified to accommodate the issues addressed in the committee's reason statement, i.e. greater specificity has been provided relative to the alarm, similar to what is provided in 903.4.2 for sprinkler waterflow alarms. Relative to the maintenance issue, most manual dry standpipes are only required to be inspected annually, with a hydro/flow test every 5 years, so if the system is leaking, it is highly probably that it could be several years before anyone is aware of such. Although there is an increased cost, please note that NFPA 14 as of the 2003 edition requires this 'supervisory air pressure' for dry standpipes where the standpipe is concealed, i.e. the requirement is not new and is becoming more common, cost effective, and widely accepted.

F149-13

Final Action:

AS

AM

AMPC_____

D

F150-13

901.8.2 (New)

Proposed Change as Submitted

Proponent: William Freer, New York State Office of Fire Prevention and Control
(WFreer@DHSES.ny.gov)

Add new text as follows:

901.8.2 Removal of occupant use hose. Removal of the occupant use hose line attached to a Class II standpipe system or a Class III standpipe system shall be permitted where either of the following conditions exist:

1. The building is equipped with a Class I standpipe system.
2. The building is not required to be equipped with a Class I standpipe system and the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Reason: The current code does not require occupant use hoses in as many locations as were required in previous codes. There has been a shift in the philosophy of whether or not occupants should be asked to attempt to extinguish the fire or evacuate the structure. Most of the population is now being taught to evacuate the building, not fight the fire. This shift is mainly due to the safety risk of having a non-trained person attempting to fight a fire with more than a fire extinguisher. Many jurisdictions have already enacted local legislation or code changes to address this issue.

The City of Philadelphia has added the following:

F-905.11 Existing buildings. Existing structures with occupied floors located more than 50 feet (15,240 mm) above or below the lowest level of fire department *vehicle* access shall be equipped with standpipes installed in accordance with Section F-905. The standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department *vehicle* access. [The fire code official is authorized to approve the installation of manual standpipe systems to achieve compliance with this section where the responding fire department is capable of providing the required fire flow at the highest standpipe outlet.] *These requirements shall also apply to buildings that were granted variances prior to January 1, 2004 to omit standpipes from the required exit stairways. Buildings or structures that are not in compliance with Section F-905 on the effective date of this code, shall, with written request to and upon written approval from the Fire Department, be granted three years from the effective date of this code to comply.*

Exceptions:

1. *In existing buildings having the highest occupied floors located not more than 75 feet above the lowest level of fire department vehicle access, Class I standpipe systems are permitted to be manual wet systems.*
2. *Standpipe systems installed prior to January 1, 1995 that provide a residual pressure of 65 psi (448 kPa) or greater at the highest hose outlet are exempt from the requirement to provide a residual pressure of 100 psi (690 kPa) at the highest hose outlet.*
3. *Standpipe systems with a residual pressure of less than 100 psi (690 kPa) at the topmost hose outlet are permitted where:*
 - 3.1 *The building existing prior to the effective date of this code;*
 - 3.2 *The building is equipped throughout with an automatic sprinkler system; and*
 - 3.3 *The highest floor level is not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access,*

F-905.11.1 Removal of occupant use hoseline or Class II standpipe systems. Removal of the hoseline attached to a Class II standpipe system or a Class III standpipe system that is not required by this code, or removal of an entire Class II standpipe system is permitted where the following conditions are met:

1. *Removal of hoseline only: The building is equipped with a Class I standpipe system or the building is not required to have a Class I system.*
2. *Removal of the Class II standpipe system is permitted where one of the following exists:*
 - 2.1 *The building is equipped throughout with an automatic fire-extinguishing system and has more than one Class I standpipe hose outlet riser in a multi-exit building or at least one riser in a single exit building;*
 - 2.2 *The building is in the process of being equipped throughout with an automatic fire-extinguishing system and there is more than one standpipe hose outlet riser in a multi-exit building or there is at least one riser in a single exit building. When the sprinklers on a floor have been placed in service, the Class II standpipe*

- hose stations on that floor are permitted to be removed; or*
- 2.3 *The building is not equipped throughout with an automatic fire-extinguishing system, there is more than one automatic wet Class I standpipe hose outlet riser in a multi-exit building and there is at least one automatic wet riser in a single exit building.*

The City of San Francisco added:

4.09 Removal of Class II Standpipe Hose Cabinets in Sprinkler Retrofitted Buildings (PDF)

Reference: 2010 S.F.F.C. 901.8

Section 901.8 of the 2010 SFFC requires written approval from the fire code official in order to remove existing fire appliances. In order to speed the permit process, buildings subject to the San Francisco High-rise Sprinkler Ordinance will be permitted to remove Class II Standpipe hose cabinets on individual floors after they have been fully sprinklered. The applicant shall state his or her intention to remove the hose cabinets on the approved sprinkler plans.

Buildings not subject to the ordinance will continue to require written approval from the fire code official in order to remove any fire appliance. These written requests will be considered on a case-by-case basis.

Canada also allows the removal of occupant hoses but requires more signage in places where it is done.

It should also be noted that occupant use hoses are not required by NFPA 14 as follows:

1. NFPA 14--2007, Standard for the Installation of Standpipe and Hose Systems details the design and installation of standpipe systems.
 - 7.3.4 Class III Systems. Class III systems shall be provided with hose connections as required for both Class I and Class II systems.
 - 7.3.4.1 Where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems, and NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to Four Stories in Height, Class II hose stations for use by trained personnel shall not be required, subject to the approval of the local fire department, provided that each Class I hose connection is 2 1/2 in. and is equipped with a 2 1/2 in. x 1 1/2 in. reducer and a cap attached with a chain.

This code change would not increase the cost of construction but would decrease the cost of maintenance and upkeep.

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

905.11 (NEW)-F-FREER

Committee Action Hearing Results

Committee Action:

Approved as Modified

Substitute the proposal as follows:

901.8.2 Removal of occupant use hose. The fire code official is authorized to permit the removal of existing 1 ½-inch (38 mm) hose lines where the following conditions exist:

1. The current fire and building codes do not require their placement and
2. The fire code official determines that the 1 ½ -inch (38 mm) hose line will not be utilized by the trained personnel or the fire department.

Committee Reason: The committee approved the proposal to address the concern that it is often necessary to remove occupant use hose but no authority is provided. However, the proposal as initially written took the authority away from the fire code official to determine. The proposed modification places that authority back but provides them with the necessary tool to allow the removal of hose lines that are not required and that will not be used by the building occupants.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

901.8.2 Removal of existing occupant-use hose lines. *The fire code official is authorized to permit the removal of existing 1½-inch (38 mm) occupant-use hose lines where all of the following conditions exist:*

1. Installation is not required by the current *International Fire Code* or *International Building Code* ~~The current fire and building codes do not require their placement and~~
2. The fire code official determines that the 1 ½ -inch (38 mm) hose lines will not be utilized by the-trained personnel or the fire department.
3. The remaining outlets are compatible with local fire department fittings.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The committee approved F150-13 at the hearings in Dallas with modification. After review, the FCAC felt that clarification and modifications were needed. The modifications were made due to the following:

- Hoses may be of different sizes, not always 1 1/2", so the reference to the size was removed. Also, the language was modified to say that all of the conditions (1, 2 and 3) need to have been met for the removal to be allowed.
- The language in condition 1 was changed to reference installation, not placement, and includes reference to the current IFC and IBC.
- The language in condition 2 was modified to delete an unnecessary fire code official determination; this authority is already established in the charging section.
- A condition 3 was added to ensure that any outlets that remained were useable by the Fire Department by requiring them to be compatible with local fire department fittings.

F150-13

Final Action: AS AM AMPC____ D

F151-13

906.1 (IBC [F] 906.1)

Proposed Change as Submitted

Proponent: Dave Frable representing U.S. General Services Administration, Public Buildings Service

Revise as follows:

906.1 (IBC [F] 906.1) Where required. Portable fire extinguishers shall be installed in the following locations.

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

Exception Exceptions:

1. In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.
2. In new and existing Group B occupancies equipped throughout with quick-response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.
2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or *combustible liquids* are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1.
5. Where required by the sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the *fire code official*.

Reason: The intent of this code change is to re-introduce an IFC code requirement that was in the past editions of the IFC (i.e., editions 2000 to 2009). However, in the 2012 edition of the IFC, the subject exception was removed from the IFC without any technical substantiation.

Exception #2 acknowledges the reliable advantages of an automatic sprinkler system designed to comply with NFPA 13. Group B occupancies are considered light hazard occupancies and must be protected by quick response sprinklers (see Section 903.3.2). The faster acting sprinklers and the lower fuel load associated with Group B occupancies alleviate the need for portable fire extinguishers to be installed throughout non-hazardous areas within this occupancy. In addition, the evacuation strategy for this occupancy is for occupants to evacuate building or relocate to a safe area within the building in lieu of delaying evacuation/relocation and having occupants attempt to utilize a portable fire extinguisher to try to extinguish a fire.

It should be noted that building occupants in Group B occupancies are not required to be trained in the use of portable fire extinguishers since training building occupants in the use of portable fire extinguishers is not addressed within the IFC nor is there a requirement in the IFC stating that portable fire extinguishers have been installed for occupant use. In addition, fire department personnel typically will also not use the portable fire extinguishers which have been installed within a building due to the uncertainty they have regarding the subject extinguisher operating when needed. Therefore, the installation of this type of manual extinguishing equipment throughout a Group B occupancy equipped with an operational sprinkler system utilizing quick-response sprinklers is questionable and not warranted or cost effective (e.g., installation costs, maintenance costs, etc.) over the life of a building.

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

906.1-F-FRABLE

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that fire extinguishers are still the first line of defense in many situations and should not be removed in Group B occupancies. In fact many fires are never reported due to the fact that extinguishers are used before the fires grow very large. It was also noted that singling out only Group B occupancies was inappropriate. There was some concern raised that fire extinguishers should be a choice and not a requirement.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Dave Frable, representing U.S. General Services Administration, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

906.1 (IBC [F] 906.1) Where required. Portable fire extinguishers shall be installed in the following locations.

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

Exception Exceptions:

1. In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.
2. In new and existing Group B occupancies having a fire alarm system that activates the occupant notification system in accordance with Section 907.5 and is protected throughout by an automatic sprinkler system designed and installed in accordance Section 903.3.1.1 utilizing quick-response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.
2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or *combustible liquids* a restored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1.
5. Where required by the sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the *fire code official*.

Commenter's Reason: The intent of this code change is to re-introduce an exception for the installation of portable fire extinguishers in Group B occupancies that was in the past editions of the IFC (i.e., editions 2000 to 2009). However, in the 2012 edition of the IFC, the subject exception was removed from the IFC without any technical substantiation.

The new exception will permit a building owner to be exempt from installing portable fire extinguishers in new and existing Group B occupancies if the Group B occupancy has a fire alarm system installed that activates the occupant notification system and that also is protected throughout with an automatic sprinkler system designed and installed in accordance with NFPA 13 that utilizes quick response sprinkler which faster acting sprinklers. Upon activation of the fire alarm system, the typical evacuation strategy for this occupancy is for occupants to evacuate the building or relocate to a safe area within the building in lieu of delaying evacuation/relocation and having occupants attempt to utilize a portable fire extinguisher to try to extinguish a fire. The requirement for the installation of a fire alarm system that will assure that building occupants are notified to evacuate the building in a timely fashion.

It should be noted that building occupants in Group B occupancies are not required to be trained in the use of portable fire extinguishers since training building occupants in the use of portable fire extinguishers is not addressed within the IFC nor is there a requirement in the IFC stating that portable fire extinguishers have been installed for occupant use. In addition, fire department personnel typically will not use the portable fire extinguishers which have been installed within a building due to the uncertainty they have regarding the subject extinguisher operating when needed. Therefore, the installation of this type of manual extinguishing equipment throughout a Group B occupancy equipped with a fire alarm system and an operational sprinkler system utilizing quick-response sprinklers is questionable and not justifiable.

It should also be noted that the Occupational Safety and Health Administration (OSHA), 29 CFR 1910.157(g)(1), also addresses portable fire extinguishers by specifically stating: "Where the employer has provided portable fire extinguishers **for employee use** in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting." Therefore, if portable fire extinguishers

have been installed in a building and have been designated for occupant use and incorporated into the building's fire safety plan, training would be required. However, if this protocol for occupants using portable fire extinguishers is not incorporated in the building's fire safety plan, no training would be required. Hence, the occupants will not be properly trained to use the subject portable fire extinguishers as some Code Committee members suggested.

Fire is a rare event; however, should a fire occur in this occupancy, the probability that occupants are knowledgeable and have been trained proficiently in the use of portable fire extinguishers to effectively extinguish a fire is low. We also believe the cost associated with the installation of portable fire extinguishers in these occupancies is unjustified, taking into consideration maintaining the subject fire extinguishers for the life of the building. We also believe these costs savings would be better expended active fire detection and suppression systems.

Opponents of this code change will argue that fire extinguishers are still the first line of defense in many situations and therefore should not be removed in Group B occupancies since occupants should be able to use them if they choose to do so. However, several Fire Code Committee members believe that if this is the case, the installation of portable fire extinguishers in Group B occupancies should also be a choice and not a requirement. We believe that when a fire does occur in an office building, evacuation of the building should be the first action of the occupants, not fighting the fire.

F151-13

Final Action: AS AM AMPC_____ D

F154-13
907.2.1 (IBC [F] 907.2.1)

Proposed Change as Submitted

Proponent: Timothy W. Fisher, State of Alaska, Department of Public Safety, Division of Fire and Life Safety, representing Alaska State Fire Marshal's Office & ICC Alaska Central Chapter

Revise as follows:

907.2.1 (IBC [F] 907.2.1) Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies ~~where the occupant load due to the assembly occupancy is 300 or more where a required automatic sprinkler system is installed, the automatic sprinkler system shall be connected to the building fire alarm system. Group A occupancies not separated from one another in accordance with Section 707.3.9 of the International Building Code shall be considered as a single occupancy for the purposes of applying this section.~~ Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required when the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

Reason: In the 2006 International Code Adoption, the requirement for a Fire Sprinkler System in an A-2 occupancy was reduced to an occupant load of 100 from 300. Currently, a Fire Alarm System is required in an A occupancy when the occupant load is greater than 300. This has left a void of 100 to 300 occupants.

Previously, the Fire Alarm System requirements mirrored the Fire Sprinkler System requirements at 300 occupants; it seemed prudent to also require a fire alarm system at 100 occupants in an A-2 occupancy, same as the sprinkler requirement.

The intent of the revision is to remove a set number of (300) for occupant loading from the Fire Alarm System requirements for Assembly (A) Occupancy, then requiring a Fire Alarm System based on the requirements in the Fire Sprinkler System section. Then it would render the Sentence with Section 707.3.9 "Fire Areas" obsolete as it would be based on the Fire Sprinkler System fire area requirements.

The Station Night Club incident didn't have sprinklers, causing a change in the sprinkler requirements where as the Fire Alarm System requirements were not adjusted for A-2 occupancies in the event of an emergency. This change would require notification appliances that would ensure occupants are alerted within an A-2 occupancy during a sprinkler activation or a kitchen hood and duct suppression system activation.

Revising this code section will realign the fire systems according to the historical requirements; provide an acceptable level of fire and public safety as well as providing notification appliances throughout the facility to notify occupants that there is an emergency in the facility and to promptly evacuate, saving lives.

Cost Impact: Cost varies on location, size, and company for the installation of Fire Alarm System (Notification Appliances Only)

907.2.1-F-FISHER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The wording was considered confusing as to how it relates the automatic sprinkler requirements to the fire alarm requirements. Also, without further revision the existing exception would be difficult to apply.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Timothy W. Fisher, representing Alaska State Fire Marshal's Office/ ICC Alaska Central Chapter, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

[F] 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where a required automatic sprinkler system is installed; ~~the automatic sprinkler system shall be connected to the building fire alarm system.~~ Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required when the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

Commenter's Reason: In the 2006 International Code Adoption, the requirement for a Fire Sprinkler System in an A-2 occupancy was reduced to an occupant load of 100 from 300. Currently, a Fire Alarm System is required in an A occupancy when the occupant load is greater than 300. This has left a void of 100 to 300 occupants.

Previously, the Fire Alarm System requirements mirrored the Fire Sprinkler System requirements at 300 occupants; it seemed prudent to also require a fire alarm system at 100 occupants in an A-2 occupancy, same as the sprinkler requirement.

The intent of the revision is to remove a set number of (300) for occupant loading from the Fire Alarm System requirements for Assembly (A) Occupancy, then requiring a Fire Alarm System based on the requirements of a Sprinkler.

The Station Night Club incident didn't have sprinklers, causing a change in the sprinkler requirements whereas the Fire Alarm System requirements were not adjusted for A-2 occupancies in the event of an emergency. This change would require notification appliances that would ensure occupants are alerted within an A-2 occupancy during a sprinkler activation or a kitchen hood and duct suppression system activation.

Revising this code section will realign the fire systems according to the historical requirements; provide an acceptable level of fire and public safety as well as providing notification appliances throughout the facility to notify occupants that there is an emergency in the facility and to promptly evacuate, saving lives.

Such a facility could have an assembly on the second floor without prompt notification, thus notification appliances should be required. The committees request to clean up the language for sprinkler system has been addressed by a strike through of the connection to the fire alarm, which was taken from the Education code section. The exception can't be removed as per committee request as a "Manual Fire Alarm System" and "Manual fire alarm boxes" are different requirements of the code. The pull box is part of the system.

F154-13

Final Action: AS AM AMPC____ D

F158-13

907.2.3 (IBC [F] 907.2.3)

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

907.2.3 (IBC [F] 907.2.3) Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of ~~30~~ 50 or less.
2. Emergency voice/ alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
- ~~23.~~ Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - ~~2.1~~ 3.1. Interior corridors are protected by smoke detectors.
 - ~~2.2~~ 3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
 - ~~2.3~~ 3.3. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
- ~~34.~~ Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler water flow and manual activation.

Reason: Many small schools or day cares consist of one or two rooms. For such small buildings, there is no need to install a notification system to warn occupants of fires or other emergencies, as occupants are typically in close visual or audible contact with all occupied spaces and with each other. This arrangement provides for adequate means to notify all occupants of the building of potential hazardous conditions to initiate emergency actions, including evacuation.

The threshold in Exception 1 has been reduced from 50 to 30 with no apparent loss history. The testimony presented by the proponent of Code Change F107-09/10 was that the number was modified to correlate the occupant load trigger for 1-HR rated corridors. It is common that individual classrooms contain an occupant load of 30 students. It seems that a more appropriate occupant load trigger is the egress provision which requires a second exit at an occupant load of 50, not 30.

An alarm system in a single classroom, or set of small classrooms, does not appear justified. It appears that the appropriate 'occupant load trigger' is 50 since that is when a fire alarm system has been required for many years without any major incidents. Therefore, this proposal will move the trigger to an occupant load of 50 to determine when a manual fire alarm system is required.

Exception 2 is proposed to be added. This exception would require the emergency voice communication system when the occupant load exceeds 100, as buildings with larger numbers of occupants may necessitate detailed instructions regarding evacuation, relocation, or other actions to ensure safety of building occupants. Often, these buildings include multiple floors, fire areas, and egress paths, and occupants may require notification of more detailed or modified instructions on alternate courses of action other than those stated in a standard evacuation plan.

The result of this proposal is that when the occupant load is:

- 50 or less – fire alarm system is not required
- 51 to 100 – manual fire alarm system is required
- 101 or more – manual fire alarm system with emergency voice/alarm communication system

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was felt to be a more reasonable approach for smaller schools. A manual fire alarm system for greater than 50 is reasonable while still maintaining the emergency voice communication system where the occupant load exceeds 100.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Emory Rodgers, VDHCO, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

907.2.3 (IBC [F] 907.2.3) Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of 50 or less.
2. Emergency voice/ alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of ~~400~~ 500 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
3. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - 3.1. Interior corridors are protected by smoke detectors.
 - 3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
 - 3.3. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
4. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler water flow and manual activation.

Commenter's Reason: Setting the threshold at 100 occupants is overly stringent, costly and not justified. This is 4-5 classrooms. There was no data to justify.

In A there is a 1,000 occupant load for these EVAC systems where the patrons are not always familiar with the building or space while in E occupancies there are fire drills, security plans and public address systems that are adequate to convey emergency information that is commonly done in thousands of schools.

The IFC CDC denied F159-13 that had a 1,000 occupant limit as being too large. So 500 is a typical size of an elementary school.

Urge you approval as AM or F159 if it is challenged for approval as submitted.

F158-13

Final Action: AS AM AMPC_____ D

F159-13
907.2.3 (IBC [F] 907.2.3)

Proposed Change as Submitted

Proponent: Frank G. Castelvechi, III, PE, representing County of Henrico, Virginia
(cas13@co.henrico.va.us)

Revise as follows:

907.2.3 (IBC [F] 907.2.3) Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an *occupant load* of 30 or less.
2. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - 2.1. Interior *corridors* are protected by smoke detectors.
 - 2.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by *heat detectors* or other *approved* detection devices.
 - 2.3. Shops and laboratories involving dusts or vapors are protected by *heat detectors* or other *approved* detection devices.
3. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1, the emergency voice/alarm communication system will activate on sprinkler water flow and manual activation is provided from a normally occupied location.
4. An occupant notification system meeting the requirements of Section 907.5.2 without emergency voice/alarm communication system features is permitted where the occupant load is 1000 or less.

Reason: Requiring a voice alarm system for educational uses imposes significant unnecessary costs on daycares and school systems that are already short of funds. Most schools already have public address systems that can be used for emergency notification. The 1000 occupant threshold proposed here is the same as that for assembly buildings with occupants that are less familiar with the building, often do not have public address systems and may involve the consumption of alcoholic beverages. Requiring an expensive voice alarm system in a small storefront daycare center, a small school, or a school trailer is a ludicrous imposition of significant costs on schools and small businesses.

The fire record these occupancies does not justify these added expenses. The children in these occupancies are required to be under competent adult supervision.

Cost Impact: This will reduce the cost of construction

907.2.3 #2-F-CASTELVECCHI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The revision to 1000 occupants was seen as excessive. Although this comes from the assembly occupancy requirements for schools this number is too high. The benefits of emergency voice communication are too great to set the criteria this high.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Frank G Castelvechi III PE, representing County of Henrico Virginia, requests Approval as Submitted.

Commenter's Reason: Requiring voice alarm systems in small schools and daycares presents a significant unnecessary cost burden on these small businesses, nonprofits, and local jurisdictions. These occupancies are required to have fire drills and present an excellent safety record. Schools have public address systems with two way communications with the office that can and is used for various emergency communications. The proposed 1000 person threshold is the same as has been established for other assembly occupancies. Virginia in adopting the 2012 IBC/IFC is reverting back to the 2009 language with a 50 person alarm threshold and no requirements for voice alarms in E use groups.

F159-13

Final Action: AS AM AMPC_____ D

F162-13, Part I

FC 907.2.11 (IBC [F] 907.2.11), 907.10 (New) (IBC [F] 907.10 (New))

Proposed Change as Submitted

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IFC CODE DEVELOPMENT COMMITTEE AS SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

PART I – INTERNATIONAL FIRE CODE

Revise as follows:

907.2.11 Single- and multiple-station smoke alarms. *Listed* single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.4 and NFPA 72. Single- and multiple-station smoke alarms shall be maintained in accordance with Section 907.10.

907.10 Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced. Smoke alarms installed in one- and two-family dwellings shall be replaced not more than 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal supplements the requirements in Section 901.4 for testing and maintaining smoke alarms, and specifies when the devices need to be replaced. The proposed requirements are consistent with NFPA 72 provisions. In particular NFPA 72 requires smoke alarms installed in one- and two-family dwellings to not remain in service longer than 10 years from the date of manufacture, and UL 217 requires the date of manufacture to be marked on the smoke alarms.

It is recognized that it may not always be practical for the code official to enforce the requirements for testing, maintenance and replacement of smoke alarms in residential dwelling units. However realtors and landlords often have checklists that verify that these dwellings comply with codes and other requirements, and they may be in a position to verify compliance with the proposed provisions when the units are sold or leased.

UL 217 has required the month and date of manufacture be marked on smoke alarms for more than 10 years.

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

907.2.11-F-ZUBIA-FCAC~REVISED

Committee Action Hearing Results

The code change is contained in the [Updates to the 2013 Proposed Changes](http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf) posted on the ICC website. Please go to <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf> for more information.”

PART I – IFC

Committee Action:

Approved as Submitted

Committee Reason: The provisions requiring the replacement of smoke alarms is needed within the IFC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Emory Rodgers, VDHCO, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

907.2.11 Single- and multiple-station smoke alarms. *Listed* single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.4 and NFPA 72. Single- and multiple-station smoke alarms shall be maintained in accordance with Section 907.10.

907.10 Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be tested and maintained in accordance with the manufacturer’s instructions. Smoke alarms that no longer function shall be replaced. ~~Smoke alarms installed in one- and two-family dwellings shall be replaced not more than 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.~~

Commenter’s Reason: Both sections have testing and maintenance requirements and if not operating than the smoke alarms have to be replaced.

There is thus no need to invoke a 10 year mandated replacement.

So how is enforcement to be accomplished? How is the fire or maintenance official to enter into all 1&2 family dwelling units? How can it not increase the cost of maintenance? This maybe a good practice but not to be a mandate. The supporting statement recognizes these enforcement flaws, but then says realtors and landlords can be responsible to verify.

So why not mandate all smoke alarms in any occupancy to be replaced?

Overturn the IFC CDC for AM motion to delete this mandated 10 year replacements.

Public Comment 2:

Maureen Traxler, representing City of Seattle Dept of Planning & Development, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

907.10 Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be tested and maintained in accordance with the manufacturer’s instructions. Smoke alarms that no longer function shall be replaced. Smoke alarms installed in one- and two-family dwellings shall be replaced not more than 10 years from the date of manufacture marked on the unit, or shall be replaced if the date of manufacture cannot be determined.

Commenter’s Reason: The modification makes the section clearer and easier to read.

F162-13, Part I

Final Action:

AS

AM

AMPC_____

D

F162-13, Part II

IPMC [F] 704.5

Proposed Change as Submitted

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IFC CODE DEVELOPMENT COMMITTEE AS SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

PART II – INTERNATIONAL PROPERTY MAINTENANCE CODE

Add new text as follows:

IPMC [F] 704.5 Maintenance. Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced. Smoke alarms installed in Group R or I-1 occupancies shall be replaced not more than 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal supplements the requirements in Section 901.4 for testing and maintaining smoke alarms, and specifies when the devices need to be replaced. The proposed requirements are consistent with NFPA 72 provisions. In particular NFPA 72 requires smoke alarms installed in one- and two-family dwellings to not remain in service longer than 10 years from the date of manufacture, and UL 217 requires the date of manufacture to be marked on the smoke alarms.

It is recognized that it may not always be practical for the code official to enforce the requirements for testing, maintenance and replacement of smoke alarms in residential dwelling units. However realtors and landlords often have checklists that verify that these dwellings comply with codes and other requirements, and they may be in a position to verify compliance with the proposed provisions when the units are sold or leased.

UL 217 has required the month and date of manufacture be marked on smoke alarms for more than 10 years.

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

907.2.11-F-ZUBIA-FCAC-REVISED

Committee Action Hearing Results

The code change is contained in the [Updates to the 2013 Proposed Changes](http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf) posted on the ICC website. Please go to <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf> for more information."

**PART II – IPMC
Committee Action:**

Approved as Modified

Modify proposal as follows:

IPMC [F] 704.5 Maintenance. Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced. Smoke alarms installed in one and two family dwellings Group R or I-1 occupancies shall be replaced not more than 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.

Committee Reason: This proposal is consistent with the action taken on F162-13 Part I. The modification aligns the language with F162-13 Part I that focuses on one and two family dwellings.

Assembly Action: _____ **None**

Individual Consideration Agenda

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

Public Comment 1:

Emory Rodgers, VDHCO, representing self, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

IPMC [F] 704.5 Maintenance. Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced. ~~Smoke alarms installed in Group R or I-1 occupancies shall be replaced not more than 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.~~

Commenter's Reason: Both sections have testing and maintenance requirements and if not operating then the smoke alarms have to be replaced.

There is thus no need to invoke a 10 year mandated replacement.

So how is enforcement to be accomplished? How is the fire or maintenance official to enter into all 1&2 family dwelling units? How can it not increase the cost of maintenance? This maybe a good practice but not to be a mandate. The supporting statement recognizes these enforcement flaws, but then says realtors and landlords can be responsible to verify.

So why not mandate all smoke alarms in any occupancy to be replaced?

Overturn the IFC CDC for AM motion to delete this mandated 10 year replacements.

Public Comment 2:

Maureen Traxler, representing City of Seattle Dept of Planning & Development, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

IPMC [F] 704.5 Maintenance. Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced. Smoke alarms installed in one and two family dwellings shall be replaced not more than 10 years from the date of manufacture marked on the unit, or shall be replaced if the date of manufacture cannot be determined.

Commenter's Reason: The modification makes the section clearer and easier to read.

F162-13, Part II

Final Action: AS AM AMPC_____ D

F164-13
907.2.11.5 (New) (IBC [F] 907.2.11.5 (New))

Proposed Change as Submitted

Proponent: Thomas P. Hammerberg, representing Automatic Fire Alarm Association (TomHammerberg@afaa.org)

Revise as follows:

907.2.11.5 (IBC [F] 907.2.11.5) Automatic sprinkler system waterflow. Where an automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 is provided a sprinkler waterflow alarm-initiating device shall be connected to the multiple-station alarm or household fire alarm system to activate an alarm signal.

Reason: This language is currently used in NFPA-72-2013, 29.7.7.3. The purpose is to provide notification to occupants of waterflow activation. If a sprinkler activates in another part of the dwelling unit, this provides earlier warning of the fire situation and will allow additional time to leave the premises. Since the time to escape has reduced significantly in recent years, this will improve fire safety for the occupants.

Cost Impact: minimal

907.2.11.5 (NEW)-F-HAMMERBERG

Committee Action Hearing Results

Committee Action: **Disapproved**

Committee Reason: Monitoring of NFPA 13D systems was seen as excessive. Homeowners have the option for monitoring but should not be mandated.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Thomas F. Norton, Norel Service Co., Inc., representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

907.2.11.5 (IBC [F] 907.2.11.5) Automatic sprinkler system waterflow. Where an automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 is provided a sprinkler waterflow alarm-initiating device shall be permitted to be connected to the multiple-station alarm or household fire alarm system to activate an alarm signal.

Commenter's Reason: The proposal seeks to permit the Authority Having Jurisdiction (AHJ) to allow the use of a water flow monitoring device the installation of which is described in NFPA-722013 29.7.7.3.

F164-13

Final Action: AS AM AMPC_____ D

F169-13
907.3.1 (IBC [F] 907.3.1)

Proposed Change as Submitted

Proponent: Barry Greive, representing Target Corporation (barry.greive@target.com)

Revise as follows:

907.3.1 (IBC [F] 907.3.1) Duct smoke detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the International Mechanical Code. Duct smoke detectors shall report as a supervisory signal not a fire alarm, and they shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

Reason: Duct detectors are widely known to be a cause of false alarms which is a safety concern for first responders. Duct detectors need to report as a supervisory signal to indicate that there is an issue and need to be repaired or replaced but should not report as a fire alarm like a water flow device. This adds clarity to a section that is not enforced uniformly and will add to fire fighter safety by lessening the amount of potential false alarms.

Cost Impact: This will not increase the cost of construction

907.3.1-F-GRIEVE

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal would create confusion on the application of the exceptions and possibly create a conflict. It was suggested that the proposal be reworded to deal with the potential conflict in the form of a public comment.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Barry Greive, representing Target Corporation, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

907.3.1 Duct smoke detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is

required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the International Mechanical Code. In facilities that are required to be monitored by a supervising station, duct smoke detectors shall only report as a supervisory signal and not a fire alarm and. They shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

Commenter's Reason: Duct detectors are widely known to be a cause of false alarms which is a safety concern for first responders. Duct detectors need to report as a supervisory signal to indicate that there is an issue and either need to be repaired or replaced but should not report as a fire alarm like a water flow device. This change adds clarity to a section that is not enforced uniformly and will add to fire fighter safety by lessening the amount of potential false alarms

During the Committee hearings it was mentioned by several members that their reason for denial was that the code section already states that duct detectors shall report as supervisory and no further clarification is needed. Unfortunately this section is widely miss-interpreted, anytime a duct detector reports as a fire alarm we are putting the first responders in harm's way and it takes them away from more important duties. This code section needs greater clarification, smoke detectors and duct smoke detectors are one of the greatest contributors to false alarms in a building.

F169-13

Final Action: AS AM AMPC____ D

F172-13

907.5.2.3.3 (IBC [F] 907.5.2.3.3)

Proposed Change as Submitted

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

Revise as follows:

907.5.2.3.3 (IBC [F] 907.5.2.3.3) Groups I-1 and R-1. Group I-1 and R-1 *dwelling units* or *sleeping units* in accordance with Table 907.5.2.3.3 shall be provided with a visible alarm notification ~~appliance~~ throughout the unit, activated by both the in-room smoke alarm and the building fire alarm system.

Reason: The revised language will clarify that within hotel rooms and assisted living units that visible alarms must provide full coverage.

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.

Cost Impact: None

907.5.2.3.3-F-BALDASSARRA-CTC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as the language "throughout the unit" was not specific enough. It was noted that ADA has specific requirements as to how you deal with the space and the proposal should coordinate with those requirements. Concerns specifically related to bathrooms and closets as to how they are to be addressed.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

907.5.2.3.3 (IBC [F] 907.5.2.3.3) Groups I-1 and R-1. Group I-1 and R-1 *dwelling units* or *sleeping units* in accordance with Table 907.5.2.3.3 shall be provided with a visible alarm notification appliances, activated by both the in-room smoke alarm and the building fire alarm system. Visible alarm notification appliances shall be provided in all habitable spaces and bathrooms.

Reason: An opponent indicated that ADA and the IBC had different visible alarm requirements. While the 1994 ADA did have separate visible alarm requirements, the 2010 ADA references NFPA 72 for visible alarms.

All alarm systems are required to be installed in accordance with NFPA 72 by Section 907.2. The number of 'hearing impaired' rooms is specifically scoped in Table 907.5.2.3.3. It was not our intent to require visible alarms in closets, but rather in all habitable

areas. In a hotel room bathroom, the door may be closed and a person would take out their hearing aid while bathing, so a visible alarm should also be provided in this space.

F172-13

Final Action: AS AM AMPC____ D

F176-13

907.6.5.3 (New) (IBC [F] 907.6.5.3 (New)), 401.3.2

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

907.6.5.3 Alarm Signal Verification. Where permitted by the Fire Chief, an approved supervising station shall be allowed to verify an alarm signal prior to reporting it to the public safety communications center. The verification process shall be in compliance with NFPA 72.

401.3 Emergency responder notification. Notification of emergency responders shall be in accordance with Sections 401.3.1 through 401.3.3.

401.3.1 Fire events. In the event an unwanted fire occurs on a property, the *owner* or occupant shall immediately report such condition to the fire department.

401.3.2 Alarm activations. Upon activation of a fire alarm signal employees or staff shall immediately notify the fire department.

Exception: Alarm signal verification permitted by section 907.6.5.3.

401.3.3 Delayed notification. A person shall not, by verbal or written directive, require any delay in the reporting of a fire to the fire department.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The intent is to allow fire departments to require verification on both commercial and residential alarm signals in order to assist in effective dispatching of resources and/or reducing the impact of nuisance alarms. Currently NFPA 72 allows verification on residential systems (but gives choice of using it to the monitoring company). This would give discretion to the fire chief, and expand use to include commercial alarms which accounts for the majority of false alarms in the U.S.

These provisions allow fire departments to require that alarm monitoring centers attempt to verify an alarm signal before reporting to the 9-1-1 center. Having better information about the cause of alarm activation is critical as many departments have much smaller responses for an automatic alarm signal than for a working structure fire. Additionally, verification has been proven effective in reducing unwanted nuisance alarms. Alarm Verification is already performed extensively on residential fire alarms; this would allow it to be mandated on some or all systems, including commercial occupancies, when required by the Chief.

The revision to Section 401.3 will clarify the intent of the code and alleviate potential interpretation and enforcement conflicts with proposed new section - Section 907.6.5.3 Alarm Signal Verification

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

907.6.5.3 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This allowance for alarm signal verification was felt to be a necessary tool for jurisdictions to manage risk in their community. The proposal is consistent with NFPA 72.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Steve Seddig, representing City of Wylie/Wylie Fire Marshal's Office, requests Approval as Modified by this Public Comment

Modify the proposal as follows:

907.6.5.3 Alarm Signal Verification. Where permitted by the *Fire Chief*, an *approved* supervising station shall be allowed 90 seconds to verify an alarm signal prior to reporting it to the public safety communications center. The verification process shall be in compliance with NFPA 72.

401.3 Emergency responder notification. Notification of emergency responders shall be in accordance with Sections 401.3.1 through 401.3.3.

401.3.1 Fire events. In the event an unwanted fire occurs on a property, the *owner* or occupant shall immediately report such condition to the fire department.

401.3.2 Alarm activations. Upon activation of a fire alarm signal employees or staff shall immediately notify the fire department.

Exception: Alarm signal verification permitted by section 907.6.5.3.

Commenter's Reason: The idea of not providing a time frame for reporting fire alarm activation by a monitoring station could be problematic. The NFPA Standard listed below details a maximum time of 90 seconds to verify the alarm signals. To be consistent and give specific guidance, I think it's important to place a time limit for accomplishing the task of verifying alarm signals.

In NFPA 72 (2013) Section 29.7.9.2: Remote monitoring stations shall be permitted to verify alarm signals prior to reporting them to the fire service, provided that the alarm verification process does not delay the reporting more than 90 seconds.

Public Comment 2:

Sean DeCrane, representing Cleveland Division of Fire / International Association of Fire Fighters, requests Disapproval.

Commenter's Reason: The reason for request for Disapproval is a fundamental difference of approach to reduce unwanted alarms. In this proposed change that was approved by the committee the proponent is taking an operational approach to a maintenance issue. We all agree in the benefits of reducing unwanted alarms, in fact this author is very aware of the risks to fire fighters and the public during emergency responses. The issue is how to reduce the unwanted alarms without raising the risks to the building's occupants or the responding fire fighters.

By allowing property owners additional time to verify the legitimacy of an alarm is potentially increasing the risk of loss to that property owner. It also raises the risk to the responding fire fighters. We have seen numerous studies conducted by Underwriters Laboratories and the National Institute of Standards and Technologies demonstrating the increased fuel loads we are placing inside our occupancies. We have realized a shorter time to flashover, an increase in energy produced in today's fires and the widespread use of construction practices utilizing less mass. This is a dangerous combination in the event of an "unwanted" fire.

This issue is a maintenance issue, if an occupancy is experiencing numerous unwanted alarms then the responsible party should be required to determine the cause of the multiple alarms. Is the system aging? Are there construction efforts causing dust? Is it a cleaning or lack of that is causing the situation? All of these situations can be addressed through proper maintenance.

This same committee took the steps and approved the ability of the local fire official to require the replacement of an alarm system if it is not performing as designed or has become a functioning liability. These are the tools to use if a property is experiencing a lack of proper performance of the installed alarm system. To change operational responses by delaying notification is dangerous. Currently many jurisdictions including ours initiates our response, and it can be tiered, and then allows the alarm company to verify the alarm then notify us if they find a situation of an unwanted alarm. We will continue the response by the first due unit to verify the false situation while returning the other responding units to service immediately. In this response if the alarm company determines there is no cause for alarm we return our units. If the alarm company should determine indeed there was a cause for alarm then our crews will arrive earlier in the event with a better chance to bring it to a successful conclusion earlier in the event. I urge you to Disapprove the original submission.

F176-13

Final Action: AS AM AMPC_____ D

F178-13
907.8.6 (New)

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Add new text as follows:

907.8.6 Problematic systems. Where required by the fire code official, fire alarm systems that produce chronic, unwanted or nuisance alarms shall be monitored with central station service in accordance with NFPA 72 requirements. A copy of the certificate, placard or other documentation issued by the organization that listed the central station, or the prime fire alarm system contractor, shall be provided to the fire code official.

Reason: This section is intended to address the situation where a fire alarm system has not been repaired to make it fully functional or eliminate chronic unwanted or nuisance alarms. The determination of what constitutes chronic unwanted or nuisance alarms is up to the fire code official to decide based on local policies and practices. By requiring central station service it is understood that the system at the protected premise is now covered by an audit program administered by the company that listed the central station. These audit programs have shown significant success in reducing nuisance and unwanted alarms.

Cost Impact: This proposal will increase the cost of construction.

907.8.6 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

907.8.6 Problematic systems. Where required by the fire code official, fire alarm systems that produce chronic unwanted or nuisance alarms shall be monitored with central station service in accordance with NFPA 72 requirements. A copy of the premises certificate, placard or other documentation issued by the organization that listed the central station, or the prime fire alarm system contractor, shall be provided to the fire code official.

Committee Reason: This proposal was preferred to F177-13 and requires central stations to monitor fire alarm systems with chronic unwanted or nuisance alarms. The requirement would involve the need for a maintenance contract. Generally this requirement encourages repair instead of mandating replacement. The cost associated with this requirement was not seen as excessive. The modification simply adds the term "premises" to denote the type of certificate required. There was still some concern as to what was considered "chronic" or "nuisance."

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

J. William Degnan, President, representing National Association of State Fire Marshals, requests Disapproval.

Commenter's Reason: NASFM fully supports the intent to provide further incentives for property owners to maintain fire alarm devices and systems in accordance with the applicable reference standard(s). However, the Association does not believe this is the

best tactic to achieve such a goal. NASFM continues to believe there remains a lack of clarity in this particular proposal in regard to what the thresholds of a chronic or nuisance alarm are. Additionally, who determines such?

Furthermore, NASFM also has concern that the language as presented in this proposal "...shall be monitored with central station service in accordance with NFPA 72 requirements" could be interpreted to mean that the alarm verification criteria [IE: a delay in FD notification] contained in NFPA 72 would thereafter permissible in all occupancy types.

Public Comment 2:

Dave Frable, representing U.S. General Services Administration, requests Disapproval.

Commenter's Reason: The proponent's intent to reduce the number of "unwanted" fire alarms in buildings in an effort to assist fire departments in effective dispatching of resources is noteworthy. However, this code proposal is not a solution to reduce the number of "unwanted" fire alarms. The proposed text would include non-definable terms in the code (i.e., chronic and nuisance alarms) and mandate that the property owner must have their fire alarm system monitored by a central station service if the code official determines the subject fire alarm system is causing "chronic" alarms. In addition, based on the proposed text and the requirements in NFPA 72, the central station service will need to consist of the following elements: (1) installation of alarm transmitters; (2) alarm, guard, supervisory, and trouble signal monitoring; (3) retransmission; (4) associated record keeping and reporting; (5) testing and maintenance; and (6) runner service. To mandate a building owner to incorporate all of these elements into an existing fire alarm system may be very costly depending on the age and complexity of the fire alarm system.

It should be noted that a vast majority of "unwanted alarms" are due to the existing fire alarm system not being initially designed and installed in accordance with the requirements of NFPA 72 or the fire alarm system not being maintained in accordance with the requirements of NFPA 72. In addition, no data has been provided by the proponent that substantiates that requiring a fire alarm system transmitting alarms directly to a central station service in lieu of directly to (1) a fire department; (2) a public safety communication center; (3) a remote supervising station service or (4) a proprietary supervising station service will reduce the number of "unwanted" alarms. Therefore, without adequate data the added expense for mandating central station service does not seem like a reasonable solution.

In addition, current code text regarding inspection, testing, and maintenance in Section 901.6 in the IFC specifically states that fire alarm systems "shall be maintained in operative condition at all times, and shall be replaced or repaired where defective". This current requirement should adequately address "unwanted" alarms and provide the fire code official authority to require a property owner to repair or replace a fire alarm system which should inherently reduce the number of "unwanted" alarms in a local jurisdiction.

F178-13

Final Action: AS AM AMPC_____ D

F192-13

909.12.1 (IBC [F] 909.12.1, IMC [F] 513.12.1), 909.20.6 (New)

Proposed Change as Submitted

Proponent: Jeffrey Tubbs, PE, FSFPE, Arup USA, Inc., representing self (jeff.tubbs@arup.com)

Revise as follows:

909.12 (IBC [F] 909.12, IMC [F] 513.12) Detection and control systems. Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with the requirements of Section 907. Such systems shall be equipped with a control unit complying with UL 864 and *listed* as smoke control equipment.

909.12.1 (IBC [F] 909.12.1, IMC [F] 513.12.1) Verification. Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override, and the presence of power downstream of all disconnects. A ~~and~~, through a preprogrammed weekly test sequence shall report abnormal conditions audibly, visually and by printed report. The preprogrammed weekly test shall operate all devices, equipment, and components.

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with normal building operation and produce unwanted effects to normal building operation, such individual components are permitted to be bypassed from the weekly preprogrammed weekly testing, where approved by the code official and in accordance with the following:

1. Power supplies for components that are bypassed from the preprogrammed weekly test, such as power breakers, power disconnects, automatic transfer switches, motor starters, and motor controls, shall be electrically supervised by the listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6.

(Renumber subsequent sections)

909.20.6 Components bypassing weekly test. Where components of the smoke control system are bypassed by the preprogrammed weekly test required by Section 909.12.1 such components shall be tested semi-annually. The system shall also be tested under standby power conditions.

Reason: The current provisions require weekly tests of smoke control systems. For many systems, the weekly test requires the introduction of untreated air into the smoke zone. This can be impractical in areas with cold or hot climates, and for buildings that require close control of temperature and humidity, such as art museums and similar facilities. The introduction of the untreated air can also result in wasting energy to reheat, re-cool, humidify, or dehumidify the smoke control zone.

The intent of the current code provisions is to provide means to verify that the required systems will be available when needed. The code requires and will continue to require control units to comply with UL 864, thus all components of the control system will be supervised. The code change adds requirements for supervision of all power supply components such as power breakers, power disconnects, automatic transfer switches, motor starters, and motor controls. This will provide reasonable assurance that power will be available for all smoke control components, such as fans, dampers, doors, and windows. The code change also adds the semi-annual requirement for a complete system test. This allows the building owner to schedule complete system testing on days that will reduce the impact to the building and energy needs. The combination of additional supervision and additional testing provides a reasonable alternative to weekly testing.

Cost Impact: The code change allows optional additional features that may increase initial costs but reduce long-term operational costs.

909.12.1 (NEW)-F-TUBBS

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal provides a viable option for the weekly preprogrammed test through semi-annual testing and more restrictive supervision requirements.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey Tubbs, Arup USA Inc, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

909.12 (IBC [F] 909.12; IMC [F] 513.12) Detection and control systems. Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with the requirements of [Section 907](#). Such systems shall be equipped with a control unit complying with [UL 864](#) and *listed* as smoke control equipment.

909.12.1 (IBC [F] 909.12.1; IMC [F] 513.12.1) Verification. Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override, and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence shall report abnormal conditions audibly, visually and by printed report. The preprogrammed weekly test shall operate all devices, equipment, and components used for smoke control.

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with normal building operation and produce unwanted effects to normal building operation, such individual components are permitted to be bypassed from the ~~weekly~~ preprogrammed weekly testing, where approved by the code official and in accordance with the following:

1. ~~Power supplies for~~ Where the operation of components that are is bypassed from the preprogrammed weekly test, such as power breakers, power disconnects, automatic transfer switches, motor starters, and motor controls, presence of power downstream of all disconnects shall be electrically supervised verified weekly by the a listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6.

(Renumber subsequent sections)

909.20.6 Components bypassing weekly test. Where components of the smoke control system are bypassed by the preprogrammed weekly test required by Section 909.12.1 such components shall be tested semi-annually. The system shall also be tested under standby power conditions.

Commenter's Reason: The intent of the current code provisions is to provide means to verify that the required systems will be available when needed. The code requires and will continue to require control units to comply with UL 864, thus all components of the control system will be supervised. The intent of the code change was to monitor the presence of power downstream rather than to mandate a specific method (electrical supervision vs monitoring of power) for monitoring the presence of power. The revised text retains the requirement to verify that power is present downstream of all disconnects without specifying any particular method, thereby allowing any method that is consistent with the listing of the control unit. As with the original code change, this modification includes the combination of additional supervision and additional testing, and thus provides a reasonable alternative to weekly testing.

F192-13

Final Action:

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AMPC _____

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F196-13

910.1 (IBC [F] 910.1), 910.3.5 (IBC [F] 910.3.5), 202, 3202, Table 3206.2

Proposed Change as Submitted

Proponent: Jeffrey M. Shapiro, International Institute of Ammonia Refrigeration
(jeff.shapiro@intlcodeconsultants.com)

Revise as follows:

910.1 General. Where required by this code or otherwise installed, smoke and heat vents, or mechanical smoke exhaust systems, and draft curtains shall conform to the requirements of this section.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an *approved automatic sprinkler system*.
2. Where areas of buildings are equipped with early suppression fast-response (ESFR) or quick-response storage (QRS) sprinklers, automatic smoke and heat vents shall not be required within these areas.

910.3.5 (IBC [F] 910.3.5) Draft curtains. Where required by Table 910.3, draft curtains shall be installed on the underside of the roof in accordance with this section.

Exception: Where areas of buildings are equipped with ESFR or QRS sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the non-ESFR sprinklers, and between QRS and the non-QRS sprinklers.

Add new definition as follows:

SECTION 202 GENERAL DEFINITIONS

QUICK RESPONSE STORAGE (QRS) SPRINKLER. A sprinkler with a response time index of 50 or less that is listed to control a specified fire in stored commodities with 12 or fewer sprinklers.

Revise as follows:

SECTION 3202 DEFINITIONS

QUICK RESPONSE STORAGE (QRS) SPRINKLER.

TABLE 3206.2
GENERAL FIRE PROTECTION AND LIFE SAFETY REQUIREMENTS

COMMODITY CLASS	SIZE OF HIGH-PILED STORAGE AREA ^a (square feet) (see Sections 3206.2 and 3206.4)	ALL STORAGE AREAS (See Sections 3206, 3207 and 3208) ^b					SOLID-PILED STORAGE, SHELF STORAGE AND PALLETIZED STORAGE (see Section 3207.3)		
		Automatic fire-extinguishing system (see Section 3206.4)	Fire detection system (see Section 3206.5)	Building access (see Section 3206.6)	Smoke and heat removal (see Section 3206.7)	Draft curtains (see Section 3206.7)	Maximum pile dimension ^c (feet)	Maximum permissible storage height ^d (feet)	Maximum pile volume (cubic feet)

(Portions of table not shown remain unchanged)

a through i (No change to current text)

- j. Not required when storage areas are protected by early suppression fast response (ESFR) or quick-response storage (QRS) sprinkler systems installed in accordance with NFPA 13.

Reason: Factory Mutual data sheets no longer reference special sprinkler classifications, such as ESFR. Instead, FM now classifies sprinklers as “storage” and “non-storage” and provides appropriate installation parameters. Storage sprinklers now encompass a new category of quick-response sprinklers that share the key characteristics of ESFR sprinklers, i.e. fast response thermal elements and design areas that involve 12 or fewer sprinklers, but are not designated as ESFR. These quick-response storage sprinklers require similar precautions to ESFR sprinklers with respect to not introducing unknowns that were not represented in full-scale fire tests conducted to determine listing parameters. Thereby, it is important to extend the current provisions in Chapters 9 and 32 that are applicable to ESFR sprinklers to include quick-response storage sprinklers.

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

910.1-F-SHAPIRO

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: There was concern that the technology was too new to be properly addressed within the code. In addition concerns and questions with regard to smoke and heat vent and the operation of the sprinklers were raised. There was particular concern with the terminology used and related testing. There was some concern for the need to provide specific data and reports for every installation.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing Tyco; Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

910.1 General. Where required by this code or otherwise installed, smoke and heat vents, or mechanical smoke exhaust systems, and draft curtains shall conform to the requirements of this section.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an *approved automatic sprinkler system*.
2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, automatic smoke and heat vents shall not be required within these areas.
3. Where areas of buildings are equipped with control mode special application sprinklers with a response time index of 50 or less, which are listed to control a fire in the stored commodities with 12 or fewer sprinklers, automatic smoke and heat vents shall not be required within these areas.

910.3.5 (IBC [F] 910.3.5) Draft curtains. Where required by Table 910.3, draft curtains shall be installed on the underside of the roof in accordance with this section.

Exceptions:

1. Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the non-ESFR sprinklers.
2. Where areas of buildings are equipped with control mode special application sprinklers with a response time index of 50 or less, which are listed to control a fire in the stored commodities with 12 or fewer sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between these areas and areas protected by other types of sprinklers.

**TABLE 3206.2
GENERAL FIRE PROTECTION AND LIFE SAFETY REQUIREMENTS**

- j. Not required when storage areas are protected by either early suppression fast response (ESFR) sprinkler systems or control mode special application sprinklers with a response time index of 50 or less, which are listed to control a fire in the stored commodities with 12 or fewer sprinklers, installed in accordance with NFPA 13.

Commenter's Reason:

Shapiro: The text proposed in this public comment addresses the concerns that were raised at the committee hearing. In particular, it resolves questions that were raised about introducing the new term "quick response storage sprinkler" by no longer using that term, and it clarifies that both the RTI and number of sprinklers operating limits (not just one or the other) must be satisfied to for the referenced sprinklers to be treated equivalently to ESFR.

After the hearing, I spoke with a number of attendees and committee members to better understand their concerns and see if there were other questions about this proposal. I learned that some people were confused as to why the sprinklers included in this proposal are not simply considered ESFR. In response, I explained that the type of sprinklers covered by this proposal is very versatile. They can qualify and be used as either control mode density area (CMDA) or CMSA sprinklers under their UL listing and NFPA 13. When these sprinklers are used as CMDA, they are essentially "regular" sprinklers that can be used with smoke and heat vents because the installation will involve large design areas. When they are used as CMSA with limitations that parallel those that are applicable to ESFR (as described in this proposal), the same concerns about compatibility with smoke and heat vents apply. Once these points were clear, individuals who I spoke with, including some committee members who had opposed the change, agreed with the proposal.

It is also important to note that the proposal was cleared with FM, UL the National Fire Sprinkler Association and the American Fire Sprinkler Association.

Zubia: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

There is a new category of fire sprinklers that shares the key characteristics of ESFR sprinklers, i.e. thermal elements that have a response time index (RTI) of 50 or less and that are listed to protect a design area that involves 12 or fewer sprinklers. These sprinklers are not called ESFR, but they still require similar precautions to ESFR sprinklers with respect to not introducing unknowns, such as smoke and heat vents, that were not present in the full-scale fire tests that determined the listing parameters. Such unknowns can lead to sprinkler "skipping" and exceeding the 12 sprinkler design area, which was the exact concern that led to the ESFR-related provisions that are currently in Chapters 9 and 32. This comment will extend application of the special ESFR provisions to include quick-response storage sprinklers that share ESFR characteristics.

The public comment also resolves the concerns expressed by some at the committee hearing that the introduction of new terminology suggested in the original proposal might have confused some code users. The previously proposed terminology is not included in this public comment. Instead, the technical provisions are provided directly in the sections of the code where they will apply. The text has also been revised to clarify that sprinklers must have BOTH an RTI of 50 or less and be listed to control/suppress a fire with 12 or fewer sprinklers to qualify for an exception to smoke and heat venting requirements. Any sprinkler listed as "quick response" will satisfy the "50 RTI or less" criteria, based on the definition of "quick response" in NFPA 13 Section 3.6.4.7. The number of operating sprinklers will be indicated in the listing criteria for each sprinkler.

In summary, there is no technical basis for not accepting this proposal. The proposed exceptions parallel those that the code already provides for ESFR sprinklers, and the sprinklers that will qualify for the proposed new exceptions must meet the ESFR RTI and suppression area criteria.

F196-13

Final Action: AS AM AMPC____ D

F203-13

913.2.2 (New) [IBC [F] 913.2.2 (New)]

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing self
(rjd@davidsoncodeconcepts.com)

Revise as follows:

913.2.2 (IBC [F] 913.2.2) Fuel line piping protection. Fuel lines supplying diesel engine driven fire pumps shall be protected by an approved fuel line protective system with a fire-resistance rating equivalent to the fire resistance rating of the construction enclosing the fire pump room where such piping is located in areas outside the fire pump room.

Reason: When electric powered fire pumps are installed Section [F] 913.2 and the referenced standards, (NFPA 20 and NFPA 70), require protection against exposure from fire for the fire pump, the components and the wiring supplying the electric powered fire pump.

NFPA 20
INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION

Chapter 9 Electric Drive for Pumps

9.1.4* All power supplies shall be located and arranged to protect against damage by fire from within the premises and exposing hazards.

NFPA 70
ARTICLE 695
Fire Pumps

(E) Arrangement. All power supplies shall be located and arranged to protect against damage by fire from within the premises and exposing hazards. [20:9.1.4]

Multiple power sources shall be arranged so that a fire at one source does not cause an interruption at the other source.

913.2-F-DAVIDSON

913.2-F-DAVIDSON

Additional NFPA 20 protection language

4.12* Equipment Protection.

4.12.1* General Requirements. The fire pump, driver, controller, water supply, and power supply shall be protected against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism, and other adverse conditions.

4.12.1.1* Indoor Fire Pump Units.

4.12.1.1.1 Fire pump units serving high-rise buildings shall be protected from surrounding occupancies by a minimum of 2-hour fire-rated construction or physically separated from the protected building by a minimum of 50 ft (15.3 m).

4.12.1.1.2 Indoor fire pump rooms in non-high-rise buildings or in separate fire pump buildings shall be physically separated or protected by fire-rated construction in accordance with Table 4.12.1.1.2.

4.12.1.1.3 The location of and access to the fire pump room shall be preplanned with the fire department.

However, the same protection against fire exposure is not provided for fuel lines serving diesel engine powered fire pumps, a component just as important to ensure availability of fire flows as the other fire pump components.

NFPA 20
INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION

11.4.4* Fuel Piping.

- 11.4.4.1 Flame-resistant reinforced flexible hose listed for this service with threaded connections shall be provided at the engine for connection to fuel system piping.
- 11.4.4.2 Fuel piping shall not be galvanized steel or copper.
- 11.4.4.3 The fuel return line shall be installed according to the engine manufacturer's recommendation.
- 11.4.4.4 There shall be no shutoff valve in the fuel return line to the tank.
- 11.4.4.5* Fuel Line Protection. A guard, pipe protection, or approved double-walled pipe shall be provided for all exposed fuel lines.
- 11.4.4.6 Fuel Solenoid Valve. Where an electric solenoid valve is used to control the engine fuel supply, it shall be capable of manual mechanical operation or of being manually bypassed in the event of a control circuit failure.

This proposal adds a new Section "913.2.2 / [F] 913.2.3 Fuel line piping protection" that provides for a level of fire resistance protection equal to the fire-resistance rating of the fire pump room enclosing construction for those portions of the fuel oil piping that are installed outside of the fire pump room where they may be exposed to a fire in the occupancy protected.

The IBC language is shown here for visualization of how the added language would appear in that document.

[F] 913.2 Protection against interruption of service. The fire pump, driver and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

913.2.1 Protection of fire pump rooms. Fire pumps shall be located in rooms that are separated from all other areas of the building by 2-hour fire barriers constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. In other than high-rise buildings, separation by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both, shall be permitted in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Separation is not required for fire pumps physically separated in accordance with NFPA 20.

[F] 913.2.2 Fuel line piping protection: In addition to complying the requirements of NFPA 20, Fuel lines supplying diesel powered fire pumps shall be protected against fire by an approved fuel line protective system with a fire-resistance rating equivalent to the rating of the construction enclosing the fire pump room where portions of the fuel line piping are located in areas outside the room the fire pump is located in.

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

913.2-F-DAVIDSON

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: This requirement should be more appropriately addressed by NFPA 20 and not by Chapter 9 of the IFC. There was a question as to what is considered a "fuel line protective system." Also, no credit is given to buildings provided with an automatic sprinkler system.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Robert J Davidson, Davidson Code Concepts, LLC, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

913.2.2 (IBC [F] 913.2.2) Fuel line piping protection. Fuel lines supplying diesel engine driven fire pumps shall be protected by an approved ~~fuel line protective system method or assembly~~ with a fire-resistance rating equivalent to the fire resistance rating of the construction enclosing the fire pump room where such piping is located in areas of the protected building outside the fire pump room.

Commenter's Reason: In response to the committee concerns the specific methods have been deleted to instead refer to a generic requirement of protection with "an approved method or assembly". In recognition of the committee discussion this modified wording provides for acceptance of a wider base of solutions.

Recognition for sprinkler protection is inherent in the language in that it requires the protection to match the rating required of the pump room enclosure. Section 913.2.1 provides for a reduction in the rating of the pump room enclosure with Exception 1, with the new language tied to the rating of the enclosure the sprinkler recognition is built in.

During the hearing a committee member suggested that clarification be made as to where the piping required the protection. To address that concern, the intent has been clarified that the protection applies to portions of the piping located within the building protected by the fire pump.

In deference to the reason statement mention of the requirement belonging in NFPA 20, the protection from fire and other means of disruption is already in the IBC/IFC Section 913.2. The added language should accompany the language it is building upon.

The introduction of the discussion on NFPA 20 was brought about by testimony from the floor that NFPA 20 requires the fuel supply to be located in the same room as the fire pump. That testimony was incorrect. NFPA 20 only requires the supply to be located within the same room when subject to freezing.

NFPA 20-2010

11.4.3.2 In zones where freezing temperatures [32°F (0°C)] are possible, the fuel supply tanks shall be located in the pump room

Additionally, with many facilities concerned with business continuity, they are providing for generators for backup power with fuel supplies for long periods of time. In doing so it is not uncommon to use the above ground protected fuel supply for both the diesel fuel pump and the generators, the result being a run of supply piping this new section would provide protection for.

F203-13

Final Action: AS AM AMPC____ D

F204-13

913.2.2 (IBC [F] 913.2.2 (New)), Chapter 80 (IBC Chapter 35)

Proposed Change as Submitted

Proponent: Bob Eugene, representing Underwriters Laboratories (Robert.Eugene@ul.com)

Add new text as follows:

913.2.2 (IBC [F] 913.2.2) Circuits supplying fire pumps. Cables used for survivability of circuits supplying fire pumps shall be listed in accordance with UL 2196. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

Add new standard to Chapter 80 (IBC Chapter 35) as follows:

UL

2196-2001 Tests for Fire Resistive Cables, with revisions through December 7, 2003.....913.2.2

Reason: UL 2196 is the ANSI approved standard for tests of fire resistive cables. NFPA 20 (fire pumps) includes selective survivability requirements to assure integrity of certain critical circuits. NFPA 70 does not specify the applicable standard within the mandatory provisions of the code, but recognizes electrical circuit protective systems as an alternate to listed cables. An electrical circuit protective system is a field assembly of components that must be installed according to the listing requirements and manufacturer's instructions in order to maintain the listing for the system. There are more than two dozen electrical circuit protective systems listed in the UL Fire Resistance Directory.

Cost Impact: None.

Analysis: A review of the standard proposed for inclusion in the code, UL 2196-2001, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28), will be posted on the ICC website on or before April 1, 2013.

913.2.2 (NEW)-F-EUGENE

Committee Action Hearing Results

For staff analysis of the content of UL2196-2001 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Approved as Submitted

Committee Reason: This provides a direct reference to the standard that addresses cables used to provide survivability of circuits. This reference was felt necessary to avoid confusion as to what was required in accordance with NFPA 20 and NFPA 70.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bob Eugene, representing UL LLC, requests Approval as Modified by Public Comment.

Modify the proposal as follows:

UL	Standard Reference Number	Underwriters Laboratories Title	Referenced in Code Section Number
2196-2001		Tests for Fire Resistive Cables, with revisions through December 7, 2003 <u>March 2012</u>	913.2.2 <u>(913.2.2)</u>

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal was originally submitted with the Group A proposals, but held over for the Group B proposals. The revisions to the standard, including ANSI approval, occurred after the original submittal and should be included in the 2015 edition of the codes.

Analysis: The edition of UL2196 that was submitted for review by the IFC Committee included the revisions through March, 2012. For the analysis of the content of this standard, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

F204-13

Final Action: AS AM AMPC _____ D

F205-13
913.3 (New) [IBC [F] 913.3(New)]

Proposed Change as Submitted

Proponent: Jeffrey M. Hugo, CBO, representing the National Fire Sprinkler Association
(hugo@nfsa.org)

Add new text as follows:

913.3 (IBC [F] 913.3) Fire Pump rooms egress and access. Fire pump rooms located on levels other than the level of exit discharge shall discharge into an exit passageway constructed in accordance with Section 1023 or directly into a interior exit stairway in accordance with Section 1022.

Reason: New sections are necessary as NFPA 20 permits fire pump rooms to be located on floors that are not always on the same floor as the level of exit discharge. While the fire pump is operating, NFPA 20 requires building personnel to be in the room for testing and during a fire event and requires the exit of the fire pump room to go into an exit passageway.

During a fire, the person being sent to the pump room on an upper or lower floor than the level of exit discharge needs to be able to safely get from the stairwell to the pump room without encountering the fire. Therefore, the exit stairwell or an exit passageway needs to lead to the pump room.

Cost Impact: Will not increase the cost of construction

913.2.1.2 (NEW)-FS-HUGO

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The primary concern with this proposal is that it would create a conflict with the IBC exit passageway requirements in Chapter 10. It was suggested that perhaps rated corridors may be a better approach to provide a protected path to fire pump rooms.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Dave Frable, representing U.S. General Services Administration, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

~~913.3 2(IBC [F] 913.3 2) Fire Pump rooms egress and access. Fire pump rooms located on levels other than the level of exit discharge shall discharge into an exit passageway constructed in accordance with Section 1023 or directly into a interior exit stairway in accordance with Section 1022.~~ **Location and access.** The location and accessibility of the fire pump room shall be approved by the fire chief.

Commenter's Reason: The intent of this proposed code change is to provide some direction to architects when determining the location of a fire pump room in a project. The new code text should also provide design flexibility on a case-by-case basis in determining best location for the fire pump room. We believe the proposed language will also meet the original intent of the proponent and concerns raised by the Code Committee. The proposed language is similar language in Section 508, Fire Command Center.

F205-13

Final Action: AS AM AMPC_____ D

F210-13
1101.3

Proposed Change as Submitted

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects (dcollins@preview-group.com); Robert J Davidson, Davidson Code Concepts, LLC

Revise as follows:

1101.3 Permits. Permits for alterations necessary to comply with this section shall be required as set forth in Sections ~~105.6 and 105.7~~ and the *International Building Code* 105.1 of the *International Existing Building Code*.

Reason: This change will direct the code user to the correct reference section for obtaining a permit to make any alterations necessary to conform to this section of the IFC. Sections 105.6 and 105.7 are for operational permits for various operations or the installation of certain systems, not alterations to an existing building. With the deletion of Chapter 34 from the IBC, the only provisions in the ICC family of codes for permits for existing buildings are found in the IEBC.

Cost Impact: There is no cost impact of this change.

1101.3 (NEW)-F-COLLINS

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that, while the intent of the code change is good, the amount of testimony in opposition indicated that the proposal is more than just a simple correlation issue and needs additional work to revise other sections affected by the change. It was also felt that the reference to the IBC needs to be retained in the section.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Robert J Davidson, representing Davidson Code Concepts, LLC and David S. Collins, FAIA, The Preview Group, Inc., requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1101.3 Permits. Permits for alterations necessary to comply with this section shall be required as set forth in Section 105.7, the *International Building Code* and Section 105.1 of the *International Existing Building Code*.

Commenter's Reason: In response to the committee comments and testimony, in this modification ONLY the reference to operational permits of the IFC has been deleted since installation/construction of the improvements in Chapter 11 are not operational permit activities, they are construction permit topics. The reference to the IBC has been left in as requested by the committee and the reference to the IEBC has been added since that is the document to refer to now that Chapter 34 has been removed from the IBC.

F210-13

Final Action:

AS

AM

AMPC_____

D

F212-13, Part I

1103.1, 1104.1

Proposed Change as Submitted

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IFC CODE DEVELOPMENT COMMITTEE AND PART II WILL BE HEARD BY THE IEBC CODE DEVELOPMENT COMMITTEE AS SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

PART I – INTERNATIONAL FIRE CODE

Revise as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

1. Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.
2. Group U occupancies.

SECTION 1104 MEANS OF EGRESS FOR EXISTING BUILDINGS

1104.1 General. *Means of egress* in existing buildings shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.23, and the building code that applied at the time of construction. Where the provisions of this chapter conflict with the building code that applied at the time of construction, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.24.

Exception: Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.

Reason: The changes provide tradeoffs for installation of automatic sprinkler systems consistent with those allowed for new construction and also with those allowed by CMS. In many editions of the legacy codes and the ICC Codes dating from the 1980s and even before, the same or similar tradeoffs were allowed when a facility elected to provide sprinkler protection. The AD Hoc Committee on Health Care is proposing requiring retrofit of sprinklers in Hospitals that we feel provide the best protection available and feel because of this the tradeoffs are justified in existing facilities as has been vetted and justified in new construction for many years. These requirements are part of a package of retrofit requirements that provide a minimum level of safety considered necessary for patients, staff and first responders in an environment in which patients are in many instances not capable of self preservation and must be protected in place. Automatic sprinkler protection is key to any plan for protecting residents in place and for the safety of those responding to emergencies by providing the extra time needed to respond. The requirements are also consistent with current CMS standards that apply to all hospitals nationwide receiving Medicare/Medicaid funding and would not add additional requirements to those facilities beyond current nationwide Federal requirements but would allow the facilities to better meet those requirements without possible costly conflicts in other codes.

If this proposal is successful and the proposal for a new Section 1105 is also approved, the Adhoc Health Care committee will bring forward a corresponding exception to be applicable for the new Section 1105.1 as follows:

**SECTION 1105
CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2**

1105.1 General. Existing Group I-2 shall meet the following requirements:

1. The minimum fire safety requirements in Section 1103, and
2. The minimum egress requirements in Section 1104, and
3. The additional egress and construction requirements in Sections 1105.2 through 1105.7.5.2.

Where the provisions of this chapter conflict with the construction requirements that applied at the time of construction, the most restrictive provision shall apply.

Exception: Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where a sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protective, penetrations and joints are not required in new construction for sprinklered buildings.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: None

1103.1-F-WILLIAMS-ADHOC

Committee Action Hearing Results

PART I – IFC

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's concerns that the proposal needs to be well-correlated with code change EB26-13 which is related. It was also unclear as to why the exception should be limited to Group I-2 Condition 2 only when other occupancies would likely want to take advantage of it. The proposal also does not take into account alternative methods that may have been previously granted. Record keeping and documentation of reduced fire resistance ratings would be a major challenge as would trying to determine rating reductions by visual inspection.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, request Approval as Modified by this Public Comment.

Replace the proposal as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

~~The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.~~

Exception: Group U occupancies.

1103.1.1 Existing construction. ~~The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.~~

~~**Exception:** Where approved by the fire code official, in Group I-2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the fire code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.~~

Reason: This code change responds to the committee's questions regarding the original proposal while keeping true to its original purpose. The Adhoc Healthcare Committee (AHC) firmly believes that all hospital buildings should be retroactively sprinklered throughout. This code change provides incentives for facilities to do that. It also addresses a common question. As code officials, we are often faced with existing building stock that has been upgraded by adding a sprinkler system. This code change and EB 26 were intended to provide the code official with a means, written in code, to accommodate the relatively common practice of reconsidering the value of SOME existing passive systems when sprinklered are installed.

To be clear, this code change is only the incentive. During the Group A hearing the Fire Code committee passed a proposal from AHC to REQUIRE mandatory retroactive sprinklering throughout the building. This change provides the incentive for hospital administrator's move to this requirement sooner. As mentioned in the committee's reason statement, EB 26 was a more comprehensive, better crafted code change. The AHC listened and based this public comment entirely on the language from EB-26. The committee questioned why this code change solely focused on Group I-2 when EB-26 broadly applied to all occupancies. While the AHC might agree with that point, our scope is limited to Group I-2 facilities and any change that addressed other occupancies would be out of scope. The fire code committee asked whether this change would take into account the previous alternative methods. This change would not invalidate the ability of a code official to consider ANY alternative means or method available to them. We are not touching any section that would allow a code that deals with alternative methods. In fact, this change supports the concept that the decision belongs in the hands of the code official. The committee's last statement furthers that idea. The committee was concerned that record keeping for decisions and any reduced fire ratings would be problematic. The revised language taken straight from EB 26 the burden for identifying existing conditions, documenting changes and providing evaluation reports squarely on the shoulders of the applicant. For comparison, the approved language of EB-26 is shown below:

EB26-13 AM

803.6 Fire-resistance ratings. Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 and 903.3.1.2 of the International Building Code has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable fire protection requirements of Chapter 9 of the International Building Code.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

The AHCs proposal is different from EB 26 in two specific ways. The scope of the AHCs work (along with co-proponent ICC Code Technology Committee) is Group I-2. In EB 26, the existing building code committee approved the same concept for all occupancy types. Since the scope of this change is limited to I-2, the reference to a residential sprinkler system per 903.3.1.2 is not appropriate and was deleted. The AHC is also recommending to delete the reference to Chapter 9. While this reference would provide an additional pointer to the sprinkler requirements, it would also pick requirements for things like smoke control or pressurized stairs. We believe these have little relation to fire resistance ratings. In addition, the AHC has already sponsored a comprehensive set of code changes for minimum existing fire protection rating in the committee approved changes for Section 1105. In these changes, the committee approved sweeping retroactive minimum standards that address concepts like corridor construction, structural fire protection ratings, retroactive smoke compartmentation and many other changes. These changes go way beyond what is required by the current "maintain it under the code from which it was constructed" logic of chapter 7. They can be found in F236 through F243. We believe these fundamental increases to chapter 11, along with the committee's preferred language from EB 26 is comprehensive package.

Public Comment 2:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council (IFC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

1. Where approved by the building code official in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code provided the building also complies with the other applicable fire protection requirements of Chapter 9 and Chapter 10 of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~

2. Group U occupancies.

SECTION 1104 MEANS OF EGRESS FOR EXISTING BUILDINGS

1104.1 General. *Means of egress* in existing buildings shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.23, and the building code that applied at the time of construction. Where the provisions of this chapter conflict with the building code that applied at the time of construction, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.24.

Exception: Where approved by the building code official in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code provided the building also complies with the other applicable fire protection requirements of Chapter 9 and Chapter 10 of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance

ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~

Commenter's Reason: This modification makes the language in this proposal consistent with the language approved in EB26-13, but also adds a critical element that is lacking in the current proposal.

The current proposal as modified by the Committee would permit all of the sprinkler tradeoffs permitted for new construction in the IBC, even though the means of egress of the existing building have not been evaluated. If a building falls short of the IBC's requirements for means of egress (IBC Chapter 10), allowing that building to then take all of the IBC's sprinkler trade-offs and cease maintenance of fire safety features that would be traded away for sprinklers will result in reducing the level of fire safety of that existing building well below its current levels, and well below the level envisioned by the IBC. The minimum requirements of the IBC for means of egress are clearly stipulated in Chapter 10. These minimums are assumed to be in place and thus required before the sprinkler tradeoff provisions are permitted in other sections of the Code. The IBC goes as far as to state the following:

"1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the *means of egress* to less than required by this code."

By attempting to take advantage of all of the permitted reductions in fire-resistance ratings permitted by the IBC under these assumptions, this proposal needs to ensure that the base level of fire safety is also maintained. A fully adequate (safe) means of egress is an absolute bare minimum requirement. With a building already having egress deficiencies as compared to the current IBC, there should not be a possibility to further reduce fire safety features in that building.

As just one example, if an existing building had egress stairs that were narrower than the current IBC would allow, then allowing existing fire-rated egress corridors to lose their fire resistance rating could be a very detrimental loss of an essential fire safety feature for the evacuating occupants, who could be forced to wait much longer in the corridors before being able to enter the stairway.

This proposal attempts to outline the process for a proper review to be performed by the building code official to ensure there are no impediments to granting an approval that may result in the reduction of existing levels of protection. The suggested language provides that once an existing building is sprinklered throughout and meets the other fire protection requirements of Chapter 9 and Chapter 10 of the IBC, plans, investigation and evaluation reports, and other data can be submitted seeking approval of the code official for the assignment of the new fire-resistance ratings which might be a reduction, or potentially an increase. The suggested language also requires that any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted. This is to ensure special conditions are identified that may prevent a reduction in fire-resistance ratings.

An additional part of this Code Change Comment clarifies that the responsibility for reviewing these evaluations, which are based solely on the new construction requirements of the IBC, rests with the Building Official rather than the Fire Code Official. It is the building officials that have the training and experience to review a building for compliance to the IBC. It cannot be assumed that all Fire Official have the required knowledge of the IBC to critically evaluate a building against IBC requirements.

Public Comment 3:

Robert J Davidson, Davidson Code Concepts, LLC, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

1. Where a change in fire resistance rating has been approved in accordance with Section 803.6 of the International Existing Building Code. ~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~

2. Group U occupancies.

Commenter's Reason: In response to the committee reason statement this proposal coordinates the IFC with the new language added to the IEBC by EB26-13 with a direct reference to the new language.

This puts into place a process for what is currently happening. Jurisdictions are granting approvals for passive fire protection reduction without clear guidance from the family of I-Codes. In some cases the reductions can be haphazardly approved and when buildings are not provided with an automatic fire suppression system throughout. The requirement is for the entire building to be sprinklered before this evaluation is considered and the pointer to the new Section 803.6 affirms that requirement and provides for a thorough review of the passive protection the applicant is seeking to obtain approval for reduction. This will have the added benefit of stopping the reduction in passive protections for projects to individual work areas or smoke compartments. The building would have to be considered as a whole.

EB26 is included here for reference.

EB26-13 AM

803.6 Fire-resistance ratings. *Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 and 903.3.1.2 of the International Building Code has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable fire protection requirements of Chapter 9 of the International Building Code.*

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

Public Comment 4:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

**SECTION 1103
FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING**

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

1. ~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~
Where approved by the code official, in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the International Building Code has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the International Building Code.
Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features including fire resistance rated assemblies and smoke resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

2. Group U occupancies.

**SECTION 1104
MEANS OF EGRESS FOR EXISTING BUILDINGS**

1104.1 General. *Means of egress* in existing buildings shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.23, and the building code that applied at the time of construction. Where the provisions of this chapter conflict with the building code that applied at the time of construction, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.24.

Exception: ~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~

Where approved by the code official, in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features including fire resistance rated assemblies and smoke resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

Commenter's Reason: As suggested by the Code Development Committee, the proposal uses language similar to EB26 as the basis for the exception originally proposed for Sections 1103.1 and 1104.1. The differences between the language proposed and EB26 are as follows:

- The application is limited to Group I-2, Condition 2 as originally proposed in F212.
- The use of NFPA 13R sprinkler systems (903.3.1.2). NFPA 13R systems are not appropriate for Group I-2, Condition 2 occupancies.
- The reference to Chapter 9 was deleted since it implies that Chapter 9 requirements are the only ones that need to be considered. A similar Public Comment has been submitted on EB26.

The list of items to be considered has been expanded to include rated assemblies, means of egress assemblies, and fire code deficiencies. It is understood that this is in the IFC but it also recognizes that existing buildings may have deficiencies that still need to be addressed through a plan of correction. A similar Public Comment has been submitted on EB26.

Public Comment 5:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

- 1 ~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~
Where approved by the code official, in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the *International Building Code*.
Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current

building code fire-resistance ratings. Any special construction features including fire resistance rated assemblies and smoke resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted. Where required by the code official, the plans and evaluation reports submitted to the code official shall be prepared by a registered design professional.

2. Group U occupancies.

SECTION 1104 MEANS OF EGRESS FOR EXISTING BUILDINGS

1104.1 General. *Means of egress* in existing buildings shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.23, and the building code that applied at the time of construction. Where the provisions of this chapter conflict with the building code that applied at the time of construction, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.24.

Exception: ~~Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.~~ Where approved by the code official, in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features including fire resistance rated assemblies and smoke resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted. Where required by the code official, the plans and evaluation reports submitted to the code official shall be prepared by a registered design professional.

Commenter's Reason: As suggested by the Code Development Committee, the proposal uses language similar to EB26 as the basis for the exception originally proposed for Sections 1103.1 and 1104.1. The differences between the language proposed and EB26 are as follows:

- The application is limited to Group I-2, Condition 2 as originally proposed in F212.
- The use of NFPA 13R sprinkler systems (903.3.1.2). NFPA 13R systems are not appropriate for Group I-2, Condition 2 occupancies.
- The reference to Chapter 9 was deleted since it implies that Chapter 9 requirements are the only ones that need to be considered. A similar Public Comment has been submitted on EB26.
- The list of items to be considered has been expanded to include rated assemblies, means of egress assemblies, and fire code deficiencies. It is understood that this is in the IFC but it also recognizes that existing buildings may have deficiencies that still need to be addressed through a plan of correction. A similar Public Comment has been submitted on EB26.

This verbiage differs from our similar Public Comment in that it provides an additional provision that the Code Official may require the plans and evaluation reports to be prepared by a registered design professional. There may be some instances in which it would be appropriate to have a registered design professional prepare the evaluation to determine which requirements from the IBC should be applicable.

Public Comment 6:

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

Modify the proposal as follows:

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDING

1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.9.

The provisions of this chapter shall not be construed to allow the elimination of fire protection systems or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.

Exceptions:

1. Where approved in accordance with Section 102.4, in ~~Group I-2 Condition 2~~ buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.
2. Group U occupancies.

**SECTION 1104
MEANS OF EGRESS FOR EXISTING BUILDINGS**

1104.1 General. *Means of egress* in existing buildings shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.23, and the building code that applied at the time of construction. Where the provisions of this chapter conflict with the building code that applied at the time of construction, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 1103.1 as further enumerated in Sections 1104.2 through 1104.24.

Exception: Where approved in accordance with Section 102.4, in ~~Group I-2 Condition 2~~ buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for sprinklered buildings.

Commenter's Reason: This proposal should not just apply to Group I-2 occupancies. When the ad hoc committee worked on this issue, they were limited in scope to just I-2 occupancies. Therefore, they could not propose a change that would be applicable to other occupancies. Therefore, this public comment expands the scope of the provision to all occupancies.

If an owner of an existing building chooses to install an automatic fire sprinkler system, they should be able to take advantage of all of the modifications permitted by the current codes. They should not be penalized if a complete fire sprinkler system is installed.

Public Comment 7:

Vickie Lovell, Intercode, Inc., representing Fire Safe North America, formerly known as Alliance For Fire and Smoke Containment and Control, requests Disapproval.

Commenter's Reason: The committee succinctly identified numerous concerns related to the implementation of this poorly written proposal. The decision making process of determining which assemblies and features would be eliminated or reduced is distilled into one sentence. This proposal, if approved, would give unlimited decision making power to an unidentified person(s) to arbitrarily determine what becomes obsolete and what stays functioning without any defined qualifications.

Granted, a hospital may have access to advanced health care facilities engineering to determine what fire protection features are relevant in a sprinklered building. However, the committee rightfully posed the questions as to why the exception should be limited to Group I-2 Condition 2 only when other occupancies would likely want to take advantage of such a broad, sweeping exception to Section 1103 if it were to be approved. If every occupancy and use group were afforded the opportunity to reduce the ratings throughout without any accountability or qualifications, the International Fire Code would likely become irrelevant.

The recommendation for disapproval is merited, and the committee correctly identified EB26 as having improved language, but still needing further modifications.

F212-13, Part I

Final Action: AS AM AMPC____ D

F212-13, Part II IEBC 804.2.2.2 (NEW)

Proposed Change as Submitted

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IFC CODE DEVELOPMENT COMMITTEE AND PART II WILL BE HEARD BY THE IEBC CODE DEVELOPMENT COMMITTEE AS SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

PART II – INTERNATIONAL EXISTING BUILDING CODE

Add new text as follows:

804.2.2.2 Group I-2. Where approved, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Building Code* has been added and the building is now equipped throughout with an automatic sprinkler system, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for buildings equipped throughout with an automatic sprinkler system.

Reason: The changes provide tradeoffs for installation of automatic sprinkler systems consistent with those allowed for new construction and also with those allowed by CMS. In many editions of the legacy codes and the ICC Codes dating from the 1980s and even before, the same or similar tradeoffs were allowed when a facility elected to provide sprinkler protection. The Ad Hoc Committee on Health Care is proposing requiring retrofit of sprinklers in Hospitals that we feel provide the best protection available and feel because of this the tradeoffs are justified in existing facilities as has been vetted and justified in new construction for many years. These requirements are part of a package of retrofit requirements that provide a minimum level of safety considered necessary for patients, staff and first responders in an environment in which patients are in many instances not capable of self preservation and must be protected in place. Automatic sprinkler protection is key to any plan for protecting residents in place and for the safety of those responding to emergencies by providing the extra time needed to respond. The requirements are also consistent with current CMS standards that apply to all hospitals nationwide receiving Medicare/Medicaid funding and would not add additional requirements to those facilities beyond current nationwide Federal requirements but would allow the facilities to better meet those requirements without possible costly conflicts in other codes.

If this proposal is successful and the proposal for a new Section 1105 is also approved, the Adhoc Health Care committee will bring forward a corresponding exception to be applicable for the new Section 1105.1 as follows:

SECTION 1105 CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2

1105.1 General. Existing Group I-2 shall meet the following requirements:

1. The minimum fire safety requirements in Section 1103, and
2. The minimum egress requirements in Section 1104, and
3. The additional egress and construction requirements in Sections 1105.2 through 1105.7.5.2.

Where the provisions of this chapter conflict with the construction requirements that applied at the time of construction, the most restrictive provision shall apply.

Exception: Where approved in accordance with Section 102.4, in Group I-2 Condition 2 buildings where a sprinkler system installed in accordance with Section 903.3.1.1 has been added and the building is now sprinklered throughout, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protective, penetrations and joints are not required in new construction for sprinklered buildings.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and

conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: None

1103.1-F-WILLIAMS-ADHOC

Committee Action Hearing Results

PART II – IEBC

This code change was heard by the IEBC code development committee.

Committee Action:

Disapproved

Committee Reason: The committee disapproved this proposal in favor of the action taken on EB26-13 and by the request of the proponent.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council (IFC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

804.2.2.2 Group I-2. Where approved by the building code official in Group I-2, Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code provided the building also complies with the other applicable fire protection requirements of Chapter 9 and Chapter 10 of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

Where approved, in Group I-2 Condition 2 buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the *International Building Code* has been added and the building is now equipped throughout with an automatic sprinkler system, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for buildings equipped throughout with an automatic sprinkler system.

Commenter's Reason: This modification makes the language in this proposal consistent with the language approved in EB26-13, but also adds a critical element that is lacking in the current proposal.

The current proposal as modified by the Committee would permit all of the sprinkler tradeoffs permitted for new construction in the IBC, even though the means of egress of the existing building have not been evaluated. If a building falls short of the IBC's requirements for means of egress (IBC Chapter 10), allowing that building to then take all of the IBC's sprinkler trade-offs and cease maintenance of fire safety features that would be traded away for sprinklers will result in reducing the level of fire safety of that existing building well below its current levels, and well below the level envisioned by the IBC. The minimum requirements of the IBC for means of egress are clearly stipulated in Chapter 10. These minimums are assumed to be in place and thus required before the sprinkler tradeoff provisions are permitted in other sections of the Code. The IBC goes as far as to state the following:

"1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of *exits* or the capacity of the *means of egress* to less than required by this code."

By attempting to take advantage of all of the permitted reductions in fire-resistance ratings permitted by the IBC under these assumptions, this proposal needs to ensure that the base level of fire safety is also maintained. A fully adequate (safe) means of

egress is an absolute bare minimum requirement. With a building already having egress deficiencies as compared to the current IBC, there should not be a possibility to further reduce fire safety features in that building.

As just one example, if an existing building had egress stairs that were narrower than the current IBC would allow, then allowing existing fire-rated egress corridors to lose their fire resistance rating could be a very detrimental loss of an essential fire safety feature for the evacuating occupants, who could be forced to wait much longer in the corridors before being able to enter the stairway.

This proposal attempts to outline the process for a proper review to be performed by the building code official to ensure there are no impediments to granting an approval that may result in the reduction of existing levels of protection. The suggested language provides that once an existing building is sprinklered throughout and meets the other fire protection requirements of Chapter 9 and Chapter 10 of the IBC, plans, investigation and evaluation reports, and other data can be submitted seeking approval of the code official for the assignment of the new fire-resistance ratings which might me a reduction, or potentially an increase. The suggested language also requires that any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted. This is to ensure special conditions are identified that may prevent a reduction in fire-resistance ratings.

An additional part of this Code Change Comment clarifies that the responsibility for reviewing these evaluations, which are based solely on the new construction requirements of the IBC, rests with the Building Official rather than the Fire Code Official. It is the building officials that have the training and experience to review a building for compliance to the IBC. It cannot be assumed that all Fire Official have the required knowledge of the IBC to critically evaluate a building against IBC requirements.

Public Comment 2:

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

Modify the proposal as follows:

804.2.2.2 Group I-2 Sprinklered Buildings. Where approved, in ~~Group I-2 Condition 2~~ buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.1.1.2 of the *International Building Code* has been added and the building is now equipped throughout with an automatic sprinkler system, the existing fire resistance ratings, opening protectives, penetrations and joints in assemblies are not required to be maintained where such fire resistance ratings, opening protectives, penetrations and joints are not required in new construction for buildings equipped throughout with an automatic sprinkler system.

Commenter's Reason: This proposal should not just apply to Group I-2 occupancies. When the ad hoc committee worked on this issue, they were limited in scope to just I-2 occupancies. Therefore, they could not propose a change that would be applicable to other occupancies. Therefore, this public comment expands the scope of the provision to all occupancies.

If an owner of an existing building chooses to install an automatic fire sprinkler system, they should be able to take advantage of all of the modifications permitted by the current codes. They should not be penalized if a complete fire sprinkler system is installed.

Public Comment 3:

Vickie Lovell, Intercode, Inc., representing Fire Safe North America, formerly known as Alliance For Fire and Smoke Containment and Control, requests Disapproval.

Commenter's Reason: The committee succinctly identified numerous concerns related to the implementation of this poorly written proposal. The decision making process of determining which assemblies and features would be eliminated or reduced is distilled into one sentence. This proposal, if approved, would give unlimited decision making power to an unidentified person(s) to arbitrarily determine what becomes obsolete and what stays functioning without any defined qualifications.

Granted, a hospital may have access to advanced health care facilities engineering to determine what fire protection features are relevant in a sprinklered building. However, the committee rightfully posed the questions as to why the exception should be limited to Group I-2 Condition 2 only when other occupancies would likely want to take advantage of such a broad, sweeping exception to Section 1103 if it were to be approved. If every occupancy and use group were afforded the opportunity to reduce the ratings throughout without any accountability or qualifications, the International Fire Code would likely become irrelevant.

The recommendation for disapproval is merited, and the committee correctly identified EB26 as having improved language, but still needing further modifications.

F212-13, Part II

Final Action: AS AM AMPC____ D

F218-13

1103.4.1

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

Revise as follows:

IFC 1103.4.1 Group I occupancies. In Group I occupancies, interior vertical openings connecting two or more stories shall be protected with 1-hour fire-resistance-rated construction.

Exceptions:

1. In Group I-2 Condition 2 equipped throughout with an automatic sprinkler system, vertical opening connecting two or more stories need not be protected with 1-hour fire-resistance-rated construction where both of the following conditions are met:
 - 1.1. The atrium volume is accounted for in the design of a smoke control system in accordance with Section 909.
 - 1.2 The floor levels within the vertical opening shall contain only low or ordinary fire hazard uses.
2. In Group I-2 Condition 2, where an automatic sprinkler system is installed in accordance with Section 404.6 of the *International Building Code*, glass walls shall be considered to be equivalent to 1-hour fire-resistance-rated construction for purposes of this section. Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.
3. In Group I-2 Condition 2, 1-hour fire-resistance-rated construction is not required where a glass-block wall assembly complying with Section 2110 of the *International Building Code* and having a ¾-hour fire protection rating is provided.

Reason: The intent of this code change is to make the IFC consistent with federal standards that are in place for the maintenance of Group I-2 Condition 2 (hospitals) and to clarify the allowable use and construction of atria in hospitals. This adds language to clarify the fire hazard class allowed in the existing atrium (no higher than ordinary), as opposed to only low hazard class in new. A smoke control system is also acknowledged as a factor when it comes to separation of the atrium, and clarifies that the smoke control system's engineering analysis must account for any spaces open to it.

Glass walls points back to the language in IBC Section 404.6 in an attempt to set that as a minimum, retroactive standard. It is far simpler to address a potential deficiency with addition of a smoke control system or properly installed sprinklers at the glass, rather than reconstructing the walls themselves.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Cost impact: This proposal would make the IFC consistent with federal standards that are in place for the maintenance of hospitals, and therefore would not represent an increase in cost.

907.2.6-F-WILLIAMS-ADHOC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's concern that the exceptions in the proposal do not exactly mirror Section 404.6 of the IBC which it felt should be the minimum standard. The automatic sprinkler requirements are also not coordinated with regard to complete protection of the building or only protection in the Group I-2 fire area.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

IFC 1103.4.1 Group I occupancies. In Group I occupancies, interior vertical openings connecting two or more stories shall be protected with 1-hour fire-resistance-rated construction.

Exceptions:

1. In Group I-2, unenclosed vertical openings not exceeding two connected stories and not concealed within the building construction shall be permitted as follows:
 - 1.1 The unenclosed vertical openings shall be separated from other unenclosed vertical openings serving other floors by a smoke barrier.
 - 1.2 The unenclosed vertical openings shall be separated from corridors by smoke partitions.
 - 1.3 The unenclosed vertical openings shall be separated from other fire or smoke compartments on the same floors by a smoke barrier.
 - 1.4 On other than the lowest level, the unenclosed vertical openings shall not serve as a required means of egress.
2. In Group I-2, atriums connecting three or more stories shall not require a 1-hour fire resistance rated construction when the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3, and all of the following conditions are met:
 - 2.1. For other than existing approved atriums with a smoke control system, where the atrium was constructed and is maintained in accordance with the code in effect at the time the atrium was created, the atrium shall have a smoke control system that is in compliance with Section 909; and,
 - 2.2. Glass walls forming a smoke partition or a glass-block wall assembly shall be permitted when in compliance with 2.2.1 or 2.2.2:
 - 2.2.1. Glass walls forming a smoke partition shall be permitted where all of the following conditions are met:
 1. Automatic Sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway or occupied space on the atrium side.
 2. The sprinklers shall not be more than 12 inches away from the face of the glass and at intervals along the glass of not greater than 72 inches.
 3. Windows in the glass wall shall be non-operating type.
 4. The glass wall and windows shall be installed in a gasket frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates.
 5. The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction.
 - 2.2.2. A fire barrier is not required where a glass-block wall assembly complying with Section 2110 of the International Building Code and having a 3/4-hour fire protection rating is provided.
 - 2.3. Where doors are provided in the glass wall, they shall be either self-closing or automatic-closing and shall be constructed to resist the passage of smoke.

Commenter's Reason: Based on the input from the committee and interested parties, the AHC and CTC present the revised proposal above. The intent of this change is to appropriately address floor openings in existing construction. Today a conflict exists in the code, the building code would allow you to construction a floor opening without a 1 hour fire barrier in certain specific cases. The fire code would then tell you that approval is void and unilaterally require a 1 hour rating around all openings. This also impacts

all historical non-rated floor openings that have been reviewed, approved and maintained. Practically we believe that this is not being enforced today and may be a reason why many jurisdictions do not adopt this chapter of the IFC. To set an appropriate retroactive standard, we believe the code should consider the historical context of the model codes. Unrated vertical openings have been allowed in hospitals and nursing homes previously. Atriums have been installed with various types of smoke venting and removal systems over the past few decades. The AHC has attempted to determine the general requirements that have been broadly used through these versions of codes. If we set the requirements based on the current version of the IBC, the facilities will constantly be tearing out existing, compliant construction to upgrade to new requirements. The federal regulations governing hospitals and nursing homes have used a retroactive standard similar to the one above for the past 10 years. Through our experiences with facilities during that period of time, we believe that the requirements listed above are reasonably consistent with that action.

In regards to the sprinkler question, currently all Group I-2 fire areas are required to have sprinklers retroactively per Chapter 11 of this Code. In Dallas, a code change was accepted to provide sprinkler protection throughout the building by a date certain provided by the adopting jurisdiction. The code change here was modified to state that the atrium option can be used if the "building is equipped throughout".

Public Comment 2:

Robert J Davidson, Davidson Code Concepts, LLC, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IFC 1103.4.1 Group I occupancies. In Group I ~~and I-3~~ occupancies, interior vertical openings connecting two or more stories shall be protected with 1-hour fire-resistance-rated construction.

Exception-Exceptions: Atriums constructed in accordance with the code in effect at the time the atrium was created and which include automatic fire suppression, fire detection, alarm notification, and smoke control system protection. The atrium shall have been maintained in accordance with manufacturer's instructions and in accordance with the fire code in effect during occupancy of the atrium.

- ~~1. In Group I-2 Condition 2 equipped throughout with an automatic sprinkler system, vertical opening connecting two or more stories need not be protected with 1-hour fire-resistance-rated construction where both of the following conditions are met:
 - 1.1. The atrium volume is accounted for in the design of a smoke control system in accordance with Section 909.
 - 1.2. The floor levels within the vertical opening shall contain only low or ordinary fire hazard uses.~~
- ~~2. In Group I-2 Condition 2, where an automatic sprinkler system is installed in accordance with Section 404.6 of the *International Building Code*, glass walls shall be considered to be equivalent to 1-hour fire-resistance-rated construction for purposes of this section. Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.~~
- ~~3. In Group I-2 Condition 2, 1-hour fire-resistance-rated construction is not required where a glass-block wall assembly complying with Section 2110 of the *International Building Code* and having a ¾-hour fire protection rating is provided.~~

Commenter's Reason: Though testimony on the floor and the committee reason statement point to the acceptable level of protection being the current requirements for atriums in Section 404.0 of the International Building Code; the intent of Chapter 11 of the fire code is to be applied to buildings not in compliance with the International Building Code.

Since the target is an existing atrium, the atrium may have been designed and constructed to earlier editions of the International Building Code or in accordance with one of the legacy codes. The suggested replacement wording will provide for recognition of an atrium regardless of which code it was constructed under as long as it has been properly maintained during the life of the atrium.

When atriums were introduced as a design feature in the legacy codes, the fire protection required included automatic fire suppression systems, fire detection systems, alarm notification appliances, smoke control systems and separation from connecting floors that were not provided for in the design of the smoke control system. Those protection features are included in this proposal to make it clear they must not only be present, but must have been properly maintained as well. The intent is also to make it clear that you cannot take what was once considered an "open well" under legacy codes and rename it an atrium for application of this exception. To apply this exception the atrium would have had to have been designed and constructed pursuant to all of the requirements for an atrium after the design feature was added to the legacy codes and contain all of the listed fire protection features.

Section 1103.4.1 has been modified by the addition of the I-3 group designation to be consistent with F217 approved by the committee.

Public Comment 3:

Vickie Lovell, Intercode, Inc., representing Fire Safe North America, formerly known as Alliance For Fire and Smoke Containment and Control, requests Disapproval.

Commenter's Reason: In Dallas, there was much testimony from the floor pointing out the serious flaws with this proposal. The proposal seeks to grandfather existing atrium spaces, but it does it so by cherry-picking some of the atrium requirements that have

historically applied as a whole package. This proposal allows compliance with only a small portion of the requirements found with current and legacy codes.

Testimony on the floor and the comments from the International Fire Code Committee members regarding Exception #1 coalesced around a simply reference to Section 404.0 Atriums in the International Building Code as the appropriate level of protection. However, from a practical standpoint, even that solution would not work for an exception to the fire code requirement for a 1 hour fire resistance rated construction. A review of the legacy codes versus the current IBC will document that the requirements for the installation of smoke control systems in older buildings have vast differences from systems designed to the current IBC 909 requirements. Existing smoke control systems designed and installed in accordance with some legacy codes would require completely new designs and major upgrades that will present practical difficulties, therefore making exception #1 impractical and effectively useless as a code requirement. Some of the same practical difficulties would also be presented for those older atrium spaces without smoke control systems that this proposed exception would apply to.

If the building and smoke control system are not designed to work together as a building system, there will be practical difficulty installing required exhaust inlets and ductwork, make-up air inlets and openings, locating exhaust fans, load carrying capability of the structure, capability of the building power supply including the available emergency power to handle the load of the newly installed or increased number of fans in an older building. Specialists in the smoke control field know that if the design is not correct or the design is not properly followed in a newly constructed building, problems with the smoke control system discovered near the end of the job are very difficult to correct due to practical issues.

Exception #2 is a woefully inadequate description of the correct use of sprinklers in combination with a glass wall as an alternative to a 1-hour fire rated assembly. ICC ES recently reissued revised acceptance criteria (AC385 - Acceptance Criteria for Special-purpose Sprinkler Heads Used with Fixed Glazed Assemblies to Provide a Fire-resistance-rated Wall Assembly) for the use of sprinklers and glazed assemblies. The acceptance criteria contain a detailed description of how the glass assembly is to be constructed and how the sprinklers are to be placed. It also clarifies some of the limitations as to the appropriate use of this type of assembly as an alternative (not an equivalent) to a fire resistance rated assembly. This exception applies everywhere and anywhere in I-2 Condition 2 facilities, which is not consistent with AC 385.

As an interested party, I monitored the discussion of the ICC Ad Hoc on Health Care on the public comment, and was not satisfied that the public comment would adequately resolve these concerns. The proposed exceptions in this proposal, including the further modifications by the proponent, are completely inadequate. A reference to Section 404.0 Atriums as a solution will introduce complexity and difficulties that cannot be overcome in most if not all cases. The committee decision to disapprove should be upheld.

F218-13

Final Action:

AS

AM

AMPC____

D

F222-13

1103.5.3 (New), Table 1103.1

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

1103.5.3 Group A-2. An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout existing buildings or portions thereof used as Group A-2 occupancies with an occupant load of 300 or more.

**Table 1103.1
OCCUPANCY AND USE REQUIREMENTS**

Section	Use			Occupancy Classification																			
				A	B	E	F	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	M	R-1	R-2	R-3	R-4	S	
1103.5.3	-	-	-	R ^a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Portions of table not shown remain unchanged)

a. Only applies to Group A-2 occupancies

Reason: This requirement implements the Recommendation #1 included in the NIST Report of the Technical Investigation of The Station Nightclub Fire (NIST NCSTAR 2: Vol. I). *Recommendation 1* of the NIST report states:

"Model codes should require sprinkler systems for all new and existing nightclubs regardless of size."

There is a list of fires in Group A-2 occupancies. This list includes the Station Nightclub, Beverly Hill Supper Club, the Coconut Grove and others. Each of these fires have resulted in a significant loss of life.

Group A-2 occupancies involve conditions such as large occupant loads, high occupant density, significant fuel loading and moveable furnishings and decorations. Group A-2 occupancies also include the potential for reduced lighting levels, high noise levels, combustible decorations, strobe and flashing lights, alcohol consumption, and confusing egress paths. Each of these alone can be a significant issue, but when combined they lead to the inability of the occupants to promptly and safely exit the building under fire conditions.

This proposal considers the arrangement of the IBC occupancy classifications and the inclusion of other uses in addition to nightclubs within the Group A-2 classification. Therefore, this proposal does not reach as far as the recommendation from NIST. While the NIST proposal recommends fire sprinklers in ALL facilities, this proposal will require existing Group A-2 occupancies to be retrofit with a fire sprinkler system only if the occupant load exceeds 300. Setting the threshold at 300 occupants will place the requirement where the higher potential for loss of life exists.

The proposed section only requires that the Group A-2 occupancy is provided with a fire sprinkler system. The section does not require the entire fire area to be protected, nor does it require the entire floor to be protected. The fire sprinkler system would be installed in the portion of the building which contains the Group A-2 occupancy.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Cost Impact: The code change will not increase the cost of new construction, but it will create a cost for existing unsprinklered buildings classified as Group A-2.

1103.5.3 (NEW) #1-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee approved the code change based on the proponent's reason statement and because there is a fire history in Group A-2 occupancies. While the committee felt that the scope of sprinkler protection was adequately stated, it was suggested that the scope could be better defined in the public comment phase.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

**TABLE 903.2.11.6
ADDITIONAL REQUIRED FIRE SUPPRESSION SYSTEMS**

<u>1103.5.3</u>	<u>Existing Group A-2 occupancies</u>
-----------------	---------------------------------------

1103.5 Sprinkler systems. An automatic sprinkler system shall be provided in existing buildings in accordance with Sections 1103.5.1 through and ~~1103.5.2~~ 1103.5.3.

1103.5.3 Group A-2. An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout existing buildings or portions thereof used as Group A-2 occupancies with an occupant load of 300 or more that serve alcoholic beverages.

Section	Use			Occupancy Classification																	
				A	B	E	F	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	M	R-1	R-2	R-3	R-4
1103.5.3	-	-	-	R ^{ab}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

a b. Only applies to Group A-2 occupancies that serve alcoholic beverages.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Although Item F222-13 was approved as submitted by the code development committee, comments offered at the Dallas hearing warranted further consideration. As a result, the Fire Code Action Committee, as the original proponent, recommends some additional changes, as follows:

1. A cross reference to new Section 1103.5.3 has been added to Table 903.2.11.6 and Section 1103.5.
2. The footnote in Table 1103.1 has been corrected to (b), since there is an existing (a).
3. The sprinkler retrofit requirement has been targeted to only apply to Group A-2 occupancies that serve alcoholic beverages, which reduces the original scope of the change that affected all Group A-2 occupancies. This is felt to be more in line with the NIST recommendations that were made following the Station Nightclub fire recognizing that intoxication of patrons plays a significant role in the potential risk of injury or loss of life in the event of a fire. In addition, limiting the scope of the change to only those occupancies that serve alcoholic beverages allows a connection to licensing laws that jurisdictions typically have in place for sale of such beverages. Such licensing laws, where they apply, will provide significant leverage for jurisdictions to be able to effectively enforce the requirement for a fire sprinkler system as a condition of being code compliant and issuance of a license.

Public Comment 2:

Tim Ryan, representing The International Association of Building Officials, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

APPENDIX K
GROUP A-2 OCCUPANCIES - RETROACTIVE AUTOMATIC SPRINKLER REQUIREMENT

K101.1 Scope. An automatic sprinkler system shall be installed in existing buildings in accordance with this appendix.

K101.2 Group A-2. An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout existing buildings or portions thereof used as Group A-2 occupancies with an occupant load of 300 or more.

Commenter's Reason: The International Association of Building Officials believes that retroactive requirements for A-2 occupancies is overly restrictive and can financially penalize business owners. Mandatory, retroactive requirements for existing buildings that were previously permitted, inspected and properly maintained should be a jurisdictional choice and not be the minimum recognized standard in a model code. Deletion of chapter 11 provisions is a common practice by jurisdictions when adopting the IFC. By locating these provisions into the appendices it allows for enhanced due process for deliberating on such changes. This proposal is being made to be consistent with IFC Committee Action on F223, 224 and F347 related to R-1 occupancies.

F222-13

Final Action: AS AM AMPC_____ D

F226-13

1103.5.3 (New)

Proposed Change as Submitted

Proponent: Thomas G. Daly representing The Hospitality Security Consulting Group, LLC

Add new text as follows:

1103.5.3 Group R-1 hotels and motels. *An automatic sprinkler system shall be provided throughout existing Group R-1 hotels and motels.*

Exception: Group R-1 hotels and motels of one story in height where all individual guestrooms and contiguous attic and crawl spaces are separated from each other and public and common areas by at least 1-hour fire partitions and each individual guestroom has an exit directly to a public exit court or yard.

Reason:

- A. Background: In the United States civilian fire deaths in Group R-1 hotels and motels over the past two decades have occurred exclusively in non-sprinklered and multi-story low-rise hotels/motels as predicted by the hotel industry. Notable National Fire Protection Association (NFPA) *and/or* media reported multiple loss of life low-rise hotel/motel fires include:
1. Fontana Hotel - Miami Beach, FL - three stories - 9 civilian fire deaths - 4/6/1990
 2. Paxton Hotel- Chicago, IL - four stories - 21 civilian fire deaths - 3/23/1993
 3. Howard Johnson Hotel - Bowling Green, KY - two stories - 4 civilian deaths - 1/6/1996
 4. Comfort Inn Hotel- Greenville, SC - three stories - 6 civilian deaths - 1/25/2004
 5. Mason Hotel- San Diego, CA - three stories - 2 civilian deaths - 12/17/2004
 6. Mitzpah Hotel- Reno, NV - three stories -12 civilian deaths -10/31/2006
 7. Zanzibar Motel- Reno, NV - two stories - 2 civilian deaths -12/10/2007
 8. Days Inn Hotel- Hoover, AL - two stories - 4 civilian deaths - 1/16/2010
- Civilian fire deaths in hotels/motels averaged 7.7 per 1000 fires with no automatic suppression system present for the 1994-1998 timeframe. Civilian fire deaths in hotel/motel fires averaged 11 each year from 2003-2007"- Civilian fire injuries in hotel/motel fires averaged 151 per year for the period 2003-2007.4
- B. Code provisions remain inadequate to address hazard. Despite firesafety improvements for existing buildings mandated by the IFC starting in 20005 those changes have not resulted in a reduction in the annual civilian fire death statistics in nonsprinklered hotels/motels. Comparatively, no fire civilian fire deaths have been reported in sprinklered Group R-1 hotels/motels. After a decade of these codes changes fire deaths and injuries continue to occur in low-rise non-sprinklered Group R-1 hotels/motels. Without further code enhancements for existing hotels/motels, this carnage will continue. As such, a 'distinct hazard' continues to be present to occupants of non-sprinklered Group R-1 hotels and motels with regard to fires therein.
- C. Cost/benefits: The U.S. lodging industry has largely completed the mostly voluntary sprinkler retrofitting of existing high-rise hotels, an effort which resulted in zero fire fatalities over the past two decades in such hotels? Leading lodging operators and franchisors including Hilton, Marriott and Starwood have also completed the sprinkler retrofitting of their low-rise hotels, dispelling the myth that such retrofit costs are prohibitive. Those costs are no more expensive than the routinely scheduled replacement of furnishings, fixtures and equipment (FF&E) including mattresses, case goods, carpeting, draperies and wall covering done by the industry. A hotel/motel sprinkler retrofit project is a one-time capital cost whereas the replacement of FF&E is a continuing periodic capital cost which the industry routinely bears. A hotel/motel sprinkler retrofit provides for a reduction in property insurance premiums and reduces the risk to firefighters engaged in fire suppression activities therein. As a result of these sprinkler system retrofits none of those cited hotel chains has experienced a civilian fire fatality in any of their hotels in the last two decades. Nonetheless, some lodging chains and many independent low-rise hotel owners/operators have not taken the same proactive action to protect their guests. The cost of such retrofits for commercial buildings including hotels and motels has been mitigated significantly by the permitted use of NFPA 13R as the installation standard for residential occupancies of 4 stories and less, the use of listed CPVC pipe in lieu of steel pipe or copper tube, the use of extended coverage sprinklers, the lack of the need in most cases for a fire pump in low rise Group R-1 buildings and through tax incentives in the forms of grants, tax credits, tax deductions and/or low interest loans for doing so see, for examples, state statutes in Alaska, South Carolina 10 and California 11 as well as numerous local ordinances.

Summary: Existing IFC provisions have failed to prevent hotel/motel fire fatalities and thus a 'distinct hazard' to Group R-1 hotel and motel occupants continues to exist. The code change proposed herein, if adopted, will eliminate the 'distinct hazard' to life for such occupants.

Bibliography:

1. Tri-Data Corporation, Arlington, VA., 'A Review of the Validity of Estimates of Hotel and Motel Fire Deaths – Final Report', December 1994, pg. 23.
2. Ahrens, Marty – National Fire Protection Association, 'U.S. Fires in Selected Occupancies – Hotels and Motels, March 2006, p. 103.

3. Flynn, Jennifer D. – National Fire Protection Association, *U.S. Fires in Selected Occupancies – Hotels and Motels*, March 2010, Table 2.
4. *Ibid.*, Table 1
5. See, for example, 2000 IFC Sec. 907.3.1.6 mandating fire alarm systems in existing hotels of more than 20 guestrooms regardless of height or exiting arrangements and multiple provisions of the 2009 IFC Sec. 4603.5 for Group R-1 occupancies.
6. *Op cit.*, Ahrens, Marty NFPA *U.S. Fires in Selected Occupancies – Hotels and Motels 2006*, page 103.
7. NFPA Journal, September-October 2010, p 12.
8. See, for example, 2003 IFC Sec. 903.3.1.2 and 2003 IBC Sec. 903.3.1.2.
9. Alaska Statutes, Article 45.81.200-210.
10. South Carolina Act 357 (2008), R385, H4470 AN ACT TO AMEND THE CODE OF LAWS OF SOUTH CAROLINA, 1976, BY ADDING SECTION 58-5-390 SO AS TO PROVIDE THAT A PUBLIC OR PRIVATE UTILITY MAY NOT IMPOSE A TAP FEE, RECURRING MAINTENANCE FEE, OR OTHER FEE, HOWEVER DESCRIBED FOR THE INSTALLATION AND MAINTENANCE OF A FIRE SPRINKLER SYSTEM THAT EXCEEDS THE ACTUAL COSTS ASSOCIATED WITH THE WATER LINE TO THE SYSTEM AND TO DEFINE ACTUAL COSTS; BY ADDING SECTION 12-6-3622 SO AS TO ALLOW A PROPERTY TAX CREDIT, AT THE OPTION OF THE PROPERTY-TAXING ENTITY FOR TWENTY-FIVE PERCENT OF THE COSTS OF INSTALLING A FIRE SPRINKLER SYSTEM IN A COMMERCIAL OR RESIDENTIAL STRUCTURE WHEN SUCH INSTALLATION IS NOT REQUIRED BY LAW, TO ALLOW AN INCOME TAX CREDIT IN THE AMOUNT OF THE PROPERTY TAX CREDIT, TO PROVIDE THE MANNER IN WHICH THESE CREDITS ARE USED WHEN EARNED BY PASS-THROUGH ENTITIES, AND TO MAKE UNUSED CREDITS TRANSFERABLE BY THE STRUCTURE'S OWNER TO A TENANT; TO AMEND SECTION 12-37-3130, AS AMENDED, RELATING TO DEFINITIONS FOR PURPOSES OF THE SOUTH CAROLINA REAL PROPERTY VALUATION REFORM ACT, SO AS TO PROVIDE THAT THE INSTALLATION OF A FIRE SPRINKLER SYSTEM IN A COMMERCIAL OR RESIDENTIAL STRUCTURE WHEN THE INSTALLATION IS NOT REQUIRED BY LAW IS NOT AN ADDITION OR IMPROVEMENT; BY ADDING SECTION 10-1-80 SO AS TO PROHIBIT ENFORCEMENT OF THAT PORTION OF THE INTERNATIONAL FIRE CODE OR NATIONALLY RECOGNIZED FIRE CODE THAT PROHIBITS THE USE OF NATURAL CUT TREES IN CELEBRATIONS IN HOUSES OF WORSHIP; AND TO AMEND SECTION 12-37-220, AS AMENDED, RELATING TO PROPERTY TAX EXEMPTIONS, SO AS TO EXEMPT THE VALUE OF FIRE SPRINKLER SYSTEM EQUIPMENT INSTALLED IN A COMMERCIAL OR RESIDENTIAL STRUCTURE WHEN THE INSTALLATION IS NOT REQUIRED BY LAW AND TO PROVIDE THAT THIS EXEMPTION APPLIES UNTIL THE PROPERTY UNDERGOES AN ASSESSABLE TRANSFER OF INTEREST.
11. California Constitution Article 13A Tax Limitation Sec. 2(c)(2) & Taxation & Revenue Code Sec. 74(a)-(e)

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

1103.5.3 (NEW)-F-DALY

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the cost-benefit analysis does not justify the code change. It was also felt that the exception would unreasonably limit the exit discharge to the defined areas of an "exit court" or "yard" and that the change could be financially onerous for small lodging operations. It was suggested that the proposal should be revised to increase the threshold to more than one story.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Thomas G. Daly, representing The Hospitality Security Consulting Group, LLC, requests Approval as Submitted.

Commenter's Reason: Code Change proposal F-226-13 will end the fire risk to life in low-rise non-sprinklered hotels and motels and is not cost prohibitive as evidenced by the thousands of such existing hotel owners/operators who have retrofitted their facilities with automatic sprinkler systems.

Public Comment 2:

J. William Degnan, President, representing National Association of State Fire Marshals, requests Approval as Submitted.

Commenter's Reason: NASFM disagrees with the cost-benefit analysis by the committee. The proponent provides valid justification and support for this proposal, as shown by both civilian and firefighter deaths. The increased fuel loads and synthetic materials have greatly changed the rate and size at which the fire spread. Less than a year ago, 4 Houston firefighters were killed in a low rise motel fire. We support the need to address the court or yard exit.

Public Comment 3:

Jonathan Dunaway, Clark County (WA) Fire Marshal's Office, representing Washington State Association of Fire Marshals; Robert Marshall representing California Fire Chiefs, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

1103.5.3 Group R-1 hotels and motels. An *automatic sprinkler system* shall be provided throughout existing Group R-1 hotels and motels that are three stories or more in height as measured from the lowest level of fire department access.

Exception: Group R-1 hotels and motels of one story in height where all individual guestrooms and contiguous attic and crawl spaces are separated from each other and public and common areas by at least 1-hour fire partitions and each individual guestroom has an exit directly to a public exit court or yard.

Commenter's Reason: This proposal addresses the committee's concerns that the threshold be more than one story and better justifies the existing Group R-1 hotels and motels three or more stories are beyond the reach of ground ladders for firefighting operations.

F226-13

Final Action: AS AM AMPC____ D

F228-13
1103.7.6

Proposed Change as Submitted

Proponent: Jeffrey M. Shapiro, International Institute of Ammonia Refrigeration
(jeff.shapiro@intlcodeconsultants.com)

Revise as follows:

1103.7.6 Group R-2. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 *dwelling* or *sleeping units*.

Exceptions:

1. Where each living unit is separated from other contiguous living units by *fire barriers* having a *fire-resistance rating* of not less than 0.75 hour, and where each living unit has either its own independent *exit* or its own independent stairway or ramp discharging at grade.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an *approved supervised automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units* and are protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that *dwelling units* either have a *means of egress* door opening directly to an exterior *exit access* that leads directly to the *exits* or are served by open ended *corridors* designed in accordance with Section 1026.6, Exception 4.
4. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units*, do not exceed 3 stories in height and comply with all of the following:
 - 4.1 Each *dwelling unit* is separated from other contiguous *dwelling units* by *fire barriers* having a *fire-resistance rating* of not less than $\frac{3}{4}$ hour
 - 4.2 Each *dwelling unit* is provided with interconnected smoke alarms complying with Section 907.2.11 in all sleeping rooms, plus not less than one hardwired smoke alarm in the common area of each floor or mezzanine level. Interconnection shall be permitted to be hardwired or by listed smoke alarms with wireless interconnect capability

Reason: The proposal provides a reasonable alternative to retrofitting a manual fire alarm system in existing Group R-2 occupancy buildings not exceeding three stories in height and having exits that lead directly to the outside. Fire risk in apartments tends to be greatest for occupants inside the dwelling unit where a fire originates, and money spent to retrofit firesafety equipment in apartments is better spent within dwelling units, as opposed to common areas.

Countless existing apartment buildings have only a single smoke alarm in the common area, and the IFC does not require retrofitting of smoke alarms in sleeping rooms when such alarms weren't required at the time of construction. The lack of smoke alarms in bedrooms, and particularly the lack of interconnecting alarm signals, increases the risk of injury or death in a unit of fire origin and other units that experience smoke infiltration. An additional consequence may be delayed recognition of a fire event, which increases the risk of harm to other building occupants and may delay notification of the fire department.

The alternative of a manual fire alarm system is less beneficial from a safety perspective because it requires an occupant to detect a fire event (which may take more time with fewer smoke alarms) and then find and activate a pull stations. Occupants must then respond to the alarm signal, and with the history of false alarms associated with manual fire alarm systems in apartment buildings, a response without other indications of a fire is questionable.

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

1103.7.6-F-SHAPIRO

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent that the code change will provide an increased level of life safety in an economical fashion for existing Group R-2 buildings.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1103.7.6 Group R-2. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 *dwelling* or *sleeping units*.

Exceptions:

1. Where each living unit is separated from other contiguous living units by *fire barriers* having a *fire-resistance rating* of not less than 0.75 hour, and where each living unit has either its own independent *exit* or its own independent stairway or ramp discharging at grade.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an *approved supervised automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units* and are protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that *dwelling units* either have a *means of egress* door opening directly to an exterior *exit access* that leads directly to the *exits* or are served by open ended *corridors* designed in accordance with Section 1026.6, Exception 4.
4. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units*, do not exceed 3 stories in height and comply with all of the following:
 - 4.1 Each *dwelling unit* is separated from other contiguous *dwelling units* by *fire barriers* having a *fire-resistance rating* of not less than $\frac{3}{4}$ hour
 - 4.2 Each dwelling unit is provided with smoke alarms complying with the requirements of Section 907.2.11. ~~interconnected smoke alarms complying with Section 907.2.11 in all sleeping rooms, plus not less than one hardwired smoke alarm in the common area of each floor or mezzanine level. Interconnection shall be permitted to be hardwired or by listed smoke alarms with wireless interconnect capability~~

Commenter's Reason: After the committee approved this proposal, questions were raised regarding the clarity of the requirements in Item 4.2. In reviewing those concerns, it seems to make better sense to simply reference the installation requirements that apply to new construction in Section 907.2.11. The basic logic of the original proposal, which was approved without opposition at the committee hearing with a 14:0 vote, continues to apply. Retrofitting interconnected smoke alarms into all sleeping rooms in existing dwelling units is preferable to a manual fire alarm system for buildings that do not have interior corridors and do not exceed 3 stories in height.

It should be noted that the requirement in Section 1103.7.6 have been in the code for quite some time. Any jurisdiction intending to enforce the existing manual fire alarm requirement has already had several years to adopt and apply that requirement. In those jurisdictions that have not yet been able to enact a retroactive fire alarm requirement, this exception provides an alternative solution that greatly increase safety and has the support of the National Multi Housing Council.

Public Comment 2:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1103.7.6 Group R-2. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 *dwelling* or *sleeping units*.

Exceptions:

1. Where each living unit is separated from other contiguous living units by *fire barriers* having a *fire-resistance rating* of not less than 0.75 hour, and where each living unit has either its own independent *exit* or its own independent stairway or ramp discharging at grade.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an *approved supervised automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units* and are protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that *dwelling units* either have a *means of egress* door opening directly to an exterior *exit access* that leads directly to the *exits* or are served by open ended *corridors* designed in accordance with Section 1026.6, Exception 4.
4. A fire alarm system is not required in buildings that do not have interior *corridors* serving *dwelling units*, do not exceed 3 2 stories in height and comply with all of the following:
 - 4.1 Each *dwelling unit* is separated from other contiguous *dwelling units* by *fire barriers* having a *fire-resistance rating* of not less than ¾ hour
 - 4.2 ~~Each *dwelling unit* is provided with hard wired interconnected smoke alarms as required for new construction in Section 907.2.11. Each *dwelling unit* is provided with interconnected smoke alarms complying with Section 907.2.11 in all sleeping rooms, plus not less than one hardwired smoke alarm in the common area of each floor or mezzanine level. Interconnection shall be permitted to be hardwired or by listed smoke alarms with wireless interconnect capability~~

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This public comment addresses two concerns with the proposal. First, it was felt that providing this exception for three story R-2 occupancies was not justified due to the risk associated with evacuating occupants from such a building without the benefit of a manual fire alarm system. The increased risk to occupants on the third floor necessitate the need for a manual fire alarm system that would provide early warning to all occupants when a fire on the first floor could block egress from the two floors above. Evacuating occupants from a two story building does not pose as great of a risk.

Essentially this exception, approved as submitted, would remove the requirement to retroactively install a manual fire alarm system by only installing a battery-powered smoke alarm in each sleeping room of a three story building. .

Second, the wording included in exception 4.2 was very confusing, including the reference to a 'common area' in buildings that do not contain interior corridors, the references to how interconnection is to be provided, and requiring hard wiring for just the smoke alarm in the 'common area'.

F228-13

Final Action: AS AM AMPC____ D

F229-13
1103.8.1

Proposed Change as Submitted

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects (dcollins@preview-group.com); Robert J Davidson, Davidson Code Concepts, LLC

Revise as follows:

1103.8.1 Where required. Existing Group I-1 and R occupancies shall be provided with single-station smoke alarms in accordance with Section 907.2.11 of the *International Building Code*, except as ~~provided~~ required in Sections 1103.8.2. ~~and~~ or 1103.8.3.

Reason: The provisions of 1103.8.2 and 1103.8.3 aren't exceptions, but additional requirements for interconnection and power source for specific applications. Each of these two sections can be applied independently without connection to one another.

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

1103.8.1-F-COLLINS-DAVIDSON

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

1103.8.1 Where required. Existing Group I-1 and R occupancies shall be provided with single-station smoke alarms in accordance with Section 907.2.11 of the *International Building Code*, ~~except~~ as required in Sections 1103.8.2 or 1103.8.3.

Committee Reason: The committee agreed with the proponent that the code change provides a needed clarification of the text. The modification further clarifies that the two cited sections are requirements rather than exceptions.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment :

Jeffrey M. Shapiro, P.E., International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

1103.8.1 Where required. Existing Group I-1 and R occupancies shall be provided with single-station smoke alarms in accordance with Section 907.2.11 of the *International Building Code*, Interconnection and power sources shall be in accordance with as required in Sections 1103.8.2 or and 1103.8.3.

Commenter's Reason: The committee approved text isn't entirely clear since Sections 1103.8.2 and 1103.8.3 are only supplemental to the basic requirement of complying with Section 907.2.11. The proposed revision clarifies this point. No technical change is intended.

F229-13

Final Action:

AS

AM

AMPC_____

D

F239-13

1105.3 (New); 202 (New)

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care (john.williams@doh.wa.gov) and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee (cbaldassarra@RJAGroup.com)

Add new text as follows:

IFC SECTION 1105 CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2

1105.3 Corridor construction. In Group I-2, in areas housing patient sleeping or care rooms, corridor walls and the opening protectives therein shall provide a barrier designed to resist the passage of smoke in accordance with Sections 1105.3.1 through 1105.3.7.

1105.3.1 Materials. The walls shall be of materials permitted by the building type of construction.

1105.3.2 Fire-resistance rating. Unless required elsewhere in the code, corridor walls are not required to have a fire-resistance rating.

1105.3.3 Corridor Walls Continuity. Corridor walls shall extend from the top of the foundation or floor below to one of the following:

1. The underside of the floor or roof sheathing, deck or slab above.
2. The underside of a ceiling above where the ceiling membrane is constructed to limit the passage of smoke.
3. The underside of a lay-in ceiling system where the ceiling tiles weigh at least one pound per square foot of tile.

1105.3.4 Openings in corridor walls. Openings in corridor walls shall provide protection in accordance with 1105.3.4.1 through 1105.3.4.3.

1105.3.4.1 Windows. Windows in corridor walls shall be sealed to limit the passage of smoke, or the window shall be automatic closing upon detection of smoke, or the window opening shall be protected by an automatic closing device that closes upon detection of smoke.

Exception: In smoke compartments not containing patient sleeping rooms, pass-through windows or similar openings shall be permitted in accordance with Section 1105.3.4.3.

1105.3.4.2 Doors. Doors in corridor walls shall comply with Sections 1105.3.4.2.1 through 1105.3.4.2.3.

1105.3.4.2.1 Louvers. Doors in corridor walls shall not include louvers, transfer grills or similar openings.

Exception: Doors shall be permitted to have louvers, transfer grills or similar openings at toilet rooms or bathrooms; storage rooms that do not contain storage of flammable or combustible material; and storage rooms that are not required to be separated as incidental uses.

1105.3.4.2.2 Corridor doors. Doors in corridor walls shall limit the transfer of smoke by complying with the following:

1. Doors shall be constructed of not less than 1-3/4 inch (44 mm) thick solid bonded core wood or capable of resisting fire for a minimum of 1/3 hours.
Exception: Corridor doors in buildings equipped throughout with an automatic sprinkler system.
2. Frames for side hinged swinging doors shall have stops on the sides and top to limit transfer of smoke.
3. Where provided, vision panels in doors shall be a fixed glass window assembly installed to limit the passage of smoke. Existing wired glass panels with steel frames shall be permitted to remain in place.
4. Doors undercuts shall not exceed 1 inch (25 mm).
5. Doors shall be positive latching with devices that resist not less than 5 pounds (22.2 N). Roller latches are prohibited.
6. Mail slots or similar openings shall be permitted in accordance with Section 1105.3.4.3.

1105.3.4.2.3 Dutch doors. Where provided, dutch doors shall comply with Section 1105.3.4.2.2. In addition, dutch doors shall be equipped with latching devices on either the top or bottom leaf to allow leaves to latch together. The space between the leaves shall be protected with devices such as astragals to limit the passage of smoke.

1105.3.4.2.4 Self- or automatic-closing doors. Where self- or automatic-closing doors are required, closers shall be maintained in operational condition.

1105.3.4.3 Openings in corridor walls and doors. Mail slots, pass through windows or similar openings shall not be required to be protected where the aggregate area of the openings between the corridor and a room are not greater than 80 square inches (51 613 mm²) and are located with the top edge of any opening no higher than 48 inches above the floor.

1105.3.5 Penetrations. The space around penetrating items shall be filled with an *approved* material to limit the passage of smoke.

1105.3.6 Joints. Joints shall be filled with an *approved* material to limit the passage of smoke.

1105.3.7 Ducts and air transfer openings. The space around a duct penetrating a smoke partition shall be filled with an *approved* material to limit the passage of smoke. Air transfer openings in smoke partitions shall be provided with a *smoke damper* complying with Section 717.3.2.2 of the International Building Code.

Exception: Where the installation of a *smoke damper* will interfere with the operation of a required smoke control system in accordance with Section 909, *approved* alternative protection shall be utilized.

1104.17 Corridors construction. Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be kept closed or be self closing. In Group I-2, corridors in areas housing patient sleeping or care rooms shall comply with Section 1105.3.

Exceptions:

1. Corridors in occupancies other than in Group H and I-2, which are equipped throughout with an approved automatic sprinkler system.
2. ~~Patient room doors in corridors in occupancies in Group I-2 where smoke barriers are provided in accordance with the International Building Code.~~
32. Corridors in occupancies in Group E where each room utilized for instruction or assembly has at least one-half of the required means of egress doors opening directly to the exterior of the building at ground level.
43. Corridors that are in accordance with the *International Building Code*.

SECTION 202 **GENERAL DEFINITIONS**

DUTCH DOOR. A door divided horizontally so that the top can be operated independently from the bottom.

Reason: This change adds minimum requirements for existing Group I-2 into Chapter 11 by adding specific retrofit requirements. This change will move the existing retrofit requirements for corridors in I-2 occupancies to proposed new section 1105.3 and add more detailed specific requirements. The intent is to increase the bare minimum safety requirements due to the fragile and sensitive populations within these facilities. These requirements are meant to be applied retroactively. This is not a new concept for these facilities as it aligns with the current approach by the Center for Medicaid and Medicare Services (CMS), the federal authority having jurisdiction. Hospitals are now required by CMS to have a life safety survey on a regular basis. If the facility does not meet certain life safety minimums, they are required to upgrade their existing facility. These retroactive requirements are added to assist code officials and surveyors during the ongoing regular inspection of hospital facilities and are consistent with the inspections required by federal laws for certification and reimbursement. The requirements consider the minimum previously approved construction methods. These requirements will provide jurisdictions the ability to adopt minimum retroactive provisions that provide a more uniform level of safety and eliminate many of the current code conflicts for existing facilities.

We looked at several sources to determine what the appropriate minimum bar should be, including the current building and fire code, current CMS guidelines, and previous versions of the ICC and model codes. On all issues, enforcement agencies and the regulated facilities weighed in to ensure that these changes are both necessary and achievable.

These provisions are written specifically for hospitals (Group I-2, Condition 2). These are retrofit requirements that provide a minimum level of safety considered necessary for patients, staff and first responders in an environment in which patients are in many instances not capable of self preservation and must be protected in place. The changes also provide tradeoffs for automatic sprinkler systems consistent with those allowed for new construction and also with those allowed by CMS. In no way does this affect the existing requirement that existing, approved construction must be maintained in the manner that it was approved. It simply provides a tool for evaluating historical construction techniques.

Specific points include:

- Existing corridor construction should primarily be evaluated for its ability to resist or limit the transfer of smoke, regardless of the code at the time of construction.. Corridor walls, even if they were built 60 years ago, should be regularly assessed confirm that they minimize the transfer of smoke. This section describes some criteria by which this can be assessed.
- The requirements clearly indicate that portions of corridor walls required to have a fire resistance ratings by other code provisions must meet those provisions. This addresses where a corridor wall also happens to be a smoke barrier, incidental use area separation, etc.
- The Ad Hoc Committee added a specific section on dutch doors. Dutch doors have been used in health care facilities for many years for various necessary operational reasons. While existing language in the IBC does not specifically speak of dutch doors, their use is not prohibited but if used must meet the requirements contained in Section 407.3 including positive latching and limiting the transfer of smoke. This change will

provide clarity for existing installations by giving specific guidance on the minimum acceptable requirements including positive latching and smoke transfer for their use in corridor walls. A definition is provided for additional clarity.

- The Ad Hoc committee also proposes similar detail for doors, windows, louvers and other potential penetrations or openings in corridor walls in an attempt to add clarity to the intent of the code on limiting the transfer of smoke. These proposals are consistent with current CMS standards.
- There are exceptions that deal with existing mail slot, pass-through and similar openings that are commonly found in hospitals. These are needed for privacy, medication security and other operational needs. Our proposal places restrictions on these existing openings similar to the current federal requirements.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This proposal is being co-sponsored 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.

Cost Impact: None

1105.3 (NEW)-F-BALDASSARRA-WILLIAMS-ADHOC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent that the code change reflects an important and needed coordination effort to correlate the IFC with Federal Center for Medicaid and Medicare Services (CMS) healthcare regulations with which all facilities must now comply and that it will eliminate costly conflicting requirements among different codes applicable to such facilities.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Aaron Johnson representing Patient Fire Safety Coalition, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3.2 Fire-resistance rating. ~~Unless required elsewhere in the code, corridor walls are not required to have a fire-resistance rating. Unless otherwise approved, corridor walls that were installed as fire-resistance rated assemblies in accordance with the applicable codes under which the building was constructed, remodeled, or altered shall be maintained as such, but shall at no time be permitted to be less than 1/2 hour rated.~~

1105.3.4.1 Windows. Windows in corridor walls shall be sealed to resist the free passage of smoke, or the window shall be automatic closing upon detection of smoke, or the window opening shall be protected by an automatic closing device that closes upon detection of smoke.

Exception: In smoke compartments not containing patient sleeping rooms, unprotected pass-through windows or similar openings shall not be permitted in accordance with Section 1105.3.4.3 required to be protected where the openings are not greater than 80 square inches (51 613 mm).

1105.3.4.3 Openings in corridor walls and doors. ~~Mail slots, pass through windows or similar openings shall not be required to be protected where the aggregate area of the openings between the corridor and a room are not greater than 80 square inches (51 613 mm) and are located with the top edge of any opening no higher than 48 inches above the floor.~~

1105.3.5 Penetrations. The space around penetrating items shall be filled with an *approved* material to limit the free passage of smoke. Where the corridor wall is being maintained as a fire-resistance-rated assembly, penetrations shall be firestopped in accordance with Section 714 of the *International Building Code*.

1105.3.6 Joints. Joints shall be filled with an *approved* material to limit the free passage of smoke.

1105.3.7 Ducts and air transfer openings. The space around a duct penetrating a smoke partition shall be filled with an *approved* material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a *smoke damper* complying with Section 717.3.2.2 of the International Building Code.

Exception: Where the installation of a *smoke damper* will interfere with the operation of a required smoke control system in accordance with Section 909, *approved* alternative protection shall be utilized.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The proposed requirement in 1105.3.2 for corridor walls that were mandated to be fire resistance rated at the time of original construction to have their fire rating maintained is consistent with other sections of this code (e.g. 107.1, 701.2). The relaxation to allow the fire resistance rating to be as low as ½ hour is consistent with NFPA 101 (19.3.6.2.2), which would therefore aid in the harmonization with the Life Safety Code that the AdHoc Healthcare Committee has been seeking. The additional new text relating to fire-rated corridors will help ensure that the code official does not overlook the need for possible fire ratings where the building was built or renovated with such rated walls.

Where the corridor walls do have a fire resistance rating, maintain their ability to stop the passage of fire and smoke despite having numerous penetrations for utilities and other through-penetrations would require those penetrations to be suitably sealed. Thus, 1105.3.5 is modified to point the user to the International Building Code, where detailed requirements are provided for the proper sealing of those penetrations.

The AdHoc Committee for Healthcare has stated that they are bringing forth these proposals to more closely align with CMS requirements. However, as CMS conducts life safety inspections based on NFPA codes and standards this change is not consistent with their stated desired alignment. NFPA 101:19.3.6.2.3 states, "Corridor walls shall form a barrier to limit the transfer of smoke." Other relevant sections of NFPA 101 restrict the usage of louvers in corridor doors and limit the clearance at the bottom of the doors to a maximum of 1 inch. The proposed unprotected 80 square inch unprotected openings are completely inconsistent with the NFPA 101 measures designed to keep smoke from traveling unimpeded between corridors and patient rooms.

Public Comment 2:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3.3 Corridor Walls Continuity. Corridor walls shall extend from the top of the foundation or floor below to one of the following:

1. The underside of the floor or roof sheathing, deck or slab above.
2. The underside of a ceiling above where the ceiling membrane is constructed to limit the passage of smoke.
3. The underside of a lay-in ceiling system where the ceiling system is constructed to limit the passage of smoke and where the ceiling tiles weigh at least one pound per square foot of tile.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent is that the ceiling system, either the ceiling membrane (Item 2) or the lay-in ceiling system (Item 3), is required to limit the passage of smoke. The proposed revision merely clarifies that some type of open ceiling tile that happens to weigh one pound per square foot is not acceptable. Likewise, a ceiling system with openings serving a plenum would not be acceptable, even if the ceiling tiles weighed one pound per square foot.

Public Comment 3:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3.2 Fire-resistance rating. Unless required by Sections 1103 and 1104 elsewhere in the code, corridor walls are not required to have a fire-resistance rating.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent is to provide a more specific reference for the user of the Code as to where one might find requirements for a fire-resistance rating for a corridor in a Group I-2 occupancy. Sections 1103 and 1104 both contain language regarding maintaining fire resistance ratings for corridors when the building was originally constructed with corridors having a fire resistance rating.

Public Comment 4:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3.4.3 Openings in corridor walls and doors. In other than smoke compartments containing patient sleeping rooms, mail slots, pass through windows or similar openings shall not be required to be protected where the aggregate area of the openings between the corridor and a room are not greater than 80 square inches (51 613 mm²) and are located with the top edge of any opening no higher than 48 inches above the floor.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: A similar provision existing in NFPA 101, *Life Safety Code*, and is based upon computer calculations of smoke flow through an opening. The calculations assumed a fire in a room adjacent to the corridor and the quantity of smoke that might flow into a corridor. The NFPA Life Safety Technical Committee on Health Care Occupancies did not consider the scenario where smoke may be in the corridor and the openings may allow the smoke to migrate into adjacent patient sleeping rooms. Using the "defend in place" philosophy, allowing such openings in a corridor wall could result in the need to evacuate or relocate more patients than anticipated and that relocation would be through a corridor in which there is considerable smoke. The smoke resistant separation between the corridor and the patient sleeping room should be maintained.

Public Comment 5:

Vickie Lovell, Intercode, Inc., representing Fire Safe North America, formerly known as Alliance For Fire and Smoke Containment and Control, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3.2 Fire-resistance rating. Unless required elsewhere in the by Section 1104 of this code, or required by a previously approved code, corridor walls are not required to have a fire-resistance rating.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent of this code change is a useful addition to the fire code because it attempts to address very old building hospital designs that did not recognize the importance of containing smoke migration to a limited area, and leaves paths of egress such as corridors unprotected.

Although the current fire code does not require existing corridors to have a fire rating (only to limit smoke), legacy building codes did. There are a significant number of hospitals that are not sprinklered that maintain fire rated corridors.

The flaw with the proposal as currently written is that it could be interpreted to mean that ALL corridors (rated and non rated) in existing hospitals (sprinklered and un-sprinklered) can be modified to simply limit smoke.

Although Section 703.1 of the fire code could prevent an incorrect interpretation from occurring, this modification to the proposal clarifies that existing I-2s would continue to maintain the integrity of the fire resistance ratings of the corridors IF such ratings were required under this code or an older code to which the hospital was built. A public comment is submitted on F98 that fortifies the requirement for the maintenance provision of existing fire rated assemblies and fire protection ratings.

Public Comment 6:

John Valiulis, Hilti, Inc., requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1105.3 Corridor construction. In Group I-2, in areas housing patient sleeping or care rooms, corridor walls and the opening protectives therein shall provide a barrier designed to resist the passage of smoke in accordance with Sections 1105.3.1 through 1105.3.7. Where the provisions of this section conflict with the construction requirements that applied at the time of construction, the most restrictive provision shall apply.

1105.3.1 Materials. The walls shall be of materials permitted by the building type of construction.

1105.3.2 Fire-resistance rating. ~~Unless required elsewhere in the code, corridor walls are not required to have a fire-resistance rating.~~ Corridor walls shall be maintained to provide the fire resistance rating that was provided at the time of construction, unless approved otherwise.

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

~40% of hospitals are estimated to be unsprinklered

The latest statistics published by the NFPA (Fires in Healthcare Facilities, Ahrens, M., Nov 2012), covering the period 2006-2010, indicate that sprinklers were present in 55% of reported healthcare fires. Making the simplifying assumption that fires occur at about the same frequency in sprinklered and non-sprinklered buildings, this would mean that roughly 45% of hospitals are unsprinklered. Even with progress on sprinklering between 2010 and 2013 (which may have been minimal due to the recession), the percentage of unsprinklered hospitals can be safely assumed to be in the range of about 40%.

Fire code should be just as clear and easy to apply to all buildings, sprinklered and unsprinklered

Since the Fire Code applies to existing buildings, it must be written to allow clear and correct application of code mandates for buildings as they exist today. The wording developed for code change proposal F239, which only ever requires smoke resistance, and not fire resistance, therefore suitably covers the topic of corridor walls only if all hospitals were built with sprinklers. The provision of smoke resistance alone, without fire resistance, was never accepted by any of the legacy codes for corridor walls in unsprinklered healthcare facilities. Thus, the originally proposed wording for F239 did a disservice to the hope of proper code enforcement in existing hospitals, since the inspectors are likely to be dealing with unsprinklered hospitals about 40% of the time, and need some code sections to clearly and unambiguously allow them to enforce corridor fire resistance requirements (when applicable) for existing non-sprinklered hospitals.

1105.3.2 is revised to default to fire rating equal to that mandated at time of construction

Section 1105.3.2 therefore needs to provide some minimal guidelines to ensure that the corridor walls in non-sprinklered healthcare facilities are suitably verified to have the required fire resistance rating. The three legacy codes, plus NFPA 101, all required 1-hour rated corridors in unsprinklered hospitals for several decades prior to the advent of the IBC. It does a disservice to the novice fire inspector to start with the assumption in 1105.3.2 that "corridor walls are not required to have a fire resistance rating", which would likely be correct only about 60% of the time. Rather, the starting point would much more accurately be that the fire resistance of the corridor wall in an existing building will be as it was required to be in the code under which the building was built. Thus, 1105.3.2 is proposed to be revised to more broadly start with that statement, which would then be true for 100% of the corridor walls. If there was no building code or fire code requiring corridor fire resistance at the time of construction, then the various provisions listed here for smoke resistance would be the ones setting the minimum performance requirements.

New text at the end of Section 1105.3 makes it clear that original construction requirements are not superseded by the lower requirements here

The other revision proposed for F239 is the addition of a new sentence for the entire section 1105.3 on corridors, to state that where any of the numerous minimum construction requirements listed here (e.g. for doors, openings, penetrations, joints, ducts) conflict with the requirements that were in effect when the walls were originally built, that the most restrictive provision shall apply. This would then adequately cover the ~40% of healthcare facilities that are not sprinkler protected, and likely had some fire resistance requirements to meet within the corridor walls. This wording provides the language that the fire official needs to be able to reference in order to enforce the maintenance of the building to the level of fire safety that it was constructed, making it clear that the code requirements listed in this section do not create a new lower minimum level of performance for the existing construction. As is typical for the Fire Code, the provisions listed here provide minimum requirements to which a building would need to be upgraded if it had not already met the more stringent requirements of a previous code.

Many of the other articles proposed in code change proposal F239 could also benefit from a revision to indicate what the minimum requirements would be in the case where the corridor wall was built to comply with a fire resistance rating. However, the over-arching new text in Section 1105.3 avoids the need to do that, as it's a blanket statement that would apply to all of this proposed new section's requirements.

It may be argued that dealing with the corridor construction requirements for unsprinklered hospitals is unnecessary, as all hospitals are supposed to be sprinklered, and even if they are not today, that they all will be some year soon. With a substantial portion of hospitals not being sprinklered today, it certainly makes sense to include clear and consistent guidance for how to enforce fire code requirements for those buildings. However, if the percent unsprinklered ever dwindles to some insignificant percent in the future, then the fire code articles dealing with unsprinklered buildings could be proposed for removal from the IFC at that time.

Public Comment 7:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council (IFC), requests Disapproval.

Commenter's Reason: This proposal seeks to carve out a separate set of provisions for Group I-2 Hospitals that differs from how other occupancies are treated under Chapter 11. This proposal appears to assume that the Group I-2 fire area is sprinklered, and therefore it offers design alternatives that are sprinkler tradeoffs in the IBC whether the facility is sprinklered or not. This is highlighted in the proponents supporting statement, which indicates the following:

"The changes also provide tradeoffs for automatic sprinkler systems consistent with those allowed for new construction and also with those allowed by CMS. **In no way does this affect the existing requirement that existing, approved construction must be maintained in the manner that it was approved.** It simply provides a tool for evaluating historical construction techniques."

According to the NFPA "Report on Fires in Health Care Facilities" published November 2012, between 2006 and 2010, Sprinklers were present in only 55% of reported health care fires¹. The fact remains that many existing I-2 occupancies are not sprinklered throughout.

But, nowhere in this code section does it ever state that the building must be sprinklered for this section to apply. Without a precondition that the facility be sprinklered before any of these design alternatives can be acceptable, this becomes an unprecedented reduction of hospital fire safety features.

This substantiation is not consistent with the proposed changes. As indicated in the preceding sentence, in this proposal, tradeoffs for automatic sprinkler systems consistent with those allowed for new construction and with those allowed by CMS are provided even if sprinklers are not installed. This is in conflict with the IBC and CMS requirements and would produce a level of protection that is clearly different than "the manner that it was approved". The proponents do not provide the Technical justification for many of these relaxations, and do not provide a review of other complimentary required features that would be omitted here, but required in new construction. Instead, the proponents cite a coordination effort to correlate the IFC with Federal Center for Medicaid and Medicare Services (CMS) healthcare regulations.

In addition, the requirements are too vague to allow consistent compliance and enforcement. Some examples are as follows:

1105.3.3 Corridor Walls - How does the Fire Official determine the weight of the ceiling tiles? Will he be measuring each tile on site? Also, the 1 lbs/sq. ft. minimum weight requirement comes from requirements for Fire Resistance Rated assemblies. No evidence has been provided that this bears any relationship to limiting the passage of smoke. According to industry representatives, the majority of Class A ceiling tiles sold in the US today would not meet the 1 lbs/sq. ft. threshold.

1105.3.4.2.2 Corridor doors - Item (1) indicates that doors may be "capable of resisting fire for a minimum of 1/3 hours". "Resisting fire" is not an enforceable term that would connect to any specific fire resistance or fire protection test. Does that mean they need a 1/3h fire protection rating per the IBC, or a 1/3 hour fire resistance rating, or is an adhoc onsite "match test" sufficient?

1105.3.4.3 Openings in corridor walls and doors - There is no justification provided for permitting 80 square inch unprotected openings for every single patient room for mail slots, pass through windows, or other similar openings. Hospital corridors have needed to be fire partitions per the legacy codes in unsprinklered facilities, and corridors are required to be smoke partitions in the IBC, capable of restricting the movement of smoke between patient rooms and the corridors. Allowing unprotected holes up to 80 square inches to exist in every single room's corridor wall would completely invalidate the effectiveness of either fire partition walls or smoke partition walls for the corridors. There has been no substantiation provided to show that the condition would be safe, nor has there been any effort to show some overwhelming need for such large, frequent and unprotected holes that would trump the need for fire safety.

Contrary to the tone of the proponents supporting statement, statistics show that fires do occur in Group I occupancies on a regular basis. According to the NFPA "Report on Fires in Health Care Facilities" published November 2012, between 2006 and 2010, U.S. fire departments responded to an estimated average of 6,240 structure fires in or on health care properties per year. These fires caused an average of six civilian deaths, 171 civilian injuries and \$52.1 million in direct property damage annually. Almost half (46%) were at nursing homes, and almost one-quarter (23%) were in hospitals or hospices. To put these numbers into a larger perspective, during 2006-2010, the 6,240 **fires in health care properties accounted for 1.2% of the 506,400 structure fires in the US**¹.

¹ Source: NFPA "Fires in Health Care Facilities" Author: Marty Ahrens Issued: November 2012, National Fire Protection Association Fire Analysis and Research Division

Public Comment 8:

Aaron Johnson, representing Patient Fire Safety Coalition, requests Disapproval.

Commenter's Reason: Two primary portions of this proposal that are in direct conflict with the goals of fire and life safety are sections 1105.3.2 and 1105.3.4.3.

Section **1105.3.2** states that "unless required elsewhere in *this* code, corridor walls are not required to have a fire-resistance rating." The IFC never actually requires any specific wall to have a given fire rating, therefore, this requirement essentially points to nothing at all. As this proposal, also, is not predicated on sprinkler protection or anything else, the easiest and most common interpretation of this code will be that "no corridor needs a fire rating."

There are no fire-resistance ratings specifically mandated within the IFC, for sprinklered occupancies or non-sprinklered. Only the IBC sets requirements for fire-resistance rated corridors, and in fact, the IBC presupposes that I-2 occupancies are sprinklered so no rated corridor is called out. Rated corridors are only called out in the legacy codes which applied at the time of new construction.

The building codes which applied at the time of construction are what required these fire rated corridors, not this fire code. On what basis can these corridors now be blindly abandoned? It is unknown what provisions were made, or local standards applied at the time of original construction.

Nowhere in this proposal does it point back to IFC 701.2 or 107.1, which state that any required fire resistant components are to be maintained to the codes to which the building was originally built, remodeled, or altered too. Based on my own nearly 10 years of experience as a municipal inspector, I would conclude that it is highly likely that the intent of 1105.3.2 will surely be misinterpreted by local officials to mean that "no corridor needs a fire rating", thus creating an unsafe condition.

Section **1105.3.4.3** allows for completely unprotected slots and pass-through openings in corridor walls and doors. The openings are not required to have any type of closure, neither automatic nor manual, and can be permanently open. The code works as a system. Whether a given corridor wall is a fire partition, due to construction under a legacy code, or is a smoke partition, that egress corridor wall is part of a system. A hospital corridor wall is always designed to limit the spread of fire or smoke. To henceforth allow 80 square inch unprotected holes in the corridor wall at every patient room is in disagreement with IFC 703.1.3 that states that all fire walls, barriers, and partitions shall be maintained to prevent the passage of fire, and is in disagreement with 703.1.2 that states that all smoke partitions shall be maintained to prevent the passage of smoke. Allowing these openings will enhance the spread of fire and smoke, naturally seeking the path of least resistance, throughout the facility.

The AdHoc Committee for Healthcare has stated that they are bringing forth these proposals to more closely align with CMS requirements. However, as CMS conducts life safety inspections based on NFPA codes and standards this change is not consistent with their stated desired alignment. NFPA 101:19.3.6.2.3 states, "Corridor walls shall form a barrier to limit the transfer of smoke." Other relevant sections of NFPA 101 restrict the usage of louvers in corridor doors and limit the clearance at the bottom of the doors to a maximum of 1 inch. The proposed unprotected 80 square inch unprotected openings are completely inconsistent with the NFPA 101 measures designed to keep smoke from traveling unimpeded between corridors and patient rooms.

F239-13

Final Action: AS AM AMPC_____ D

F241-13 1105.5 (New)

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

Add new text as follows:

SECTION 1105 **CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2**

1105.5 Smoke compartments. Smoke compartments shall be provided in existing Group I-2 Condition 2, in accordance with Sections 1105.5.1 through 1105.5.4.

1105.5.1 Design. Smoke barriers shall be provided to subdivide each story used for patients sleeping with an occupant load of more than 30 patients into no fewer than two smoke compartments.

1105.5.1.1 Refuge areas. Refuge areas shall be provided within each smoke compartment. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments.

The size of the refuge area shall provide the following:

1. Not less than 30 net square feet (2.8 m²) for each care recipient confined to bed or stretcher.
2. Not less than 15 square feet (1.4 m²) for each resident in a Group I-2 using mobility assistance devices.
3. Not less than 6 square feet (0.56 m²) for each occupant not addressed in Items 1 and 2.

Areas of spaces permitted to be included in the calculation of the refuge area of corridors, sleeping areas, treatment rooms, lounge or dining areas and other low-hazard areas.

1105.5.2 Smoke barriers. Smoke barriers shall be constructed in accordance with Section 709 of the *International Building Code*.

Exceptions:

1. Existing smoke barriers with a minimum of 1/2 –hour fire-resistance rating are permitted to remain.
2. Smoke barriers shall be permitted to terminate at an atrium enclosure in accordance with Section 404.6 of the *International Building Code*.

1105.5.3 Opening protectives. Openings in smoke barriers shall be protected in accordance with Section 716 of the *International Building Code*. Opening protectives shall have a with a minimum fire-protection-rating of 1/3 hours.

Exception: Wired glass vision panels in doors shall be permitted to remain.

1105.5.4 Duct and air transfer openings. Penetrations in a smoke barrier by duct and air transfer openings shall comply with Section 717 of the *International Building Code*.

Exception: Where existing duct and air transfer openings in smoke barriers exist without smoke dampers, they shall be permitted to remain. Any changes to existing smoke dampers shall be submitted for review and approved in accordance with IBC Section 717 of the *International Building Code*.

Reason: This change adds minimum requirements for existing hospitals (Group I-2, Condition 2) into Chapter 11. The intent is to increase the bare minimum safety requirements due to the fragile and sensitive populations within these facilities. These requirements are meant to be applied retroactively. This is not a new concept for these facilities – it aligns with the current approach by the Center for Medicaid and Medicare Services (CMS), the federal authority having jurisdiction. Hospitals are now required by CMS to have a life safety survey on a regular basis. If the facility does not meet certain life safety minimums, they are required to upgrade their existing facility. This code change will align the Fire Code with those CMS minimum requirements and will hopefully lead to industry consolidation. These retroactive requirements are added to assist code officials and surveyors during the ongoing regular inspection of hospital facilities and are consistent with the inspections required by federal laws for certification and reimbursement. The requirements consider the minimum previously approved construction methods. These requirements will provide jurisdictions the ability to adopt minimum retroactive provisions that have been vetted by the industry as well as code officials and that are consistent with current national standards used by the Federal Government providing a more uniform level of safety and eliminating many of the current code conflicts for existing facilities.

We looked at several sources to determine what the appropriate minimum bar should be, including the current building and fire code, current CMS guidelines, and previous versions of the ICC and model codes. On all issues, enforcement agencies and the regulated facilities weighed in to ensure that these changes are both necessary and achievable.

This provision is written in regard to the design, construction and application of smoke compartments for Group I-2 hospital facilities. Smoke compartments are a key component of the defend in place strategy, a strategy where victims are protected from fire without relocation, used in healthcare facilities to limit the movement of smoke. These compartments act as safe locations for patients by preventing the spread of smoke. Through compartmentalization, patients may remain safely in their rooms as fire suppression systems and fire responders extinguish the fire. Under severe fire conditions that threaten the immediate compartment area, patients may be evacuated horizontally to the safety of an adjacent compartment on the same floor. Being able to do this is critical since due to the health status of many patients their evacuation from the building might put them in grave danger. The proper design, construction and application of smoke compartments will provide added protection, buy valuable time and save lives of critically ill patients before a total evacuation may become necessary.

These retroactive requirements are added to assist code officials and surveyors during the ongoing regular inspection of hospital facilities. These inspections are required by federal laws for certification and reimbursement. This requirement considers the minimum previously approved construction methods. This is consistent with the federal requirements that these facilities are currently held too. Specific concepts include:

- 1105.5 Smoke compartments – The defend-in-place concept is a basic minimum level of safety for these facilities. Every facility should be equipped at least two smoke compartments for temporary relocation of patients.
- 1105.5.1 Design - This section addresses existing acceptable configuration of smoke barrier walls and smoke barriers for existing hospitals in areas with sleeping rooms.
- 1105.5.1.1 Refuge area – Addresses adequate sizing of refuge areas. IBC 407.5.1 also includes requirements for independent egress and horizontal assemblies.
- 1105.5.2 Smoke barriers – The intent is to bring noncompliant smoke barriers to at least ½ hour fire resistance rating. Previously approved smoke barriers are not intended to be reduced to ½. Chapter 7 of the IFC would require maintenance of approved construction.
- 1105.5.3 Opening protectives - Address doors in smoke barriers in existing Group I-2 occupancies. Reference to 716 is so you that don't lose other requirements.
- 1105.5.4, Guides the inspector of existing facilities on how they would look at opening protectives. Smoke dampers have not always been required in hospitals, and the 2015 IBC would not require them. Therefore, in those hospitals that were originally approved without smoke dampers required, that condition is allowed to remain in place. Any modification of existing smoke dampers would have to go through the normal process for making an alteration to existing construction.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Cost Impact: None

1105.5 (NEW)-F-WILLIAMS-ADHOC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1105.5.2 Smoke barriers. Smoke barriers shall be constructed in accordance with Section 709 of the *International Building Code*.

Exceptions:

1. Existing smoke barriers with a minimum of 1/2-hour fire-resistance rating are permitted to remain where the existing smoke barrier has a minimum fire resistance rating of 1/2 hour.
2. Smoke barriers shall be permitted to terminate at an atrium enclosure in accordance with Section 404.6 of the *International Building Code*.

1105.5.3 Opening protective. Openings in smoke barriers shall be protected in accordance with Section 716 of the *International Building Code*. Opening protective shall have a minimum fire-protection-rating of 1/3 hours.

Exception: Existing wired glass vision panels in doors shall be permitted to remain.

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee agreed with the proponent that the code change reflects an important and needed coordination effort to correlate the IFC with Federal Center for Medicaid and Medicare Services (CMS) healthcare regulations with which all facilities must now comply and that it will eliminate costly conflicting requirements among different codes applicable to such facilities. The modification clarifies the applicability of the exception.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council (IFC), requests Approval as Submitted.

Further modify the proposal as follows:

SECTION 1105 CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2

1105.5 Smoke compartments. Smoke compartments shall be provided in existing Group I-2 Condition 2, in accordance with Sections 1105.5.1 through ~~1105.5.4~~ 1105.5.6.

1105.5.5 Penetrations. Penetrations of smoke barriers shall comply with Section 714 of the *International Building Code*.

1105.5.6 Joints. Joints made in or between smoke barriers shall comply with Section 715 of the *International Building Code*.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: This modification adds two critical elements that are lacking in the current proposals. As the proponents have indicated, the proposed change is intended to add minimum requirements for existing hospitals (Group I-2, Condition 2) into Chapter 11. Their intent is to increase the minimum safety requirements due to the fragile and sensitive populations within these facilities.

Protection of Penetrations and Joints through smoke barriers is critical to their performance in resisting the passage of both smoke and fire. The proposal initially acknowledges this need by including requirements for Opening Protectives, Ducts, and Air Transfer Openings, but has omitted two of the other components that are critical to the ability of walls and floors to limit the transfer of fire and smoke. Joints and Penetrations through these existing assemblies would already have been required to comply with these provisions by prior Legacy Codes, so their omission now will actually reduce the existing minimum level of performance for these fragile and sensitive populations.

The IBC and IFC currently require protection of Penetrations and Joints in Fire Partitions, Smoke Partitions, Smoke Barriers, Fire Barriers and Fire Walls. Since the proponents stated intent is to increase the bare minimum safety requirements due to the

fragile and sensitive populations within these facilities, it is not possible to achieve that acceptable minimum level of safety for I-2 occupancies without including these protection provisions.

Public Comment 2:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

1105.5.4 Penetrations. Penetrations of *smoke barriers* shall comply with the *International Building Code*.

Exception: Approved existing materials and methods of construction.

1105.5.5 Joints. Joints made in or between *smoke barriers* shall comply with *International Building Code*.

Exception: Approved existing materials and methods of construction.

(Renumber subsequent sections)

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The proposed new section for existing smoke barriers does not address penetrations and joints. Especially as compared to some of the other new sections, the lack of requirements could imply that there are no requirements. Note that F239 (corridors) contains sections on penetrations and joints.

The proposed language indicates that penetrations and joints are to be protected as required by the IBC. However, recognizing that existing penetrations and joints may be protected using materials or construction methods that were acceptable at the time of construction but not permitted by the current edition of the IBC, the proposed language exempts existing approved materials and methods of construction. However, it should be noted that new penetration in an existing smoke barrier would need to be protected as required by the IBC

Public Comment 3:

Vickie Lovell, Intercode, Inc., representing Air Movement and Control Association International, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

1105.5.4 Duct and air transfer openings. Penetrations in a smoke barrier by duct and air transfer openings shall comply with Section 717 of the International Building Code.

~~**Exception:** Where existing duct and air transfer openings in smoke barriers exist without smoke dampers, they shall be permitted to remain. Any changes to existing smoke dampers shall be submitted for review and approved in accordance with IBC Section 717 of the International Building Code.~~

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The Air Movement and Control Association, International disagrees with the need for the exception for 1105.5.4 in this proposal. There is no reason to have this exception to exist as written if the Fire Code references the 2015 International Building Code.

The proponent is only partially accurate in the reason statement:

"Smoke dampers have not always been required in hospitals, and the 2015 IBC would not require them."

Smoke dampers have been required in smoke barriers since the 2000 IBC. The new 2015 IBC exception for smoke dampers in smoke barriers in I-2s is conditional upon the construction of the duct system and the building being fully sprinklered. Therefore, this exception as written is potentially more generous than what the current 2015 IBC permits if the terms of the 2015 IBC exception are not taken into account. If they are taken into account, then there is no need for the exception.

The Fire Code does not trigger the installation of new smoke dampers in duct and air transfers in previously approved existing buildings. Therefore, there is no need for the exception.

The proposed exception states that "any modification of existing smoke dampers would have to go through the normal process for making an alteration to existing construction." What would that be? Dampers are typically not modified in the field, other than for needed repairs. This exception creates confusion and speculation about what damper "modification" might be.

Smoke dampers could also be required to be installed in an existing duct system when a smoke control system is newly installed in an atrium. However, the IBC states that they cannot be eliminated (and be required) if they are part of a smoke control system. So, the proposed exception could create a barrier to making an alteration in existing hospitals, when required. Simply pointing to the current IBC in 717 covers all these conditions, and once again, the exception is not necessary.

Public Comment 4:

Brice Miller representing International Firestop Council (IFC), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

**SECTION 1105
CONSTRUCTION REQUIREMENTS FOR EXISTING GROUP I-2**

1105.5.2 Smoke barriers. Smoke barriers shall be constructed in accordance with Section 709 of the International Building Code.

Exceptions:

1. Where approved by the building official, existing smoke barriers are permitted to remain where the existing smoke barrier ~~is has determined to have~~ a minimum fire resistance rating of ½ hour based on plans, investigation, evaluation reports and other data submitted.
2. Smoke barriers shall be permitted to terminate at an atrium enclosure in accordance with Section 404.6 of the International Building Code.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: This public comment is a clarification of the proposed language. As the proponents have indicated, the proposed change is intended to add minimum requirements for existing hospitals (Group I-2, Condition 2) into Chapter 11. Their intent is to increase the minimum safety requirements due to the fragile and sensitive populations within these facilities.

This revised language attempts to address the issue of how to ensure a proper review by the building code official is performed to ensure there are no impediments to granting an approval that may result in the reduction of existing levels of protection. It identifies that process by stipulating that plans, investigation and evaluation reports, and other data can be submitted seeking approval of the code official for the assignment of the new fire-resistance ratings which might be a reduction in the current level. Any special construction features conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings must also be identified in the evaluation reports submitted. This is to ensure special conditions are identified that may prevent a reduction in fire-resistance ratings and fire safety of the building.

F241-13

Final Action: AS AM AMPC_____ D

F245-13
2204.1

Proposed Change as Submitted

Proponent: Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

2204.1 Standards. ~~The fire code official is authorized to enforce applicable provisions of the e-Codes and standards listed in Table 2204.1 to prevent and control dust explosions shall apply to operations involving combustible dust.~~

Reason: This change is based on a recommendation from the Chemical Safety Board (CSB) following their investigation of the dust explosions at the Hoeganaes Corporation in Gallatin, Tennessee. The CSB determined that the state of Tennessee considered the language in this code section to be a discretionary (not mandatory) code requirements; the state of Tennessee did not adopt this section of the IFC because it considered the requirement as not mandatory. This code change is intended to clarify the intent of this code section as to when the applicable dust standards must be enforced to prevent dust accumulations that could lead to dust explosions.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

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

2204.1-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2204.1 Standards. The applicable provisions of the codes and standards listed in Table 2204.1 shall apply to operations involving combustible dust.

Committee Reason: The committee agreed with the proponent's reason statement that the code change makes the provisions of the combustible dust standards mandatory rather than discretionary. The modification clarifies the applicability of the standard contents.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Elley Klausbruckner, representing Klausbruckner & Associates Inc., requests Disapproval.

Commenter's Reason: We do not believe that the proponents, in their evaluation of these standards, fully realize the consequences of the changes to the requirements and its effect on small operations such as small woodshops in schools, etc. Additionally, the standards proposed provide conflicting requirements, and would subject the code users and AHJs to liability. For example, the requirements for maximum dust thickness on surfaces are conflicting in different NFPA Standards:

NFPA-654 1/32" @ 75 lb/ft3, Adjusted for Lower Bulk Density
 NFPA-664 1/8", Assumes 20 lb/ft3 Bulk Density
 NFPA-484 Does Not Allow Accumulation, Infers Daily Cleaning Schedule
 NFPA-61 Remove Concurrently with Operations, Refers to 654; OSHA 1910.272 for grain handling facilities used 1/8"

While, for example, NFPA 61 would not conflict with NFPA 484 because one addresses agricultural and food products while the other address combustible metals, the requirements of NFPA 654 [addresses all combustible dust particles] does conflict with the remainder of these standards.

As another example, NFPA 664 for woodworking facilities apply when >5,000 sq ft or where dust producing equipment require an aggregate dust collection flow rate of >1500 ft³/min [NFPA 664, 2012 Edition, Section 1.1.2]. Additionally NFPA 664, when applicable, references NFPA 69 on explosion prevention [e.g. Section 8.2.2.5.3 on construction of dust collectors with deflagration hazard]. The proposed revision to the language by the proponent and as approved by the committee, would require explosion prevention by the AHJ for woodworking shops less than 5000 sq ft, since NFPA 69 is still "applicable" [since this standard is applicable to explosion prevention of combustible dust] even if NFPA 664, the standard which is more specific to woodworking does not require it. Additionally a small woodworking shop [<5000 sq ft] would require compliance with NFPA 654 since NFPA 654, section 1.1.1 states that the standard applies to "*all phases of the manufacturing, processing, blending, conveying, repackaging, and handling of combustible particulate solids or hybrid mixtures, regardless of concentration or particle size, where the materials present a fire or explosion hazard.*" As part of NFPA 654, the business owner is required to meet the prescriptive requirements and/or expensive evaluations to minimize the construction cost [if prescriptive option is chosen] for their small woodshop as listed in the attached table. Please note that this would apply to even small woodshop in local school theaters, etc.

While IFC Chapter 22 may need additional revisions, the language proposed will create conflicting code requirements and it will apply a very stringent and broad brush across many uses and businesses where in many cases a simple local dust collection is all that may needed. We would recommend a future code change to Chapter 22 with more specific requirements applicable to specific hazards.

F245-13

Final Action: AS AM AMPC____ D

F248-13

2307.2 (IFGC [F] 412.2), 2307.2.2 (IFGC [F] 412.4); 2307.2.3 (IFGC [F] 412.5) (New)

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswiecicki@npga.org)

Revise as follows:

2307.2 (IFGC [F] 412.2) Approvals. Storage vessels and equipment used for the storage or dispensing of LP-gas shall be *approved* or *listed* in accordance with Sections 2307.2.1 ~~and 2307.2.2~~ through 2307.2.3.

2307.2.1 (IFGC [F] 412.3) Approved equipment. Containers, pressure relief devices (including pressure relief valves), pressure regulators, and piping for LP-gas shall be *approved*.

2307.2.2 (IFGC [F] 412.4) Listed equipment. Hoses, hose connections, vehicle fuel connections, dispensers, LP-gas pumps and electrical equipment used for LP-gas shall be *listed*.

2307.2.3 (IFGC [F] 412.5) LP-Gas dispensers. Where installed at facilities that are not intended for public refueling of vehicles, LP-gas dispensing equipment shall be approved. Where installed at facilities that are intended for public refueling of vehicles, LP-gas dispensers shall be listed.

Reason: The vast majority of LP-gas motor fuel dispensers in use today are not listed units. However, these dispensers are not available to the general public to refuel its vehicles. They are installed at private companies for use with fleet vehicles or for filling portable motor fuel cylinders used with forklift trucks, lawn mowers and other motorized applications. Requiring these dispensers to be "approved" rather than "listed" allows for their continued installation and use. The code official is able to approve the installation whether the "packaged" dispenser system itself is listed or not, using the requirements in Section 2307 and Chapter 61 of the IFC, as well as referenced standard NFPA 58 "LP-Gas Code." These references provide all the necessary requirements for approving the installation of a dispenser. The individuals that use these dispensers are properly trained on the hazards of LP-gas and the safe use of the filling equipment.

Dispensers may also be located at public refueling stations (gasoline stations) along with other fuels. We are proposing in paragraph 2307.2.3 that for these applications, propane dispenser systems must be listed units to make them equivalent to the units that are being installed for self-service gasoline and diesel applications. These units would be factory-assembled with a storage container, pump, meter and dispenser hose and hose end valve on a common base or skid and shipped to the site for installation as a packaged unit. Or, they may be assembled at a factory and fully contained within a cabinet, shipped to the site for installation on an island and served by a remote LP-gas tank, similar to gasoline dispensers,

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

2307.2.2-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the hazards of LPG dispensing warrant requiring that all dispensers be listed, not just the ones for public use.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Submitted.

Commenter's Reason: The vast majority of LP-gas motor fuel dispensers in use today are not listed units. However, they are fabricated from using listed equipment as required in current Section 2307.2.2. These dispensers are not available to the general public because they are installed at private companies for use with fleet vehicles. The code official is able to approve the installation whether the dispenser is listed as a unit or built from listed equipment, using the requirements in Section 2307 and Chapter 61 of the IFC. These references provide all the necessary requirements for approving the installation of a dispenser. The individuals that use any LP-Gas dispenser are required to be properly trained on the hazards of LP-gas and the safe use of the filling equipment.

Dispensers may also be located at public refueling stations (gasoline stations) along with other fuels. We are proposing in paragraph 2307.2.3 that for these applications, propane dispenser systems must be listed units. We believe this was the original intent of the code and would maintain consistency with the units that are being installed for self-service gasoline and diesel applications, as well as other alternative fuels.

F248-13

Final Action: AS AM AMPC____ D

F250-13
2307.4 (IFGC [F] 412.6)

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswiecicki@npga.org)

Revise as follows:

2307.4 (IFGC [F] 412.6) Location of dispensing operations and equipment. ~~In addition to the requirements of Section 2306.7, the point of transfer for LP-gas dispensing operations shall be 25 feet (7620 mm) or more from buildings having combustible exterior wall surfaces, buildings having noncombustible exterior wall surfaces that are not part of a 1-hour fire-resistance-rated assembly, or buildings having combustible overhangs, lot lines of property which could be built on, public streets, or sidewalks and railroads; and at least 10 feet (3048 mm) from driveways and buildings having noncombustible exterior wall surfaces that are part of a fire-resistance-rated assembly having a rating of 1 hour or more. The point of transfer for LP-Gas dispensing operations shall be separated from buildings and other exposures in accordance with the following:~~

1. Not less than 25 feet from buildings in which the exterior wall is not part of a fire-resistance-rated assembly having a rating of 1 hour or greater.
2. Not less than 25 feet from combustible overhangs on buildings, measured from a vertical line dropped from the face of the overhang at a point nearest the point of transfer.
3. Not less than 25 feet from the lot line of property that can be built upon.
4. Not less than 25 feet from mainline railroad track centers.
5. Not less than 10 feet from public streets, highways, thoroughfares, sidewalks and driveways.
6. Not less than 10 feet from buildings in which the exterior wall is part of a fire resistance rated assembly having a rating of 1 hour or greater.

Exception: The point of transfer for LP-gas dispensing operations need not be separated from canopies that are constructed in accordance with the *International Building Code* and that provide weather protection for the dispensing equipment. LP-gas containers shall be located in accordance with Chapter 61. LP-gas storage and dispensing equipment shall be located outdoors ~~and in accordance with Section 2306.7.~~

Reason: The changes to section 2307.4 are necessary in order to make the paragraph easier to understand and to eliminate reference to Section 2306.7, which addresses dispenser installations for gasoline and diesel fuels, neither of which are similar to LP-gas. Therefore, Section 2306.7 contains many requirements that do not make sense when applied to LP-gas installations. We are therefore proposing a new section (2307.5) that will contain just those requirements from 2306.7 that are applicable to LP-gas dispensers.

Also included in the new formatting are proposed changes that will bring the IFC into agreement with NFPA 58 "LP-Gas Code" with respect to separation distances.

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

2307.4-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides a needed clarification and improved format of the requirements applicable to LPG equipment apart from the flammable liquid requirements and improves correlation with NFPA 58. The committee indicated that it felt that a simple reference to NFPA 58 would be sufficient.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

2307.4 (IFGC [F] 412.6) Location of dispensing operations and equipment. The point of transfer for LP-Gas dispensing operations shall be separated from buildings and other exposures in accordance with the following:

1. Not less than 25 feet from buildings in which the exterior wall is not part of a fire-resistance-rated assembly having a rating of 1 hour or greater.
2. Not less than 25 feet from combustible overhangs on buildings, measured from a vertical line dropped from the face of the overhang at a point nearest the point of transfer.
3. Not less than 25 feet from the lot line of property that can be built upon.
4. Not less than 25 feet from ~~the centerline of the nearest mainline railroad track centers.~~
5. Not less than 10 feet from public streets, highways, thoroughfares, sidewalks and driveways.
6. Not less than 10 feet from buildings in which the exterior wall is part of a fire resistance rated assembly having a rating of 1 hour or greater.

Exception: The point of transfer for LP-gas dispensing operations need not be separated from canopies that are constructed in accordance with the *International Building Code* and that provide weather protection for the dispensing equipment.

LP-gas containers shall be located in accordance with Chapter 61. LP-gas storage and dispensing equipment shall be located outdoors.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal will clarify the intent of where the measurement is taken to mainline railroad track centers and is consistent with Table 6.5.3 of NFPA 58.

F250-13

Final Action: AS AM AMPC ____ D

F252 – 13

2307.6 (IFGC [F] 412.8), 2307.7

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswecicki@npga.org)

Revise as follows:

2307.6 (IFGC [F] 412.8) Private Public fueling of motor vehicles. ~~Self-service LP-gas dispensing systems, including key, code and card lock dispensing systems, shall not be open to the public and shall be limited to the filling of permanently mounted fuel containers on LP-gas powered vehicles. Self-service LP-Gas dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of containers providing fuel to the LP-Gas powered vehicle.~~

~~In addition to the requirements of Sections 2305 and 2306.7, The requirements for self-service LP-gas dispensing systems shall be in accordance with the following:~~

- ~~1. The arrangement and operation of the transfer of product into a vehicle shall be in accordance with this section and Chapter 61.~~
- ~~2. The system shall be provided with an emergency shutoff switch located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from, dispensers.~~
- ~~23. The owner of the LP-gas motor fuel-dispensing facility or the owner's designee shall provide for the safe operation of the system and the training of users.~~
- ~~4. The dispenser and hose-end valve shall release not more than 4cc of liquid to the atmosphere upon breaking the connection with the fill valve on the vehicle.~~
- ~~5. Fire extinguishers shall be provided in accordance with Section 2305.4.~~
- ~~6. Warning signs shall be provided in accordance with Section 2305.6.~~
- ~~7. The area around the dispenser shall be maintained in accordance with Section 2305.7.~~

2307.7 Overfilling. LP-gas containers shall not be filled with LP-gas in excess of the volume determined using the fixed maximum liquid level gauge installed on the container, the volume determined by the overfilling prevention device installed on the container, outage installed by the manufacturer or the weight determined by the required percentage of the water capacity marked on the container stamped on the tank.

Reason: Propane is recognized as an alternative motor vehicle fuel by the U.S. government. In order for the public to take full advantage of the benefits of its reduced emissions and cleaner burning properties, the code must be changed to recognize the technologies that are available to ensure the safe refueling of LP-gas vehicles, which in turn will result in increasing acceptance of this smart alternative fuel.

The current provisions in Section 2307.6, which prohibit public access to self-service equipment, are too restrictive and without any basis in safety or technical experience. There are no reasons to prohibit anyone who has been properly trained to perform the refueling operation from refueling their LP-gas vehicle at a public refueling facility. Propane (LP-Gas) refueling technology provides the following features:

- Liquid product will not flow out of the hose end valve unless the valve is completely connected and securely in place on the fill valve of the vehicle.
- Propane hose end valves will mate with the fill valve on the vehicle and upon disconnect will release no more than 4 cubic centimeters of liquid to the atmosphere.
- The propane refueling system is a closed system, which means that there is no opportunity for air, water or any other contaminant to enter the system.
- Individuals must be trained in order to use the filling equipment. This requirement is ensured by the use of key, code and card lock dispensing systems. Only trained individuals are issued the necessary security devices to enable the refueling of the vehicle.

Regarding the proposed changes to 2307.6, the deletion of references to Sections 2305 and 2306.7 are necessary because those sections are mostly intended to be used for the installation of Class I or Class II liquids. Since propane is a liquefied petroleum gas, many of the provisions in those sections are not applicable to propane installations. The applicable requirements from those

two sections have been relocated to 2307.6. In addition, proposed requirement #4 is based on NFPA 30A *Motor Fuel Dispensing Facilities and Repair Garages*.

The proposed change to 2307.7 is necessary in order to incorporate the correct terminology and also recognize that sometimes, the fixed maximum liquid level gauge is installed by a trained service technician. This is especially the case if repairs are being made to the container or the valve. In addition, some vehicles rely upon an overfilling prevention device and the fixed maximum liquid level gauge is not used. Therefore, it is necessary to list that device as an approved means for filling the container.

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

2307.6-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement and that the code change is consistent with the committee action on code changes F250-13 and F251-13. The committee expressed concern that there needs to be similar specific requirements for private fueling.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

2307.6 (IFGC [F] 412.8) Public fueling of motor vehicles. Self-service LP-Gas dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted containers providing fuel to the LP-Gas powered vehicle.

The requirements for self-service LP-gas dispensing systems shall be in accordance with the following:

1. The arrangement and operation of the transfer of product into a vehicle shall be in accordance with this section and Chapter 61.
2. The system shall be provided with an emergency shutoff switch located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from, dispensers.
3. The *owner* of the LP-gas motor fuel-dispensing facility or the owner's designee shall provide for the safe operation of the system and the training of users.
4. The dispenser and hose-end valve shall release not more than 4cc of liquid to the atmosphere upon breaking the connection with the fill valve on the vehicle.
5. Fire extinguishers shall be provided in accordance with Section 2305.4.
6. Warning signs shall be provided in accordance with Section 2305.6.
7. The area around the dispenser shall be maintained in accordance with Section 2305.7.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: Concerns were expressed at the Code Change Hearings in Dallas that containers other than those used to provide fuel to vehicles could be filled using the LP-Gas dispenser. Even though the concerns were unfounded (the filling connection for motor vehicles is unique and not able to connect to cylinders and other containers), the proposed change to 2307.6 will provide further clarification that only containers permanently mounted on the vehicle for providing fuel to that vehicle can be filled by this dispenser at this location.

F252-13

Final Action:

AS

AM

AMPC____

D

F258 – 13 2311.7

Proposed Change as Submitted

Proponent: Spencer Quong, Quong & Associates, Inc. representing Toyota Technical Center (squong@squong.com)

Revise as follows:

2311.7 Repair garages for vehicles fueled by lighter-than air fuels. Repair garages for the conversion and repair of vehicles which use CNG, liquefied natural gas (LNG), hydrogen or other lighter-than-air motor fuels shall be in accordance with Sections 2311.7 through 2311.7.2.3 in addition to the other requirements of Section 2311.

Exceptions:

1. Repair garages where work is not performed on the fuel system and is limited to exchange of parts and maintenance requiring no open flame or welding.
2. Repair garages where all of the following conditions exist:
 - 2.1 Work is not performed on the hydrogen storage tank and is limited to exchange of parts and maintenance requiring no open flame or welding.
 - 2.2 Where work is performed on the hydrogen fuel system, the hydrogen fuel storage container shall be securely sealed such that it is a closed system during maintenance using manufacturer approved procedures.
 - 2.3 The entire fuel system shall be defueled in accordance with Section 2311.8 to a quantity that is less than 200 cubic feet (5.6 m³).

Reason: This proposal is requesting to modify exception to Section 2311.7 to allow work on the fuel system, except for the hydrogen storage tank without having to install additional ventilation and gas detection systems in the repair garage. If work is performed on the fuel system, the vehicle's shutoff valve must be securely closed on the fuel storage container so that it is a closed system and no gas can escape during maintenance operations. In addition, the proposal also requires that entire vehicle fuel system, including the storage container, be defueled to less than 200 cubic feet (NTP).

Although each hydrogen passenger vehicle is different, typically their storage containers hold between 5000-50000 cubic feet (NTP) of hydrogen at high pressure (5000-10000 psi). However, the hydrogen leaving the storage container is regulated to a lower pressure, typically less than 250 psi and less than 10 cubic feet (NTP) of hydrogen.

Any release of hazardous material can pose a problem. However, this proposal addresses the issues in two ways. First, it requires that the shutoff valve on the fuel storage container to be securely closed. Hydrogen vehicles are required to have a manual valve that can be shut off for maintenance¹. In most vehicles, the shutoff valve fails shut, so the standard operating procedure to ensure that the valve is closed is to disconnect the 12V battery. For manual valves, it can be tagged and locked in the off position. Since almost all of the hydrogen is in the fuel storage container, this requirement will ensure only a minimal amount of hydrogen is left in the remainder of the fuel system.

Second, in the event that the fuel storage container is opened during repairs and all of the hydrogen is allowed to escape, this proposal requires that the entire fuel system be defueled to less than 200 cubic feet (NTP). **This is less than 20% of the Maximum Allowable Quantity (MAQ) per control area** listed in Table 5003.1.1(1) through 5003.1.1(4). In addition, Section 5308.1.1 allows for the indoor storage and use of cylinders of non-liquefied compressed, flammable gases not exceeding a capacity of 250 cubic feet NTP used for maintenance purposes without any ventilation and gas detection systems. Finally, according to Table 105.6.8, an operational permit is not required for less than 200 cubic feet (NTP) of flammable, compressed gases.

With more and more hydrogen vehicles on the road, there is a need to be able to work on the low pressure side of the fuel system at any repair garage without adding additional ventilation and gas detection systems. This proposal allows for this work as long as two requirements are met: the fuel storage container is closed and amount of hydrogen is less than **the existing IFC limitations for hazardous materials, and flammable and compressed gases**. Already, repair garages have industrial cylinders of acetylene and other flammable gases without additional ventilation and detection equipment. Even if the repair garages meet the requirements in this exception, they will still need to be in accordance with Sections 5001 and 5003.

¹ Section 4.1.1.3 of SAEJ2579 "Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles"

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

2311.7-F-QUONG

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on its agreement with testimony that indicated that NFPA 2 Hydrogen Code is being revised on this topic but that the exact wording is not yet known and could be in conflict with these provisions if they were to be approved. The committee suggested that Exception 2, Item 2.1 should be clarified to indicate if hot work would be allowed elsewhere in the repair garage. It was also suggested that the exceptions be rewritten as compliance alternatives rather than exceptions.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Spencer Quong, Quong & Associates, Inc., representing Toyota Technical Center, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

2311.7 Repair garages for vehicles fueled by lighter-than air fuels. Repair garages for the conversion and repair of vehicles which use CNG, liquefied natural gas (LNG), hydrogen or other lighter-than-air motor fuels shall be in accordance with Sections 2311.7 through 2311.7.2.3 in addition to the other requirements of Section 2311.

Exceptions:

1. Repair garages where work is not performed on the fuel system and is limited to exchange of parts and maintenance requiring no open flame or welding on the CNG, liquefied natural gas (LNG), hydrogen or other lighter-than-air motor fueled vehicle.
2. Repair garages for hydrogen fueled vehicles where work is not performed on the hydrogen storage tank and is limited to the exchange of parts and maintenance requiring no open flame or welding on the hydrogen fueled vehicle. During the work the entire hydrogen fuel system shall contain a quantity that is less than 200 cubic feet (5.6 m³) of hydrogen.
~~Repair garages where all of the following conditions exist:~~
 - 2.1 ~~Work is not performed on the hydrogen storage tank and is limited to exchange of parts and maintenance requiring no open flame or welding.~~
 - 2.2 ~~Where work is performed on the hydrogen fuel system, the hydrogen fuel storage container shall be securely sealed such that it is a closed system during maintenance using manufacturer approved procedures.~~
 - 2.3 ~~The entire fuel system shall be defueled in accordance with Section 2311.8 to a quantity that is less than 200 cubic feet (5.6 m³).~~

Committer's Reason: The modification to the exception has been condense the language. The 2.2 portion of the original submittal is already covered by Section 2311.5 of the IFC. As requested by the committee, the existing language has been clarified by identifying that no open flame or welding shall be performed on the vehicle containing the gaseous motor fuel.

The added exception for the hydrogen fueled vehicle repairs will be consistent with language currently under development by the NFPA 2 committee.

F258-13

Final Action:

AS

AM

AMPC _____

D

F260-13

2404.6.1.2.1

Proposed Change as Submitted

Proponent: Geoff Raifsnider, P.E., Global Finishing Solutions representing self (graifsnider@globalfinishing.com)

Revise as follows:

2404.6.1.2.1 Interlocks. The spraying apparatus, drying apparatus and ventilating system for the spray booth or spray room shall be equipped with interlocks arranged to:

1. Prevent operation of the spraying apparatus while drying operations are in progress.
2. Where the drying apparatus is located in the spray booth or spray room, prevent operation of the drying apparatus until a timed purge of spray vapors from the spray booth or spray room is complete. This purge time shall be based upon completing not less than 4 air changes of spray booth or spray room volume. Purge spray vapors from the spray booth or spray room for a period of not less than 3 minutes before the drying apparatus is rendered operable.
3. Have the ventilating system maintain a safe atmosphere within the spray booth or spray room during the drying process and automatically shut off drying apparatus in the event of a failure of the ventilating system.
4. Shut off the drying apparatus automatically if the air temperature within the booth exceeds 200°F (93°C).

Reason: The current language does not state how the value is calculated. The proposed language clarifies how to calculate the purge time and bases it upon the amount of fresh air introduced in the same manner that is used for purging an oven. This is appropriate since the drying operation has turned the spray booth into an oven.

As mentioned this proposal is based upon the language in NFPA 86 Standard for Ovens and Furnaces 2011 Edition. The idea is to replace the air in the booth at least four times (4 ft^3 of air/ ft^3 of booth) to ensure that the concentration at the end of the purge interval is less than 25% of the lower flammable limit.

The IFC (2406.1.2) currently requires compliance with Chapter 30 when utilizing drying in a spray booth. Section 3007.2 states that a nameplate shall be provided that, among other information, indicates the required purge time (2107.2(3)). The code official can initially verify that the purge timer is set to this value. If there is cause to doubt this information the calculations mentioned can be performed to verify the minimum purge time.

The purge interval is a function of the spray booth size (cubic feet) and the ventilation rate (cubic feet per minute). Both of these values are documented and measurable for a given spray booth.

To verify that the purge time is sufficient to meet the code, multiply the volume of the booth by four (4) and divide by the exhaust flow rate. An example would be a spray booth that measures 10 ft wide x 10 ft high x 14 ft long (volume = 1,400 ft³). If this booth was designed for 100 feet per minute downdraft the exhaust flow rate would be 14,000 ft³/min (10 ft x 14 ft x 100 fpm). To calculate the minimum purge time you would multiply 1400 ft³ by four (4) and divide by 14,000 ft³/min. The resulting minimum purge time would be 0.4 minutes ($1400 \times 4 / 14000 = 0.4$).

For booths that elevate the air temperature for curing via the same supply air unit used for tempering the air for painting, there is no need for a post paint purge of spray vapors. One type of spray/cure booth elevates the incoming (outside) air temperature and does not recirculate. This type poses no risk of bringing spray vapors back around and through the heating source. The other type of spray/cure booth switches to a recirculation mode during cure. In this mode, the spray/cure booth functions just like an oven and since other sections of the code require the concentration in the exhaust air stream to be less than 25% of the LFL the concentration that could be seen at the burner is not flammable. However if the drying apparatus is in the spray area and could be directly exposed to spray vapors, it makes sense to purge that space prior to energizing the drying apparatus.

There are many paint finishing operations, typically in the automotive refinish industry, that are negatively affected by the delay between painting and curing at an elevated temperature. By allowing the proposed changes, the spray booth designer can take into account the importance the purge interval may have on the process. By designing for the correct air flow, both a safe environment for energizing the drying apparatus and a minimum time between spray and cure can be achieved.

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

2404.6.1.2.1-F-RAIFSNIDER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the ventilation duration needs clarification by being more specific and should include a minimum run-on time prior to shutting down operations.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Geoffrey Raifsnider, Global Finishing Solutions, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

2404.6.1.2.1 Interlocks. The spraying apparatus, drying apparatus and ventilating system for the spray booth or spray room shall be equipped with interlocks arranged to:

1. Prevent operation of the spraying apparatus while drying operations are in progress.
2. Where the drying apparatus is located in the spray booth or spray room, prevent operation of the drying apparatus until a timed purge of spray vapors from the spray booth or spray room is complete. This purge time shall be based upon completing at least 4 air changes of spray booth or spray room volume or for a period of not less than 3 minutes, whichever is greater.
3. Have the ventilating system maintain a safe atmosphere within the spray booth or spray room during the drying process and automatically shut off drying apparatus in the event of a failure of the ventilating system.
4. Shut off the drying apparatus automatically if the air temperature within the booth exceeds 200°F (93°C).

Commenter's Reason: The current language does not state how the value is calculated. The proposed language clarifies how to calculate the purge time and bases it upon the amount of fresh air introduced in the same manner that is used for purging an oven. This is appropriate since the drying operation has turned the spray booth into an oven. **The 3 minute minimum from the original language has been added back into the proposal.**

As mentioned this proposal is based upon the language in NFPA 86 Standard for Ovens and Furnaces 2011 Edition. The idea is to replace the air in the booth at least four times (4 ft³ of air/ft³ of booth) to ensure that the concentration at the end of the purge interval is less than 25% of the lower flammable limit.

The IFC (2406.1.2) currently requires compliance with Chapter 30 when utilizing drying in a spray booth. Section 3007.2 states that a nameplate shall be provided that, among other information, indicates the required purge time (2107.2(3)). The code official can initially verify that the purge timer is set to this value. If there is cause to doubt this information the calculations mentioned can be performed to verify the minimum purge time.

The purge interval is a function of the spray booth size (cubic feet) and the ventilation rate (cubic feet per minute). Both of these values are documented and measurable for a given spray booth.

To verify that the purge time is sufficient to meet the code, multiply the volume of the booth by four (4) and divide by the exhaust flow rate. An example would be a spray booth that measures 10 ft wide x 10 ft high x 14 ft long (volume = 1,400 ft³). If this booth was designed for 100 feet per minute downdraft the exhaust flow rate would be 14,000 ft³/min (10 ft x 14 ft x 100 fpm). To calculate the minimum purge time you would multiply 1400 ft³ by four (4) and divide by 14,000 ft³/min. The resulting minimum purge time would be 0.4 minutes (1400x4/14000=0.4).

For booths that elevate the air temperature for curing via the same supply air unit used for tempering the air for painting, there is no need for a post paint purge of spray vapors. One type of spray/cure booth elevates the incoming (outside) air temperature and does not recirculate. This type poses no risk of bringing spray vapors back around and through the heating source. The other type of spray/cure booth switches to a recirculation mode during cure. In this mode, the spray/cure booth functions just like an oven and since other sections of the code require the concentration in the exhaust air stream to be less than 25% of the LFL the concentration that could be seen at the burner is not flammable. However if the drying apparatus is in the spray area and could be directly exposed to spray vapors, it makes sense to purge that space prior to energizing the drying apparatus.

There are many paint finishing operations, typically in the automotive refinish industry, that are negatively affected by the delay between painting and curing at an elevated temperature. By allowing the proposed changes, the spray booth designer can take into

account the importance the purge interval may have on the process. By designing for the correct air flow, both a safe environment for energizing the drying apparatus and a minimum time between spray and cure can be achieved.

F260-13

Final Action: AS AM AMPC____ D

F261-13

2404.7.3 (IMC [F] 502.7.3.3)

Proposed Change as Submitted

Proponent: Geoff Raifsnider, P.E., Global Finishing Solutions representing self (graifsnider@globalfinishing.com)

Revise as follows:

2404.7.3 (IMC [F] 502.7.3.3) Air velocity. ~~Ventilation systems shall be designed, installed and maintained such that the average air velocity over the open face of the booth, or booth cross section in the direction of airflow during spraying operations, shall not be less than 100 feet per minute (0.51 m/s). Each spray area shall be provided with mechanical ventilation in accordance with Sections 2404.7.3.1 through 2404.7.3.3 (IMC 502.7.3.3.1 through 502.7.3.3.3).~~

2404.7.3.1 (IMC [F] 502.7.3.3.1) Open face or open front spray booth. For spray application operations conducted in an open face or open front spray booth, the ventilation system shall be designed, installed and maintained such that the average air velocity into the spray booth through all openings shall be not less than 100 feet per minute (0.51 m/s).

Exception: For fixed or automated electrostatic spray application equipment the average air velocity into the spray booth through all openings shall be not less than 50 feet per minute (0.25 m/s).

2404.7.3.2 (IMC [F] 502.7.3.3.2) Enclosed spray booth or spray room. For spray application operations conducted in an enclosed spray booth or spray room, the ventilation system shall be designed, installed and maintained so that the flammable contaminants are diluted in noncontaminated air to maintain concentrations in the exhaust air flow below 25 percent of the contaminant's lower flammable limit (LFL).

2404.7.3.3 (IMC [F] 502.7.3.3.3) Enclosed spray booth or spray room with openings for product conveyance. In addition to the requirements of 2404.7.3.2, the ventilation system shall be designed, installed and maintained so that the average air velocity into the spray booth through openings shall be not less than 100 feet per minute (0.51 m/s).

Exception: Where methods are used to reduce cross drafts that can draw vapors and overspray through openings from the spray booth or spray room, the average air velocity into the spray booth or spray room shall be capable of capturing and confining vapors and overspray to the spray booth or spray room.

Reason: For spray application using flammable and combustible materials, the industry standards are OSHA 1910.107 and 1910.94, Chapter 24 of the International Fire Code (IFC), and NFPA 33.

With regards to ventilating spray booths and spray rooms, NFPA 33 and the IFC have similar language stating that the concentration of flammable materials in the exhaust system must be kept below 25 percent of the lower flammable limit (LFL).^{1,2} From this requirement alone the minimum ventilation rate of a spray booth or spray room could be calculated. And by dividing this ventilation rate by the cross sectional area of the booth in the direction of air flow a minimum average velocity can be calculated. OSHA requirements for average air velocity were based upon the 1969 edition of NFPA 33 and were intended to provide a measureable that could be used to check the effectiveness of maintaining the booth exhaust below 25% of the LFL.⁵ OSHA has recognized that the requirements for average air velocity were not intended for totally enclosed booths.⁶

Current language in the IFC specifies 100 feet per minute minimum air velocity and offers explanation in their commentary that the objective is containment within a designated spraying space and limiting the overspray.^{3,4} It goes on to explain that 100 FPM is the minimum capture velocity for particulate spray material. In an open face booth, it may be necessary to have a face velocity of 100 FPM or higher to provide the capture needed; but in an enclosed booth the enclosure provides the containment.

The following ventilation design basis for paint spray booths is common in the industry and has been effective in providing clean, safe and reliable painting environments which are in compliance with the intent of the International Fire Code, OSHA, and NFPA 33.

1. The total exhaust ventilation rate shall be based upon the minimum amount of air required to maintain the concentration of flammable vapors in the exhaust below 25%
2. Where appropriate the exhaust rate shall be increased by the amount of air needed to:
 - o maintain a minimum average velocity through all openings which prevent the escape of overspray from the spray booth
 - o achieve the desired collection of overspray toward the exhaust filters
 - o achieve the desired paint transfer efficiency

There are many types of booths and rooms in which the 100 fpm value would be detrimental to the quality of the product and based upon the amount of paint used is well in excess of the minimum dilution air needed to keep the exhaust below 25% of the LFL. This extra air also increases the operating costs. The air velocities for a specific spray booth or spray room should be specific to the individual design that accomplishes the desired performance (i.e. 25% LFL or containment of overspray at openings). Chapter 13.75 of Industrial Ventilation – A Manual of Recommended Practice 26th Edition Published by ACGIH, lists many recommended air velocity ranges for various painting operations, some above and some below 100 fpm. This publication could be referenced in the standard or commentary.

This proposal does not require additional knowledge or tools for the AHJ. The designer or owner of the spray booth or room can provide calculations showing the minimum ventilation rate based upon the type and amount of paint being sprayed. The ventilation rate can be converted into an average velocity in the spray area. The AHJ can ask for balancing information to confirm the installation meets the code requirements or can independently measure the design velocity in the same manner as currently used by the AHJ to confirm 100 FPM.

The following are the references indicated above:

1. Chapter 7.2, NFPA 33, Standard for Spray Application Using Flammable or Combustible Materials 2007 Edition
"Each spray area shall be provided with mechanical ventilation that is capable of confining and removing vapors and mists to a safe location and is capable of confining and controlling combustible residues, dusts, and deposits. The concentration of the vapors and mists in the exhaust stream of the ventilation system shall not exceed 25 percent of the lower flammable limit."
2. Chapter 510.3, 2012 International Mechanical Code® 2012 Edition
"The design and operation of the exhaust system shall be such that flammable contaminants are diluted in noncontaminated air to maintain concentrations in the exhaust flow below 25 percent of the contaminant's lower flammability limit."
3. Chapter 2404.7.3, 2012 International Fire Code® 2012 Edition
"Air velocity. Ventilation systems shall be designed, installed and maintained such that the average air velocity over the open face of the booth, or booth cross section in the direction of airflow during spraying operations, shall not be less than 100 feet per minute (0.51 m/s)."
4. Chapter 1504.7.3, 2006 International Fire Code® Commentary

"To facilitate the keeping of flammable vapors within a designated spraying space and limiting the amount of overspray, the code requires that the exhaust system be adequately sized to maintain an average velocity over the open face of the booth or booth cross section of no less than 100 feet per minute (0.51 m/s), which is the minimum velocity to capture particulate spray material. Velocities exceeding 200 lineal feet per minute (1.01 m/s) have been determined to be too great for this purpose. To determine the minimum ventilation/exhaust capacity in cubic feet per minute (cfm), multiply the booth width (feet) by booth height (feet) by 100 (lineal per foot)."

1. OSHA Directive STD 01-05-010 - STD 1-5.10 - Clarification of 29 CFR 1910.107(b)(5)(i) Average Air Velocity of Spray Booths, June 1, 1973
"The average air velocity requirements over the open face of the booth stated in this paragraph for spray finishing operations using flammable and combustible liquids were taken from NFPA-33-1969 and pertain to those hazards associated with fire protection or the removal of flammable vapor accumulation from the interior of the booth during spraying operations. This paragraph applies to maintaining the concentration of flammable vapors below the lower explosive limit (LEL) in a spray booth but does not apply to maintaining operator exposures to within the permissible exposure limits (PEL)."
2. OSHA Standard Interpretations 10/22/2001 - Clarification of minimum face velocity requirements for spray booths, October 22, 2001

Question: 29 CFR 1910.107(b)(5) only refers to a dry filter spray booth. What is the minimum air velocity requirement for a waterwash spray booth or an enclosed booth with no openings?

Reply: OSHA currently does not have specific standards addressing velocity requirements for a waterwash spray booth or an enclosed booth with no openings. However, 1910.94(c)(6)(ii) requires that the vapor concentration in all area of the booth remain at a level below 25 percent of the lower explosive limit (LEL). This requirement corresponds to the requirements of NFPA 33, section 5.2, Ventilation, performance requirements (2000 edition)."

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

2404.7.3-F-RAIFSNIDER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the velocity should be 100 fpm or 25% of the LFL, whichever is greater, since the characteristics of the spraying materials may vary considerably.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Geoffrey Raifsnider, Global Finishing Solutions, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

2404.7.3 (IMC [F] 502.7.3.3) Air velocity. The ventilation system shall be designed, installed and maintained so that the flammable contaminants are diluted in noncontaminated air to maintain concentrations in the exhaust air flow below 25 percent of the contaminant's lower flammable limit (LFL). In addition, the spray booth shall be provided with mechanical ventilation so that the average air velocity through openings is in accordance with Sections 2404.7.3.1 and 2404.7.3.2 (IMC 502.7.3.3.1 and 502.7.3.3.2). Each spray area shall be provided with mechanical ventilation in accordance with Sections 2404.7.3.1 through 2404.7.3.3

2404.7.3.1 (IMC [F] 502.7.3.3.1) Open face or open front spray booth. For spray application operations conducted in an open face or open front spray booth, the ventilation system shall be designed, installed and maintained such so that the average air velocity into the spray booth through all openings shall be not less than 100 feet per minute (0.51 m/s).

Exception: For fixed or automated electrostatic spray application equipment the average air velocity into the spray booth through all openings shall not be less than 50 feet per minute (0.25 m/s).

~~**2404.7.3.2 (IMC [F] 502.7.3.3.2) Enclosed spray booth or spray room.** For spray application operations conducted in an enclosed spray booth or spray room, the ventilation system shall be designed, installed and maintained so that the flammable contaminants are diluted in noncontaminated air to maintain concentrations in the exhaust flow below 25 percent of the contaminant's lower flammable limit (LFL).~~

2404.7.3.2 (IMC [F] 502.7.3.3.2) Enclosed spray booth or spray room with openings for product conveyance. ~~In addition to the requirements of 2404.7.3.2,~~ For spray application operations conducted in an enclosed spray booth or spray room with openings for product conveyance, the ventilation system shall also be designed, installed and maintained so that the average air velocity into the spray booth through openings shall be not less than 100 feet per minute (0.51 m/s).

Exceptions:

1. For fixed or automated electrostatic spray application equipment the average air velocity into the spray booth through all openings shall not be less than 50 feet per minute (0.25 m/s).
- 2: Where methods are used to reduce cross drafts that can draw vapors and overspray through openings from the spray booth or spray room, the average air velocity into the spray booth or spray room shall be capable of capturing and confining vapors and overspray to the spray booth or spray room.

Commenter's Reason: Original proposal has been revised to establish the overall requirement that concentration in the exhaust must be kept below 25% of the LFL. The characteristics of the materials being sprayed must be taken into account to determine the amount of air exhausted.

It has also been revised to include the minimum velocity requirements through conveyor openings for capture and confinement of overspray and vapors.

The following ventilation design basis for paint spray booths is common in the industry and has been effective in providing clean, safe and reliable painting environments which are in compliance with the intent of the International Fire Code, OSHA, and NFPA 33.

1. The total exhaust ventilation rate shall be based upon the minimum amount of air required to maintain the concentration of flammable vapors in the exhaust below 25%
2. Where appropriate the exhaust rate shall be increased by the amount of air needed to:
 - a maintain a minimum average velocity through all openings which prevent the escape of overspray from the spray booth
 - b achieve the desired collection of overspray toward the exhaust filters

c achieve the desired paint transfer efficiency

There are many types of booths and rooms in which the 100 fpm value within the spray area would be detrimental to the quality of the product and based upon the amount of paint used is well in excess of the minimum dilution air needed to keep the exhaust below 25% of the LFL. This extra air also increases the operating costs. The air velocities for a specific spray booth or spray room should be specific to the individual design that accomplishes the desired performance (i.e. 25% LFL or containment of overspray at openings).

This proposal does not require additional knowledge or tools for the AHJ. The designer or owner of the spray booth or room can provide calculations showing the minimum ventilation rate based upon the type and amount of paint being sprayed. The ventilation rate can be converted into an average velocity in the spray area. The AHJ can ask for balancing information to confirm the installation meets the code requirements or can independently measure the design velocity in the same manner as currently used by the AHJ to confirm 100 FPM.

F261-13

Final Action: AS AM AMPC_____ D

F265-13
2810 (New), 2801.1

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing self
(rjd@davidsoncodeconcepts.com)

Add new text as follows:

SECTION 2810
WOOD AND PLASTIC PALLET STORAGE AND REHABILITATION

2810.1 General. All facilities with either storage or rehabilitation of pallets shall be in accordance with Sections 2810.2 through 2810.5.2 and Section 2803.

2810.2 Fire Flow. The minimum required fire flow in pallet storage yards exceeding 3200 sq feet of pallet storage areas shall be not less than 2,000 gpm (7571 L/m). For storage yards with stable piles greater than 6,200 sq. ft. (576 m²) the required fire flow shall be not less than 3,000 gpm (8516 L/m). Pallet storage yards shall not exceed the available fire hydrant flow and spacing.

2810.3 Fire Hydrants. Fire hydrants required for fire flow purposes for pallet storage arrays shall be installed in accordance with Section 507 within three hundred (300) feet (152.4m) of pallet locations measured along unobstructed access paths.

2810.4 Fire Department Access. Fire apparatus access roads in accordance with Section 503 shall be located within one hundred fifty (150) feet (45,720mm) of all portions of the pallet storage array(s). Permanent delineation of on-site fire apparatus access roads shall be provided as required by the fire code official.

2810.5 Idle Pallet Storage. Pallet storage shall be in compliance with Sections 2810.5.1 or 2810.5.2 as applicable.

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1. Stacks shall not exceed a height of fifteen (15) ft. (4.57 m).
2. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line or a distance equal to the stack height, whichever is greater.
3. Stacks shall be no closer than eight (8) ft. (2.44 m) to any other on-site storage area.
4. Stacks shall be no closer than fifteen (15) ft. (4.57 m) to any on-site structure.
5. Stacks shall be arranged to form stable piles.
6. Piles shall not contain more than six thousand (6,000) cu. ft. (170 m³) of pallets.
7. Piles shall be separated from other piles by a minimum distance of eight (8) ft. (2.44 m).
8. Piles shall be arranged in a grid system to form pallet storage arrays with a maximum dimension of fifty (50) ft. by fifty (50) ft. (15.25 m by 15.25 m).
9. Pallet storage arrays shall be separated by a minimum distance of twenty four (24) ft. (7.32 m).

2810.5.2 Exterior storage not greater than 3200 sq ft in area. Exterior pallet storage not greater than 3200 square feet shall comply with all of the following:

1. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line or a distance equal to the stack height, whichever is greater.
2. Stacks shall be no closer than eight (8) ft. (2.44 m) to any other on-site storage.
3. Stacks shall be no closer than fifteen (15) ft. (4.57 m) to any on-site structure.

Exception: Where approved by the fire code official, stacks located closer than fifteen (15) ft. to an on-site structure shall maintain minimum horizontal clearances based on the quantity of pallets and the level of protection provided by the building construction as follows:

1. The minimum horizontal clearance for 50 pallets or less adjacent to a masonry wall without openings located within twenty (20) ft. (6 m) horizontally of the pallet stacks, or adjacent to a masonry wall with 2 hour fire-resistance rated protected openings shall be zero (0) feet (0 m).
2. The minimum horizontal clearance for 51 to 200 pallets adjacent to a masonry wall without openings located within twenty (20) ft. (6 m) horizontally of the pallet stacks, or a masonry wall with 2 hour fire-resistance rated protected openings shall be eight (8) feet (2.44 m).
3. The minimum horizontal clearance for 50 pallets or less adjacent to a wood or metal building equipped throughout with an approved automatic sprinkler system shall be eight (8) ft. (2.44 m).
4. Stacks located less than fifteen (15) ft. (4.57 m) from an exterior building wall shall not exceed a height equal to thirty (30) inches below the roof line elevation, or fifteen (15) feet (4.57 m), whichever is less.
5. Stacks shall be arranged to form stable piles.

Revise as follows:

SECTION 2801 GENERAL

2801.1 Scope. The storage, manufacturing and processing of timber, lumber, plywood, non-metallic pallets, veneers and byproducts shall be in accordance with this chapter.

Reason: There have been an increasing number of large scale fires involving the repair and outdoor storage of combustible pallets. Numerous local jurisdictions have been adding local requirements to their fire code adoptions to deal with this increased fire threat. These new requirements are to provide code language in the IFC addressing the high challenge fire protection issues involving large amounts of idle pallets. The concepts for the technical language in this proposal were taken from the Clark County, Nevada fire code amendments, a county that has dealt with large scale fires and developed the requirements in response to those conflagrations.

Section 2810.2 specifies that the requirements apply to facilities that store or rehabilitate wood or plastic pallets. The rehabilitation activities include storage along with additional hazards introduced by the rehabilitation activities.

Fires in pallet storage areas are fast growing and spreading requiring an adequate fire flow. Threshold of 2,000 GPM for greater than 3,200 sq. ft. of storage will provide for up to 4 - 500 GPM master stream appliances to be utilized when required, increasing to 3,000 GPM when piles larger than 6,200 sq. ft. exist.

Referring to IFC Table B105.1 for required fire flows the 2,000 GPM requirement is for Type V-B buildings of 4,401 - 6,200 sq. ft., since the open array of the pallets provide for a faster fire spread and greater need for master stream appliances than a completed building typically would, the 2,000 GPM is appropriate for the minimum flow required. Since pile size and separation from individual piles is provided for in Section 2810.5 a fire flow 3,000 GPM was utilized for areas of storage over 6,200 sq. ft.

Fire department access roads are required in section 2810.4.

Section 2810.5 provides for the storage arrangement of piles and stacks addressing height, maximum pile size and distances from exposures. A stack is an individual stack of pallets, a pile is a group of 2 or more stacks of pallets grouped together.

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

2801.1-F-DAVIDSON

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

SECTION 2810 EXTERIOR WOOD AND PLASTIC PALLET STORAGE AND REHABILITATION

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square

feet shall comply with all of the following:

1. Stacks shall not exceed a height of ~~18 feet, fifteen (15) ft. (4.57 m).~~
2. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line or a distance equal to the stack height, whichever is greater.
3. Stacks shall be no closer than eight (8) ft. (2.44 m) to any other on-site storage area.
4. Stacks shall be no closer than fifteen (15) ft. (4.57 m) to any on-site structure.
5. Stacks shall be arranged to form stable piles.
6. Piles shall not contain more than six thousand (6,000) cu. ft. (170 m³) of pallets.
7. Piles shall be separated from other piles by a minimum distance of eight (8) ft. (2.44 m).
8. Piles shall be arranged in a grid system to form pallet storage arrays with a maximum dimension of fifty (50) ft. by fifty (50) ft. (15.25 m by 15.25 m).
9. Pallet storage arrays shall be separated by a minimum distance of twenty four (24) ft. (7.32 m).

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee approved the code change based on the proponent's reason statement. It was noted by the committee that the proposal needs further clarification regarding its applicability to exterior only and should provide guidance for inside operations as well. Clarification is also needed to indicate that the fire flows for the pallet storage would be in addition to any other required fire flows for the site or buildings on it. The modifications clarify that the section is applicable to exterior storage & rehab only and recognize that current industry practices need a stack height of 18 feet.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Robert J Davidson, Davidson Code Concepts, LLC , representing self; Sean DeCrane, representing Cleveland Division of Fire / International Association of Fire Fighters, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.1 General. All facilities with either exterior storage or exterior rehabilitation of pallets shall be in accordance with Sections 2810.2 through 2810.5.2 and Section 2803.

2810.1.1 Interior storage or rehabilitation. The interior storage or rehabilitation of pallets shall be in compliance with the applicable portions of this code and the International Building Code.

2810.2 Fire Flow. The minimum required fire flow in pallet storage yards exceeding 3200 sq feet of pallet storage areas shall be not less than 2,000 gpm (7571 L/m). For storage yards with stable piles greater than 6,200 sq. ft. (576 m²) the required fire flow shall be not less than 3,000 gpm (8516 L/m). The fire flow for a pallet storage yard shall be in addition to any fire flow otherwise required for the site or buildings located on the site. Pallet storage yards shall not exceed the available fire hydrant-flow and-spacing.

2810.3 Fire Hydrants. Fire hydrants required for fire flow purposes for pallet storage arrays shall be installed in accordance with Section 507 within three hundred (300) feet (152.4m) of pallet locations measured along unobstructed access paths.

2810.3.1 Areas without water supply systems. For fire hydrants and water supplies in rural and suburban areas in which adequate and reliable water supply systems do not exist, NFPA 1142 or the International Wildland-Urban Interface Code shall be permitted to be utilized, when approved by the fire code official.

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1. Stacks shall not exceed a height of ~~18 feet, fifteen (15) ft. (4.57 m).~~
2. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line or a distance equal to the stack height, whichever is greater. The separation distance is allowed to be reduced when the fire code official determines that no hazard to the adjoining property exists.
3. Stacks shall be no closer than eight (8) ft. (2.44 m) to any other on-site storage area.
4. Stacks shall be no closer than fifteen (15) ft. (4.57 m) to any on-site structure.
5. Stacks shall be arranged to form stable piles.

6. Piles shall not contain more than ~~six thousand (6,000) cu. ft. (170 m³)~~ seven thousand two hundred (7200) cu. Ft. (204 m³) of pallets.
7. Piles shall be separated from other piles by a minimum distance of eight (8) ft. (2.44 m).
8. Piles shall be arranged in a grid system to form pallet storage arrays with a maximum dimension of fifty (50) ft. by fifty (50) ft. (15.25 m by 15.25 m).
9. Pallet storage arrays shall be separated by a minimum distance of ~~twenty four (24) ft. (7.32 m)~~ twenty (20) ft. (6096 mm).

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The purpose of this public comment for modification is to address committee requests for clarification, to coordinate provisions with this new section of code with other portions of the fire code and to address some concerns/request for clarification raised by industry interested parties.

The word "exterior" has been added to two places in Section 2810.1 and a new Section 2810.1.1 has been added as requested by the committee to clarify that this new section is for exterior activities and that interior activities shall comply with other appropriate sections of the fire code.

Section 2810.2 has been modified as requested by the committee to clarify that the fire flow for this activity is separate from other required fire flows for the site. The reference to fire hydrants has been deleted from this section since fire hydrants are covered by Section 2810.3.

A new Section 2810.3.1 has been added to clarify that for rural or suburban areas without adequate water supplies the fire code official can permit the use of either NFPA 1142 or the International Wildland-Urban Interface Code for establishing the needed fire flow. Currently similar language is located in Appendix B of the code and fire code officials know to go there for guidance when applying Section 507 Fire Protection Water Supplies, however, a significant number of interested parties have inquired about facilities located in rural areas without public water systems and adding the clarification will provide for a more informed application of the new language and requirements.

Section 2810.5.1, Item 2 has been modified by adding language to give the fire code official the ability to allow a reduction in the required separation distance from property lines. This same language can be found in the exception to "Section 315.4 Outside storage" of the fire code. The addition is in response to industry questions and provides for a correlation with the existing code language.

Section 2810.5.1, Item 6 is modified by increasing the cubic footage per pile to 7,200 cu ft. This is needed to correlate with the modification the committee made to stack height during the hearing based upon an industry request, (changed 15 ft to 18 ft). The height and dimensions of the storage arrangement are related so an increase in the stack height requires a corresponding increase in the cubic feet of storage permitted per pile to match pile dimensions

Section 2810.5.1, Item 9 is proposed to reduce the array separation distance to 20 feet to correlate this distance with the dimension of a fire apparatus access road. In response to an industry request to consider this action, a review of the Clark County, Nevada adoption of similar requirements that was utilized for drafting of the IFC proposal identified that Clark County also increased their minimum fire apparatus roadway width to 24 feet. Since the two distances are correlated, this modification will correlate the measurements specified in this section of the new IFC language with the existing dimension for fire apparatus roads found at Section 503.2.1.

Public Comment 2:

Susan R. Jennings, President, Virginia Forest Products Association; Mike Mullin, Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.2 Fire Flow. The minimum required fire flow in pallet storage yards at facilities, buildings or portions of buildings hereafter constructed or moved into ~~exceeding 3200 sq feet of pallet storage areas~~ shall be not less than 2,000 1,500 gpm (56787574 L/m). ~~For storage yards with stable piles greater than 6,200 sq. ft. (576 m²) the required fire flow shall be not less than 3,000 gpm (8546 L/m).~~ Pallet storage yards shall not exceed the available fire hydrant flow and spacing.

Exception: Where approved by the fire code official for rural areas or other areas with decreased fire flow capacity, the minimum required fire flow may be reduced below 1,500 gpm.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The fire flow proposal is based upon standards adopted by the Fire Department of Clark County, a populous county of roughly 2 million in the southern part of Nevada, encompassing Las Vegas, accounting for nearly three-quarters of the state's residents. The standards established by Clark County are not appropriately applied on a broad scale in the International Fire Code. Fire flow available in Clark County may not be available in many other areas where the IFC is adopted, particularly in rural areas. Moreover, in adopting the standards for its jurisdiction, Clark County had significant information regarding and control over the fire flow available within the county. By contrast, the standard proposed for adoption in the IFC is suggested with no knowledge of, let alone control over, the fire flow capacity of any particular jurisdiction.

Although Clark County established 2,000 gpm as the minimum fire flow for pallet storage areas, the Clark County standards refer to Appendix B, Table B105.1. A more appropriate minimum fire flow would be 1,500 gpm, the minimum flow established in Table B105.1. Additionally, the standard should explicitly provide an exception for rural areas or other areas with decreased fire flow capacity. This proposed exception is taken directly from Section 1412.2 of the Clark County standards.

Additionally, the “hereafter constructed or moved into” language should be added to ensure that the requirements of this section are only applied prospectively, consistent with Section 507.1 of the current IFC code.

Public Comment 3:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.2 Fire Flow. ~~The minimum required fire flow in pallet storage yards exceeding 3200 sq feet of pallet storage areas shall be not less than 2,000 gpm (5678 L/m). For storage yards with stable piles greater than 6,200 sq. ft. (576 m2) the required fire flow shall be not less than 3,000 gpm (8516 L/m). Pallet storage yards shall not exceed the available fire hydrant flow and spacing.~~

(Portions of proposal not shown remain unchanged)

Commenter’s Reason:

Jennings: The fire flow proposal is based upon standards adopted by the Fire Department of Clark County, a populous county of roughly 2 million in the southern part of Nevada, encompassing Las Vegas, accounting for nearly three-quarters of the state’s residents. The standards established by Clark County are not appropriately applied on a broad scale in the International Fire Code. Fire flow available in Clark County may not be available in many other areas where the IFC is adopted, particularly in rural areas. Moreover, in adopting the standards for its jurisdiction, Clark County had significant information regarding and control over the fire flow available within the county. By contrast, the standard proposed for adoption in the IFC is suggested with no knowledge of, let alone control over, the fire flow capacity of any particular jurisdiction.

Fire flow under the IFC is currently calculated pursuant to Appendix B, which is based upon the size and construction type of buildings. There is no indication that the current fire flow practice for buildings is insufficient to account for outdoor pallet storage. Accordingly, this section of the proposal should be removed.

McClendon: We understand the fire flow proposal is based upon standards adopted by the Fire Department of Clark County, a populous county of roughly 2 million in the southern part of Nevada, encompassing Las Vegas. Many of our company members are located in rural areas that do not meet the requirements in the proposal. Furthermore, many of these companies are family-owned operations with an average of 25 workers.

Clark County had significant information regarding and control over the fire flow available within the county. By contrast, the standard proposed for adoption in the IFC is suggested with no knowledge of, let alone control over, the fire flow capacity of any particular jurisdiction. Further, the fire flow under the IFC is based on the size and construction type of buildings. There is no indication that the current fire flow practice for buildings is insufficient to account for outdoor pallet storage. Accordingly, this section of the proposal should be removed.

Public Comment 4:

Susan R. Jennings, President, Virginia Forest Products Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.3 Fire Hydrants. Fire hydrants required for fire flow purposes for pallet storage arrays at facilities, buildings or portions of buildings hereafter constructed or moved into shall be installed in accordance with Section 507 within three hundred (300) feet (152.4m) of pallet locations measured along unobstructed access paths except as otherwise approved by the fire code official.

(Portions of proposal not shown remain unchanged)

Commenter’s Reason: This proposed section references Section 507 of the IFC but does not incorporate the discretion provided to the fire code official under Section 507.5.1. Such discretion should be explicitly incorporated in the proposed standard.

Additionally, the “hereafter constructed or moved into” language should be added to ensure that the requirements of this section are only applied prospectively, consistent with Section 507.1 of the current IFC code.

Public Comment 5:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

~~**2810.3 Fire Hydrants.** Fire hydrants required for fire flow purposes for pallet storage arrays shall be installed in accordance with Section 507 within three hundred (300) feet (152.4m) of pallet locations measured along unobstructed access paths.~~

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings: Section 507 provides requirements for fire protection water supplies to “premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into.” This requirement is duplicative of Section 507.1 and unnecessary. Accordingly, this section of the proposal should be removed.

McClendon: There are already requirements in Section 507 for fire protection water supplies to be available to “premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into.” This requirement is therefore unnecessary and the proposal should be removed.

Public Comment 6:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.4 Fire Department Access. Fire apparatus access roads in accordance with Section 503 shall be located within one hundred fifty (150) feet (45,720mm) of all portions of the pallet storage array(s) at facilities, buildings or portions of buildings hereafter constructed or moved into the jurisdiction. Permanent delineation of on-site fire apparatus access roads shall be provided as required by the fire code official.

Exception: The fire code official is authorized to increase the dimension of 150 feet where fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings/Mullin: This proposed section references Section 503 of the IFC but does not incorporate the discretionary exception for the fire code official under Section 503.1.1. This discretionary exception should be explicitly incorporated in the proposed standard.

Additionally, the “hereafter constructed or moved into” language should be added to ensure that the requirements of this section are only applied prospectively, consistent with Section 503.1.1 of the current IFC code.

McClendon: Local fire officials must have the ability to apply their discretion to decision making based on unique conditions in their jurisdiction. This proposed section references Section 503 of the IFC but does not incorporate the discretionary exception for the fire code official under Section 503.1.1. This discretionary exception should be explicitly incorporated in the proposed standard.

Additionally, the “hereafter constructed or moved into” language should be added to ensure that the requirements of this section are only applied prospectively, consistent with Section 503.1.1 of the current IFC code.

Public Comment 7:

Susan R. Jennings, President, Virginia Forest Products Association, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.4 Fire Department Access. Fire apparatus access roads in accordance with Section 503 shall be located within one hundred fifty (150) feet (45,720mm) of all portions of the pallet storage array(s). Permanent delineation of on-site fire apparatus access roads shall be provided as required by the fire code official.

Commenter's Reason: Section 503.1 provides requirements for fire department access to all portions of the facility. This requirement is duplicative of Section 503.1 and unnecessary. Accordingly, this section of the proposal should be removed.

(Portions of proposal not shown remain unchanged)

Public Comment 8:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5 Idle Pallet Storage. Pallet storage at facilities, buildings or portions of buildings hereafter constructed or moved into the jurisdiction shall be in compliance with Sections 2810.5.1 or 2810.5.2 as applicable.

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings/Mullin: The pallet storage requirements in the proposal, if applied retroactively, could cause significant reduction in available outdoor pallet storage space at existing facilities. The proposal identifies only an increased cost of construction, suggesting that the rule is not intended to require changes in storage practices at existing facilities. This should be specifically stated in the standard. Accordingly, the "hereafter constructed or moved into" language should be added to ensure that the requirements of this section are only applied prospectively, consistent with other sections of the current IFC code affected by this proposal.

McClendon: Companies in our industry have estimated that this proposal, if applied, would cause significant reduction in available outdoor pallet storage space with losses reported as high as 60 percent. The proposal identifies only an increased cost of construction, suggesting that the rule is not intended to require changes in storage practices at existing facilities. For clarity throughout the industry, this should be specifically stated in the standard. Accordingly, the "hereafter constructed or moved into" language should be added to ensure that the requirements of this section are only applied prospectively, consistent with other sections of the current IFC code affected by this proposal.

Public Comment 9:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1. Stacks shall not exceed a height of fifteen (15) ft. (4.57 m).
2. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line or a distance equal to the stack height, whichever is greater.
- 3 through 9 *(No change to text)*

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings/Mullin: Section 2810.5.1(1) allows stack heights up to 18 feet; therefore, this Section 2810.5.1(2) sets a de facto minimum separation of 18 feet from the property line. No justification for this 18-foot separation has been articulated. Under NFPA

1 Section 34.10.4, only eight (8) feet of separation from the property line is required. This provision should be amended to require only eight (8) feet minimum separation, consistent with NFPA 1.

McClendon: Section 2810.5.1(1) allows stack heights up to 18 feet; therefore, this Section 2810.5.1(2) sets a de facto minimum separation of 18 feet from the property line. No justification for this 18-foot separation has been articulated. Under NFPA 1 Section 34.10.4, only eight (8) feet of separation from the property line is required. This provision should be amended to require only eight (8) feet minimum separation, consistent with NFPA 1.

Public Comment 10:

Susan R. Jennings, President, Virginia Forest Products Association and Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1 through 5 (*No change to text*)

6. Piles shall not contain more than 7,200 ~~six thousand~~ (6,000) cu. ft. (204 ~~170~~ m³) of pallets.

7 through 9 (*No change to text*)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The proposal of 6,000 cubic feet was based upon a pile size of 20 feet by 20 feet at a height of 15 feet. When the stack height was increased to 18 feet during the committee meetings, there was no corresponding change to the pile size. This change is necessary to maintaining uniform pile sizes.

Public Comment 11:

Susan R. Jennings, President, Virginia Forest Products Association and Brent McClendon, President/CEO, National Wooden Pallet and Container Association, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1 through 5 (*No change to text*)

6. Piles shall not contain more than ~~six thousand~~ (6,000) cu. ft. (~~170~~ m³) of pallets.

7 through 9 (*No change to text*)

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings: Section 2810.5.1(6) should be deleted. Once the stack height has been limited, and the spacing between pallet storage arrays, there is no reason to also limit pile size. This is a redundant and duplicative standard that does not appear to provide any additional fire protection benefit. Moreover, the fact that Clark County, Nevada, limits piles to 20 feet by 20 feet does not make this the appropriate standard. As another example, the West Sacramento, California, fire code limits pallet stack sizes for outdoor storage to 25 feet by 100 feet, or 2500 square feet. There is no clear justification for the stated pile size limitation. Accordingly, this provision should be deleted.

McClendon: In other parts of the code, the stack height limits have been specified as well as the spacing between the pallet stacks and there is no safety benefit of setting a pile size limit. The fact that Clark County, Nevada, has chosen to limit piles to 20 feet by 20 feet does not make this the best standard nationally. As another example, the West Sacramento, California, fire code limits pallet stack sizes for outdoor storage to 25 feet by 100 feet, or 2500 square feet. There is no clear justification for the stated pile size limitation. Accordingly, this provision should be deleted.

Public Comment 12:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1 through t 6 *(No change to text)*

~~7. Piles shall be separated from other piles by a minimum distance of eight (8) ft. (2.44 m).~~

8 through 9 *(No change to text)*

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings: Section 2810.5.1(7) should be deleted. No justification has been articulated for this separation between piles. The separation between pallet storage arrays is designed to provide fire apparatus access roads, which are typically 20 feet. This 8-foot separation does not provide fire apparatus access and does not appear to be rationally related to any fire control access requirement. Adding this pile separation within the 50-foot storage arrays reduces the available storage area within an array by 36% without any additional fire protection benefit. Accordingly, this provision should be deleted.

McClendon: This appears to be an arbitrary requirement since it is not enough space to create a fire access road (20-feet) nor does it appear to provide a significant fire control benefit. Adding this pile separation within the 50-foot storage arrays reduces the available storage area within an array by 36% without any additional fire protection benefit. Accordingly, this provision should be deleted.

Mullin: Section 2810.5.1(7) should be deleted. No justification has been articulated for this separation between piles. The separation between pallet storage arrays is designed to provide fire apparatus access roads, which are typically 20 feet. This 8-foot separation does not provide fire apparatus access and does not appear to be rationally related to any fire control access requirement. Adding this pile separation within the 50-foot storage arrays reduces the available storage area within an array by 36% without any additional fire protection benefit.

Moreover, the fact that Clark County, Nevada, limits piles to 20 feet by 20 feet while requiring an additional 8-foot separation does not make this the appropriate or necessary standard. As another example, the West Sacramento, California, fire code limits pallet stack sizes for outdoor storage to 25 feet by 100 feet, or 2500 square feet. There is no clear justification for the stated separation between individual piles. Removing the 8-foot separation and keeping the 50 foot by 50 foot array size would effectively limit pile sizes to 2500 square feet, the same as the West Sacramento standard. Accordingly, this provision should be deleted.

Public Comment 13:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.1 Exterior pallet repair and storage areas greater than 3,200 sq ft. Exterior pallet storage arrays greater than 3200 square feet shall comply with all of the following:

1 through t 8 *(No change to text)*

9. Pallet storage arrays shall be separated by a minimum distance of twenty four ~~(20 24)~~ ft. (6.1 7.32 m).

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings/Mullin: This provision was designed to create fire apparatus access roads between pallet storage. The normal width of a fire apparatus access road is 20 feet. No justification was articulated for requiring 24 feet between pallet arrays instead of 20 feet. This additional 4 feet of separation between pallet arrays decreases available storage space by almost 1000 square feet for every four pallet storage arrays within the storage area, without providing any additional fire protection benefit.

McClendon: The normal width of a fire apparatus access road is 20 feet. No justification was expressed for requiring an additional 4 feet between pallet stacks. This additional 4 feet of separation decreases available storage space by almost 1000 square feet for

every four pallet storage arrays within the storage area, without providing any additional fire protection benefit. This would create a significant loss of property use for the majority of our members.

Public Comment 14:

Susan R. Jennings, President, Virginia Forest Products Association; Brent McClendon, President/CEO, National Wooden Pallet and Container Association; Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

2810.5.2 Exterior storage not greater than 3200 sq ft in area. Exterior pallet storage not greater than 3200 square feet shall comply with all of the following:

1. Stacks shall be no closer than eight (8) ft. (2.44 m) to any property line ~~or a distance equal to the stack height, whichever is greater.~~
- 2 and 3 (No change to text)

(Portions of proposal not shown remain unchanged)

Commenter's Reason:

Jennings/Mullin: No justification has been articulated for requiring additional spacing between pallet stacks and the property line. Under NFPA 1 Section 34.10.4, only eight (8) feet of separation from the property line is required. This provision should be amended to require only eight (8) feet minimum separation, consistent with NFPA 1.

McClendon: Eight feet of space from the property line should be adequate for safety whether the stack is 8 ft. or the allowed 18 ft. No justification has been referenced for imposing a different property line spacing based on stack height. Under NFPA 1 Section 34.10.4, only eight (8) feet of separation from the property line is required. This provision should be amended to require only eight (8) feet minimum separation, consistent with NFPA 1.

Public Comment 15:

Kathleen Dietrich, Commercial Lumber and Pallet Company, Inc; Bernie Kamps, CEO, Kamps Pallets, Inc; Lawrence A. Konz, Konz Wood Products; Joseph O'Brien, Industrial Pallet, LLC; Terry Rodino, Duro Recycling Inc; James Ruder, L&R Pallet Service; James S. Schwab, Pallet Logistics of America; Steen Yelland, J.F. Rohrbaugh Co., Inc, request Disapproval.

Commenter's Reason:

Dietrich: Commercial lumber and Pallet Company has been in business since 1941 and has two locations in California employing over 200 people. We are a family owned and operated business and view our employees as our #1 asset. We have an extensive safety program and housekeeping at both locations and we are pleased to state that as a result, our Experience Modification is 80%. We are 100% recyclable and are also pleased that we have achieved SFI certification in Sustainable Sourcing. We strongly care about our people and our environment.

Kamps: Code Change Proposal F265-13 should be disapproved. As an owner of a 600 employee pallet recycling and new pallet manufacturing company in 4-5 Midwestern states for 40 years, this proposal will adversely impact our company. Our 10 plants have safety programs that we adhere to and fire safety is very important to us.

O'Brien: Industrial Pallet, LLC has been in business for 15 years. We are located in the rural northeastern portion of Connecticut and employ 65 people. We worked closely with our volunteer fire department on safety and access issues when we built our plant. Our insurance underwriter inspects our facility annually. We comply with all the recommendations. Because of our rural location we have no hydrant systems and must rely on good judgment and the timely response of volunteers. In fifteen years we have not had to call the fire department once nor have we ever had a property damage claim related to fire with our insurance company.

Ruder: This is the first time I have ever participated in the public comment process for fire code development. We are a family owned and operated business celebrating 40 years of service across the entire state of Colorado and shipping to customers within a 600 mile radius of Denver. We currently employ 115 people (families) and take their safety and well being very seriously. This proposal is of major concern because it will be detrimental to our way of doing business and our ability to support the families that have devoted years of their lives to our company.

I feel the need to participate in this public comment process for two reasons: First, if the above referenced fire code proposal is implemented; it would have significant negative consequences to my company. On average, our industry would lose more than 30

percent of the use of our yard storage to this rule. There is no data present in the proposal to support the necessity of a change of such enormous proportions. The storage of pallets themselves proposes no danger. It is easy to do in a organized and methodical manner. My facility is located on a 7 acre site. More than ½ of this property is dedicated to the outdoor storage of product and I could not operate without the ability to accommodate the "seasonal" inbound and outbound fluctuations associated with recycled pallets and lumber. The nature of the business is that you must "store" the pallets in large mass when you can find them so you have them available for when you cannot. These swings are very cyclic.

Schwab: My name is Jim Schwab and I am President of Pallet Logistics of America. We are a privately held company headquartered in Dallas, TX. We are also the largest independent pallet recycling and services company in the South Central United States. With over 300 employees serving over 600 customers from 5 locations in Texas and Oklahoma, we have developed a "Best in Class" reputation for operating with excellence across the board. Safety and Cleanliness go hand and hand and are 2 of the 7 core values we espouse as an organization, so this topic is very important to me and our employees.

Yelland: The Rohrbaugh Company is a fifth generation family business started in 1880. We have 65 full-time employees. We have worked closely to implement suggestions and input in regards to corporate safety from our local fire chief and insurance vendors to insure a safe working environment for our employees.

ALL: This is the first time I have ever participated in the public comment process for fire code development. I am doing so for two reasons. First, if the above referenced fire code proposal is implemented, it would have significant negative consequences to my company. On average, our industry would lose more than 30 percent of the use of our yard storage to this rule. There is no data present in the proposal to support the necessity of a change of such enormous proportions.

Secondly, as a member of the board of directors of the National Wooden Pallet & Container Association (NWPCA) I am troubled that the International Code Council (ICC), when considering an issue that would directly impact the wood pallet and container industry, failed to reach out to our association's professional staff or elected leadership.

It is in the best interest of our companies to protect our products, facilities and workers; safety is a priority for me and my industry colleagues. The association has a safety manual available to members that covers the broad range of potential risks involved in the manufacturing and repair of wood pallets including fire safety and posts safety articles on our website on a continuing basis.

Our association worked in collaboration with the National Association of State Fire Marshalls (NASFM) on an education module. We have demonstrated our commitment to safety and have a unique and thorough knowledge of pallet storage in both warehouses and outdoors.

The proposal says the code changes were developed in response to "an increasing number of large scale fires," in the outdoor storage of pallets. There is no aggregate data on these series of fires in the proposal nor even the description of the conditions of a single fire. Lacking reliable aggregated data, there is no way to draw dependable conclusions as to 1) whether or not there is a problem so profoundly unmet by the existing code that it warrants a vast loss of property use by business owners, and 2) would this proposal solve such a problem? If this information has been collected, it has not been distributed to the wood pallet industry, and we are the ones who will be most impacted.

As a board member, elected by my colleagues in the association to represent their interests, I urge the ICC to vote to disapprove this proposal in favor of working collaboratively with the wood pallet industry to establish necessary and workable safety procedures.

Public Comment 16:

Susan R. Jennings, President, Virginia Forest Products Association, requests Disapproval.

Commenter's Reason: Code Change Proposal F265-13 should be disapproved. The changes would impose a significant loss of facility usage to wood packaging companies and the thousands of businesses in hundreds of industries that rely on wood pallets to transport and store their products. We have seen no data that that would justify modifications to the code that would impose such a hardship on our industry.

VFPA is a state trade association serving the Commonwealth's \$25+ billion forest products industry, and 2008 marked our 50th Anniversary providing support to our membership. We currently have more than 200 companies representing a broad range of facilities, including lumber mills, pallet plants, wood treaters, timber harvesters, and associated organizations. VFPA co-sponsors ExpoRichmond, America's leading trade show for the forest products industry, biennially. We are proud to say one of the major business focuses of our membership and Expo Richmond is the production and rehabilitation of wooden pallets in the Commonwealth. Our membership represents core businesses affected by the proposed rule change by the International Code Council.

On average, pallet industry companies employ more than 40 workers each. Nationally, the industry accounts for more than 50,000 jobs and payroll surpassing \$1 billion. The majority of these companies are located in economically depressed areas with few alternative employment opportunities. The total economic value of the wooden pallet industry exceeds \$15 billion annually. Recognizing wood pallets and containers are produced from sustainable materials, reusable, repairable and recyclable, the global marketplace utilizes wooden pallets for more than 93% of its needs. The pallet and container industry, related Associations, and individual members are fully committed to industry and individual safety within ours and associated industries. While the proposed standards address purported safety issues, VFPA respectfully contends the proposed changes unfairly analyze and apply the proposed standards across the industry without the appropriate and necessary input from member organizations and/or representatives.

As wooden pallets and containers are an essential component of the global industry, the development of a new standard for which the industry has unique knowledge regarding, VFPA is disappointed the ICC failed to contact industry members or Associations representing such. The National Wooden Pallet & Container Association is a leading representative of the industry

and its members and VFPA has close ties and works cooperatively with NWPCA. VFPA has been alerted to the proposed rule changes by the ICC through our association with NWPCA and fully support the inclusion of NWPCA representatives in an issue that will so tremendously affect our industry. At this late stage in the process, VFPA fully supports NWPCA and their comments submitted regarding the proposed changes to the rule and lack of access to the complete data and analysis utilized in this process. In reviewing the proposed rule change, analysis of the new requirements and the potential impact of the changes required under the new standards, our members conclude the economic impact to their businesses will range in a 15 to 60 percent loss of their pallet yards. While our membership includes companies as large as Fortune 500 entities, the overwhelming majority of our group can be best characterized as family businesses, where minimal margins already exist. This additional change in stacking patterns will cause tremendous hardship and potential business closure due to the decreased production and storage capability, thereby limiting income producing activities related to pallets. Additionally, in areas where expansion may be cost prohibitive, the simple inability to expand due to the proposed changes may cause businesses to shut down.

We additionally voice our concerns regarding the methodology and data specifically:

- The revision consideration indicates “an increasing number of large scale fires involving the repair and outdoor storage of combustible pallets.” VFPA feels this statement is a broad, sweeping generalization and requests further information on the specific count of fires in the years prior to the proposed change. Additionally, the parameters distinguishing “large scale” from other classifications are vague and as such, immeasurable.
- By what percentage has the number of fires attributed to combustible pallets increased over previous years? And by what percentage does the ICC anticipate the proposed change to decrease the number?
- Were injuries to workers or damage due to the fires on the rise? And if so, the analysis of such.
- Any further analysis regarding cause, nature and incidents encountered regarding the referenced fires causing this sweeping change would be appreciated.
- This proposed change requires significant and sweeping changes within the pallet industry and to its members. The significant loss of use of facilities members face is overwhelming to those already fighting the ongoing challenging economic environment. VFPA encourages an in-depth analysis of risk vs. return with regard to business operations and the combustible pallet industry as a whole.

The wood packaging industry will face significant negative consequences if this proposal is passed as it currently exists. At a minimum, our industry deserves to have access to the data upon which this decision has been made and provide alternative solutions. In full support of NWPCA, Virginia Forest Products Association recognizes that a lot of work has already been done by ICC committees in developing the modified code, however, we believe it is imperative that the industry have the chance to lend our expertise to the process and request representatives of NWPCA, its member organizations, or duly authorized representatives be included in a collaborative work group that can effectively meet the safety goals and be less financially impactful thereby allowing a more comprehensive embrace by the wood packaging community.

Public Comment 17:

Brent McClendon, President/CEO, National Wooden Pallet and Container Association, requests Disapproval.

Commenter’s Reason: Code Change Proposal F265-13 should be disapproved. NWPCA represents the entire pallet manufacturing and recycling industry in the U.S. We are comprised of more than 600 company members. As a trade organization, when NWPCA submits comments, its conclusions have gone through a deliberative process by numerous industry representatives and represent a consensus of the industry.

The changes would impose a significant loss of facility usage to wood packaging companies and the thousands of businesses in hundreds of industries that rely on wood pallets to transport and store their products. We have seen no data that that would justify modifications to the code that would impose such a hardship on our industry.

The National Wooden Pallet and Container Association (NWPCA), the largest wood packaging trade association in the world was not included in the development of the proposal. NWPCA worked for six months with the National Association of State Fire Marshalls (NASFM) on a fire safety education module addressing pallet stacking in warehouses and would have been supportive of lending our expertise to a similar collaborative effort with the ICC on this issue.

The reason cited for the proposed changes is “an increasing number of large scale fires involving the repair and outdoor storage of combustible pallets.”

- What was the number of fires nationally in the years prior to the decision to change the code?
- By what percentage had the number of fires increased over previous years?
- Were injuries to workers or damage to property increasing? If yes, by what percentage?
- By what percentage does ICC expect to decrease the number of fires or property damage with the change in the code?
- In a risk/reward analysis what was the committee’s estimate of the percentage increase in safety vs. the percentage of loss of property usage?

The wood packaging industry will face significant negative consequences if this proposal is passed as it currently exists. At a minimum, our industry deserves to have access to the data upon which this decision has- been made and provide alternative solutions. NWPCA recognizes that a lot of work has already been done by ICC committees in developing the modified code. We believe it is imperative that as the key stakeholder, we be given the chance to lend our expertise to the process. It is better to disapprove the code at this time and give NWPCA and the ICC committee the opportunity to develop a collaborative work product that would meet the safety goals and be embraced by the wood packaging community.

Public Comment 18:

Mike Mullin, Director of Government Affairs – Americas, Brambles Limited, representing Brambles Limited, requests Disapproval.

Commenter's Reason: On behalf of Brambles Limited and its operating companies (Brambles), we are requesting that Code Change Proposal F265-13 be disapproved.

Brambles is a pooling solutions company specializing in the provision of reusable pallets, crates, containers, and associated logistics services. Its Americas headquarters is located in Atlanta, Georgia. Brambles operates across multiple industry supply chains in more than 50 countries. Its pooling solutions are operated under two core brands:

"CHEP" is a pooling solutions business specializing in the provision of reusable pallets, crates, containers, and associated logistics services. CHEP owns and manages approximately 300 million pallets, crates and containers in more than 50 countries.

"IFCO" operates a pool of more than 150 million reusable plastic crates (RPCs) worldwide and, in the USA, sorts, repairs, and reissues about 200 million pallets a year through its pallet management network.

In all of its operations, Brambles is committed to sustainability and corporate social responsibility. In this regard, Brambles' objective is to be recognized by its customers, employees, shareholders, and the community as a global leader in corporate responsibility and sustainability.

As a leader in the pallet industry, we consider partnering with stakeholders, particularly regulators and communities, very important. Accordingly, we engage transparently with public officials who serve our local, state, and federal governments. We welcome the opportunity to provide expertise and insights on various issues. In the normal course of our business, we work in a positive way with those agencies that regulate aspects of our business. We respond to requests from regulators when they seek to know how their rulemaking will impact our business and our customers.

Regrettably, we and our industry have become aware of this potential change to the International Fire Code (IFC) only after it had first moved through the committee. Unfortunately, there is no requirement for the proponent of the proposal to seek out input from the affected parties. Having said that, we recognize that we must be more vigilant in engaging with the International Code Council (ICC), and we intend to do so in earnest beginning with the October meeting. In this spirit, when we learned of the proposal, we reached out to its proponent, Bob Davidson, to gain a better understanding of the impetus behind the proposal. We appreciate Mr. Davidson's willingness to explain his rationale for introducing the proposal and only wish that he had reached out to the industry in advance so that we would not be in a position to now ask that this code change proposal be disapproved. We believe that if there are legitimate issues regarding the outdoor storage of pallets, they should be addressed in a spirit of partnership in which industry, insurance, and fire experts can come together and jointly develop approaches that protect the well-being of communities.

The justification for the proposal generically refers to an increasing number of fires involving repair and outdoor storage of pallets but does not specifically identify any such fires or provide data to support that fires associated with pallet storage are actually increasing, either in frequency of occurrence or severity of the loss. Accordingly, the proponent has not identified – and Brambles is not aware of – any distinct hazard to life or property being addressed by the proposal. Indeed, we have not been made aware of any fire safety-related issues with outdoor pallet storage or water supply or access or fire department access to pallet storage facilities. None of these issues have been raised by the fire professionals who visit our facilities each year. None have been raised by our insurers or other stakeholders.

Under those circumstances, and in the absence of any imminent or distinct hazard, we would seek to find common ground and use available data to determine whether the risk actually justifies a significant change to the code. If so, any changes should be based upon a consideration of all these factors. Instead, this proposal is developed based upon standards adopted by the Fire Department of Clark County, a populous county of roughly 2 million in the southern part of Nevada, encompassing Las Vegas, accounting for nearly three-quarters of the state's residents. The standards established by Clark County are not appropriately applied on a broad scale in the IFC. Whereas Clark County has significant access to information regarding and control over issues like fire flow, fire hydrant placement, and other requirements covered by this proposal, this proposal is made without specific information or knowledge of these issues for each jurisdiction, let alone control over them.

In closing, we sincerely respect Bob Davidson's initiative, and Brambles would like to partner with Mr. Davidson and the ICC to develop appropriate outdoor pallet storage requirements that provide sufficient fire safety protection but also take into account the practicalities and realities of effectively managing fire risks associated with outdoor pallet storage. Based upon our business model and mission, as described above, we believe we are uniquely suited to assist in such an endeavor. Such an effort could take place in the next code development cycle and be ready in time for submittal for consideration in 2016.

However, we must request that the current proposal be disapproved. A fundamental problem with adopting the proposal as drafted as part of the current cycle is that it appears to impose retroactive requirements on existing facilities and operations, contrary to many of the other sections of the IFC on which the proposal relies upon for its provisions. Some of these changes will significantly reduce outdoor storage capacity at some Brambles' facilities. Accordingly, Brambles believes the best course of action is to disapprove the proposal entirely. However, in the spirit of communication and cooperation, Brambles is also providing specific suggested revisions that it believes would make the proposal more manageable from an industry perspective without any reduction in fire protection benefits or safety.

Public Comment 19:

Jordan Piland, Atlas Division of Williamsburg Pallets/A Millwork Corporation, requests Disapproval.

Commenter's Reason: I am a stakeholder whose company will be significantly impacted if the above referenced change of the fire code is implemented. My company is Atlas Pallets/ A Division of Williamsburg Millwork Corporation located in Bowling Green,

Virginia, a relatively rural area. We are a family owned and operated company; my father is president and I am vice president. We employ 56 workers.

As chairman of the Standards Committee for the National Wooden Pallet & Container Association, I am very involved in debating and analyzing standards for the industry at a detailed level. With regard to the proposed fire code change, I met with a task group to discuss the ramifications of the proposed changes. That same day I met with my local fire chief to discuss the specific implications of the proposal to Caroline County.

My county fire chief pointed out that the maximum pump capacity in the county is 1,250 gallons per minute; the biggest tanker is 3,000 gallons. The International Code Council (ICC) proposal would force most location to have multiple fire hydrants; this is rare in rural areas like mine.

Most concerning is that this standard would severely limit then number of pallets stored on the yard of my company. This would mean a significant loss of use of my property.

Years past, we met with our local fire department to discuss fire truck access to our plant. We have lanes that are kept open so that in the event of a fire, fire trucks have easy access to our pallet storage area. This proposal goes far beyond what we considered a good safe practice.

I have seen the proposal, but while the changes are proposed as a result of "an increasing number of large scale fires," it does not identify any fires in which pallet stacking patterns limited the fire fighters' ability to access areas key to putting out the fire. As someone who has spent a great many years working on industry standards with colleagues from around the country, I know that to get buy-in from the industry at large, we must provide specific examples of the need for change, data to support the severity and scope of the problem, and a risk/reward analysis demonstrating that the change is proportionate to the hazard involved. If this information has been collected, it has not been distributed to the wood pallet industry.

I ask as both a pallet company owner and as the chairman of the industry standards committee that the ICC defer voting on this proposal until the pallet industry has time to work collaboratively with you on establishing necessary and workable safety procedures.

F265-13

Final Action: AS AM AMPC_____ D

F267-13
3103.3.1 (New)

Proposed Change as Submitted

Proponent: Brad Emerick, Denver Fire Department representing the Fire Marshal's Association of Colorado (FMAC) and the Colorado Chapter of the ICC (CCICC) (brad.emerick@denvergov.org)

Add new text as follows:

3103.3.1 Special Amusement. Tents and other membrane structures erected for the purpose of a *special amusement building* shall comply with the provisions of Section 411 of the *International Building Code*.

Reason: The scoping language in Section 3101 doesn't leave much room for stepping outside Chapter 31 for proposed uses other than those contemplated in Chapter 31. However, temporary membrane structures are being used for an increasingly wider variety of occupancies. One of the more hazardous is special amusement buildings.

The growing popularity of haunted houses usually erected within a month of Halloween and dismantled shortly thereafter, has enticed producers to (try to) utilize temporary membrane structures for these events. Due to the intentionally disorienting nature of these occupancies, additional life-safety measures beyond those prescribed in Chapter 31 (which really only contemplates large, open, usually seated assembly occupancies) are required. The section cited in the IBC addresses temporary special amusement buildings as well as permanent, and provides established life-safety measures.

Cost Impact: This change will not affect the cost of construction.

3103.3.1-F-EMERICK

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee's disapproval was based on its agreement with testimony that indicated that the proposal needs to be expanded to include all specific requirements for such structures rather than just a simple reference back to the IBC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brad Emerick, Denver Fire Department/Fire Prevention Division, representing Fire Marshal's Association of Colorado (FMAC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3103.3.1 Special Amusement. Tents and other membrane structures ~~shall not be used as erected~~ for the purpose of a *special amusement buildings* shall comply with the provisions of Section 411 of the *International Building Code*.

Reason: Based on direction from the state chapters of the fire code officials, the original language of this proposal was written to not prohibit the use of temporary membrane structures as special amusement buildings, but to permit them if the requirements in IBC Chapter 4 could be met – a tall order, but not technically impossible.

Based on the discussion of the code committee, the language was changed to the above.

F267-13

Final Action:

AS

AM

AMPC_____

D

F268-13

3103.9; 3103.9.1 (New), 3103.9.2 (New)

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

3103.9 Anchorage required. Tents or membrane structures and their appurtenances shall be adequately roped, braced and anchored to withstand the elements of weather and prevent against collapsing. ~~Documentation of structural stability shall be furnished to the fire code official on request.~~

3103.9.1 Structural design. Tents and membrane structures shall be designed and constructed to comply with Chapter 16 of the *International Building Code* where any of the following conditions occur:

1. The occupant load of the tent or membrane structure exceeds 100,
2. The tent or membrane structure is classified as a Group A, E, or I,
3. The tent or membrane structure is classified as a Group R Occupancy with an occupant load exceeding 50, or
4. The tent or membrane structure exceeds one story.

3103.9.2 Documentation. Documentation of structural stability shall be furnished to the fire code official upon request.

Reason: There has been confusion with attempting to apply the IFC requirements in Chapter 31 to temporary tents and membrane structures relative to structural stability.

These structures can be seen at concerts, outdoor functions, fairs, etc. Even though the provision of 'temporary' limits the usability of these structures to less than 180 days, improper structural design can still lead to problems.

Many of these temporary tents and temporary membrane structures have multiple floors, and over 30 feet in height. As the height increases, the impact of collapse increases and typically these structures are surrounded by hundreds of people.

This proposal revises IFC Section 3103.9 to include requirements for temporary tents and membrane structures to comply with IBC Chapter 16 structural requirements when there is a significant life hazard within the structure, as reflected in Section 3103.9.1. The relative significance is based on the occupancy classification, the occupant load, or the number of levels within the tent or membrane structure.

The requirement for documentation is relocated from 3103.9 to 3103.9.2.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Cost Impact: This code change may increase the cost of construction

3103.9-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the proposal has merit but needs to contain separate requirements for tents and for membrane structures due to their different characteristics. A concern was also expressed that Section 3103.9.1(2) could be applied to very small tents that could not comply with all the requirements.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3103.9 Anchorage required. Tents or membrane structures and their appurtenances shall be adequately roped, braced and anchored to withstand the elements of weather and prevent against collapsing. Documentation of structural stability shall be furnished to the fire code official on request.

3103.9.1 Tents and membrane structures exceeding one story. Tents and membrane structures exceeding one story shall be designed and constructed to comply with Chapter 16 of the *International Building Code*.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Members of the IFC committee and others at the Dallas hearings thought the original proposal that required tents and membrane structures to comply with IBC structural design requirements was not justified for all of the structures described in the proposal. We cannot disagree with those opinions.

However, there are an ever increasing number of multiple story tents and membrane structures showing up in jurisdictions. These structures can be seen at concerts, outdoor functions, fairs, etc. Even though the provision of 'temporary' limits the usability of these multistory structures to less than 180 days, improper structural design can pose a significant safety hazard.

The code currently requires that documentation of structural stability be furnished to the fire code official on request, but provides no guidance on how to determine an acceptable level of structural integrity.

This proposal closes this loophole by requiring multiple story tents and membrane structures to be designed and constructed in accordance with Chapter 16 of the IBC. This provides the fire code official with a solid tool to use to verify proper structural design.

F268-13

Final Action: AS AM AMPC_____ D

F278-13

3304.2, 3304.3 (New), 3304.4

Proposed Change as Submitted

Proponent: Marcelo M Hirschler, GBH International (gbhint@aol.com)

Revise as follows:

~~**3304.2 Waste disposal.** Combustible debris shall not be accumulated within buildings. Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless approved.~~

3304.2 Combustible debris, rubbish and waste. Combustible debris, rubbish and waste material shall comply with the requirements of Sections 3304.2.1 through 3304.2.4.

3304.2.1 Combustible debris, rubbish and waste material shall not be accumulated within buildings.

3304.2.2 Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work.

3304.2.3 Rubbish containers. Containers with tight-fitting or self-closing lids shall be provided for temporary storage of combustible debris, rubbish and waste material, until the end of each shift of work. The rubbish containers shall be constructed entirely of materials that comply with any one of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m^2 when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m^2 in the horizontal orientation.

3304.2.4 Spontaneous ignition. Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a *listed* disposal container.

3304.3 Burning of combustible debris, rubbish and waste. Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless *approved*.

~~**3304.3**~~ **3304.4 Open burning.** *Open burning* shall comply with Section 307.

~~**3304.4 Spontaneous ignition.** Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a *listed* disposal container.~~

Reason: This section needs to be rewritten in a more logical fashion because 3304.2 needs to address what to do with combustible debris, rubbish and waste but not address prohibitions or *what not to do*, which should be covered in another section (burning of the rubbish). The use of the phrase "combustible debris, rubbish and waste material" makes this section consistent with other sections of the IFC.

When dealing with what needs to be done, the proper sequence is: (a) don't accumulate it, (b) remove it at the end of a work shift and (c) (which is missing) put it in appropriate rubbish containers while you are working. Section 3304.4 addresses a special rubbish container for materials susceptible to spontaneous ignition and should also be covered under 3304.2 and not in a separate section.

With regard to burning of combustible waste, this should have its own section, preceding the section on open burning, and should not be covered under what to do with rubbish.

The added requirement for the rubbish containers (other than those for spontaneous ignition materials) tells inspectors that rubbish containers should be provided for temporary storage of combustible rubbish (until the end of the shift of work). Such containers should be constructed of materials that have been shown to be safe by meeting a very severe fire test, just like those required by section 808 for I1, I2 and I3 occupancies. A key requirement is that the lids be tight fitting or self-closing.

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the fact that Section 3304.2.3 doesn't include a container size as do other sections of the code and because Section 3304.2.2 is unclear as to why a container would need to be emptied if it were not full and if it would need to be emptied if it became full before the end of a work shift.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3304.2.3 Rubbish containers. Where rubbish containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m³) are used ~~Containers with tight-fitting or self-closing lids shall be provided for temporary storage of combustible debris, rubbish and waste material, until the end of each shift of work they shall have tight fitting or self closing lids. Such~~ The rubbish containers shall be constructed entirely of materials that comply with one of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: The technical committee did not disagree with the requirement but was concerned about the lack of a minimum size limit. The minimum size limit added is consistent with the size requirements in section 304.3 of the IFC. The fire safety requirements are consistent with those for large rubbish containers throughout the IFC. At present there are no fire safety requirements for rubbish containers in this application and that is the only IFC section lacking such requirements.

The technical committee was also concerned about the requirement to empty containers at the end of each shift of work and it has been eliminated.

The proposal adds clarity to this section by reorganizing it in a more logical fashion.

F278-13

Final Action: AS AM AMPC_____ D

F279-13
3304.2.1 (New)

Proposed Change as Submitted

Proponent: Marcelo M Hirschler, GBH International (gbhint@aol.com)

Add new text as follows:

3304.2.1 Rubbish containers. Containers with tight-fitting or self-closing lids shall be provided for temporary storage of combustible debris, rubbish and waste material, until the end of each shift of work. The rubbish containers shall be constructed entirely of materials that comply with either of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

Reason: Rubbish containers should be provided for temporary storage of combustible rubbish (until the end of the shift of work). Such containers need not be constructed of metal but can be constructed of other noncombustible materials, including materials that have been shown to be safe by meeting a very severe fire test, just like those required by section 808 for I1, I2 and I3 occupancies. A key requirement is that the lids be tight fitting or self closing. Note that this does not address materials susceptible to spontaneous ignition, such as oily rags, covered by 3304.4. The use of the phrase "combustible debris, rubbish and waste" makes this section consistent with other sections of the IFC.

Cost Impact: Minimal

3304.2.1 (NEW)-F-HIRSCHLER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the fact that the proposal doesn't include a container size.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Marcelo M. Hirschler, (GBH International), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3304.2.1 Rubbish containers. ~~Containers with tight-fitting or self-closing lids shall be provided~~ Where rubbish containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m³) are used for temporary storage of combustible debris, rubbish and waste material, ~~until the end of each shift of work~~ they shall have tight fitting or self closing lids. ~~The~~ Such rubbish containers shall be constructed entirely of materials that comply with either of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

Commenter's Reason: The technical committee did not disagree with the requirement but was concerned about the lack of a minimum size limit. The minimum size limit added is consistent with the size requirements in section 304.3 of the IFC. The fire safety

requirements are consistent with those for large rubbish containers throughout the IFC. At present there are no fire safety requirements for rubbish containers in this application and that is the only IFC section lacking such requirements,

F279-13

Final Action: AS AM AMPC____ D

F285-13

5001.1, 5004.2.2, 5004.3, 5701.2

Proposed Change as Submitted

Proponent: Brad Emerick, Denver Fire Department representing the Fire Marshal's Association of Colorado (FMAC) and the Colorado Chapter of the ICC (CCICC) (brad.emerick@denvergov.org)

Revise as follows:

5001.1 Scope. Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter.

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that when specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

Exceptions:

1 through 9 *(No change to current text)*

~~10. The storage of distilled spirits and wines in wooden barrels and casks.~~

11. *(No change to current text)*

5004.2.2 Secondary containment for hazardous material liquids and solids. Where required by Table 5004.2.2 buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section when the capacity of an individual vessel or the aggregate capacity of multiple vessels exceeds the following:

1. Liquids: Capacity of an individual vessel exceeds 55 gallons (208 L) or the aggregate capacity of multiple vessels exceeds 1,000 gallons (3785 L); and
2. Solids: Capacity of an individual vessel exceeds 550 pounds (250 kg) or the aggregate capacity of multiple vessels exceeds 10,000 pounds (4540 kg).

Exception: The release of a liquid or solid without secondary containment into a sanitary or storm-water drainage system or onto the ground is allowed when in compliance with federal, state, or local governmental agencies' regulations and permits.

5004.3 Ventilation. Indoor storage areas and storage buildings shall be provided with mechanical exhaust ventilation or natural ventilation where natural ventilation can be shown to be acceptable for the materials stored.

Exception Exceptions:

1. Storage areas for flammable solids complying with Chapter 59.

2. Storage areas for distilled spirits in wooden barrels or casks.

5701.2 Nonapplicability. This chapter shall not apply to liquids as otherwise provided in other laws or regulations or chapters of this code, including:

1 through 9 *(No change to current text)*

~~10. The storage of distilled spirits and wines in wooden barrels and casks.~~

11. The storage of fermented beverages with ethyl alcohol contents of 16% or less.

Reason: There is confusion about the applicability of flammable liquid (Chapter 57) hazardous materials (Chapter 50) provisions to distilled spirits because of the exceptions for distilled spirits and wines stored in wooden barrels and casks in IFC Chapters 50 and

57 (and NFPA 30). The issue arises because of the growing popularity of “boutique” or “craft” distillers locating their operations in urban areas. The proposed language clarifies bulk storage provisions for distilled spirits but does not alter the intent. The proposed language does not affect provisions applicable to use, nor those applicable to liquor storage in retail or wholesale establishments. First, note distilled spirits are Class 1C and Class 1B flammable liquids. They are primarily comprised of ethyl alcohol (ethanol) and water with concentrations ranging from approximately 19% to 99%. The boiling point of pure ethanol is approximately 178°F so an ethanol mixture with water will boil between 178°F and 212°F. The closed cup flash point for a 19% concentration of ethanol in water is 100°F and for a 58% concentration is 73°F making the mixtures in this range Class 1C flammable liquids (these values are not adjusted for altitude). Ethanol concentrations in water between 58% and 99% are Class 1B flammable liquids.

Second, the Building Code establishes occupancy. If a quantity of a Class 1B or Class 1C flammable liquid exceeding the maximum allowable quantity (MAQ), the room in which it is located is an H3 Occupancy. Please remember this applies to bulk storage (casks, barrels, metal containers, etc. exceeding 1.3 gallon capacities) and not to liquor stores and wholesale distributors for which there are several exceptions.

Third, H occupancies have to be sprinklered. This is the primary provision overlooked because of the confusion noted above. This is not because wood is inherently safer than metal, plastic or glass – it is not. It was probably inserted in the legacy code(s) back when casks were stored in liquid storage warehouses separated by hundreds of feet from one another and urban distilleries weren't contemplated. It was probably held over today because there is not yet an established sprinkler criteria for the storage of Class 1C flammable liquids in wooden barrels and casks. THIS HOWEVER DOES NOT MEAN THESE ROOMS SHOULD BE EXEMPT FROM SPRINKLERING REQUIREMENTS! An engineered sprinkler design is required.

Fourth, the applicable code requirements have not been changed. The UBC legacy code excepted distilled spirits stored in wooden barrels and casks from the secondary containment and ventilation requirements normally mandated for flammable liquids. The exception was often misinterpreted even then to extend to the entire range of code provisions. When flammable liquids requirements were brought into the IFC, the exception was moved to the scoping provisions which created the confusion recurring today. The deletion of the exception in Section 5001.1 removes the confusion associated with the applicable requirements. The modifications to Sections 5004.2.2 and 5004.3 reestablish the exceptions to secondary containment and ventilation contained in the legacy code.

The Nonapplicability of Chapter 57 to distilled spirits is retained. The word “wines” is removed from the exception for two reasons:

- a) if the intent to read “distilled wines” then distilled spirits already includes this; and
- b) if the intent is to read “wines and distilled spirits” then wines is included in new item 11 (along with beer).

Cost Impact: This change will not affect the cost of construction.

5001.1-F-EMERICK

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the lack of technical justification for the proposed exception to Section 5004.2.2, the provisions of which appear to already be covered in current Section 5004.2.3. Also, current Section 5701.2, Exception 8 appears to cover the proposed change to that section.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brad Emerick, Denver Fire Department, representing Fire Marshal’s Association of Colorado (FMAC), requests Approval as Submitted.

Commenter’s Reason: The proposed language clarifies bulk storage provisions for distilled spirits but does not alter the intent. The proposed language does not affect provisions applicable to use or those applicable to liquor storage in retail or wholesale establishments.

Occupancy is established in the IBC and H occupancies have to be sprinklered. This is the primary provision overlooked because of the exceptions for distilled spirits stored in wooden barrels and casks.

When flammable liquids requirements were brought into the IFC, the exceptions were moved to the scoping provisions which created the confusion recurring today.

The deletion of the exception in Section 5001.1 removes the confusion associated with the applicable requirements.

The modifications to Sections 5004.2.2 and 5004.3 reestablish the exceptions to secondary containment and ventilation.

The Nonapplicability of Chapter 57 to distilled spirits is retained.

The word "wines" is removed from the exception for two reasons:

- a) if the intent to read "distilled wines" then distilled spirits already includes this; and
- b) if the intent is to read "wines and distilled spirits" then wines is included in new item 11 (along with beer).

F285-13

Final Action: AS AM AMPC_____ D

F295-13
5003.9, 5003.9.11 (New)

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
(john.williams@doh.wa.gov)

Revise as follows:

5003.9 General safety precautions. General precautions for the safe storage, handling or care of hazardous materials shall be in accordance with Sections 5003.9.1 through ~~5003.9.10~~ 5003.9.11.

5003.9.11 Emergency showers and eyewash stations. In Group I-2 Condition 2, where the eyes or body of any person are at risk for exposure to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. The emergency showers and eyewash stations shall be installed in accordance with the *International Plumbing Code*.

Reason: This proposal addresses KTag K134. The IPC already provides the installation requirements but the requirements are not called up in the IFC. This proposal uses verbiage from OSHA with some minor revisions to remove permissive language. The focus is only on corrosive materials which are defined in the IFC. The scope of this change is limited to Group I-2 condition 2 due to the scoping limitations of the Ad Hoc Healthcare Committee.

Source of verbiage (no copyright issues):

OSHA
1910.151(c)

Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

For Reference:

International Plumbing Code 2012

SECTION 411
EMERGENCY SHOWERS AND EYEWASH STATIONS

411.1 Approval. Emergency showers and eyewash stations shall conform to ISEA Z358.1.

411.2 Waste connection. Waste connections shall not be required for emergency showers and eyewash stations.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Cost impact:

5003.9-F-WILLIAMS-ADHOC

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the language of the proposal is vague and ambiguous and could lead to inconsistent enforcement. The committee also felt that including OSHA-type worker safety requirements in the code is inconsistent with the scope of the code and could lead to conflicts with OSHA regulations.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

5003.9 General safety precautions. General precautions for the safe storage, handling or care of hazardous materials shall be in accordance with Sections 5003.9.1 through 5003.9.11.

5003.9.11 Emergency showers and eyewash stations. In Group I-2 Condition 2, where the eyes or body of any a person are is at risk for exposure to injurious corrosive materials, ~~suitable facilities for quick drenching or flushing of the eyes and body~~ emergency showers or eyewash stations shall be provided within the work area for immediate emergency use. The emergency showers and eyewash stations shall be installed in accordance with the *International Plumbing Code*.

Commenter's Reason: How to install these systems is already in the IPC. The IFC does address hazards, so this trigger should be in the IFC. The modification is striking language that could be considered subjective.

F295-13

Final Action:

AS

AM

AMPC_____

D

F300-13

5203.7 (New), 5204.1

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing the Biomass Feedstock Industry Committee on Codes and Standards (BFICOCs) (rjd@davidsoncodeconcepts.com)

Revise as follows:

5203.7 Sources of ignition. Sources of ignition shall comply with Sections 5203.7.1 through 5203.7.2.

5003.7.1 Smoking. Smoking shall be prohibited and "No Smoking" signs provided as follows:

1. In rooms or areas where materials are stored or dispensed or used in open systems .
2. Within 25 feet (7620 mm) of outdoor storage or open use areas.
3. Facilities or areas within facilities that have been designated as totally "no smoking" shall have "No Smoking" signs placed at all entrances to the facility or area. Designated areas within such facilities where smoking is permitted either permanently or temporarily, shall be identified with signs designating that smoking is permitted in these areas only.

Signs required by this section shall be in English as a primary language or in symbols allowed by this code and shall comply with Section 310.

5203.7.2 Open flames. Open flames and high-temperature devices shall not be used in a manner which creates a hazardous condition and shall be listed for use with the materials stored or used.

5204.1 General. Loose combustible fibers, not in suitable bales or packages and ~~whether housed or stored outdoors~~ in the open, shall ~~not be stored within 100 feet (30 480 mm) any structure, except as indicated in this chapter~~ comply with Section 2808 of this code. Occupancies involving the indoor storage of loose combustible fibers in amounts exceeding the maximum allowable quantity per control area as set forth in Section 5003.1 shall comply with Sections 5204.2 through 5204.6.

Reason: This proposal is part of a package of proposals concerning Chapter 52 Combustible Fibers. An issue identified in review of the current code language and structure is that though Chapter 52 Combustible Fibers is located in the "Hazardous Materials" portion of the code, combustibles fibers are not defined as a hazardous material.

5001.2 Material classification. Hazardous materials are those chemicals or substances defined as such in this code. Definitions of hazardous materials shall apply to all hazardous materials, including those materials regulated elsewhere in this code.

5001.2.1 Mixtures. Mixtures shall be classified in accordance with hazards of the mixture as a whole. Mixtures of hazardous materials shall be classified in accordance with nationally recognized reference standards; by an approved qualified organization, individual, or Material Safety Data Sheet (MSDS); or by other approved methods.

5001.2.2 Hazard categories. Hazardous materials shall be classified according to hazard categories. The categories include materials regulated by this chapter and materials regulated elsewhere in this code.

5001.2.2.1 Physical hazards. The material categories listed in this section are classified as physical hazards. A material with a primary classification as a physical hazard can also pose a health hazard.

- 1. Explosives and blasting agents.*
- 2. Combustible liquids.*
- 3. Flammable solids, liquids and gases.*
- 4. Organic peroxide solids or liquids.*
- 5. Oxidizer, solids or liquids.*
- 6. Oxidizing gases.*
- 7. Pyrophoric solids, liquids or gases.*
- 8. Unstable (reactive) solids, liquids or gases.*
- 9. Water-reactive materials solids or liquids.*
- 10. Cryogenic fluids.*

5001.2.2.2 Health hazards. *The material categories listed in this section are classified as health hazards. A material with a primary classification as a health hazard can also pose a physical hazard.*

1. *Highly toxic and toxic materials.*
2. *Corrosive materials.*

Combustible fibers do not fit into those parameters. A review of the definition of hazardous materials found within the code also documents that the materials regulated by Chapter 52 are not hazardous materials.

[F] HAZARDOUS MATERIALS. *Those chemicals or substances that are physical hazards or health hazards as classified in Section 307 and the International Fire Code, whether the materials are in usable or waste condition.*

[F] HEALTH HAZARD. *A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term "health hazard" includes chemicals that are toxic or highly toxic, and corrosive.*

[F] PHYSICAL HAZARD. *A chemical for which there is evidence that it is a combustible liquid, cryogenic fluid, explosive, flammable (solid, liquid or gas), organic peroxide (solid or liquid), oxidizer (solid or liquid), oxidizing gas, pyrophoric (solid, liquid or gas), unstable (reactive) material (solid, liquid or gas) or water- reactive material (solid or liquid).*

Since the scoping of Chapter 50, including the sections within Chapter 50, are for the regulation of hazardous materials, even basic requirements found within Chapter 50 such as control of ignition hazards would not apply to the activities regulated by Chapter 52.

CHAPTER 50 HAZARDOUS MATERIALS—GENERAL PROVISIONS

SECTION 5001 GENERAL

5001.1 Scope. *Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter.*

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that when specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

SECTION 5003 GENERAL REQUIREMENTS

5003.1 Scope. *The storage, use and handling of all hazardous materials shall be in accordance with this section.*

This proposal addresses this issue by adding a Section 5203.7 "Sources of ignition" by extracting requirements from current Section 5003.7 "Sources of ignition" that would be appropriate for combustible fibers. In reality, there isn't any other section of Chapter 50 that provides for the regulation of combustible fibers.

In addition, this proposal is building upon a separate proposal to recognize the ability to control the hazards of combustible fibers just as the code provides for recognition of the control of combustible dust by modifying the language found in Section 5204.1.

Section 5204.1 is proposed to be modified to point to Section 2808 "STORAGE AND PROCESSING OF WOOD CHIPS, HOGGED MATERIAL, FINES, COMPOST AND RAW PRODUCT ASSOCIATED WITH YARD WASTE AND RECYCLING FACILITIES" of the fire code as the appropriate standard for the exterior storage

of combustible fibers. The materials and hazards presented are similar.

Section 5204.1 is further modified to indicate that the more restrictive indoor storage of combustible fibers regulated by Sections 5204.2 through 5204.6 is for those facilities that have amounts exceeding the maximum allowable quantity per control area as set forth in Section 5003.1. If the hazards are controlled eliminating the application of IFC Table 5003.1.1/IBC [F]307.1.1(1) and Sections 307.4 and 307.5 of the IBC, the increased protection levels are not necessary.

The Biomass Feedstock Industry Committee on Codes and Standards (BFICOCS), led by Oak Ridge National Laboratory (ORNL), is an initiative of the Department of Energy Biomass Technologies Office (BTO). As part of the BTO integrated biorefinery efforts, the BFICOCS was assembled to conduct analysis of existing fire and building codes and to prepare proposed code changes designed to facilitate the development of the commercial-scale biomass industry while maintaining a focus on safety. The committee is made up of managers, engineers and code officials from industry, government laboratories, consulting firms, and the American Society of Agricultural and Biological Engineers.

Fire codes related to storage, handling, and preprocessing of biomass are based on industries that operate in a significantly different manner than the growing biomass-based energy industry. Applying current research on biomass properties and knowledge of conventional and emerging storage, handling, and preprocessing technologies, the BFICOCS has identified changes in the IFC that benefit industry and the public.

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

5203.7 (NEW)-F-DAVIDSON

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides a needed improvement to the provisions applicable to combustible fibers.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bob Eugene, representing UL LLC, requests Approval as Modified by Public Comment.

Modify the proposal as follows:

5203.7.2 Open flames. Open flames and high-temperature devices shall not be used in a manner which creates a hazardous condition. High temperature devices and those devices utilizing an open flame and shall be listed for use with the materials stored or used.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: As written the proposal would require open flames to be listed. This public comment clarifies that it is the devices utilizing the open flames that must be listed.

F300-13

Final Action:

AS

AM

AMPC_____

D

F310-13

5307 (New), 908.7 (New), 105.6.4 (New), Table 105.6.8

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Add new text as follows:

SECTION 5307 CARBON DIOXIDE (CO₂) SYSTEMS USED IN BEVERAGE DISPENSING APPLICATIONS

5307.1 General. Carbon dioxide systems with 100 or more pounds of carbon dioxide used in beverage dispensing applications shall comply with Sections 5307.2 through 5307.5.2.

5307.2 Permits. Permits shall be required as set forth in Section 105.6.

5307.3 Equipment. The storage, use, and handling of liquid carbon dioxide shall be in accordance with Chapter 53 and the applicable requirements of NFPA 55, Chapter 13.

5307.4 Protection from damage. Carbon dioxide systems shall be installed so the storage tanks, cylinders, piping and fittings are protected from damage by occupants or equipment during normal facility operations.

5307.5 Required protection. Where carbon dioxide storage tanks, cylinders, piping and equipment are located indoors, rooms or areas containing carbon dioxide storage tanks, cylinders, piping and fittings and other areas where a leak of carbon dioxide can collect shall be provided with either ventilation in accordance with Section 5307.5.1 or an emergency alarm system in accordance with Section 5307.5.2.

5307.5.1 Ventilation. Mechanical ventilation shall be in accordance with the *International Mechanical Code* and shall comply with all of the following:

1. Mechanical ventilation in the room or area shall be at a rate of not less than 1 cubic foot per minute per square foot [0.00508 m³/(s • m²)].
2. Exhaust shall be taken from a point within 12 inches (305 mm) of the floor.
3. The ventilation system shall be designed to operate at a negative pressure in relation to the surrounding area.

5307.5.2 Emergency alarm system. An emergency alarm system shall comply with all of the following:

1. Continuous gas detection shall be provided to monitor areas where carbon dioxide can accumulate.
2. The threshold for activation of an alarm shall not exceed 5,000 parts per million (9,000 mg/m³).
3. Activation of the emergency alarm system shall initiate a local alarm at an approved location.

908.7 Carbon dioxide (CO₂) systems. Emergency alarm systems in accordance with Section 5307.5.2 shall be provided where required for compliance with Section 5307.5.

105.6.4 Carbon dioxide systems used in beverage dispensing applications. An operational permit is required for carbon dioxide systems used in beverage dispensing applications with more than 100 pounds of carbon dioxide.

(Renumber subsequent sections.)

Revise as follows:

**TABLE 105.6.8
PERMIT AMOUNTS FOR COMPRESSED GASES**

TYPE OF GAS	AMOUNT (cubic feet at NTP)
Inert and simple asphyxiant ^a	6,000

(Portions of table not shown remain unchanged)

For SI: 1 cubic foot = 0.02832 m³.

a. For carbon dioxide used in beverage dispensing applications, see Section 105.6.4.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal is intended to address fatal CO₂ poisoning incidents in restaurants where CO₂ leaked from large storage tanks and displaced oxygen in these areas. Two such incidents can be found at:

http://articles.orlandosentinel.com/2005-02-12/news/0502120303_1_carbon-dioxide-central-florida-sanford

<http://savannahnow.com/news/2011-09-14/carbon-dioxide-blamed-pooler-mcdonalds-death>

Individual requirements are proposed based on the following:

105.6.4 and Table 105.6.8 – Operational permits are required for CO₂ systems used in the beverage dispensing applications covered by new Section 5307.

5307.1 – The intent of the proposal is to address locations where CO₂ is used in conjunction with carbonators to produce carbonated beverages. A minimum trigger of 100 lbs. was selected for these requirements because it was felt that systems with lesser amounts of CO₂ do not pose as great a risk of asphyxiation as is present with large quantities of the gas.

5307.2 – Provides a reference to permit requirements that is consistent with other such references in the code.

5307.3 - Components in a compressed gas system are already required to comply with Chapter 53 which will cover items such as pressure vessel and piping requirements, among others. An additional reference to NFPA 55, Chapter 13 brings in additional requirements that relate specifically to these installations.

5307.4 - This section includes basic requirements that are intended to protect CO₂ storage tanks, cylinders, piping and fittings are protected from damage by occupants or equipment during normal facility operations. This will decrease the chance of damage that may cause leaks, which is especially important in the facilities in which gas detection systems are not provided.

5307.5 – This section requires buildings in which the CO₂ systems are installed to be provided with either ventilation that complies with Section 5307.5.1 or an emergency alarm system that complies with Section 5307.5.2. It does not require that both ventilation and gas detection be required.

The hazard associated with these systems is that the heavier than air CO₂ may accumulate and displace oxygen, creating an asphyxiation hazard. Leaks are most likely from fittings and connections, but could also be from plastic or other runs of piping.

5307.5.2 – When the emergency alarm system option is selected, it shall include a continuous gas detection system with CO₂ detectors of adequate number and spacing to cover the protected area. The trigger level of 5000 ppm CO₂ is the OSHA Permissible Exposure Limit (PEL).

Cost Impact: This proposal will add to the cost of construction.

5307 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

5307.1 General. Carbon dioxide systems with more than 100 ~~or more~~ pounds of carbon dioxide used in beverage dispensing applications shall comply with Sections 5307.2 through 5307.5.2.

5307.3 Equipment. The storage, use, and handling of liquid carbon dioxide shall be in accordance with Chapter 53 and the applicable requirements of NFPA 55, Chapter 13. Insulated liquid carbon dioxide systems shall have pressure relief devices vented in accordance with NFPA 55.

5307.5.2 Emergency alarm system. An emergency alarm system shall comply with all of the following:

1. Continuous gas detection shall be provided to monitor areas where carbon dioxide can accumulate.
2. The threshold for activation of an alarm shall not exceed 5,000 parts per million (9,000 mg/m³).
3. Activation of the emergency alarm system shall initiate a local alarm within the room or area in which the system is installed at an approved location.

(Portions of the proposal not shown remain unchanged.)

Committee Reason: The committee agreed with the proponent that the code change focuses on an emerging life safety hazard for building occupants and first responders and, while it will need some adjustments, it should be put into the code now to provide important safeguards against accidental CO₂ asphyxiation. The modification to Section 5307.1 provides correlation with the permit requirements of Section 105.6.4. The modification to Section 5307.3 provides needed overpressure protection for insulated systems. The modification to Section 5307.5.2 better defines where an alarm must sound and provides correlation with CGA-6.5 which, although not referenced in the IFC, is a national standard on the subject.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Christopher B. Cantrell, Nebraska Boiler Inspection Program Manager (i.e. Chief Boiler Inspector), NDOL, representing State of Nebraska; Tony Oda, Chief Boiler Inspector, representing State of Washington; Gary L. Scribner, Deputy Chief, representing Missouri Division of Fire Safety; Robby D. Troutt, Texas Department of Licensing and Regulation State of Texas, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

5307.5 Required protection. Where insulated liquid carbon dioxide storage tanks are located indoors or in enclosed areas an emergency alarm system shall be provided in accordance with Section 5307.5.2. Where carbon dioxide storage tanks, cylinders, piping and equipment are located indoors, rooms or areas containing carbon dioxide storage tanks, cylinders, piping and fittings and other areas where a leak of carbon dioxide can collect shall be provided with either ventilation in accordance with Section 5307.5.1 or an emergency alarm system in accordance with Section 5307.5.2.

5307.5.2 Emergency alarm system. An emergency alarm system shall comply with all of the following:

1. Continuous gas detection shall be provided to monitor areas where carbon dioxide can accumulate.
2. The threshold for activation of a Low Level alarm shall not exceed 5,000 parts per million (9,000 mg/m³). The threshold for activation of a High Level alarm shall not exceed 30,000 parts per million (27,000 mg/m³).
3. Activation of the emergency alarm system shall initiate a local alarm within the room or area in which the system is installed.
4. Warning signs shall be posted at the entrance to the building, room, enclosure, or enclosed area where storage containers are located.
5. Additional instructional signage shall be posted outside of the area where storage containers are located and such signage shall contain at minimum the following information.
 - 5.1 Low Level Alarm (5,000ppm) – Provide appropriate cross ventilation to the area. Personnel are allowed to enter the area for a period of time not to exceed 15 minutes in order to identify and repair potential leaks.
 - 5.2 High Level Alarm (30,000ppm) – Personnel shall evacuate the area and no personnel shall enter the affected area without proper self-contained breathing apparatus until the area is adequately ventilated and the concentration of CO₂ is reduced below the high alarm limit.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: Paragraph 5307.5 allows either alarms or ventilation. This is in conflict with the requirements of NFPA 55 chapter 13 for insulated liquid carbon dioxide storage tanks that are filled on site (adopted by reference in paragraph 5307.3), and it is in conflict with the installation requirements found in the 2013 Edition of the National Board Inspection Code, Part 1 Supplement 3 (ANSI/NB23). The above change would eliminate these conflicting statements and add consistency across the Codes.

Paragraph 5307.5.2 requires a local alarm in areas where carbon dioxide may accumulate but does not address signage. CO2 monitoring systems have different stages of alarms. With carbon dioxide systems being installed in almost every fast food restaurant and convenience store, locations that normally have high turnover and employ younger workers it is imperative to give clear direction to avoid misunderstanding, direction and undue panic. The proposed wording is also consistent with the requirements of the 2013 Edition of the National Board Inspection Code, Part 1, Supplement 3 (ANSI/NB23). These changes not only provide consistency between the codes, but they will provide clear guidance to workers and first responders in locations where carbon dioxide systems are installed.

Public Comment 2:

Barry Greive, representing Target Corporation, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

**SECTION 5307
CARBON DIOXIDE (CO₂) SYSTEMS USED IN BEVERAGE DISPENSING APPLICATIONS**

5307.1 General. Carbon dioxide systems with 100 or more pounds of carbon dioxide used in beverage dispensing applications shall comply with Sections 5307.2 through 5307.5.2.

Exceptions:

1. (CO₂) tanks with 100 pounds of carbon dioxide that are open to spaces 5,000 to 10,000 square feet or greater.
2. (CO₂) tanks ≤ 300 pounds of carbon dioxide that are open to spaces greater than 10,000 to 20,000 square feet or greater.
3. (CO₂) tanks ≤ 500 pounds that are open to spaces greater than 20,000 to 50,000 square feet.
4. (CO₂) tanks over 500 pounds that are open to spaces greater than 50,000 square feet.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: There are many situations where the Carbon Dioxide tank is open to a much larger area and the levels of (CO₂) would not reach a hazardous level because of the sheer volume of air in the space. If the tanks are located in a small room or enclosed space then there is a justifiable need for additional safeguards. These system are widely used and throughout the food and beverage industry and are becoming more prevalent all the time.

The proposed exceptions are very conservative in nature for your average building and using methodology used for refrigeration system detection and alarming. The numbers were derived using a safe amount of 5.7 pounds of carbon dioxide per 1000 cubic feet.

F310-13

Final Action: AS AM AMPC_____ D

F325-13
6003.1.4.1

Proposed Change as Submitted

Proponent: Elley Klausbruckner representing Klausbruckner & Associates Inc (ek@klausbruckner.com)

Revise as follows:

6003.1.4.1 Floors. In addition to the requirements set forth in Section 5004.12, floors of storage areas where highly toxic and toxic liquids are stored shall be of liquid-tight construction.

Reason: Liquid tight flooring for storage of highly toxic and toxic solids is illogical. We believe the code section was intended for storage of liquids only.

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

6003.1.4.1-F-KLAUSBRUCKNER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that removal of the requirement for solids could create a hazard condition where firefighting water application would create a liquid mixture that should be contained.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Elley Klausbruckner, representing Klausbruckner & Associates Inc., requests Approval as Submitted.

Commenter's Reason: The code section has nothing to do with containment. This code change does not eliminate containment at all. It simply proposes that the requirements of liquid tight flooring does not apply to toxic or highly toxic solids.

Additionally the argument that toxic or highly toxic solids should be stored in rooms having liquid tight flooring because of the firefighting water application is illogical. Using the same argument warehouses containing many commonly used plastics should be also liquid tight since during pyrolysis many of the plastics can be considered as toxic which then creates the same situation if firefighting water is applied.

F325-13

Final Action:

AS

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AMPC____

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F327-13
Table 6104.3

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswiecicki@npga.org)

Revise as follows:

TABLE 6104.3
LOCATION OF LP-GAS CONTAINERS

LP-GAS CONTAINER CAPACITY (water gallons)	MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS AND BUILDINGS, PUBLIC WAYS OR LOT LINES OF ADJOINING PROPERTY THAT CAN BE BUILT UPON		MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS ^{b, c} (feet)
	Mounded or underground LP-gas containers ^a (feet)	Above-ground LP-gas containers ^b (feet)	

(Portions of table not shown remain unchanged)

Reason: The definition in the International Fire Code of “public way” is:

“A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet.”

The Commentary to the IFC elaborates by saying:

“The Public way marks the termination of the exit discharge portion of the means of egress system. It is the final destination for occupants, and is presumed to be safe from the emergency occurring in the structure or that it will directly connect to other routes so that occupants can move a distance away from the danger.”

Based on the history of the term “public way,” the chief concern is being able to egress the occupants of a building in a manner that allows them to have access to a safe space outside the building. The presumption is that an emergency has occurred inside the building and the occupants must egress the building safely.

The restriction on the placement of a propane container with respect to a public way is not consistent with the purpose for establishing a public way because the threat to the occupants does not come from the propane container. The container is required to be located a specific distance from the building based on its size and therefore, the container will not be threatened by a fire event that occurs within the building. It has been shown that the distances required by Table 6104.3 are sufficient to maintain the safety of the container even if the building is on fire. Therefore, there is no threat to the occupants from the propane container as they egress the building. In addition, the potential concern of vehicular impact to the propane container is already addressed in Section 312 of the IFC.

Chapter 61 refers to NFPA 58 as a standard that “fills in the gaps” that may not be addressed in Chapter 61. In this case, NFPA 58 has a restriction (Table 6.5.3) on the location of product transfers with respect to public ways and places of public assembly. Transfers of propane into or out of the container are prohibited within 10 feet of a public way and within 50 feet of outdoor places of public assembly. Therefore, the threat to the general public during product transfer operations is addressed by NFPA 58.

The limitation in the IFC on the placement of containers with respect to public ways creates a conflict between Section 6104.3 with Table 6104.3 in the IFC and Section 6.3.1 with Table 6.3.1 in NFPA 58. This conflict has led to differing interpretations by various authorities having jurisdiction and we propose to delete the term “public ways” to resolve the conflict.

In summary, elimination of the term “public way” will not compromise the safety of the occupants of the building and will resolve a conflict between the IFC and NFPA 58.

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

6104.3-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the public way, where owned by a municipality, could be used for any purpose and could even be sold for private development which would place the propane tank too close to the new private property line.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Submitted.

Commenter's Reason: The Committee Reason Statement is not solid justification for disapproving this code change because it does not recognize that a propane container can be moved to another location very easily.

The definition in the International Fire Code of "public way" is: "A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet." The Commentary to the IFC elaborates by saying: "*The Public way marks the termination of the exit discharge portion of the means of egress system. It is the final destination for occupants, and is presumed to be safe from the emergency occurring in the structure or that it will directly connect to other routes so that occupants can move a distance away from the danger.*"

Based on the history of the term "public way," the chief concern is being able to egress the occupants of a building in a manner that allows them to have access to a safe space outside the building. The presumption is that an emergency has occurred inside the building and the occupants must egress the building safely.

The restriction on the placement of a propane container with respect to a public way is not consistent with the purpose for establishing a public way because the threat to the occupants does not come from the propane container. The container is required to be located a specific distance from the building based on its size and therefore, the container will not be threatened by a fire event that occurs within the building. It has been shown that the distances required by Table 6104.3 are sufficient to maintain the safety of the container even if the building is on fire. Therefore, there is no threat to the occupants from the propane container as they egress the building. In addition, the potential concern of vehicular impact to the propane container is already addressed in Section 312 of the IFC.

Chapter 61 refers to NFPA 58 as a standard that "fills in the gaps" that may not be addressed in Chapter 61. In this case, NFPA 58 has a restriction (Table 6.5.3) on the location of product transfers with respect to public ways and places of public assembly. Transfers of propane into or out of the container are prohibited within 10 feet of a public way and within 50 feet of outdoor places of public assembly. Therefore, the threat to the general public during product transfer operations is addressed by NFPA 58.

The limitation in the IFC on the placement of containers with respect to public ways creates a conflict between Section 6104.3 with Table 6104.3 in the IFC and Section 6.3.1 with Table 6.3.1 in NFPA 58. This conflict has led to differing interpretations by various authorities having jurisdiction and we propose to delete the term "public ways" to resolve the conflict. In summary, elimination of the term "public way" will not compromise the safety of the occupants of the building and will resolve a conflict between the IFC and NFPA 58.

F327-13

Final Action:

AS

AM

AMPC____

D

F328-13
Table 6104.3

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswiecicki@npga.org)

Revise as follows:

TABLE 6104.3
LOCATION OF LP-GAS CONTAINERS

LP-GAS CONTAINER CAPACITY (water gallons)	MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS AND BUILDINGS, PUBLIC WAYS OR LOT LINES OF ADJOINING PROPERTY THAT CAN BE BUILT UPON		MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS ^{b, c} (feet)
	Mounded or underground LP-gas containers ^a (feet)	Above-ground LP-gas containers ^b (feet)	
Less than 125 ^{c, d}	10	5 e	None
501 to 2,000	10	25 e, f	3

(Portions of table not shown remain unchanged)

a through d *(No changes to current text)*

e. The following shall apply to above-ground containers installed alongside buildings:

1. LP-gas containers of less than a 125-gallon water capacity are allowed next to the building they serve when in compliance with Items 2, 3 and 4.
2. LP-gas containers of less than a 125-gallon water capacity are allowed next to a lot line of adjoining property.
23. Department of Transportation (DOTn) specification LP-gas containers shall be located and installed so that the discharge from the container pressure relief device is at least 3 feet horizontally from building openings below the level of such discharge and shall not be beneath buildings unless the space is well ventilated to the outside and is not enclosed for more than 50 percent of its perimeter. The discharge from LP-gas container pressure relief devices shall be located not less than 5 feet from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances or mechanical ventilation air intakes.
34. ASME LP-gas containers of less than a 125-gallon water capacity shall be located and installed such that the discharge from pressure relief devices shall not terminate in or beneath buildings and shall be located at least 5 feet horizontally from building openings below the level of such discharge and not less than 5 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
45. The filling connection and the vent from liquid-level gauges on either DOTn or ASME LP-gas containers filled at the point of installation shall not be less than 10 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances or mechanical ventilation air intakes.

f. *(No change to current text)*

Reason: This proposal will bring the IFC into closer correlation with NFPA 58 regarding the installation of small containers next to buildings. There is no technical basis for permitting the installation of a small container next to a building and still mandating a separation distance from a lot line, as Note e to Table 6104.3 may currently be interpreted to require. ICC staff previously responded to a request for interpretation and agrees that an installation in which a small container is located next to a building does not constitute a violation if the property line is within 5 feet of the container.

The other change would strike the reference to Note e in the cell for 501-2000 gallon above-ground containers. Since Note e is only applicable to containers less than 125 gallons, there is no need to reference it in that cell.

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

6104.3T #1-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's concern that property lines can change through zoning changes or lot consolidations. It also appears that the revision to Note e.1 would contain two separate exceptions that should be shown as separate sub-notes.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Submitted.

Commenter's Reason: In rebuttal to the Committee Statement, propane containers, especially those less than 125 gallons, are easily relocated.

This proposal will bring the IFC into closer correlation with NFPA 58 regarding the installation of small containers next to buildings. There is no technical basis for permitting the installation of a small container next to a building and still mandating a separation distance from a lot line, as Note e to Table 6104.3 may currently be interpreted to require.

F328-13

Final Action:

AS

AM

AMPC ____

D

F332-13
6110.1, 6110.2

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswecicki@npga.org)

Revise as follows:

6110.1 ~~Temporarily out of service~~ Containers disconnected from service at consumer sites. LP-gas containers disconnected from service whose use has been temporarily discontinued at consumer sites shall comply with all of the following:

- ~~1. Be disconnected from appliance piping.~~
- 21. Have The** LP-gas container outlets, except pressure relief valves, shall be closed or and plugged or capped.
- ~~32. Be~~ **The container shall be** positioned with the pressure relief valve in direct communication with the LP-gas container vapor space.

6110.2 ~~Permanently out of service~~ Retrieval of disconnected containers. LP-gas containers ~~to be placed permanently out of service shall be removed from the site.~~ LP-gas containers that have been disconnected from service shall be retrieved by the owner.

Reason: As currently worded, the text in Section 6110 is confusing and difficult to implement. A reading of the 2012 Commentary indicates that the concern is over LP-gas containers that have been disconnected from service due to a customer's request, usually because the customer wants to switch suppliers. The text proposed above will clarify in concise terms what needs to be done in order to avoid the release of gas from a container that has been disconnected from service. The proposal accomplishes the following:

- The changed titles clarify the intent of these sections.
- The deletion of current #1 occurs because the first sentence of the paragraph establishes that the container has already been disconnected from the piping system.
- Changing "outlets" to "appurtenances" is more accurate since not every valve on a container is an "outlet." Container appurtenances are defined in NFPA 58 as "devices installed in container openings for safety, control or operating purposes."
- It is necessary not only to close the valve, but also to plug or cap it.

Current 6110.2 was reworded slightly to establish the responsibility lies with the container owner by recognizing that although the majority of propane tanks are owned by the propane marketer, some are owned by the property owner and therefore the marketer has no control over them.

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

6101.1-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's concern that the code change would allow disconnected containers to be left on the site for an indeterminate length of time, thereby increasing the hazard to firefighters. Section 6110.2 does not deal with all options of ownership of the container.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

6110.1 Temporarily Containers out of service LP-gas containers whose use has been temporarily discontinued disconnected from service at consumer sites shall comply with all of the following:

1. Be disconnected from appliance piping.
2. Have The LP-gas container outlets valves and openings, except pressure relief valves, shall be closed or and plugged or capped.
3. Be The container shall be positioned with the pressure relief valve in direct communication with the LP-gas container vapor space of the container.

6110.2 Permanently out of service Retrieval of containers. LP-gas containers to be placed permanently out of disconnected from service shall be removed from the site.

Commenter's Reason: This proposal will "clean up" the language in 6110.1 and also incorporates the important safety provision of requiring valves to be not only closed, but also plugged and capped when the container is disconnected from service.

The title of Section 6110.2 can lead to confusion so we are proposing an alternative. Also, since a container that is disconnected from service is not necessarily "permanently out of service," the modification will clarify that this requirement is related to 6110.1.

F332-13

Final Action: AS AM AMPC ____ D

F333-13

6111.2, 6111.2.1, 6111.2.2

Proposed Change as Submitted

Proponent: Bruce Swiecicki representing National Propane Gas Association (bswecicki@npga.org)

Revise as follows:

6111.2 Unattended parking. The unattended parking of LP-Gas cargo tank vehicles not in service shall be in accordance with ~~Sections 6111.2.1 and 6111.2.2~~ one of the following:

1. Vehicles shall be parked within a LP-Gas Bulk Plant.
2. Vehicles shall be parked off of public streets, highways, public avenues or public alleys.
3. Vehicles shall be parked at other *approved* locations not less than 50 feet (15. 240 m) from buildings, other than those *approved* for the storage or servicing of such vehicles.

~~**6111.2.1 Near residential, educational and institutional occupancies and other high-risk areas.** LP-gas tank vehicles shall not be left unattended at any time on residential streets or within 500 feet (152 m) of a residential area, apartment or hotel complex, educational facility, hospital or care facility. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the *fire code official*, pose an extreme life hazard.~~

~~**6111.2.2 Durations exceeding 1 hour.** LP-gas tank vehicles parked at any one point for longer than 1 hour shall be located as follows:~~

- ~~1. Off public streets, highways, public avenues or public alleys.~~
- ~~2. Inside of a bulk plant.~~
- ~~3. At other *approved* locations not less than 50 feet (15 240 mm) from buildings other than those *approved* for the storage or servicing of such vehicles.~~

Reason: LP-gas tank vehicles are more commonly referred to as “cargo tank vehicles” and they are under the jurisdiction of the U.S. Department of Transportation, Title 49 of the Code of Federal Regulations. The transportation of hazardous materials (propane is classified as a flammable gas, Division 2.1) is regulated by the Hazardous Materials Regulations (Parts 171-185) and the Federal Motor Carrier Safety Regulations (Parts 350-399).

The current text in 6111.2 addresses “unattended” parking, in which the operator of the vehicle is not present and able to react to an emergency situation by either driving the vehicle or controlling the flow of product into or out of the cargo tank. A vehicle that is parked for the purpose of transferring product into or out of the cargo tank would not be considered to be “unattended” because paragraph 177.834 (i) requires the operator to be in attendance during the product transfer operation. Therefore, the requirements in 6111.2 would not be applicable whenever the cargo tank vehicle was being loaded or unloaded.

The requirements in 6111.2.1 address unattended parking with respect to certain occupancies and other locations that are termed “high-risk” areas. This paragraph is not needed in the code because it imposes requirements that are unwarranted and contradictory as compliance with 6111.2.1 and 6111.2.2 is muddled, i.e., it is not uncommon for LP-gas bulk plants to be located within 500 feet of the occupancies and locations that are mentioned in 6111.2.1. Therefore, the parking of cargo tank vehicles *even within the confines of the bulk plant could constitute a violation.*

Furthermore, the requirements from 49 CFR Part 397.7(b) makes no mention of the occupancies or locations described in 6111.2.1:

§ 397.7 Parking

(b) A motor vehicle which contains hazardous materials other than Division 1.1, 1.2, or 1.3 materials must not be parked on or within five feet of the traveled portion of public street or highway except for brief periods when the necessities of operation require the vehicle to be parked and make it impracticable to park the vehicle in any other place.

The requirements in current paragraph 6111.2.2 are reasonable and do not impose an undue burden on operators of LP-gas cargo tank vehicles. Those requirements are more consistent (but not identical) with those in paragraph 9.7.2 of NFPA 58. Therefore, this wording is retained in 6111.2.

The 50-foot separation distance has been shown to be a valid separation distance to protect the cargo tank from exposure to nearby fires. The 50-foot separation is required for stationary containers greater than 2,000 gallons water capacity and has been justified by numerical modeling of steel containers exposed to fire. The research paper, (*Journal of Hazardous Materials*, April 2006) analyzed steel propane containers of the sizes referred to in Table 6104.3 that were exposed to a severe petroleum pool fire

100 feet in diameter. The modeling indicated that the temperatures of the container walls were well below the temperature at which steel begins to yield. Since all LPG cargo tank motor vehicles are less than 30,000 gallons water capacity, the fifty foot separation distance is justified.

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

6111.2-F-SWIECICKI

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's concern over the lack of technical documentation on why the distance should be changed from 500 feet all the way down to 50 feet.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Bruce Swiecicki, National Propane Gas Association, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

6111.2 Unattended parking. The unattended parking of LP-Gas cargo tank vehicles not in service shall be in accordance with a LP-Gas bulk plant or the parking location shall comply with one of the following:

- ~~1. Vehicles shall be parked within a LP-Gas Bulk Plant.~~
21. Vehicles shall be parked off of public streets, highways, public avenues or public alleys.
32. Vehicles shall be parked at other approved locations not less than 50 feet (15. 240 m) from buildings, other than those approved for the storage or servicing of such vehicles.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: LP-gas tank vehicles are more commonly referred to as "cargo tank vehicles" and they are under the jurisdiction of the U.S. Department of Transportation, Title 49 of the Code of Federal Regulations. The transportation of hazardous materials (propane is classified as a flammable gas, Division 2.1) is regulated by the Hazardous Materials Regulations (Parts 171-185) and the Federal Motor Carrier Safety Regulations (Parts 350-399).

The current text in 6111.2 addresses "unattended" parking, in which the operator of the vehicle is not present and able to react to an emergency situation by either driving the vehicle or controlling the flow of product into or out of the cargo tank. A vehicle that is parked for the purpose of transferring product into or out of the cargo tank would not be considered to be "unattended" because paragraph 177.834 (i) requires the operator to be in attendance during the product transfer operation. Therefore, the requirements in 6111.2 would not be applicable whenever the cargo tank vehicle was being loaded or unloaded.

The requirements in 6111.2.1 address unattended parking with respect to certain occupancies and other locations that are termed "high-risk" areas. This paragraph is not needed in the code because it imposes requirements that are unwarranted and contradictory as compliance with 6111.2.1 and 6111.2.2 is muddled, i.e., it is not uncommon for LP-gas bulk plants to be located within 500 feet of the occupancies and locations that are mentioned in 6111.2.1. Therefore, the parking of cargo tank vehicles even within the confines of the bulk plant could constitute a violation.

Furthermore, the requirements from 49 CFR Part 397.7(b) makes no mention of the occupancies or locations described in 6111.2.1:

§ 397.7 Parking

(b) A motor vehicle which contains hazardous materials other than Division 1.1, 1.2, or 1.3 materials must not be parked on or within five feet of the traveled portion of public street or highway except for brief periods when the necessities of operation require the vehicle to be parked and make it impracticable to park the vehicle in any other place.

The requirements in current paragraph 6111.2.2 are reasonable and do not impose an undue burden on operators of LP-gas cargo tank vehicles. Those requirements are more consistent (but not identical) with those in paragraph 9.7.2 of NFPA 58. Therefore, this wording is retained in 6111.2.

The 50-foot separation distance has been shown to be a valid separation distance to protect the cargo tank from exposure to nearby fires. The 50-foot separation is required for stationary containers greater than 2,000 gallons water capacity and has been justified by numerical modeling of steel containers exposed to fire. The research paper, (*Journal of Hazardous Materials*, April 2006) analyzed steel propane containers of the sizes referred to in Table 6104.3 that were exposed to a severe petroleum pool fire 100 feet in diameter. The modeling indicated that the temperatures of the container walls were well below the temperature at which steel begins to yield. Since all LPG cargo tank motor vehicles are less than 30,000 gallons water capacity, the fifty foot separation distance is justified.

F333-13

Final Action: AS AM AMPC____ D

F340-13

Appendix B105.1, Table B105(1) (New), B105.2, Table B105(2) (New), Table B105.1

Proposed Change as Submitted

Proponent: Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Revise as follows:

B105.1 One- and two-family dwellings, congregate living facilities of Groups R-3 and R-4 and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family *dwellings*, congregate living facilities of Group R-3 and R-4 and townhouses having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m²) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour. Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m²) shall not be less than that specified in Table B105.1. shall be as specified in Tables B105(1) and B105(3).

Exception: A reduction in required fire-flow of 50 percent, as approved, is allowed when the building is equipped with an approved automatic sprinkler system.

TABLE B105(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, CONGREGATE LIVING FACILITIES OF GROUP R-3 AND R-4 AND TOWNHOUSES,

<u>FIRE-FLOW CALCULATION AREA (square feet)</u>	<u>AUTOMATIC SPRINKLER SYSTEM (Design Standard)</u>	<u>MINIMUM FIRE-FLOW (gallons per minute)</u>	<u>FLOW DURATION (hours)</u>
<u>0-3,600</u>	<u>No automatic sprinkler system</u>	<u>1,000</u>	<u>1</u>
<u>3,601-greater</u>	<u>No automatic sprinkler system</u>	<u>Value in Table B105(3)</u>	<u>Duration in Table B105(3) at the required fire-flow rate</u>
<u>0-3,600</u>	<u>Section 903.3.1.3 of the <i>International Fire Code</i>. or Section P2904 of the <i>International Residential Code</i></u>	<u>500</u>	<u>0.5</u>
<u>3,601-greater</u>	<u>Section 903.3.1.3 of the <i>International Fire Code</i>. or Section P2904 of the <i>International Residential Code</i></u>	<u>½ value in Table B105(3)</u>	<u>1</u>

B105.2 Buildings other than one- and two-family dwellings, congregate living facilities of Group R-3 and R-4 and Townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family *dwellings*, congregate living facilities of Group R-3 and R-4 and Townhouses shall be as specified in Tables B105.4 B105(2) and B105(3).

Exception: A reduction in required fire-flow of up to 75 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1.

TABLE B105(2)
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS,
CONGREGATE LIVING FACILITIES OF GROUP R-3 AND R-4 AND TOWNHOUSES,

<u>AUTOMATIC SPRINKLER SYSTEM(Design Standard)</u>	<u>MINIMUM FIRE-FLOW (gallons per minute)</u>	<u>FLOW DURATION (hours)</u>
<u>No automatic sprinkler system</u>	<u>Value in Table B105.3</u>	<u>Duration in Table B105(3)</u>
<u>Section 903.3.1.1 of the International Fire Code.</u>	<u>25% of the value in Table B105(3)^a</u>	<u>Duration in Table B105(3) at the reduced flow rate</u>
<u>Section 903.3.1.2 of the International Fire Code.</u>	<u>25% of the value in Table B105(3)^b</u>	<u>Duration in Table B105(3) at the reduced flow rate</u>

a. The reduced fire-flow shall not be less than 1,000 gallons per minute (5678 L/min)

b. The reduced fire-flow shall not be less than 1,500 gallons per minute (3785 L/min)

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved *automatic sprinkler system*, the water supply shall be capable of providing the greater of:

1. The automatic sprinkler system demand, including hose stream allowance.
2. The required fire-flow.

TABLE B105.1 B105(3)
~~MINIMUM REQUIRED FIRE FLOW AND FLOW DURATION FOR BUILDINGS~~
REFERENCE TABLE FOR TABLES B105(1) AND B102(2)

(Portions of table not shown remain unchanged)

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

1. Clarifies that "Townhouses" R-3 and R-4 congregate living facilities are to be treated as one-and-two family dwellings with respect to developing needed fire flow in accordance with appendix B.
2. Relocates the fire flow modifiers from the paragraph to a table format in B105(1) and B105(2) for easier readability and application by the user.
3. Recognizes the provisions of P2904 in the IRC as equivalent to NFPA 13D when determining needed fire flow.
4. Provides a reduction in the required duration of fire flow for fully sprinklered one-and two-family dwellings less than 3,600 square feet as a reasonable incentive for the installation of a fire sprinkler system. Experience with fire sprinklers shows that a vast majority of fires in one and two family dwellings will be controlled or extinguished by the fire sprinkler system. This duration modifier also provides an achievable fire flow in rural applications where the development of a 1 hour duration is unrealistic.
5. Provides reduction to 1,000 GPM, rather than 1,500 GPM, for buildings other than one-and two-family dwellings and townhomes protected in accordance with NFPA 13 sprinkler systems. Currently, the appendix treats both NFPA 13R and NFPA 13 systems similarly permitting a reduction in fire flow to 1,500 GPM. An NFPA 13 system provides a significantly greater level of protection via the system design area, water supply and protection of concealed combustible spaces. Due to this level of protection, there should be a reduced minimum fire flow for buildings protected in accordance with NFPA 13 systems as opposed to NFPA 13R systems.
6. The current language provides no guidance to the Fire Chief as to criteria upon which to base approval of the required fire flow reduction for sprinkler protected buildings. The change simply allows the reduction by the elimination of the exceptions and codifying the credits in the tables.
7. This code change proposal clarifies in B105.3 that a fire sprinkler demand should not be added to the manual fire flow demand in developing the needed fire flow. The greater of the sprinkler demand or the demand developed in accordance with Appendix B will be the required fire flow.
8. IFC Section 903.3.1.3 was revised last cycle to include Group R-3 and R-4 congregate residences as well as townhouses. Fair Housing by law requires group homes to be considered the same as single family.

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

B105.1-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The approval was based on the committee's judgment that the proposal recognizes the progress in the development of sprinkler technology and the corresponding reduction in required fire flows.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

B105.1 One- and two-family dwellings, ~~congregate living facilities~~ of Groups R-3 and R-4 and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family *dwellings*, ~~congregate living facilities~~ of Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.1(1) and B105.1(2)(3).

**TABLE B105.1(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, ~~CONGREGATE LIVING FACILITIES~~ OF GROUP R-3
AND R-4 BUILDINGS AND TOWNHOUSES,**

FIRE-FLOW CALCUATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE- FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1,000	1
3,601-greater	No automatic sprinkler system	Value in Table B105.1(2)(3)	Duration in Table B105.1(2)(3) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the <i>International Fire Code</i> . or Section P2904 of the <i>International Residential Code</i>	500	0.5
3,601-greater	Section 903.3.1.3 of the <i>International Fire Code</i> . or Section P2904 of the <i>International Residential Code</i>	½ value in Table B105.1(2)(3)	1

**TABLE B105.1(2)(3)
REFERENCE TABLE FOR TABLES B105.1(1) AND ~~B102(2)~~B105.2
(Portions of table not shown remain unchanged)**

B105.2 Buildings other than one- and two-family dwellings, ~~congregate living facilities~~ of Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family *dwellings*, ~~congregate living facilities~~ of Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2(2) and B105.1(2)(3).

TABLE B105.2(2)
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, CONGREGATE LIVING FACILITIES OF GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES,

AUTOMATIC SPRINKLER SYSTEM(Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.3 <u>B105.2(2)</u>	Duration in Table B105.1(2)(3)
Section 903.3.1.1 of the <i>International Fire Code</i> .	25% of the value in Table B105.1(2)(3) ^a	Duration in Table B105.1(2)(3) at the reduced flow rate
Section 903.3.1.2 of the <i>International Fire Code</i> .	25% of the value in Table B105.1(2)(3) ^b	Duration in Table B105.1(2)(3) at the reduced flow rate

- a. The reduced fire-flow shall not be less than 1,000 gallons per minute (5678 L/min)
b. The reduced fire-flow shall not be less than 1,500 gallons per minute (3785 L/min)

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved *automatic sprinkler system*, the water supply shall be capable of providing the greater of:

1. The automatic *sprinkler system demand*, including hose stream allowance.
2. The required fire-flow.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Group R-3 may resemble townhouses or one- or two- story dwellings. The current text does not address those types of Group R-3. Group R-4 are always congregate residences. Therefore, removing the term "congregate living facilities of" would allow for all Group R-3 and R-4 buildings to use this sprinkler option.

The changes to the table references are editorial for the correct numbering of tables in accordance standard code language.

F340-13

Final Action: AS AM AMPC____ D

F341-13
Appendix D106.3 (New)

Proposed Change as Submitted

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs Building/Fire Safety Division, representing self (ACApfelbeck@Altamonte.org)

Add new text as follows:

D106.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

Reason: Currently, Section D106, Multiple-Family Residential Developments, does not require fire apparatus access roads to be remote when more than one access road is required. D104, Commercial and Industrial Developments, and D107, One- or Two-Family Residential Developments already contain a "remoteness" provision.

This code change proposal duplicates the language from D104.3 into a new 106.3 placing new "Remoteness" language within the Section D106 that is directly relevant to Multiple-Family Residential Developments.

Cost Impact: This code change will increase the cost of construction.

D106.3-F-APFELBECK

Committee Action Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee approved the code change based on the proponent's reason statement and that the proposal provides long needed guidance for multi-family structures.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Jeffrey M. Shapiro, P.E., International Code Consultants, representing National Multi Housing Council, requests Disapproval.

Commenter's Reason: The foundation of this proposal is paralleling the requirements for developments with one- and two-family dwellings and developments with multifamily dwellings. Simple duplication is not appropriate in this case because developments with one- and two-family dwellings may or may not include fire sprinklers in all of the buildings. In contrast, all new multi-family developments only include buildings that have fire sprinklers and minimum requirements for fire resistance apply.

No justification was offered by the original proposal to substantiate the change other than correlation, and because the situations dealt with by these two parts of the code are different, simply duplicating the text from one place to the other is not appropriate. At a minimum, some reduction in any separation requirement that may be proposed should be considered given the different levels of fire protection provided for homes vs. multifamily occupancies.

F341-13

Final Action:

AS

AM

AMPC_____

D

F345-13

Appendix K (New)

Proposed Change as Submitted

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

Add new text as follows:

Appendix K Employee Qualifications

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

SECTION K101 FIRE INSPECTOR AND FIRE PLAN EXAMINER QUALIFICATIONS

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

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

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

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

Recommendation 3 of the NIST report reads as follows:

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

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

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

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

This proposal is submitted by the ICC Code Technology Committee. The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/CTC/Pages/default.aspx>. Since its inception in April/2005, the CTC has held twenty-five meetings - all open to the public. In 2012, three of the 25 face-to face meetings were held. In addition to the CTC meetings, the CTC established Study Groups (SG) of interested parties for each of the areas of study. These SG's are responsible for reviewing the available information and making recommendations to the CTC. All totaled, the SG's held over 70 conference calls in 2012.

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

APPENDIX K (NEW)-F-BALDASSARRA-CTC

Committee Action Hearing Results

Committee Action:

Disapproved

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

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

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

Modify the proposal as follows:

Appendix K Employee Qualifications

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

SECTION K101 FIRE INSPECTOR AND FIRE PLAN EXAMINER QUALIFICATIONS

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

Exceptions:

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

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

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

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

F345-13

Final Action: AS AM AMPC ____ D

F349-13

3203.4

Proposed Change as Submitted

Proponent: Darren Meyers, P.E., International Energy Conservation Consultants, LLC, representing the Biomass Feedstock Industry Committee on Codes and Standards (dmeyers@ieccode.com)

Revise as follows:

3203.4 Class III commodities. Class III commodities are commodities of wood, paper, natural fiber cloth, or Group C plastics or products thereof, with or without pallets. Products are allowed to contain limited amounts of Group A or B plastics, such as metal bicycles with plastic handles, pedals, seats and tires. Group A plastics shall be limited in accordance with Section 3203.7.4. Examples of Class III commodities include, but are not limited to, the following:

- Aerosol, Level 1 (see Chapter 28)
- Biomass briquettes, bagged, totes and static piles
- Biomass pellets, bagged, totes and static piles
- Charcoal
- Combustible fiberboard
- Cork, baled
- Corn cobs, static piles
- Corn stover, baled and chopped
- Feed, bagged
- Fertilizers, bagged
- Firewood
- Food in plastic containers
- Forest residue, round wood or chipped (branches, bark, cross-cut ends, edgings and treetops)
- Furniture: wood, natural fiber, upholstered, non-plastic, wood or metal with plastic-padded and covered armrests
- Glycol in combustible containers not exceeding 25 percent
- Lubricating or hydraulic fluid in metal cans
- Lumber
- Mattresses, excluding foam rubber and foam plastics
- Noncombustible liquids in plastic containers having a capacity of more than 5 gallons (19 L)
- Paints, oil base, in metal cans
- Paper, waste, baled
- Paper and pulp, horizontal storage, or vertical storage that is banded or protected with *approved* wrap
- Paper in cardboard boxes
- Peanut hulls, bagged, totes and static piles
- Pillows, excluding foam rubber and foam plastics
- Plastic-coated paper food containers
- Plywood
- Rags, baled
- Recovered construction wood
- Rice hulls, bagged, totes and static piles
- Rugs, without foam backing
- Seasonal grasses, baled and chopped
- Straw, baled
- Sugar, bagged
- Wood, baled
- Wood chips, bagged, totes and static piles

Woody biomass, round wood or chipped (vase-shaped stubby bushes, bamboo, willows; branches, bark and stem wood)
Wood doors, frames and cabinets
Wood pellets, bagged, totes and static piles
Yarns of natural fiber and viscose

Reason: The additions clarify that certain “crop-residue” as solid, biomass feedstock as biofuel are appropriately identified as Class III commodities.

The Biomass Feedstock Industry Committee on Codes and Standards (BFICOCS), led by Oak Ridge National Laboratory (ORNL), is an initiative of the Department of Energy Biomass Technologies Office (BTO). As part of the BTO integrated biorefinery efforts, the BFICOCS was assembled to conduct analysis of existing fire and building codes and to prepare proposed code changes designed to facilitate the development of the commercial-scale biomass industry while maintaining a focus on safety. The committee is made up of managers, engineers and code officials from industry, government laboratories, consulting firms, and the American Society of Agricultural and Biological Engineers (ASABE).

Fire codes related to storage, handling, and pre-processing of biomass are based on industries that operate in a significantly different manner than the growing biomass-based energy industry. Applying current research on biomass properties and knowledge of conventional and emerging storage, handling, and pre-processing technologies, the BFICOCS has identified changes in the IFC that benefit both industry and the public.

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

3203.4-F-MEYERS

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as there is no specific fire data presented that was associated with storing these materials in a high-piled storage configuration.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Darren Meyers, P.E., International Energy Conservation Consultants, LLC, representing the Biomass Feedstock Industry Committee on Codes and Standards, requests Approval as Modified by this Public Comment.

Modify this proposal as follows:

3203.4 Class III commodities. Class III commodities are commodities of wood, paper, natural fiber cloth, or Group C plastics or products thereof, with or without pallets. Products are allowed to contain limited amounts of Group A or B plastics, such as metal bicycles with plastic handles, pedals, seats and tires. Group A plastics shall be limited in accordance with Section 3203.7.4. Examples of Class III commodities include, but are not limited to, the following:

- Aerosol, Level 1 (see Chapter 28)
- Biomass briquettes, bagged, ~~totes~~ and static piles
- Biomass pellets, bagged, ~~totes~~ and static piles
- Charcoal
- Combustible fiberboard
- Cork, baled
- Corn cobs, static piles
- Corn stover, baled and chopped

Feed, bagged
 Fertilizers, bagged
 Firewood
 Food in plastic containers
 Forest residue, round wood or chipped (branches, bark, cross-cut ends, edgings and treetops)
 Furniture: wood, natural fiber, upholstered, non-plastic, wood or metal with plastic-padded and covered armrests
 Glycol in combustible containers not exceeding 25 percent
 Lubricating or hydraulic fluid in metal cans
 Lumber
 Mattresses, excluding foam rubber and foam plastics
 Noncombustible liquids in plastic containers having a capacity of more than 5 gallons (19 L)
 Paints, oil base, in metal cans
 Paper, waste, baled
 Paper and pulp, horizontal storage, or vertical storage that is banded or protected with *approved* wrap
 Paper in cardboard boxes
 Peanut hulls, bagged, ~~totes~~ and static piles
 Pillows, excluding foam rubber and foam plastics
 Plastic-coated paper food containers
 Plywood
 Rags, baled
 Recovered construction wood
 Rice hulls, bagged, ~~totes~~ and static piles
 Rugs, without foam backing
 Seasonal grasses, baled and chopped
 Straw, baled
 Sugar, bagged
 Wood, baled
 Wood chips, bagged, ~~totes~~ and static piles
 Woody biomass, round wood or chipped (vase-shaped stubby bushes, bamboo, willows; branches, bark and stem wood)
 Wood doors, frames and cabinets
 Wood pellets, bagged, ~~totes~~ and static piles
 Yarns of natural fiber and viscose

Commenter's Reason: The additions submitted to both the 2015 IFC and the 2015 revision cycle to NFPA 13-2006 via NFPA's Technical Committee on *Sprinkler System Discharge Criteria*, clarify that certain "crop-residue" as solid, biomass feedstock as biofuel are appropriately identified as Class III commodities. At the Public Hearings in Dallas, the IFC Committee requested specific fire data associated with these solid, biomass materials:

The tabulated data below was prepared by the Idaho National Laboratory (INL) Biological and Chemical Processing Group, to provide both the IFC Membership and the NFPA13 TC with: 1) Results for heat of combustion performed at INL using the standard test methods of ASTM D5865-10a, *Standard Test Method for Gross Calorific Value of Coal and Coke Using Either an Isoperibol or Adiabatic Bomb Calorimeter* and 2) Results that INL has drawn from n US and European literature based on values in the Phyllis database, the US DOE/EERE feedstock database, and selected literature sources, showing values for a range of cellulosic, solid biomass material.

This comparative and peer-reviewed literature demonstrates that the Higher Heating Values (HHVs) for the proposed set of biomass feedstock are less than those for the two grades of Coal (Bituminous and Sub-Bituminous), Charcoal, and Wood [Douglas fir wood and Douglas fir bark (i.e., Furniture)] required for the comparative classification of Class III Commodities in Section 3203.4 of the IFC and Table A.5.6.3.3 for Class III Commodities in the forthcoming 2016 Edition of NFPA 13.

Comparative Material	HHV (GJ Mg-1)	HHV (Btu/lb)
Bituminous Coal	31.7	13,629
Sub-Bituminous Coal	32.9	14,144
Charcoal ¹	31.0	13,328
Douglas fir	21.0	9,028
Biomass Material ²	HHV (GJ Mg-1)	HHV (Btu/lb)
Beech	20.3	8,727
Corn Cobs	17.8	7,652
(Pellets)	17.1	7,364

Corn stalks/stover	19.2	8,250
Hulls/Shells, Ag. Residue	20.5	8,838
Eucalyptus grandis	19.4	8,340
Miscanthus	19.7	8,499
(Pellets)	16.2	6,964
Poplar	20.7	8,899
Rice hulls	15.3	6,578
Rice straw	15.8	6,793
Sugar cane bagasse	17.3	7,438
Sorghum	19.4	8,353
(Pellets)	16.0	6,857
Switchgrass	19.2	8,237
(Pellets)	18.0	7,747
Wheat straw	17.5	7,524
Wood chips (max.)	20.8	8,946

NOTE 1: “Charcoal – Bagged, Standard” already exists as a Class III Commodity as classified by NFPA 13-2013 [Section No. A.5.6.3.3]

NOTE 2: As can be seen upon reviewing the tabulated data, not one of the Biomass Materials exceeds the HHV for Comparative Class III Materials.

The Biomass Feedstock Industry Committee on Codes and Standards (BFICOCS), led by Oak Ridge National Laboratory (ORNL), is an initiative of the Department of Energy Biomass Technologies Office (BTO). As part of the BTO integrated biorefinery efforts, the BFICOCS was assembled to conduct analysis of existing fire and building codes and to prepare proposed code changes designed to facilitate the development of the commercial-scale biomass industry while maintaining a focus on safety. The committee is made up of managers, engineers and code officials from industry, government laboratories, consulting firms, and the American Society of Agricultural and Biological Engineers (ASABE).

F349-13

Final Action: AS AM AMPC____ D

F350-13

2801.1, 2802.1, 2804.1, 2808.1, 2808.2, 2809.1, 2809.2, 202

Proposed Change as Submitted

Proponent: Darren Meyers, P.E., International Energy Conservation Consultants, LLC, representing the Biomass Feedstock Industry Committee on Codes and Standards (dmeyers@ieccode.com)

Revise as follows:

CHAPTER 28 LUMBER YARDS, AGRO-INDUSTRIAL, SOLID BIOMASS AND WOODWORKING FACILITIES

SECTION 2801 GENERAL

2801.1 Scope. The storage, manufacturing and processing of solid biomass feedstock, timber, lumber, plywood, veneers and agro-industrial byproducts shall be in accordance with this chapter.

SECTION 2802 DEFINITIONS

2802.1 Definitions. The following terms are defined in Chapter 2:

AGRO-INDUSTRIAL.
BIOMASS.
STATIC PILES.
SOLID BIOFUEL.
SOLID BIOMASS FEEDSTOCK.

SECTION 2804 FIRE PROTECTION

2804.1 General. Fire protection in timber and lumber production mills, ~~and~~ plywood and veneer mills, and agro-industrial facilities shall comply with Sections 2804.2 through 2804.4.

SECTION 2808 STORAGE AND PROCESSING OF WOOD CHIPS, HOGGED MATERIAL, FINES, COMPOST, SOLID BIOMASS FEEDSTOCK, AND RAW PRODUCT ASSOCIATED WITH YARD WASTE, AGRO-INDUSTRIAL AND RECYCLING FACILITIES

2808.1 General. The storage and processing of wood chips, hogged materials, fines, compost, solid biomass feedstock and raw product produced from yard waste, debris, agro-industrial and recycling facilities shall comply with Sections 2808.2 through 2808.10.

2808.2 Storage site. Storage sites shall be level and on solid ground, elevated soil lifts or other all-weather surface. Sites shall be thoroughly cleaned before transferring wood products to the site.

SECTION 2809 EXTERIOR STORAGE OF FINISHED LUMBER AND SOLID BIOFUEL PRODUCTS

2809.1 General. Exterior storage of finished lumber and solid biofuel products shall comply with Sections 2809.1 through 2809.5.

2809.2 Size of piles. Exterior ~~lumber~~ storage shall be arranged to form stable piles with a maximum height of 20 feet (6096 mm). Piles shall not exceed 150,000 cubic feet (4248 m³) in volume.

2809.3 Fire apparatus access roads. Fire apparatus access roads in accordance with Section 503 shall be located so that a maximum grid system unit of 50 feet by 150 feet (15 240 mm by 45 720 mm) is established.

2809.4 Security. Permanent ~~lumber~~ storage areas shall be surrounded with an *approved* fence. Fences shall be a minimum of 6 feet (1829 mm) in height.

Exceptions:

1. Lumber piles inside of buildings and production mills for lumber, plywood and veneer.
2. Solid biofuel piles inside of buildings and agro-industrial processing facilities for solid biomass feedstock.

2809.5 Fire protection. An *approved* hydrant and hose system or portable fire-extinguishing equipment suitable for the fire hazard involved shall be provided for open storage yards. Hydrant and hose systems shall be installed in accordance with NFPA 24. Portable fire extinguishers complying with Section 906 shall be located so that the travel distance to the nearest unit does not exceed 75 feet (22 860 mm).

SECTION 202 GENERAL DEFINITIONS

AGRO-INDUSTRIAL. Technologies, methods and associated machinery used in transforming raw agricultural products into intermediate or consumable products.

BIOMASS. Plant or animal-based material of biological origin, including but not limited to materials originating from arboriculture, agriculture, aquaculture, horticulture and forestry, excluding material embedded in geological formations or transformed into fossil.

STATIC PILES. Piles in which processed wood product or solid, biomass feedstock is mounded and is not being turned or moved.

SOLID BIOFUEL. Densified biomass made with or without additives in the form of cubiform, polyhedral, polyhydric or cylindrical units, produced by compressing milled biomass.

SOLID BIOMASS FEEDSTOCK. The basic materials, including agricultural residues, including but not limited to corn cobs, corn stover, rice hulls, and peanut hulls; herbaceous crops, including but not limited to warm- and cool-seasonal grasses; forest residue, including but not limited to branches, bark, cross-cut ends, edgings and treetops; short-rotation woody crops, including but not limited to vase-shaped stubby bushes, bamboo, willows with five to ten-year rotations and their branches, bark and stem wood; agricultural waste, including but not limited to garden or park waste, grass or flower cuttings and hedge trimmings; and dried manure; from which biofuel is comprised, manufactured or made.

Reason: The proposed language facilitates fire control and reduces exposures to and from facilities storing and processing “crop-residue” as solid biomass feedstock for biofuel production.

The Biomass Feedstock Industry Committee on Codes and Standards (BFICOCS), led by Oak Ridge National Laboratory (ORNL), is an initiative of the Department of Energy Biomass Technologies Office (BTO). As part of the BTO integrated biorefinery efforts, the BFICOCS was assembled to conduct analysis of existing fire and building codes and to prepare proposed code changes designed to facilitate the development of the commercial-scale biomass industry while maintaining a focus on safety. The committee is made up of managers, engineers and code officials from industry, government laboratories, consulting firms, and the American Society of Agricultural and Biological Engineers (ASABE).

Fire codes related to storage, handling, and pre-processing of biomass are based on industries that operate in a significantly different manner than the growing biomass-based energy industry. Applying current research on biomass properties and knowledge of conventional and emerging storage, handling, and pre-processing technologies, the BFICOCS has identified changes in the IFC that benefit both industry and the public.

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the proposal has merit in recognizing emerging biofuel technology but needs additional work to be ready for the code. Issues with the proposal mentioned included the cumbersomeness of the SOLID BIOMASS FEEDSTOCK definition and its use of complicated, difficult to understand terms; that the proposal should take into account the seasonal increases in the volume of materials that will be stored yielding much larger piles; that the proposal should include provisions for indoor storage of these materials which appears to be a trend in portions of the country and that more guidance is needed on what types of fire protection systems would be appropriate for larger piles.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Darren Meyers, P.E., International Energy Conservation Consultants, LLC, representing the Biomass Feedstock Industry Committee on Codes and Standards, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 202 GENERAL DEFINITIONS

AGRO-INDUSTRIAL. ~~Technologies, methods and associated machinery used in a facility, or portion thereof, housing operations involving the transforming raw agricultural products into intermediate or consumable products.~~

BIOMASS. ~~Plant or animal-based material of biological origin, including but not limited to materials originating from arboriculture, agriculture, aquaculture, horticulture and forestry, excluding material embedded in geological formations or transformed into fossil.~~

STATIC PILES. ~~Piles in which processed wood product or solid, biomass feedstock is mounded and is not being turned or moved.~~

SOLID BIOFUEL. ~~Densified biomass made with or without additives in the form of cubiform, polyhedral, polyhydric or cylindrical units, produced by compressing milled biomass.~~

SOLID, BIOMASS FEEDSTOCK. ~~The basic materials, including agricultural residues, including but not limited to corn cobs, corn stover, rice hulls, and peanut hulls; herbaceous crops, including but not limited to warm- and cool-season grasses; forest residue, including but not limited to branches, bark, cross-cut ends, edgings and treetops; short-rotation woody crops, including but not limited to vase-shaped stubby bushes, bamboo, willows with five to ten-year rotations and their branches, bark and stem wood; agricultural waste, including but not limited to garden or park waste, grass or flower cuttings and hedge trimmings; and dried manure; from which solid biofuel is comprised, manufactured or made.~~

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The proposed language submitted to both the 2015 IFC and the 2015 revision cycle to NFPA 13-2006 to facilitate characterization of agro-industrial biomass manufacturing operations by the IFC Membership and NFPA 13 users. Submission to and review by the NFPA Technical Committee on *Sprinkler System Discharge Criteria*, addresses such things as Commodity (Class III - see also F349-13) and Occupancy classification (Ordinary Hazard – Group2), storage (indoors and out-), as well as sprinkler system and discharge criteria for facilities storing and processing crop-residue and/or animal-based materials as "solid biomass feedstock" for industrial-scale, biofuel production.

At the Public Hearings in Dallas, the IFC Committee stated "the proposal has merit." However, Disapproval was based on:

- 1) Cumbersomeness of the SOLID BIOMASS FEEDSTOCK definition;
Definitions (as modified) now use common language, are condensed and simplified.

- 2) Consideration for seasonal increases in volume of materials stored; and

Seasonal variances, sprinkler system selection and discharge criteria are addressed by material Commodity (Class III - see also F349-13) and Occupancy classifications (Ordinary Hazard – Group2), storage location (indoors and out-), and the submission to and review by the NFPA 13 Technical Committee on *Sprinkler System Discharge Criteria*.

- 3) Consideration for indoor storage of materials including appropriate sprinkler systems and discharge criteria

(Please see our response to 2) above.)

NOTE ALSO, that the BFICOCS has provided evidence to support a Class III Commodity classification in the form of results for heat of combustion performed at INL using the standard test methods of ASTM D5865-10a, *Standard Test Method for Gross Calorific Value of Coal and Coke Using Either an Isoperibol or Adiabatic Bomb Calorimeter* and 2) Results that INL has drawn from n US and European literature based on values in the Phyllis database, the US DOE/EERE feedstock database, and selected literature sources, showing values for a range of cellulosic, solid biomass material.

This comparative and peer-reviewed literature demonstrates that the Higher Heating Values (HHVs) for the proposed set of biomass feedstock are less than those for the two grades of Coal (Bituminous and Sub-Bituminous), Charcoal, and Wood [Douglas fir wood and Douglas fir bark (i.e., Furniture)] required for the comparative classification of Class III Commodities in Section 3203.4 of the IFC and Table A.5.6.3.3 for Class III Commodities in the forthcoming 2016 Edition of NFPA 13 (see also F349-13)

The Biomass Feedstock Industry Committee on Codes and Standards (BFICOCS), led by Oak Ridge National Laboratory (ORNL), is an initiative of the Department of Energy Biomass Technologies Office (BTO). As part of the BTO integrated biorefinery efforts, the BFICOCS was assembled to conduct analysis of existing fire and building codes and to prepare proposed code changes designed to facilitate the development of the commercial-scale biomass industry while maintaining a focus on safety. The committee is made up of managers, engineers and code officials from industry, government laboratories, consulting firms, and the American Society of Agricultural and Biological Engineers (ASABE).

F350-13

Final Action: AS AM AMPC_____ D

F354-13
1701 (New)

Proposed Change as Submitted

Proponent: Joe McElvaney, representing self (joe.mcelvaney@gmail.com)

Add new text as follows:

CHAPTER 17
SPECIAL EVENTS

SECTION 1701
GENERAL

1701.1 Scope. Special events including trade shows and exhibitions, outdoor assembly events, outdoors mazes, special amusement buildings, and special scaffolding structures shall comply with this chapter and Section 1028. Temporary indoor vehicle displays and vehicle competition or demonstrations shall comply with this chapter and Section 314.

1701.2 Permits. Permits shall be required as set forth in Sections 105.6 and 105.7.

1701.3 Site plans. A detailed site plan shall be submitted to the fire code official with each permit application for approval.

- 1. Outdoor events:** The permit application and site plan shall be submitted a minimum of 30
 1. Business days prior to the event. Site plans shall include, but not be limited to:
 2. Means of egress,
 3. Location and width of exits and aisles,
 4. Location of exit signs,
 5. Location of fencing or means used to confine attendees,
 6. Total square footage of enclosed space,
 7. Location and arrangement of all tents, booths or cooking equipment,
 8. Locations of fire apparatus access roads,
 9. Location of fire protection equipment,
 10. Type and location of heating and electrical equipment where applicable,
 11. Location of temporary staffed water stations and permanent water fountains.
- 2. Trade shows and exhibitions:** The permit application and site plan shall be submitted a minimum of 30 business days prior to the event. Site plans shall include, but not be limited to:
 1. The means of egress,
 2. Location and width of exits and aisles,
 3. Location of exit signs,
 4. Total square footage of space,
 5. Location and arrangement of all booths and cooking equipment,
 6. Location of all fire protection equipment,
 7. Type and location of heating and electrical equipment where applicable, and
 8. Location of covered or multi-level exhibits or booths.
- 3. Mazes.** The permit application and site plan shall be submitted a minimum of 30 business days prior to the event. Site plans shall include, but not be limited to:
 1. Means of egress,

2. Location and width of exits and aisles.
3. Location of exit signs.
4. Total square footage of space.
5. Location and arrangement of all booths and cooking equipment.
6. Location of all fire protection equipment.
7. Location of means to confine attendees.
8. Locations of fire apparatus access roads.
9. Type and location of heating and electrical equipment where applicable, and
10. Location of structures.

At the time of permit application, the event coordinator shall submit to the fire code official, a letter from the property owner authorizing the use of the site, the address of the site, dates and hours of operation and names and 24-hour phone numbers of at least two principals.

4. **Temporary indoor vehicle displays:** The permit application and site plan shall be submitted a minimum of 10 business days prior to the display of electric, liquid- or gas-fueled vehicles, boats or other motor craft. Floor plans shall include, but not be limited to:

1. The means of egress.
2. Location and width of exits and aisles.
3. Location of exit signs.
4. Total square footage of space.
5. Location and arrangement of all booths and cooking equipment.
6. Location of all fire protection equipment.
7. Type and location of heating and electrical equipment where applicable and
8. Location and size of exhibits and booths, and
9. Location of structures.

Exception: Auto dealerships.

5. **Vehicle competition or demonstration.** The permit application and site plan shall be submitted a minimum of 10 business days prior to the competition or demonstration of electric, liquid- or gas-fueled vehicles, boats or other motor craft. A floor plan shall include, but not be limited to:

1. The means of egress.
2. Location and width of exits and aisles.
3. Location of exit signs.
4. Total square footage of space.
5. Location and arrangement of all booths and cooking equipment.
6. Location of all fire protection equipment.
7. Type and location of heating and electrical equipment where applicable and
8. Location and size of exhibits and booths, and
9. Location of structures, and
10. Fire apparatus access roads where applicable.

SECTION 1702 **DEFINITIONS**

1702.1 Definitions. The following words and terms are defined in Chapter 2.

ALLOWABLE USE AREA.

CROSS AISLES.

EXHIBITS.

FIXTURES.

FLAME EFFECT.

MAIN AISLE.

MAZE.
OUTDOOR ASSEMBLY EVENT.
SPECIAL EVENT.
TEMPORARY STRUCTURES.
TRADE SHOWS OR EXHIBITIONS.

1703
GENERAL REQUIREMENTS

1703.1 Access for firefighting and medical services. Approved vehicle access for fire fighting and medical services shall be provided in accordance with Chapter 5.

1703.2 Combustible storage. Combustible materials stored at special events shall be stored in approved locations and containers.

1703.3 Crowd managers. Crowd managers shall be provided where the fire code official determines that an indoor or outdoor gathering warrants crowd control. Crowd managers shall be in accordance with Section 403.3.

1703.4 Decorative materials and furnishings. Curtains, drapes and decorations including, but is not limited to drapes, signs, banners, acoustical materials, cotton, hay, fabric, paper, straw, moss, split bamboo, and wood chips shall be flame resistant as demonstrated by testing in accordance with NFPA 701, or provide documentation of flame retardancy. Field flame test shall be in accordance with Section 317. Materials that cannot be treated for flame retardancy shall not be used unless approved by the fire code official. This includes but is not limited to oilcloth, tarpaper, nylon, plastic cloth, and other plastic materials.

1703.5 Fire protection equipment clearance. Clearance around all fire protection equipment shall be in accordance with Section 901.10.

1703.6 Fire extinguishers. Fire extinguishers shall be in accordance with Section 906 and NFPA 10

1703.7 Fire watch. Fire watch shall be in accordance with Sections 115 and 403.1.

1703.8 Fireworks, pyrotechnics. Fireworks and pyrotechnics shall comply with Chapter 56.

1703.9 Lasers. Lasers shall comply with State of Arizona regulations.

1703.10 Housekeeping. The special event area and related areas shall be kept free from combustible debris at all times

1703.11 LP-gas heaters. Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 61 and the International Fuel Gas Code.

1703.12 Open flame devices. Open flame devices shall comply with Section 308.

1703.13 Waste disposal. Combustible debris shall not be accumulated at special events. Combustible debris, rubbish and waste material shall be removed from special events at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless approved.

SECTION 1704
TRADE SHOWS AND EXHIBITIONS

1704.1 General. Trade shows and exhibitions conducted within any occupancy shall comply with Chapter 17 and Section 314.

1704.2 Vehicles. Liquid- and gas-fueled and electric vehicles, boats or other motor-craft and equipment used for display, competition or demonstration within a building shall be in accordance with Section 314.

1704.3 Means of egress. Means of egress shall comply with this section and the requirements of Chapter 10.

1704.3.1 Travel distance. The maximum travel distance from any point in an exhibit to an exit access shall not exceed 50 feet (15240mm).

1704.3.2 Aisles. Aisles shall comply with Sections 1704.3.2.1 and 1704.3.2.2.

1704.3.2.1 Aisle width. Minimum aisle width in a trade show or exhibition shall comply with the following:

Square Footage of Trade Show or Exhibition	Minimum Aisle Width
Greater than 15,000 square feet (1393m ²)	10 feet (4572mm)
5,000 square feet (465 square meters) to 15,000 square feet (1393m ²)	8 feet (2438mm)
Less than 5,000 square feet (465 m ²)	6 feet (1829mm)

1704.3.2.2 Obstructions. Aisles shall be kept clear of all obstructions, including but not limited to, fixtures and displays of goods for sale, chairs, tables, product, displays, vehicles, and trailer tongues.

1704.3.4 Exit signs. Exit signs shall be visible from all locations in the occupancy.

1704.4 Exhibit construction and materials. The materials used for an exhibit shall comply with Section 1704.6 and Chapter 8

1704.4.1 Materials. Exhibit materials shall be one of the following:

1. Noncombustible or limited-combustible materials.
2. Wood that is greater than ¼-inch (6mm) nominal thickness
3. Wood ¼-inch (6mm) nominal thickness or less that is pressure-treated fire-retardant wood meeting the requirements of NFPA 703, Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials. The product shall be marked or labeled by the manufacturer. The product shall not be painted or similarly modified until the material has been inspected and the marking or labeling verified, or provide documentation acceptable to the fire code official.

1704.4.1.1 Flame retardant materials. Materials shall comply with Chapter 8.

1704.4.1.2 Wall and ceiling coverings. Textile wall coverings, such as carpeting and similar products used as wall or ceiling finishes shall comply with Chapter 8 and NFPA 101 Chapter 10.

1704.4.1.3 Plastics. Plastics shall be limited to those that comply with Chapter 8. Plastics used in trade shows and exhibitions with an occupant load of 300 or more shall be Class A or Class B. Plastics used in trade shows and exhibitions with an occupant load of less than 300, shall be Class A, Class B or Class C.

1704.5 Combustible materials storage. Combustible materials storage shall comply with Sections 1704.5.1 and 1704.5.2.

1704.5.1 Quantity. Combustible materials shall be limited to a one-day supply

1704.5.2 Location. Storage of combustible materials behind exhibits, booths, or tents is prohibited. Combustible materials, including but not limited to wood crates, paper and cardboard boxes, shall be

stored outside the building in an approved area or in a storeroom having a fire-resistance rating of at least one hour and protected by an approved automatic fire-extinguishing system

1704.6 Covered exhibit and booth fire protection. Fire protection for covered exhibits and booths shall comply with Sections 1704.6.1 and 1704.6.2.

1704.6.1 Automatic sprinkler systems. An approved automatic sprinkler system shall be provided in covered exhibits and booths exceeding 300 square feet. Each level of multi-level exhibit booths shall be protected throughout, including the uppermost level where the uppermost level is covered with a ceiling.

1704.6.2 Smoke detectors. Single-station smoke detectors shall be provided in all enclosed, covered exhibits and vehicles exceeding 120 square feet (111,484 cm²).

1704.7 Multi-level booths. Construction documents for all multi-level exhibits shall be approved and stamped by a licensed structural engineer or architect and shall be submitted with the permit application. This includes any exhibit where a live load is proposed above the exhibit area floor level, regardless of the accessibility of the area to the public. Upper levels of multi-level booths with an occupant load greater than 10 persons shall have at least 2 remote exits.

1704.8 Hazardous Materials. Hazardous materials shall comply with Section 1704.10 and Chapters 51 through 67.

1704.8.1 Specific prohibitions. The following hazardous materials shall not be stored, handled or used in trade shows and exhibitions:

1. Division 1.1, 1.2, 1.3, and 1.5 explosives as classified by the U.S. Department of Transportation.
2. Detonable, Class I and Class II organic peroxides.
3. Class I-A flammable liquids.
4. Class 4 and Class 3 oxidizers.
5. Class 4 and Class 3 (unstable) reactive materials.
6. Class 3 water-reactive materials.
7. Pyrophoric materials.
8. Highly toxic materials
9. Toxic gases.
10. Fueling or defueling of flammable or combustible that are stored or used as liquids, cryogenics or compressed gases.

1704.9 Demonstration cooking and warming equipment or devices. Cooking and warming devices for demonstration purposes only shall be in accordance with Sections 1704.9.1 through 1704.9.4.1.

1704.9.1 Public Isolation. Equipment and devices shall be isolated from the public by not less than 4 feet (1219mm) or by a noncombustible 3-sided barrier between the equipment and devices and the public.

1704.9.2 Protection. Single-well cooking equipment using combustible oils or solids shall meet the following:

1. A noncombustible lid shall be immediately available. The lid shall be of sufficient size to cover the cooking well completely.
2. The cooking surface shall not exceed 288 square inches (18,580mm).
3. The equipment shall be placed on a noncombustible surface.
4. The equipment shall be separated from each other by a horizontal distance of not less than 2 feet (609mm).

1704.9.3 Cooking equipment shall be separated from combustible materials by a horizontal distance of at least 2 feet (609mm).

1704.9.4 Butane. Butane for cooking equipment shall be limited to one 10 oz cylinder and one spare in storage, of the same size, per appliance. Storage location shall be approved by the fire code official.

1704.9.4.1 Portable butane-fueled appliances. Portable butane-fueled appliances are allowed in restaurants and in attended commercial food catering operations where fueled by not more than two 10 oz (0.3 L) LP-Gas capacity, nonrefillable butane containers that have a water capacity not exceeding 1.08 lb (0.5 kg) per container. The containers shall be directly connected to the appliance, and manifolding of containers is not permitted. Storage of cylinders is limited to 24 containers, with an additional 24 permitted where protected by a 2-hour fire resistance-rated barrier.

SECTION 1705 **OUTDOOR ASSEMBLY EVENTS**

1705.1 General. Outdoor assembly events shall be in accordance with Section 1705.2 through 1705.4.6 and Chapter 10.

1705.2 Occupant load. The fire code official shall establish an occupant load for the event site.

1705.3 Exits. Exits shall comply with Chapter 10 and be as remote from each other as practical shall and be provided as follows:

<u>Occupant Load</u>	<u>Minimum Number of Exits</u>
1 to 500	<u>2</u>
501 to 1,000	<u>3</u>
1,001 or 1,500	<u>4</u>
each additional 500 persons	<u>36 additional inches of exit width</u>

1705.3.1 Width. The aggregate clear width of exits shall be a minimum of 36 inches wide (914mm) for each 500 persons to be accommodated.

1705.3.2 Signs. Exits shall be identified with signs that read "EXIT". The signs shall be weather-resistant with lettering on a contrasting background. The lettering shall be of sufficient height and brush stroke to be immediately visible from 75 feet (22,860mm). Placement of the exit signs shall be approved by the fire code official.

1705.4 Concession stands, food booths, and retail booths. Concession stands/food booths and retail booths shall be in accordance with Sections 1705.4.1 through.

1705.4.1 Distances. A minimum of 20 feet (6096mm) shall be provided between every 150 linear feet (45,720mm) of booth space. A minimum of 30 feet (9144mm) shall be provided between booths used for cooking and the vehicles, generators, or any other internal combustion engine. A minimum of 10 feet (3048 mm) shall be provided between booths used for cooking and amusement rides or devices.

Exception: Hotdog carts that are licensed by the City for use in right-of-ways.

1705.4.2 Cooking appliances or devices isolation. Cooking appliances or devices shall be isolated from the public by not less than 4 feet (1219 mm) or by a non-combustible 3-sided barrier between the equipment and devices and the public.

1705.4.3 Cooking equipment protection. Single-well cooking equipment using combustible oils or solids shall comply with the following:

1. A noncombustible lid shall be immediately available. The lid shall be of sufficient size to cover the cooking well completely.
2. The cooking surface shall not exceed 288 square inches (18,580mm).

3. The equipment shall be placed on a noncombustible surface.
4. The equipment shall be separated from each other by a horizontal distance of not less than 2 feet (609mm).

1705.4.4 Liquefied petroleum gas (LP-gas). LP-gas shall be in accordance with Chapter 38 and NFPA 58.

1705.4.4.1 Maximum number and quantity. A maximum of a total aggregate water capacity of 50 gallons (95L) of LP-gas is permitted at one concession stand or booth used for cooking.

1705.4.4.2 LP-gas high-pressure cylinder hoses. Hoses shall be designed for a working pressure of 350 PSIG with a safety factor of 5 to 1 and shall be continuously marked with LP-GAS, PROPANE, 350 PSI WORKING PRESSURE, and the manufacturer's name or trademark. Hose assemblies, after the application of couplings, shall have a design capability of 700 PSIG. Hose shall not exceed 12 feet (3638 mm) unless approved by the fire code official.

1705.4.4.3 LP-gas low-pressure cylinder hoses. Hoses with a working pressure of 5 psig shall be allowed when a fix regulator is set a 5 psi and is connected directly to the LP GAS cylinder. The hose shall not exceed 12 feet (3638 mm) unless approved by the fire code official.

1705.4.4.4 Storage of containers. Containers shall be stored in accordance with Chapter 38.

1705.4.5 Generators / electrical. A permit from the Planning and Development Department shall be obtained where required. The generators shall be installed at least 10 feet (3048mm) from combustible materials, and shall be isolated from the public by physical guard, fence, or enclosure installed at least 3 feet (914mm) away from the internal combustion power source, and be provided with compliant portable fire extinguisher per Section 906 and NFPA 10.

1705.4.6 Temporary water stations. Where outdoor temperatures are expected to exceed 90°F (35°C), the event sponsor shall provide and maintain a minimum of one staffed water station for each 1,000-projected attendance. The water station shall include adequate water supply, cups, and a means for rapid replenishing of exhausted water. Each water station shall be located as far apart as practicable to allow ease of access for event attendees.

SECTION 1706 **SPECIAL AMUSEMENT BUILDINGS**

1706.1 General. [B] Special amusement buildings shall be in accordance with Sections 1706.2 through 1706.4.1 and Section 411 of the International Building Code.

Exception: Amusement buildings or portions thereof, which are without walls or a roof and are constructed to prevent the accumulation of smoke.

1706.2 Use of combustible decorative materials. Use of combustible decorative materials shall be in accordance with Chapter 8.

1706.3 Assistance. Adult monitors with flashlights shall be available to provide assistance in the event someone becomes lost or disoriented. One adult monitor shall be provided for every 60 person.

1706.4 Automatic sprinkler system. Special amusement buildings shall be equipped throughout with an automatic sprinkler system in accordance with Chapter 9.

1706.4.1 Temporary special amusement buildings. Where the special amusement building is temporary, the sprinkler water supply shall be of an approved temporary means. The sprinkler piping shall be connected to a temporary water supply having sufficient capacity (flow and pressure) to supply residential or standard quick spray response sprinkler heads at a minimum design density of 0.15 gpm

per square foot of protected floor area. The design shall be based on flowing the six most hydraulically remote sprinkler heads. Should the temporary amusement building contain less than six heads, the design shall assume that all heads are flowing simultaneously.

The temporary water supply may be connected to a domestic water line, a fire line, or temporary on-site storage tank as long as the minimum design densities are met. An indicating type control valve shall be installed in an accessible location between the sprinkler system and the connection to the water supply.

When the temporary sprinkler system is installed from a domestic water line, back flow prevention shall be provided in accordance with the requirements of the Arizona State Plumbing Code.

SECTION 1707 **MAZES**

1707.1 General. Mazes including, but not limited to corn stalk or hedge mazes, shall be in accordance with Section 1707.

1707.1.2 Safe refuge areas. Safe refuge areas shall be established outside of the maze or building and structure, and not closer than 50 feet (15240mm).

1707.1.3 Paths. Paths throughout the maze shall be a minimum of 36 inches (914mm) clear and unobstructed width.

1707.1.4 Separation. A minimum of 20 feet (6096mm) shall be provided between mazes and buildings and structures. The 20-foot (6096mm) clearance shall be free from vegetation and obstructions.

1707.1.5 Means of egress. Each exit shall be a minimum of 6 feet (1828mm) wide.

1707.1.5.1 Travel distance. The maximum travel distance to reach an exit access shall not exceed 75 feet (22,860mm). The travel distance shall be determined by using the maze path.

1707.1.5.2 Number. The travel distance required to reach an exit access shall determine the number of exits required. Locking devices shall not be allowed on exits when the maze is occupied.

1707.1.5.3 Exit signs. Exit signs shall be provided next to or above each exit. The lettering shall be a minimum of 12 inches (305mm) high with 2-inch (51mm) brushstroke. The signs shall read EXIT with lettering in a color contrasting to the sign's background.

1707.2 Event plans. The following plans shall be submitted to the fire code official.

1707.2.1 General fire safety plan. The plan shall include, but not be limited to procedures that shall be used to prevent over-drying of vegetation throughout the site, documentation of decorative materials flame-retardancy, the maximum number of attendees.

1707.2.2 Security plan. The plan shall document who shall provide security (e.g., off-duty Police Officers, Sheriff's posse, employees). Each security personnel shall be provided with a 2-way radio and flashlight.

1707.2.3 Evacuation plans. The plan shall document the responsibilities of all on-site employees. The plan shall also document how attendees will be evacuated, and where they will be evacuated.

1707.2.4 Maze rules. Maze rules shall be posted at maze entrance.

1707.3 Employee responsibilities. Each employee shall be familiar with the evacuation plan and with fire extinguisher locations. Documentation of training shall be provided to the fire code official.

1707.3.1 Guides. An employee shall be responsible for guiding a group of not more than 14 attendees through the maze. Each employee shall be provided with a minimum of one flashlight and two-way radio. The employees shall be responsible for detecting and reporting fire or smoke to a competent person posted at the maze main entrance and begin evacuation procedures.

1707.3.2 Main entrance employee. Each maze shall be manned by an employee at the entrance. The employee shall be capable of communicating with the employees and shall be provided with a cellular telephone. When the main entrance employee receives a report of smoke, fire or injury, the employee shall immediately call 9-1-1.

1707.4 Watering. Corn stalk and hedge mazes shall be provided with sufficient water and at a frequency that prevents the vegetation from becoming dry or brittle. Failure to comply with this provision is an imminent hazard and the fire code official shall issue a stop order.

1707.5 Buildings and structures. When buildings and structures are intended to be occupied by attendees, the building and structure shall comply with Section 1706.

SECTION 1708 **COVERED MALL BUILDINGS**

1708.1 General. Temporary use of the common pedestrian area within a covered mall building for promotional, Group E, Group A, Group M or similar activities shall be in accordance with Section 1708.

1708.2 Main aisle width. Main aisles shall be a minimum of 10 feet (3048mm) in width or the minimum required means of egress width, whichever is greater, and shall be maintained in accordance with Chapter 10. Main aisles shall not be obstructed.

1708.2.1 Cross aisle width. Cross aisles shall be a minimum of 15 feet (4572mm) in width or the required means of egress width, whichever is greater, and shall be maintained in accordance with Chapter 10.

1708.2.2 Fueled equipment. Liquid- or gas-fueled, or electric appliances, tools, apparatus, craft or vehicles shall be displayed in a mall in accordance with Section 314. LP-gas powered floor maintenance machines may be used when in accordance with Chapter 38.

1708.3 Combustible decorative materials. Combustible decorative materials shall be in accordance with Chapter 8.

1708.4 Fixtures. Fixtures shall not be located in main aisles or cross aisles.

Reason: This new chapter provide rules and regulation for special event that occur indoor and outdoors in location that may not be designed to hold this type of event.

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

Analysis: The 11 proposed defined terms for Chapter 2 listed in in Section 1702.1 were not provided.

1701 (NEW)-F-MCELVANEY

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee's judgment that the code change is not yet ready for inclusion in the code. The committee noted that there are many terms in the proposal that need definitions and that more realistic thresholds for the requirements need to be established. The proposal also references Arizona state law which is inconsistent with code style. The proposal also lacks a comprehensive reason statement. It was suggested that this material could be suitable for an adoptable appendix.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

APPENDIX K **TRADE SHOWS AND EXHIBITIONS**

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

SECTION K101 **GENERAL**

K101.1 General. Trade shows and exhibitions with temporary vender displays or booths within any occupancy shall be in accordance with this appendix and all other applicable requirements of the International Fire Code.

Exceptions:

1. Exhibition areas that occupy less than 1500 square feet of floor area in unsprinklered buildings, provided they do not include any multi-level exhibits or booths and have at least two remote exits in compliance with IFC Section 1021.
2. Exhibition areas that occupy less than 3000 square feet of floor area in buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, provided they do not include any covered or multi-level exhibits or booths and have at least two exits in compliance with IFC Section 1021.

K101.2 Permit required. An operational permit for trade shows and exhibitions shall be required as set forth in Section 105.6.

K101.3 Application. An application to hold a trade show or exhibition shall be provided to the fire code official prior to the start of the trade show in a time frame established by the local authority. The application shall include a site plan that identifies:

1. The means of egress,
2. Location and width of exits and aisles,
3. Location of exit signs,
4. Total square footage of space,
5. Location and arrangement of all booths and cooking equipment,
6. Location of all fire protection equipment,
7. Type and location of heating and electrical equipment where applicable,
8. Location of covered or multi-level booths,
9. Construction documents for multi-level booths
10. Location and quantity of highly combustible goods storage.

SECTION K102 **DEFINITIONS**

K102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

COVERED BOOTH. An exhibit that has something placed over the exhibit above floor level that resembles a roof, canopy, tent or other obstruction, other than vertical signs or banners.

MULTI-LEVEL BOOTH. An exhibit that has a second level or tier constructed on top of the exhibit or portion of the exhibit that is accessible to the public, or that includes a live load above the exhibit area floor level, regardless of the accessibility of the area to the public.

SECTION K103 PUBLIC SAFETY FOR EVENTS

K103.1 Public safety plan. Where the fire code official determines that the nature of the exhibition, display or activities therein pose an increased hazard to public safety, the fire code official shall have the authority to order the development of public safety plan that complies with section 403.2.1.

K103.2 Fire watch personnel. When, in the opinion of the fire code official, it is essential for public safety in a trade show or exhibition because of the number of persons, or the nature of the performance, exhibition, display, or activity, the owner, agent or lessee shall provide one or more fire watch personnel in accordance with section 403.1.

K103.3 Crowd managers. Trained crowd managers shall be provided for trade shows and exhibitions in accordance with Section 403.3.

SECTION K104 INTERIOR FINISH AND DECORATIVE MATERIALS

K104.1 General. 801.1 Scope. Interior finish, trim, furnishings, and decorative materials used in exhibition areas shall comply with section K104 and Chapter 8.

K104.2 Interior finish. The materials used for wall and ceiling finishes of exhibits, booths and displays used in exhibition areas shall comply with one of the following:

1. Materials in exhibition areas in unsprinklered buildings shall comply with Class A requirements when tested in accordance ASTM E84 or UL 723.
2. Materials in exhibition areas in buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall comply with Class B requirements when tested in accordance ASTM E84 or UL 723.
3. Materials in exhibition areas of sprinklered or unsprinklered building shall comply with NFPA 286 requirements in accordance with Section 803.1.2.

Exceptions:

1. Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls and ceilings.
2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the International Building Code shall not be subject to interior finish requirements.

K104.3 Textiles. Textiles used as interior wall and ceiling finish materials, including materials having woven or nonwoven, napped, tufted, looped or similar surface, shall comply with Section 803.5.

K104.4 Decorative materials. All decorative materials applied over the booth or exhibit interior finish for decorative, acoustical or other effect including curtains, draperies, fabrics and streamers shall comply with Section 807.

K104.5 Signs. Foam plastic signs that are not affixed to interior building surfaces shall comply with Section 808.3.

K104.6 Fire-retardant coatings Fire retardant coatings shall comply with Section K104.1 and with Section 803.4.

SECTION K105 MULTI-LEVEL BOOTHS

K105.1 Construction documents. Construction documents for all multi-level booths shall be approved and stamped by a licensed structural engineer or architect and shall be submitted with the permit application.

K105.2 Structural design. Multi-level booths shall be designed and constructed to comply with Chapter 16 of the International Building Code.

K105.3 Means of egress. Upper levels of multi-level booths with an occupant load greater than 10 persons shall have at least 2 remote exits.

K105.4 Automatic sprinkler systems. An approved temporary automatic sprinkler system shall be provided in multi-level booths exceeding 300 square feet in floor area per story. Each covered level of multi-level exhibit booths shall be protected throughout.

K105.5 Smoke alarms. Smoke alarms shall be installed in an approved location on the ceiling of each covered level of multi-level booths when the floor area of a level exceeds 120 square feet.

SECTION K106 **COVERED BOOTHS**

K106.1 Automatic sprinkler systems. An approved temporary automatic sprinkler system shall be provided in covered booths exceeding 300 square feet in floor area.

K106.2 Smoke alarms. Smoke alarms shall be installed in an approved location on the ceiling of covered booths with a floor area that exceeds 120 square feet.

SECTION K107 **STORAGE AND OPERATIONS**

K107.1 Storage and operations. Storage and operation in trade shows and exhibition areas shall comply with Section K107.2 through K107.7.

K107.2 Hazardous materials. Hazardous materials shall not be stored, handled or used in trade shows and exhibitions except as specifically permitted elsewhere in this code for Group A occupancies.

K107.3 Vehicles. Liquid- or gas-fueled vehicles, boats or other motorcraft shall not be located in a trade show or exhibition area, except as permitted in section 314.4.

K107.4 Fueled equipment. Fueled equipment including, but not limited to, motorcycles, mopeds, lawn-care equipment, portable generators and portable cooking equipment, shall not be stored, operated or repaired within a trade show or exhibition area, except as permitted in section 313.

K107.5 Highly combustible goods. The display of highly combustible goods, including but not limited to fireworks, flammable or combustible liquids, liquefied flammable gases, oxidizing materials, pyroxylin plastics and agricultural goods within 5 feet (1524 mm) of and exits and exterior exit doors is prohibited when a fire involving such goods would rapidly prevent or obstruct egress.

K107.6 Combustible materials. Combustible materials storage within trade show and exhibition areas shall comply with sections 315.

K107.7 Cooking and open flame devices. Cooking equipment and open flame devices shall not be used in exhibition areas except as allowed in Section 308. Cooking equipment shall be separated from combustible materials by a horizontal distance of not less than 2 feet.

SECTION K108 **MEANS OF EGRESS**

K108.1 Means of egress. Means of egress within the trade show and exhibition area shall comply with this section and Chapter 10, taking into consideration the exhibit layout and anticipated crowd movement during the event.

K108.2 Storage in aisles. Aisles in the exhibition area shall be kept free of obstructions that would inhibit egress from the exhibition area during all periods in which the general public is present, including rolled up floor coverings, exhibit containers, supplies and other materials.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

The original proposal was a very complex set of requirements for covering special events. Similar sets of requirements have been successfully used in jurisdictions such as Phoenix and Las Vegas. The IFC committee disapproved the original proposal due to a number of factors, including a lack of definitions, a lack of minimum thresholds, a belief that the proposal was not yet ready for inclusion in the code, and might be better suited as an adoptable appendix.

The Fire Code Action Committee, who was not the original proponent, saw value in developing requirements for an adoptable appendix covering larger, more complex trade shows and exhibitions, especially those that include covered and multi-level booths, which pose unique safety hazards. The public comment addresses all of the concerns included in the committee reason statement, as follows:

This material is better suited for an adoptable appendix – DONE, the public comment is proposed as an adoptable Appendix K.

More realistic thresholds need to be established – DONE, the original proposal covered special events of all sizes, which conceivable covered a single tabletop booth. Section K101.1 limits the scope of the Appendix to exhibition areas over 1500 sq. ft. in unsprinklered buildings, and 3000 sq. ft. in sprinklered buildings. Exhibits including covered and multi-level booth are covered by these requirements regardless of size due to their unique safety concerns.

Several terms need definitions – DONE, with the scaled back scope and length of the proposal many of the terms that previously needed definitions were eliminated, Section K102 includes the definitions that are needed to properly apply the requirements in the proposed Appendix.

The proposal references Arizona state law – DONE, these references were removed.

Lacks a comprehensive reason statement – DONE, see the following:

This proposed appendix is intended to address hazards associated with larger, more complex trade shows and exhibitions. Although many of these requirements are already included in various locations in the IFC, some of the more important items, such as requirements for covering covered booths and multi-story booths are not in the existing code. In addition, having the requirements covering these events in a single location makes it easier for those organizing exhibitions, and individual exhibitors who are unfamiliar with the entire fire code to locate the requirements that are applicable to them.

K101.1 The minimum square foot thresholds clarify that the appendix does not cover small trade shows, like those with traditional tabletop displays and small booths. It only covers the larger exhibitions, and those with covered and multi-level booths, which pose additional safety concerns.

K101.3 clearly defines the information needed to obtain a permit for one of these larger exhibitions. Having this information in writing makes it easier for all parties to understand the information needed to gain approval for the exhibition.

K103 includes a convenient pointer to public safety related requirements in Chapter 4 of the IFC.

K104 includes a set of interior finish requirements that are applicable to an event in a Group A occupancy where there is a significant amount of interior finish material in the exhibits and booth themselves that was not present in the building when it was initially designed. Due to the potential fuel loading in the exhibition area, interior finish and trim requirements are required to comply Class A and Class B in unsprinklered and sprinkler buildings, respectfully. Cross references to other applicable requirements in Chapter 8 were provided in this section as a convenience to the code user.

K105 and K106 include requirements designed to provide an acceptable level of safety for the hazards associated with multi-level and covered booths. Both of these booth types have the ability to block sprinkler protection provided in the room in which the exhibition is held, and also can include a significant amount of fuel loading, which justifies temporary automatic sprinklers for the larger booths. In addition multi-level booths present concerns with structural integrity, which warrants being designed and constructed in accordance with Chapter 16 of the IBC.

K107 includes basic requirements for storage in exhibitions, and certain operations.

K108 includes a pointer to Chapter 10 means of egress requirements, and also restricts storage in aisles of exhibitions when the general public is present.

F354-13

Final Action: AS AM AMPC____ D

F360-13

908.7 (IBC [F]908.7) through 908.7.7 (IBC [F]908.7.7) (New); 1103.9; 202

Proposed Change as Submitted

Proponent: Adolf Zubia. Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee (azubiamia@yahoo.com)

Delete Sections 908.7 (IBC [F]908.7) and 908.7.1 (IBC [F]908.7.1) in their entirety and substitute as follows:

908.7 (IBC [F]908.7) Carbon monoxide alarms. Group I or R occupancies located in a building containing a fuel burning appliance or in a building which has an attached garage shall be equipped with single station carbon monoxide alarms. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. An open parking garage, as defined in Chapter 2 of the *International Building Code*, or an enclosed parking garage ventilated in accordance with Section 404 of the *International Mechanical Code* shall not be considered an attached garage.

Exception: ~~Sleeping units or dwelling units~~ which do not themselves contain a fuel burning appliance or have an attached garage, but which are located in a building with a fuel burning appliance or an attached garage, need not be equipped with single station carbon monoxide alarms provided that:

- ~~1. The sleeping unit or dwelling unit is located more than one story above or below any story which contains a fuel burning appliance or an attached garage;~~
- ~~2. The sleeping unit or dwelling unit is not connected by duct work or ventilation shafts to any room containing a fuel burning appliance or to an attached garage; and~~
- ~~3. The building is equipped with a common area carbon monoxide alarm system.~~

908.7.1 (IBC [F]908.7.1) Carbon monoxide detection systems. Carbon monoxide detection systems, which include carbon monoxide detectors and audible notification appliances, installed and maintained in accordance with this section for carbon monoxide alarms and NFPA 720 shall be permitted. The carbon monoxide detectors shall be ~~listed as complying with UL 2075.~~

908.7 (IBC [F]908.7) Carbon monoxide alarms. Carbon monoxide alarms shall be installed in new buildings in accordance with Sections 908.7.1 through 908.7.7. Carbon monoxide alarms shall be installed in existing buildings in accordance with Section 1103.9.

908.7.1 (IBC [F]908.7.1) Where required. Carbon monoxide alarms shall be provided in Group I-1, I-4, and R occupancies in the locations specified in 908.7.2 where any of the conditions in Sections 908.7.1.1 through 908.7.1.4 exist.

908.7.1.1 (IBC [F]908.7.1.1) Fuel-burning appliances and fuel burning fireplaces. Carbon monoxide alarms shall be provided in dwelling units and sleeping units that contain a fuel-burning appliance or a fuel burning fireplace.

908.7.1.2 (IBC [F]908.7.1.2) Forced air furnaces. Carbon monoxide alarms shall be provided in dwelling units and sleeping units served by a fuel-burning, forced air furnace.

908.7.1.3 (IBC [F]908.7.1.3) Fuel burning appliances outside of dwelling units and sleeping units. Carbon monoxide alarms shall be provided in dwelling units and sleeping units located in buildings that contain fuel-burning appliances or fuel burning fireplaces.

Exception:

1. Carbon monoxide alarms shall not be required in dwelling units and sleeping units if there are no communicating openings between the fuel-burning appliance or fuel burning fireplace and the dwelling unit or sleeping unit.
2. Carbon monoxide alarms shall not be required in dwelling units and sleeping units if a carbon monoxide alarm is provided:
 - 2.1 In an approved location between the fuel burning appliance or fuel burning fireplace and the dwelling unit or sleeping unit, or
 - 2.2 On the ceiling of the room containing the fuel burning appliance or fuel burning fireplace.

908.7.1.4 (IBC [F]908.7.1.4) Private garages. Carbon monoxide alarms shall be provided in dwelling units and sleeping units in buildings with attached private garages.

Exceptions:

1. Carbon monoxide alarms shall not be required if there are no communicating openings between the private garage and the dwelling unit or sleeping unit.
2. Carbon monoxide alarms shall not be required in dwelling units and sleeping units located more than one story above or below a private garage.
3. Carbon monoxide alarm shall not be required if the private garage connects to the building through an open-ended corridor.

908.7.1.4.1 (IBC [F]908.7.1.4.1) Exempt garages. For determining compliance with Section 908.7.1.4, an open parking garage, complying with Section 406.5 of the *International Building Code*, or an enclosed parking garage complying with Section 406.6 of the *International Building Code* shall not be considered a private garage.

908.7.2 (IBC [F]908.7.2) Locations. Where required by Section 908.7.1, carbon monoxide alarms shall be installed in the locations specified in Sections 908.7.2.1 through 908.7.2.2.

908.7.2.1 (IBC [F]908.7.2.1) Dwelling units. Carbon monoxide alarms shall be installed in dwelling units outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

908.7.2.2 (IBC [F]908.7.2.2) Sleeping units. Carbon monoxide alarms shall be installed in sleeping units.

Exception: Carbon monoxide alarms shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where the sleeping unit or its attached bathroom do not contain a fuel burning appliance and are not served by a forced air furnace.

908.7.3 (IBC [F]908.7.3) Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery powered carbon monoxide alarms shall be an acceptable alternative.

908.7.4 (IBC [F]908.7.4) Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

908.7.5 (IBC [F]908.7.5) Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.

908.7.6 (IBC [F]908.7.6) Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 908.7.6.1 through 908.7.6.3.

908.7.6.1 (IBC [F]908.7.6.1) General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

908.7.6.2 (IBC [F]908.7.6.2) Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 908.7.2. These locations supersede the locations specified in NFPA 720.

908.7.6.3 (IBC [F]908.7.6.3) Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.

908.7.7 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

Add new text as follows:

SECTION 202 GENERAL DEFINITIONS

[B] PRIVATE GARAGE. A building or portion of a building in which motor vehicles used by the tenants of the building or buildings on the premises are stored or kept, without provisions for repairing or servicing such vehicles for profit

Revise as follows:

1103.9 Carbon monoxide alarms. Existing Group I-1, I-4 and ~~or~~-R occupancies ~~located in a building containing a fuel-burning appliance or a building which has an attached garage shall be provided with be equipped with single-station~~ carbon monoxide alarms in accordance with Section 908.7, except that the carbon monoxide alarms shall be allowed to be solely battery powered.

Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal clarifies the requirements for carbon monoxide alarm installations. The intent is to provide protection for occupants of dwelling units and sleeping units within Group I-1, I-4, and R occupancies, which are locations where occupants are likely to be sleeping. Protection is provided from carbon monoxide that may be generated from faulty fuel burning appliance both inside and outside of the dwelling unit or sleeping unit, or from motor vehicle exhaust emanating from vehicles in attached private garages. It is assumed that a fuel burning appliance also includes a fuel burning fireplace. Specific details on the proposal are as follows.

1. The definition of PRIVATE GARAGE is identical to the IBC definition that was approved as part of proposal G59-12.
2. The entire section was reformatted to provide requirements in a more logical order.
3. Section 908.7 clarifies that the section only applies to new constructions, and that Section 1103.9 applies to existing occupancies.
4. Section 908.7.1 now only requires CO alarms are to be provided in Group I-1, I-4 and R occupancies, not all Group I occupancies as required in the existing code. It was felt that CO alarms were not warranted in Group I-2 and I-3 occupancies.
5. The code currently requires CO alarms to be provided in buildings that contain fuel burning appliances, with no additional details. Sections 908.7.1.1 through 908.7.1.3 describe the specific conditions when CO alarms are and are not required with regard to fuel-burning appliances.
6. Section 908.7.1.3 covers situations where dwelling units and sleeping units do not contain a fuel burning appliance, but such an appliance is included in a common area of the building. A good example of this is a multistory hotel that has all electric HVAC in the sleeping units, but perhaps a fireplace in the lobby, forced air heating in the common area, and a boiler in an equipment room. In these situations it is not reasonable to provide CO alarms in every sleeping room on every

floor of the hotel, where there are no sources of carbon monoxide. Having a few strategically located Co alarms in common areas will provide a reasonable level of protection for the sleeping units and dwelling units.

Exception 1 to this section covers situations where CO emanating from the fuel burning appliance has no direct path to a dwelling unit or sleeping unit, such as a water heater in an equipment room that only has access from the exterior of the building, and no openings through which the CO can get to dwelling units or sleeping units. An interior door, between this equipment room and a dwelling unit, even if it is self-closing, would not allow this exception to be used.

Exception 2 to this section requires the installation of a one or more CO alarms in approved locations between fuel burning appliances and the nearest dwelling unit or sleeping unit, or on the ceiling of the room in which a fuel burning appliance is located. CO alarms are only required where there are communicating openings including ducts, concealed spaces, interior hallways, stairs and spaces between the fuel-burning appliance or fuel burning fireplace and the dwelling unit or sleeping unit where air can flow from the appliance to the dwelling unit or sleeping unit.

7. The code currently requires CO alarms to be provided when the building has an attached garage, other than an open parking garages or enclosed parking garages that contain mechanical ventilation systems. The proposal keeps these basic concepts, but clarifies that CO alarms are required when the building has an attached private garage (which is defined in section 406.3 of the IBC). The proposal also does not require CO alarms to be provided when the private garage is attached to the building by an open ended corridor (a term used in the IBC and IFC, which is commonly called a breeze way).
8. The code currently deferred to NFPA 720 for identifying where CO alarms are to be located. In order to make the code more user friendly, Section 908.7.2 now describes the locations where CO alarms are to be provided. In some cases this differs from NFPA 720 required locations, but again is intended to provide protection for CO emanating from motor vehicles in attached private garages or from faulty fuel-burning appliances located either inside or outside of the dwelling unit or sleeping unit. .
9. Section 908.7.3 clarifies that CO alarms are required to be hard wired into building power, similar to smoke alarms, with one exception.
10. Section 908.7.5 addresses combination CO/smoke alarms, which are listed and readily available.
11. Section 908.7.6 includes more comprehensive requirements for CO detection systems as compared to the current code requirements. It requires these systems to comply with NFPA 720, but clarifies that detectors must be installed in the locations specified in Section 908.7.2 (not as specified in NFPA 720). It also allows combination CO/smoke detectors to be used.
12. Section 908.7.7 covers maintenance of devices and requires inoperative and end-of-life CO alarms to be replaced.
13. Section 1103.9 was revised to avoid duplicating section 908.7 requirements, and to allow battery powered CO alarms to be used to retrofit existing buildings, which is consistent with the retrofit provisions in the IRC.

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

908.7 (NEW)-F-ZUBIA-FCAC

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

908.7 (IBC [F] 908.7) Carbon monoxide alarms. Carbon monoxide alarms shall be installed in new buildings in accordance with Sections 908.7.1 through 908.7.7. Carbon monoxide alarms shall be installed in existing buildings in accordance with Section 1103.9.

908.7.1 (IBC [F] 908.7.1) Where required. Carbon monoxide alarms shall be provided in Group I-1, I-2, I-4, and R occupancies in the locations specified in 908.7.2 where any of the conditions in Sections 908.7.1.1 through 908.7.1.4 exist.

908.7.1.1 (IBC [F] 908.7.1.1) Fuel-burning appliances and fuel burning fireplaces. Carbon monoxide alarms shall be provided in dwelling units and sleeping units that contain a fuel-burning appliance or a fuel burning fireplace.

908.7.1.2 (IBC [F] 908.7.1.2) Forced air furnaces. Carbon monoxide alarms shall be provided in dwelling units and sleeping units served by a fuel-burning, forced air furnace.

908.7.1.3 (IBC [F] 908.7.1.3) Fuel burning appliances outside of dwelling units and sleeping units. Carbon monoxide alarms shall be provided in dwelling units and sleeping units located in buildings that contain fuel-burning appliances or fuel burning fireplaces.

Exception:

1. Carbon monoxide alarms shall not be required in dwelling units and sleeping units if there are no communicating openings between the fuel-burning appliance or fuel burning fireplace and the dwelling unit or sleeping unit.
2. Carbon monoxide alarms shall not be required in dwelling units and sleeping units if a carbon monoxide alarm is provided:
 - 2.1 In an approved location between the fuel burning appliance or fuel burning fireplace and the dwelling unit or sleeping unit, or

2.2 On the ceiling of the room containing the fuel burning appliance or fuel burning fireplace.

908.7.1.4 (IBC [F]908.7.1.4) Private garages. Carbon monoxide alarms shall be provided in dwelling units and sleeping units in buildings with attached private garages.

Exceptions:

1. Carbon monoxide alarms shall not be required if there are no communicating openings between the private garage and the dwelling unit or sleeping unit.
2. Carbon monoxide alarms shall not be required in dwelling units and sleeping units located more than one story above or below a private garage.
3. Carbon monoxide alarm shall not be required if the private garage connects to the building through an open-ended corridor.

908.7.1.4.1 (IBC [F]908.7.1.4.1) Exempt garages. For determining compliance with Section 908.7.1.4, an *open parking garage*, complying with Section 406.5 of the *International Building Code*, or an *enclosed parking garage* complying with Section 406.6 of the *International Building Code* shall not be considered a private garage.

908.7.2 (IBC [F]908.7.2) Locations. Where required by Section 908.7.1, carbon monoxide alarms shall be installed in the locations specified in Sections 908.7.2.1 through 908.7.2.2.

908.7.2.1 (IBC [F]908.7.2.1) Dwelling units. Carbon monoxide alarms shall be installed in dwelling units outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

908.7.2.2 (IBC [F]908.7.2.2) Sleeping units. Carbon monoxide alarms shall be installed in sleeping units.

Exception: Carbon monoxide alarms shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where the sleeping unit or its attached bathroom do not contain a fuel burning appliance and are not served by a forced air furnace.

908.7.3 (IBC [F]908.7.3) Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery powered carbon monoxide alarms shall be an acceptable alternative.

908.7.4 (IBC [F]908.7.4) Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

908.7.5 (IBC [F]908.7.5) Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.

908.7.6 (IBC [F]908.7.6) Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 908.7.6.1 through 908.7.6.3.

908.7.6.1 (IBC [F]908.7.6.1) General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

908.7.6.2 (IBC [F]908.7.6.2) Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 908.7.2. These locations supersede the locations specified in NFPA 720.

908.7.6.3 (IBC [F]908.7.6.3) Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.

908.7.7 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

1103.9 Carbon monoxide alarms. Existing Group I-1, I-2, I-4 and R occupancies shall be provided with carbon monoxide alarms in accordance with Section 908.7, except that the carbon monoxide alarms shall be allowed to be solely battery powered.

Add new definition as follows:

**SECTION 202
GENERAL DEFINITIONS**

[B] PRIVATE GARAGE. A building or portion of a building in which motor vehicles used by the tenants of the building or buildings on the premises are stored or kept, without provisions for repairing or servicing such vehicles for profit

Committee Reason: The proposal was approved as the requirements associated with the more specific hazards within a building

have been clarified. In addition, the placement of the CO alarms and CO detectors, where applicable, are more clearly specified. Previously the provisions were difficult to enforce. The modification simply added Group I-2 occupancies as it was requested that such occupancies be provided the same protection. The original provisions stated Group I occupancies which intended to address Group I-2.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 915 CARBON MONOXIDE DETECTION

908.7.1 915.1 Carbon monoxide alarms detection. Carbon monoxide alarms detection shall be installed in new buildings in accordance with Sections ~~908.7.1 915.1.1~~ through ~~908.7.2 915.6~~. Carbon monoxide alarms detection shall be installed in existing buildings in accordance with Section 1103.9.

908.7.1 915.1.1 Where required. Carbon monoxide alarms detection shall be provided in Group I-1, I-2, I-4, and R occupancies, and in classrooms in Group E occupancies in the locations specified in ~~908.7.2 915.2~~ where any of the conditions in Sections ~~908.7.1.1 915.1.2~~ through ~~908.7.1.4.4 915.1.6~~ exist.

908.7.1.1 915.1.2 Fuel-burning appliances and fuel burning fireplaces. Carbon monoxide alarms detection shall be provided in dwelling units, and sleeping units and classrooms that contain a fuel-burning appliance or a fuel burning fireplace.

908.7.1.2 915.1.3 Forced air furnaces. Carbon monoxide alarms detection shall be provided in dwelling units, and sleeping units and classrooms served by a fuel-burning, forced air furnace.

Exception: Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms if carbon monoxide detection is provided in the first room or area served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.

908.7.1.3 915.1.4 Fuel burning appliances outside of dwelling units, and sleeping units and classrooms. Carbon monoxide alarms detection shall be provided in dwelling units, and sleeping units and classrooms located in buildings that contain fuel-burning appliances or fuel burning fireplaces.

Exceptions:

1. Carbon monoxide alarms detection shall not be required in dwelling units, and sleeping units and classrooms if there are no communicating openings between the fuel-burning appliance or fuel burning fireplace and the dwelling unit, or sleeping unit or classroom.
2. Carbon monoxide alarms detection shall not be required in dwelling units, and sleeping units and classrooms if carbon monoxide alarms detection is provided in one of the following locations:
 - 2.1 In an approved location between the fuel burning appliance or fuel burning fireplace and the dwelling unit, or sleeping unit or classroom, or
 - 2.2 On the ceiling of the room containing the fuel burning appliance or fuel burning fireplace.

908.7.1.4 915.1.5 Private garages. Carbon monoxide alarms detection shall be provided in dwelling units, and sleeping units, and classrooms in buildings with attached private garages.

Exceptions:

1. Carbon monoxide alarms detection shall not be required if there are no communicating openings between the private garage and the dwelling unit, or sleeping unit or classroom.
2. Carbon monoxide alarms detection shall not be required in dwelling units, and sleeping units and classrooms located more than one story above or below a private garage.
3. Carbon monoxide alarms detection shall not be required if the private garage connects to the building through an open-ended corridor.

4. Where carbon monoxide detection is provided in an approved location between openings to a private garage and dwelling units, sleeping units or classrooms, carbon monoxide detection shall not be required in the dwelling units, sleeping units or classrooms.

908.7.1.4.4 915.1.6 Exempt garages. For determining compliance with Section 908.7.1.4 915.1.5, an *open parking garage*, complying with Section 406.5 of the *International Building Code*, or an *enclosed parking garage* complying with Section 406.6 of the *International Building Code* shall not be considered a private garage.

908.7.2 915.2 Locations. Where required by Section 908.7.1-915.1.1, carbon monoxide alarms detection shall be installed in the locations specified in Sections 908.7.2.4 915.2.1 through 915.2.3.

908.7.2.4 915.2.1 Dwelling units. Carbon monoxide alarms detection shall be installed in dwelling units outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm detection shall be installed within the bedroom.

908.7.2.2 915.2.2 Sleeping units. Carbon monoxide alarms detection shall be installed in sleeping units.

Exception: Carbon monoxide alarms detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where the sleeping unit or its attached bathroom do not contain a fuel burning appliance and are not served by a forced air furnace.

915.2.3 Group E occupancies. Carbon monoxide detection shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

Exception: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 30 or less.

915.3 Detection equipment. Carbon monoxide detection required by 915.1 through 915.2.3 shall be provided with carbon monoxide alarms complying with Section 915.4 or with carbon monoxide detection systems complying with Section 915.5.

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Section 915.4.1 through 915.4.3.

908.7.3 915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery powered carbon monoxide alarms shall be an acceptable alternative.

908.7.4 915.4.2 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

908.7.5 915.4.3 Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.

908.7.6 915.5 Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 908.7.6.4 915.5.1 through 908.7.6.3 915.5.3.

908.7.6.4 915.5.1 General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

908.7.6.2 915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2 908.7.2. These locations supersede the locations specified in NFPA 720.

908.7.6.3 915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.

908.7.7 915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

(portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Proposals F180, F182, and F360 covered carbon monoxide alarms and were all approved in Dallas. F360 included requirements to protect occupants in dwelling units and sleeping unit from potential sources of carbon monoxide. F182 required CO detection in Group E occupancies, but differed from F360 in how the protection was to be provided.

This public comment was developed by the Fire Code Action Committee's carbon monoxide task group, which included a wide range of interested parties. It resolves conflicts between the proposals, and makes some editorial revisions to clarify the intent of the requirements, as follows:

- Changes references from "carbon monoxide alarm" to "carbon monoxide detection" in Sections 915.1, 915.2 and 1103.9 since detection can be provided by either carbon monoxide alarms or carbon monoxide detection systems.
- Maintains the same protection requirements for Group I-1, I-2, I-4, and R occupancies as approved in F360, and extends it to classrooms in Group E occupancies, except as noted below.
- For clarification, section 915.1.3 covers forced air furnaces that serve dwelling units, sleeping units or classrooms. This section only covers furnaces where a malfunction or crack in the heat exchange will cause CO to be spread from the combustion chamber to the ducts serving the building. This section does not apply to other heating systems such as boilers that circulate heated water to the building. An exception was added to 915.1.3 that allows carbon monoxide detection to be provided in the first room or area served by each main duct leaving the furnace, provided the carbon monoxide alarm signals are automatically transmitted to an approved location. Such an arrangement will detect carbon monoxide from the ducts and provide notification of the condition to an approved location, such as a reception area, engineering office, or central station. With this protection in place there is no need to provide carbon monoxide detection in each dwelling unit, sleeping unit or classroom served by the forced air furnace ducts.
- Section 915.2.3 requires carbon monoxide detection to be provided in classrooms in Group E occupancies, and not other rooms such as bathrooms, break rooms, interior hallways, gymnasiums, etc. The concept is to protect the students in rooms in which they spend a considerable amount of time in a relatively compact space. This is similar to the concept of only providing CO protection for sleeping units and dwelling units in Group I and R occupancies, and not rooms used for other purposes.
- F182 required carbon monoxide alarm signals in Group E occupancies to be automatically transmitted to a constantly attended on-site location. Proposed section 915.2.3 recognizes that many schools do not have a location that is constantly attended 24/7, requires carbon monoxide alarms to be automatically transmitted to an on-site location that is staffed by school personnel.
- Section 915.2.3 also includes an exception that does not require carbon monoxide alarms to be transmitted to an on-site location that is staffed by school personnel for very small schools with an occupant load of 30 or less. These occupancies may not have a location other than the classroom staffed by school personnel, and the carbon monoxide alarm in the classroom will provide the necessary alarm warning to the occupants. The trigger for 30 or less occupants corresponds with the fire alarm threshold for small Group E occupancies in 907.2.3.
- Section 915.3 was provided to clarify that protection can be provided by either carbon monoxide alarms or carbon monoxide detection systems, which are options recognized in F180, F360, and in the 2012 IFC.
- 915.1.5, Exception 4 was developed to provide an option for protecting against CO emanating from private garages by providing carbon monoxide detection in an approved location between openings to a private garage and dwelling units, sleeping units or classrooms. This same protection method is allowed for similar situations involving fuel burning appliances located outside of dwelling units, sleeping units and classrooms in section 915.1.4 Exceptions 2.

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Suggested code commentary for these requirements is as follows:

The Fire Code Action Committee task group that developed the carbon monoxide (CO) detection requirements included not only industry and fire service, but also users whose facilities must include this protection, so providing effective protection in a cost effective manner was a key consideration. An explanation of the approach used to provide protection is as follows:

Protected areas (in I-1, I-2, I-4, R and E occupancies) – Dwelling units, sleeping units and classrooms are the only rooms in the building that require protection from sources of potential CO.

Sources of potential CO that require protection – CO detection is required for protected areas ONLY when there is a potential source of CO that can enter or build up in the protected area. This includes (1) a fuel burning appliance in the protected area, (2) a fuel burning appliance in the building but outside of the protected area, (3) a forced air, fuel burning furnace that serves the protected area (not a boiler type system or electric heat), or (4) a private garage attached to the building. There are several exceptions in which CO detection is not required if it is unlikely for dangerous levels of CO to be transported to the protected areas, such as an open ended corridor between a private garage and the building.

Types of protection - The 2012 IFC and this proposal allow either single or multiple station CO alarms to be used to provide protection, or CO detection systems installed per NFPA 720. In some instances annunciation is required in certain approved locations, such as Group E occupancies. It is recognized that in many buildings, especially those that require fire alarm systems to be installed, a CO detection system will be the preferred design approach, since CO detectors or combination CO/smoke detectors can be connected to a required fire alarm system control unit.

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There are several scenarios for providing CO protection for protected areas, and it is rarely necessary to provide CO detection in every protected area, as shown in the following examples:

Fuel burning appliance in the protected area – Consider these examples:

- (1) A dwelling unit with a solid fuel burning fireplace, or a school classroom containing a gas-fired wall heater – CO detection must be provided in these protected areas, providing detection outside of the dwelling unit or classroom makes no sense

because the potential source of CO is within each unit. The CO alarm signal from the classroom must be transmitted to the school office.

- (2) Apartment building with dwelling units that each contain a gas fireplace and gas fired water heater – CO detection must be provided in each dwelling unit. (This is likely to be a single or multiple station CO alarm).

Fuel burning appliance in the building but outside of the protected area – Consider these examples:

- (1) A school building with a boiler providing heat to the classrooms, and a water heater in the same equipment room – A single CO detection unit can be provided in the equipment room, with annunciation of the CO alarm in the school office. o other CO detection is needed unless there are other sources of potential CO in the building.
- (2) Hotel with a gas fireplace in the lobby and guest rooms on the same floor which are served by electric heat – A single CO detection unit can be installed on the lobby ceiling or in a location between the lobby fire place and the guest rooms. No other CO detection is needed unless there are other sources of potential CO in the building.
- (3) Apartment building, with gas-fired pool heater for the indoor swimming pool, all electric heat and water heating in the dwelling units – A single CO detection unit can be installed in the pool equipment room.

Forced air, fuel burning furnace in the building – Consider this example.

- (1) Patient rooms served by a forced air, fuel burning furnace – In this case providing CO detection on the furnace room ceiling does not necessarily provide protection for the patient rooms served by the furnace if, for example, the furnace has a cracked heat exchanger between the combustion chamber and the ducts serving the patient rooms, and it is pumping CO into those rooms. Protection can be provided by either (a) providing CO detection in all patient rooms served by the furnace (worst case condition) or (b) providing CO detection in the first room or area served by each main duct leaving the furnace, and a CO alarm signal that is automatically transmitted to an approved location, such as a nurses station or engineering office.

Private garage attached to a building – Consider these examples:

- (1) Hotel with an attached private garage with entrances onto the first and second floor, no gas appliances – Provide CO detection in each corridor leading from the garage entrances, prior to the first guest room on each floor.
- (2) Garden apartment with a breezeway attached to a private garage, no gas appliances – No CO detection is required to protect against CO emanating from the private garage.

Public Comment 2:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1103.9 Carbon monoxide alarms detection. Existing Group I-1, I-2, I-4, and R and E occupancies shall be provided with carbon monoxide alarms detection in accordance with Section 908.7-915.

Exceptions:

1. except that the Carbon monoxide alarms shall be allowed to be solely battery powered
2. Carbon monoxide alarm signals in Group E occupancies shall not be required to be transmitted to an on-site location that is staffed by school personnel.

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Proposals F180, F182, and F360 covered carbon monoxide alarms and were all approved in Dallas. F360 included requirements to protect occupants in dwelling units and sleeping unit from potential sources of carbon monoxide. F182 required CO detection in Group E occupancies, but differed from F360 in how the protection was to be provided.

Two public comments were developed by the Fire Code Action Committee's carbon monoxide task group, which included a wide range of interested parties. They resolve conflicts between the proposals, and make some editorial revisions to clarify the intent of the requirements.

Section 1103.9 was revised to include an exception that carbon monoxide alarms in existing Group E occupancies can be solely battery powered, and that their alarm signals are not required to be transmitted to an on-site location staffed by school personnel. This is consistent with requirements for carbon monoxide alarms in existing Group I and R occupancies.

Public Comment 3:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

908.7.1 (IBC [F] 908.7.1) Where required. Carbon monoxide alarms shall be provided in Group I-1, I-2, I-4, and R occupancies in the locations specified in 908.7.2 where any of the conditions in Sections 908.7.1.1 through 908.7.1.4 exist.

1103.9 Carbon monoxide alarms. Existing Group I-1, I-2, I-4 and R occupancies shall be provided with carbon monoxide alarms in accordance with Section 908.7, except that the carbon monoxide alarms shall be allowed to be solely battery powered.

(Portions of proposal not shown remain unchanged)

Reason: The committee added Group I-2 as a floor modification with no technical justification or materials presented. There have been no deaths in hospitals from carbon monoxide poisoning. A search for technical data for nursing homes was inconclusive. There is no identified need for these carbon monoxide detectors in these types of facilities.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 8 open meetings and over 150 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This proposal is being co-sponsored 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.

Public Comment 3:

Thomas G. Daly, representing The Hospitality Security Consulting Group, LLC, requests Approval as Modified by the Code Committee as Published in the Report of the Committee Action Hearings.

Commenter's Reasons: The proposed revisions to Sec. 908.7 and 1103.9 focus the requirements for CO alarm warning equipment at the source of CO producing appliances/equipment thereby providing for the earliest possible alarm and response. The changes would also allow for the use of combination CO/smoke alarms and detectors improving the flexibility for end users. Battery operated CO alarms would be allowed in existing buildings making such installations cost effective.

Public Comment 4:

Stacy N. Welch representing Marriott International, Inc, requests Approval as Modified by the Code Committee as Published in the Report of the Committee Action Hearings.

Commenter's Reason: Marriott International, Inc. wishes to indicate its support for code change proposal F360 for the 2015 editions of the ICC's International Building and Fire Codes with respect to carbon monoxide alarm for various occupancies.

With responsibility for the safety of our guests and employees I 3,800 hotels in 74 countries, carbon monoxide presents a sizable risk. With the increased awareness around carbon monoxide, in 2004 Marriott established a carbon monoxide detection policy for existing and new hotels.

The proposed code change language is clearer for both end users and enforcement officials to understand and implement; removes undefined terms which are in the 2012 IBC & IFC code sections dealing with this subject; focuses CO detection and alarms at the source of potential leaks providing earlier warning and reaction time, which closely aligns with Marriott's long established policy.

F360-13

Final Action: AS AM AMPC _____ D

FG1-13

IFGC [F] 413.2.3, IFGC [F] 413.3, IFGC [F] 413.4

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfone@aga.org)

Revise as follows:

IFGC [F] 413.2.3 General. Residential fueling *appliances* shall be *listed*. ~~The capacity of a residential fueling appliance shall not exceed 5 standard cubic feet per minute (0.14 standard cubic meter/min) of natural gas.~~

IFGC [F] 413.3 Location of dispensing operations and equipment. Compression, storage and dispensing *equipment* shall be located above ground outside outdoors.

Exceptions:

1. Compression, storage or dispensing *equipment* is allowed in buildings of noncombustible construction, as set forth in the *International Building Code*, that are unenclosed for three-quarters or more of the perimeter.
2. Compression, storage and dispensing *equipment* is allowed to be located indoors or in vaults in accordance with the *International Fire Code*.
3. Residential fueling *appliances* and *equipment* in accordance with Section 413.4, shall be ~~allowed to be installed indoors in accordance and the equipment manufacturer's instructions and Section 413.4.3.~~

IFGC [F] 413.4 Residential fueling appliance installation. Residential fueling *appliances* shall be installed in accordance with Sections 413.4.1 through 413.4.3.

IFGC [F] 413.4.2 Outdoor installation. Residential fueling *appliances* located outdoors shall be listed for outdoor installation and installed in accordance with the appliance manufacturer's instructions.

Residential fueling *appliances* located outdoors shall be installed on a firm, noncombustible base.

IFGC [F] 413.4.3 Indoor installation. Residential fueling appliances located indoors shall be listed for indoor installation and installed in accordance with the appliance manufacturer's instructions. ~~Where located indoors,~~ Residential fueling *appliances* shall be vented to the outdoors. A gas detector set to operate at one-fifth of the lower limit of flammability of natural gas shall be installed in the room or space containing the *appliance*. The detector shall be located within 6 inches (152 mm) of the highest point in the room or space. The detector shall stop the operation of the *appliance* and activate an audible or visual alarm.

Reason: Residential fueling of natural gas vehicles represents a nationally-important opportunity to increase adoption of natural gas passenger cars and other light duty vehicles. Natural gas promises to be a major contributor toward reducing U. S. dependence upon foreign oil and petroleum products and making use of abundant, low cost U. S. natural gas supplies, the development of which is adding significantly to the recovery of U. S. economy.

However, the current text in IFGC Section 413.2.3 is inconsistent with modern approaches and gas flow rates being proposed for vehicle residential fueling by arbitrarily restricting residential fueling appliances to a gas flow rate of 5 standard cubic feet (of natural gas) per minute (scfm). Current research and technology development programs are targeting delivering natural gas at higher flow rates, especially at the initiation of the fueling cycle, to achieve practical vehicle refueling rates. A wide variety of technologies and commercial interests are focused on approaches for which the 5 scfm flow rate limitation would represent a technology barrier.

The current 5 scfm flow rate limitation in Section 413.2.3 raises a number of issues, including whether it is a reasonable, meaningful, or enforceable limit:

- The 5 scfm flow rate limit, if inferred as a potential leakage limit to an indoor garage or other space, is provided without a release time duration or profile, which would be required to determine how such a leak would present flammability hazards. As such, a 5 scfm limitation appears arbitrary and incomplete.

- Detailed fault tree analysis, failure modes and effects analysis, and computational fluid dynamics analysis of residential fueling appliance releases conducted by TIAX in 2004 showed that leak rates from various release scenarios and median residential garage air tightnesses and ventilation rates should be below 1 scfm to maintain steady state gas-in-air concentrations below combustible levels. The TIAX analysis suggests that a 5 scfm flow rate, when inferred as a potential leak rate, may be unsafe with respect combustion hazards in residential garages from releases from the vehicle fueling appliance and dispenser hose, as well as from the onboard vehicle fuel system.
- The 5 scfm flow limit may not be enforceable by code authorities, particularly if the listing standard (which is undefined by the current code language) does not readily provide a code official with gas flow information.
- Review of ICC records suggests that according to the 2006 ICC Code Commentary the 5 scfm limit as well as other technical provisions of Section 413 were adopted for consistency with National Fire Protection Association (NFPA) Standard 52 and based on flow rates for residential fueling appliances available at that time. NFPA Standard 52 records show that the flow rate was adopted in the 1988 standard cycle, but no specific technical justification for the flow rate limitation was provided.

Since requirements in Section 413.2.3 apply to the residential refueling appliance and specifically require it to be listed, leakage prevention and mitigation is most properly addressed in the listing standard. The proponent of this code change and a vast array of other organizations have convened a Technical Advisory Group (TAG) to draft a national consensus standard under the American National Standards Institute (ANSI) processes of CGA Group, an ANSI- recognized standards development organization (SDO) for natural gas vehicle standards. Completion of the standard is expected between 18 and 24 months from the submission date of this proposal.

The ANSI standard development activity is directly addressing the requirement in Section 413.2.3 for the residential fueling appliance to be listed and is addressing prevention and mitigation of leak hazards consistent with the 2004 TIAX analysis for critical leaks relevant to indoor refueling operations. In doing so, the ANSI standard is addressing the intent of the 5 scfm gas flow limitation but is based on preventing and mitigation releases must more conservatively than the current flow limitation approach. Leak mitigation is being included in the standard through a variety of performance-based automatic and redundant means and verified in standards-based methods of test in the design certification process. Since the ANSI process is open and invites public review, the adequacy and appropriateness of the listing requirements and methods of test a open to public input from all stakeholders and expertise. Therefore, the basis for leak prevention and mitigation will be likewise open to public review and comment.

Changes proposed to Section 413.4 address the lack of differentiation of residential fueling appliances designed for outdoor and indoor installation. The new language directs the authority having jurisdiction to the specific listing for outdoor or indoor installation and associated listing requirements for those environments, including leak prevention and hazard mitigation, environmental conditions, and other requirements for germane to the installation location. The proposed language is consistent with current direction in development of the ANSI standard, which makes this differentiation and applies relevant requirements to the appliance design certification.

Cost Impact: None.

[F] 413.2.3-FG-RANFONE

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the fact that the 2013 edition of NFPA 52 limits the residential fueling rate to 5 scfm which is being deleted from Section 413.2.3 without a compelling reason being offered; this would put the code at odds with the standard and create enforcement problems. It was also noted that the proposal is based in part upon future standards that are still under development. The committee was not prepared to approve the proposal on a "leap of faith" as suggested.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Ted A Williams, representing American Gas Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

[F] 413.2.3 General. Residential fueling *appliances* shall be *listed*. The capacity of a residential fueling appliance for indoor refueling shall not exceed 5 standard cubic feet per minute (0.14 standard cubic meter/min) of natural gas. (Portions of proposal not shown remain unchanged)

Commenter's Reason: The modification to the proposal would reinstate the 5 scfm capacity limit for residential fueling appliances listed and installed indoors. Limiting flow rate for residential fueling appliances to flows of this magnitude is only relevant for appliance installations indoors where released flows of natural gas may produce a flammable atmosphere. The original intent of limiting flow capacity of residential fueling appliances, promulgated by the National Fire Protection Association (NFPA) Standard 52, was to limit unrestricted leak rates indoors to the 5 scfm capacity flow rate in the event of a breach in appliance fuel system integrity. The current code language does not distinguish between indoor and outdoor installation, imposing unnecessary restrictions on outdoor refueling and the opportunity to raise flow rates to achieve reasonable, faster vehicle refueling rates. The proposal adds clarifying language that terms of listing need to differentiate residential fueling appliances as listed for indoor or outdoor installation.

FG1-13

Final Action: AS AM AMPC____ D

G1-13

IBC [F] 307.1

Proposed Change as Submitted

Proponent: Maureen Traxler, City of Seattle, WA representing Washington Association of Building Officials (Maureen.Traxler@seattle.gov)

Revise as follows:

IBC [F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in *control areas* complying with Section 414, based on the maximum allowable quantity limits for *control areas* set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*. Hazardous materials stored, or used on top of roofs or canopies shall be classified as outdoor storage or use and shall comply with the *International Fire Code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1-hour *horizontal assemblies* constructed in accordance with Section 711, or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
- ~~7.~~ 7. The storage of distilled spirits and wines in wooden barrels and casks
- ~~78.~~ Refrigeration systems.
- ~~89.~~ The storage or utilization of materials for agricultural purposes on the premises.
- ~~910.~~ Stationary batteries utilized for facility emergency power, uninterruptable power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and *ventilation* is provided in accordance with the *International Mechanical Code*.
- ~~4011~~ Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
- ~~4412.~~ Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
- ~~4213.~~ Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.
- ~~4314.~~ The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.

Reason: IFC Section 5001.1 has an exception providing that “The storage of distilled spirits and wines in wooden barrels and casks” is not required to comply with the chapter’s general requirements for hazardous materials. IFC Section 5701.2 states that Chapter 57’s provisions for flammable and combustible liquids do not apply to “The storage of distilled spirits and wines in wooden barrels and casks”. Similarly, Chapter 9 of NFPA 30-2012 Flammable and Combustible Liquids Code, exempts the storage of distilled spirits and wines in wooden barrels or casks from the general requirements for storage of liquids in containers. However, the Building Code classifies that same storage as an H-3 occupancy. It is inconsistent for the Building Code to classify an occupancy as a hazardous occupancy due to the presence of this type of storage if none of the mitigation measures are required by the Fire Code. The IFC exempts storage of spirits in wooden containers from all the IBC provisions that would otherwise apply. For example, IBC Section 415.4 requires sprinklers for all Group H occupancies—IFC Section 5004.5 requires sprinklers in indoor storage, but storage of spirits in wooden containers is not required to comply because it is exempt from Chapter 50. Adding this exception to the list of exceptions in IBC section 307.1 will eliminate this inconsistency between the codes and will eliminate unnecessary confusion about how to classify such uses and apply the IBC provisions.

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

[F] 307.1 #1-G-TRAXLER

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the committee’s judgment that the materials in question do constitute a sufficient enough hazard to warrant a Group H occupancy group classification even though many of the IFC safeguards are not applicable.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, representing City of Seattle Dept of Planning & Development, requests Approval as Submitted.

Commenter’s Reason: Contrary to the conclusion of the Fire Code Committee, the materials in question should not be classified as H-3 occupancies when no mitigation measures are required by the Fire Code. The relatively low hazard of distilled spirits and wines in wooden barrels or casks is recognized by NFPA 30 which exempts them from the general requirements for storage of liquids in containers. Similarly IFC Section 5001.1 exempts them from the Fire Code’s general requirements for hazardous materials, and IFC Section 5701.2 exempts them from all the requirements for flammable and combustible liquids. It’s unnecessary for the IBC to classify those materials as an H-3 occupancy.

This proposal also eliminates inconsistencies between the IBC and IFC. The IFC exempts storage of spirits and wine in wooden containers from most of the IBC provisions that would otherwise apply. For example, IFC Chapter 50 is the source of the limitations on maximum allowable quantities. In the IFC, storage of spirits in wooden containers is not required to comply because it is exempt from Chapter 50, but there is no such exception in the IBC. IBC Section 414.7.1 requires emergency alarms in buildings used for storage of hazardous materials. An identical provision appears in IFC Section 5004.9 but storage of spirits and wine in wooden containers is not required to comply because it is exempt from Chapter 50. There are many similar examples of conflicts between the IBC and IFC with regard to these materials.

Adding this exception to the list of exceptions in IBC section 307.1 will eliminate this inconsistency between the codes and will eliminate unnecessary confusion about how to classify such uses and apply the IBC provisions.

G1-13

Final Action:

AS

AM

AMPC_____

D

G9-13
IBC [F] 415.6

Proposed Change as Submitted

Proponent: Homer Maiel, PE, CBO, Town of Atherton (CA), representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay)

Revise as follows:

IBC [F] 415.6 Special provisions for Group H-1 occupancies. Group H-1 occupancies shall be in buildings used for no other purpose, shall not exceed one story in height and be without basements, crawl spaces or other under-floor spaces. detached buildings. Roofs shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature. Group H-1 occupancies containing materials that are in themselves both physical and health hazards in quantities exceeding the maximum allowable quantities per *control area* in Table 307.1(2) shall comply with requirements for both Group H-1 and H-4 occupancies.

Reason: This is only an editorial change. The entire stricken out portion is the definition for “detached buildings”. Hence replacing it with “detached buildings”

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

[F] 415.6-G-MAIEL.doc

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the fact that the critical phrase “...used for no other purpose...” does not appear in the definition so the proponent’s premise that the definition can substitute for the stricken code text is incorrect.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IBC [F] 415.6 Special provisions for Group H-1 occupancies. Group H-1 occupancies shall be in detached buildings, used for no other purpose. Roofs shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature. Group H-1 occupancies containing materials that are in themselves both physical and health hazards in quantities exceeding the maximum allowable quantities per *control area* in Table 307.1(2) shall comply with requirements for both Group H-1 and H-4 occupancies.

Commenter’s Reason: The original proposal has been modified in accordance to committee’s comment back in Dallas.

G9-13

Final Action:

AS

AM

AMPC_____

D

G13-13
IBC [F] 415.10.6.4

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing self (BFICOCS)
(rjd@davidsoncodeconcepts.com)

Revise as follows:

IBC [F] 415.10.6.4 Installations in corridors and above other occupancies. The installation of HPM piping and tubing within the space defined by the walls of corridors and the floor or roof above, or in concealed spaces above other occupancies, shall be in accordance with Sections 415.10.6.1 through 415.10.6.3 and the following conditions:

1. through 3. *(No change to current text.)*
4. HPM supply piping and tubing and nonmetallic waste lines shall be separated from the corridor and from occupancies other than Group H-5 by fire barriers or by an approved piping protective system that have a fire-resistance rating of not less than 1 hour Where gypsum wallboard is used, joints on the piping side of the enclosure are not required to be taped, ~~provided the joints occur over framing members.~~ Access openings into the enclosure shall be protected by approved fire protection-rated assemblies.
5. *(No change to current text.)*

Exception: Transverse crossings of the corridors by supply piping that is enclosed within a ferrous pipe or tube for the width of the corridor need not comply with Items 1 through 5.

Reason: The purpose of this proposal is to allow for additional methods of fire-resistance protection for supply piping and tubing. Depending on the configuration and installation details, a fire-resistance wrap material can provide the required fire-resistance rating.

An additional change is to eliminate the wording ", provided the joints occur over framing members" which addresses the elimination of taping joints on the supply piping side of the fire-resistance protection. The IBC Commentary states:
The elimination of the taping of the wallboard joints on the piping side of a rated assembly is in recognition of actual installation difficulties and the reduced likelihood of a fire on the interior of the wall cavity. To eliminate the taping of joints, however, the joints must occur over framing members.

If the elimination is related to the practical difficulty of taping on the inside of the barrier and the reduces likelihood of a fire on the interior of the cavity, in other words the protection is for an exposure fire, then elimination of the interior taping is not reliant on the joints being over framing members.

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

[F] 415.10.6.4-G-DAVIDSON

Committee Action Hearing Results

Committee Action:

Disapproved

Committee Reason: The disapproval was based on the proponent's request for disapproval so he can submit a public comment to rearrange the text regarding joint taping.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Robert J. Davidson, Davidson Code Concepts, LLC, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IBC [F] 415.10.6.4 Installations in corridors and above other occupancies. The installation of HPM piping and tubing within the space defined by the walls of corridors and the floor or roof above, or in concealed spaces above other occupancies, shall be in accordance with Sections 415.10.6.1 through 415.10.6.3 and the following conditions:

1. through 3. *(No change to current text.)*
4. HPM supply piping and tubing and nonmetallic waste lines shall be separated from the corridor and from occupancies other than Group H-5 by fire barriers or by an approved piping protective system method or assembly that have has a fire-resistance rating of not less than 1 hour. ~~Where gypsum wallboard is used, joints on the piping side of the enclosure are not required to be taped.~~ Access openings into the enclosure shall be protected by approved fire protection-rated assemblies.
5. *(No change to current text.)*

Exception: Transverse crossings of the corridors by supply piping that is enclosed within a ferrous pipe or tube for the width of the corridor need not comply with Items 1 through 5.

Commenter's Reason: In response to the committee and public testimony concerns the specific methods have been deleted to instead refer to a generic requirement of protection with "an approved method or assembly". In recognition of the committee discussion this modified wording provides for acceptance of a wider base of solutions.

G13-13

Final Action: AS AM AMPC____ D

G14-13

IBC [F] 421, Table 509.1, 202; IFC 5808 (New); 5802.1, 202

Proposed Change as Submitted

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing National Renewable Energy Laboratory (NREL) (rjd@davidsoncodeconcepts.com)

Revise as follows:

IBC SECTION 421 HYDROGEN CUTOFF GAS ROOMS

[F] **421.1 General.** Where required by the International Fire Code, hydrogen ~~cutoff~~ gas rooms shall be designed and constructed in accordance with Sections 421.1 through 421.8.

[F] **421.2 Definitions.** The following terms are defined in Chapter 2:

GASEOUS HYDROGEN SYSTEM.

HYDROGEN CUTOFF GAS ROOM.

[F] **421.3 Location.** Hydrogen ~~cutoff~~ gas rooms shall not be located below grade.

[F] **421.4 Design and construction.** Hydrogen ~~cutoff~~ gas rooms ~~not classified as Group H shall be classified with respect to occupancy in accordance with Section 302.1 and separated from other areas of the building in accordance with Section 509.1 by not less than 1-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both; or as required by Section 508.2, 508.3 or 508.4, as applicable~~ .

[F] **421.4.1 Opening protectives Pressure control.** ~~Doors within the fire barriers, including doors to corridors, shall be self-closing in accordance with Section 716. Interior door openings shall be electronically interlocked to prevent operation of the hydrogen system when doors are opened or ajar or the room shall be provided with a mechanical exhaust ventilation system designed in accordance with Section 421.4.1.1. Hydrogen gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.~~

[F] **421.4.1.1 Ventilation alternative.** ~~Where an exhaust system is used in lieu of the interlock system required by Section 421.4.1, exhaust ventilation systems shall operate continuously and shall be designed to operate at a negative pressure in relation to the surrounding area. The average velocity of ventilation at the face of the door opening with the door in the fully open position shall not be less than 60 feet per minute (0.3048 m/s) and not less than 45 feet per minute (0.2287 m/s) at any point in the door opening.~~

[F] **421.4.2 Windows.** Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716.

[F] **421.5 Exhaust Ventilation.** ~~Cutoff Gas~~ Gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions ~~for repair garages in Chapter 5~~ Section 502.16.1 of the *International Mechanical Code*.

[F] **421.6 Gas detection system.** Hydrogen ~~cutoff~~ gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 421.6.1 through ~~421.6.3~~ 421.6.4.

[F] **421.6.1 System design.** The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the room. The gas detection system shall be designed to activate

when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.

[F] 421.6.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.

[F] 421.6.3 421.6.2 Operation. Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the ~~cutoff~~ gas room.
2. Activation of the mechanical exhaust ventilation system.

[F] 421.6.4 421.6.3 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.

[F] 421.7 Explosion control. Explosion control shall be provided ~~in accordance with Chapter 9 of the International Fire Code~~ where required by Section [F] 414.5.1. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 27.

**IBC TABLE 509.1
INCIDENTAL USES**

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Hydrogen cutoff <u>gas</u> rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

(Portions of table not shown remain unchanged)

**IBC SECTION 202
DEFINITIONS**

[F] HYDROGEN CUTOFF GAS ROOM. A room or space that is intended exclusively to house a gaseous hydrogen system.

Add new IFC text as follows:

**SECTION 5808
HYDROGEN GAS ROOMS**

5808.1 General. Where required by the International Fire Code, hydrogen gas rooms shall be designed and constructed in accordance with Sections 5808.1 through 5808.7 and the *International Building Code*.

5808.2 Location. Hydrogen gas rooms shall not be located below grade.

5808.3 Design and construction. Hydrogen gas rooms not exceeding the maximum allowable quantities in Table 5003.1.1(1) shall be separated from other areas of the building in accordance with Section 509.1 of the *International Building Code*.

5808.3.1 Pressure control. Hydrogen gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.

5808.3.2 Windows. Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716 of the *International Building Code*.

5808.4 Exhaust Ventilation. Gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 502.16.1 of the *International Mechanical Code*.

5808.5 Gas detection system. Hydrogen gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 5808.5.1 through 5808.5.4.

5808.5.1 System design. The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.

5808.5.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.

5808.5.3 Operation. Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the gas room.
2. Activation of the mechanical exhaust ventilation system.

5808.5.4 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.

5808.6 Explosion control. Explosion control shall be provided where required by Section 911.

5808.7 Standby power. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 6.

Add new IFC definition as follows:

IFC SECTION 202 DEFINITIONS

GASEOUS HYDROGEN SYSTEM. An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogen containing mixture having at least 95-percent hydrogen gas by volume and not more than 1-percent oxygen by volume. Gaseous hydrogen systems consist of items such as *compressed gas* containers, reactors and appurtenances, including pressure regulators, pressure relief devices, manifolds, pumps, compressors and interconnecting piping and tubing and controls.

HYDROGEN GAS ROOM. A room or space that is intended exclusively to house a *gaseous hydrogen system*.

Revise as follows:

5802.1 Definitions. The following terms are defined in Chapter 2:

FLAMMABLE GAS.

FLAMMABLE LIQUEFIED GAS.

GASEOUS HYDROGEN SYSTEM.

HYDROGEN GAS ROOM.

METAL HYDRIDE.

METAL HYDRIDE STORAGE SYSTEM.

Reason:

IBC Changes: The purpose of this submittal is cleanup of language, correlation with NFPA 2 "Hydrogen Technologies Code", and correlation with other portions of the IBC. NFPA 2 has been formed to provide a source document for the storage, use and handling of hydrogen and much work has gone into refining terms and requirements. For consistency the concepts and terms within the IFC, the IBC and NFPA should correlate for effective and efficient application of hydrogen technologies.

From the 2011 edition of NFPA 2:

Origin and Development of NFPA 2

"With the increased interest in hydrogen being used as a fuel source, the National Fire Protection Association was petitioned to develop an all-encompassing document that establishes the necessary requirements for hydrogen technologies. In 2006, the Technical Committee on Hydrogen Technology was formed and tasked to develop a document that addresses all aspects of hydrogen storage, use, and handling, that draws from existing NFPA codes and standards, and that identifies and fills technical gaps for a complete functional set of requirements for code users and enforcers. This document is also structured so that it works seamlessly with building and fire codes."

The term "Hydrogen Cutoff Room" is proposed to be changed to "Hydrogen Gas Room" which is the phrase used by NFPA 2 for consistency. The change would be reflected in the definition, titles and technical language found within the code.

Section [F]421.4 is modified to improved correlation of this section with Section 509 Incidental Uses. Hydrogen cutoff rooms not classified as a Group H are in Table 509 as an Incidental use. The specifications for separation are covered by 509.4.1. The "hydrogen cutoff room" was not intended to be an H Group, so the language referring to Group separated or non-separated uses is not necessary. That language will apply if a Group H classification is determined to apply. The change provides a cleaner, easier to understand application of these requirements

Section [F] 421.4.1 is modified to be consistent with the newer requirements found within NFPA 2 for hydrogen gas rooms.

Section [F]421.5 is modified to clarify that it is an "exhaust" ventilation system that is required and a pointer to the specific section in the IMC has been added instead of the generic Chapter 5 reference for clarity.

A new Section [F] 421.6.2 has been added to provide standards for the required gas detection system. This language and the referenced standards already exists in the IFC,IBC and IMC for when gas detection systems are required to be installed.

Section [F]421.6.2, Item 2 and Section [F]421.6.3 are proposed to be modified by adding the word "exhaust" to add clarity that it is a "mechanical exhaust system" that is be required.

Section [F]421.7 has been modified to point to the explosion control requirements located within Chapter 4 of the IBC, they are a match for the requirements of the IFC.

IBC Changes: This is duplication of language that is currently in the building code. Because most of the requirements for hydrogen are in the Fire Code, there is a tendency to only use the IFC along with the IFGC and IMC for detailed requirements. The existence of the allowance for use of a hydrogen gas room is not always recognized. By copying the existing language to this new section in the fire code officials will not only provide for increase awareness on the application of hydrogen gas rooms, but will also highlight the systems that must be maintained.

The only modifications made were to fit the language to application out of this code as compared to the IBC as has been done with similar language duplication on other topics.

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

[F] 421-G-DAVIDSON WITH 5808-F-DAVIDSON-COMBINED

Committee Action Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

IBC SECTION 421 HYDROGEN FUEL GAS ROOMS

[F] 421.1 General. Where required by the *International Fire Code*, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 421.1 through 421.8.

[F] 421.2 Definitions. The following terms are defined in Chapter 2:

GASEOUS HYDROGEN SYSTEM.

HYDROGEN FUEL GAS ROOM.

[F] 421.3 Location. Hydrogen fuel gas rooms shall not be located below grade.

[F] 421.4 Design and construction. Hydrogen fuel gas rooms not classified as Group H shall be separated from other areas of the building in accordance with Section 509.1.

[F] 421.4.1 Pressure control. Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.

[F] 421.4.2 Windows. Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716.

[F] 421.5 Exhaust Ventilation. Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 502.16.1 of the *International Mechanical Code*.

[F] 421.6 Gas detection system. Hydrogen fuel gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 421.6.1 through 421.6.4.

[F] 421.6.1 System design. The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the hydrogen fuel gas room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.

[F] 421.6.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.

[F] 421.6.3 Operation. Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the hydrogen fuel gas room.
2. Activation of the mechanical exhaust ventilation system.

[F] 421.6.4 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.

[F] 421.7 Explosion control. Explosion control shall be provided where required by Section [F] 414.5.1. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 27.

**IBC TABLE 509.1
INCIDENTAL USES**

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Hydrogen <u>fuel</u> gas rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

(Portions of table not shown remain unchanged)

**IBC SECTION 202
DEFINITIONS**

[F] HYDROGEN FUEL GAS ROOM. A room or space that is intended exclusively to house a gaseous hydrogen system.

Add new IFC text as follows:

**SECTION 5808
HYDROGEN FUEL GAS ROOMS**

5808.1 General. Where required by this code, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 5808.1 through 5808.7 and the *International Building Code*.

5808.2 Location. Hydrogen fuel gas rooms shall not be located below grade.

5808.3 Design and construction. Hydrogen fuel gas rooms not exceeding the maximum allowable quantities in Table 5003.1.1(1) shall be separated from other areas of the building in accordance with Section 509.1 of the *International Building Code*.

5808.3.1 Pressure control. Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.

5808.3.2 Windows. Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716 of the *International Building Code*.

5808.4 Exhaust Ventilation. Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 502.16.1 of the *International Mechanical Code*.

5808.5 Gas detection system. Hydrogen fuel gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 5808.5.1 through 5808.5.4.

5808.5.1 System design. The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the hydrogen fuel gas room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.

5808.5.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.

5808.5.3 Operation. Activation of the gas detection system shall result in all of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the hydrogen fuel gas room.
2. Activation of the mechanical exhaust ventilation system.

5808.5.4 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.

5808.6 Explosion control. Explosion control shall be provided where required by Section 911.

5808.7 Standby power. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 6.

Add new IFC definition as follows:

IFC SECTION 202 DEFINITIONS

GASEOUS HYDROGEN SYSTEM. An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogen containing mixture having at least 95-percent hydrogen gas by volume and not more than 1-percent oxygen by volume. Gaseous hydrogen systems consist of items such as *compressed gas* containers, reactors and appurtenances, including pressure regulators, pressure relief devices, manifolds, pumps, compressors and interconnecting piping and tubing and controls.

HYDROGEN FUEL GAS ROOM. A room or space that is intended exclusively to house a *gaseous hydrogen system*.

Revise as follows:

5802.1 Definitions. The following terms are defined in Chapter 2:

FLAMMABLE GAS.

FLAMMABLE LIQUEFIED GAS.

GASEOUS HYDROGEN SYSTEM.

HYDROGEN FUEL GAS ROOM.

METAL HYDRIDE.

METAL HYDRIDE STORAGE SYSTEM.

Committee Reason: The committee agreed with the proponent's reason statement that the code change provides needed revisions to the IBC and the addition of requirements in the IFC on emergent hydrogen fuel technology. Approval is also consistent with committee action on related code changes F254-13, F256-13 and F303-13. The modification sets hydrogen fuel gas rooms apart from the currently defined gas room. It was pointed out by the committee that new IFC Section 5808.5.3 should be reviewed for possible violation of the Americans with Disabilities Act (ADA).

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Adolf Zubia, Chairman IAFC Fire and Life Safety Section, representing ICC Fire Code Action Committee, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

604.2.19 (IBC [F] 2702.2.19) Hydrogen fuel gas rooms. Standby power shall be provided for hydrogen fuel gas rooms as required in Section 5808.7.

5808.7 Standby power. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Section 604 Chapter-6.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Section 5808.7 introduced new requirements for standby power systems for hydrogen fuel gas rooms. This proposal correlates the standby power requirements for these facilities with the [proposal F59, which reformatted all references to emergency and standby power. No substantive changes were made a result of this public comment.

G14-13

Final Action: AS AM AMPC ____ D
