IBC – GENERAL

Code Change No: G6-07/08

Original Proposal

Sections: 106.1; IFC 105.4.1; IRC R106.1; IEBC 106.1

Proponent: Lori Lee Graham, City of Portland, OR

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, IFC, IRC BUILDING/ENERGY AND IEBC CODE DEVELOPMENT COMMITTEES AS 4 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

106.1 (Supp) General. Submittal documents consisting of construction documents, statement of special inspections and other data shall be submitted in ~~one~~ two or more sets with each permit application. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

PART II – IFC

Revise as follows:

105.4.1 Submittals. Construction documents shall be submitted in ~~one~~ two or more sets and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

PART III – IRC BUILDING/ENERGY

Revise as follows:

R106.1 Submittal documents. Submittal documents consisting of construction documents, ~~special inspection and structural observation programs~~ and other data shall be submitted in ~~one~~ two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

PART IV – IEBC

Revise as follows:

106.1 (Supp) General. Submittal documents consisting of construction documents special inspection and structural observation programs, investigation and evaluation reports, and other data shall be submitted in ~~one~~ two or more sets with each application for a permit. The construction documents shall be prepared by a registered design

professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the code official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The code official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code

Reason: Section 106.3.1 of the IBC requires that when the construction documents are approved, one set is retained by the building official and one set is returned to the applicant to be kept at the work site. Since at least 2 sets are required at permit issuance, there should be at least 2 sets submitted. With respect to this requirement the 2006 I-codes are consistent in requiring 2 sets at issuance, but inconsistent in requiring 2 sets at application. As currently written the IBC, IFC, IRC and IEBC require one set at application; the IMC, IPC, IWUIC and the IFGC require 2 sets at application. The codes should be consistent. Companion proposals have been submitted for the IFC, IRC and IEBC.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as it provides consistency throughout the code with the number of plans and other documentation required to be submitted.

Assembly Action: **None**

PART II – IFC **Withdrawn by Proponent**

PART III – IRC-B/E
Committee Action: **Disapproved**

Committee Reason: The specific number of construction documents to be submitted is a policy decision that is better left up to the local authority having jurisdiction.

Assembly Action: **None**

PART IV – IEBC
Committee Action: **Disapproved**

Committee Reason: The committee felt that this proposed provision is unnecessary. The authority having jurisdiction can determine how many copies of documents that it needs.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself requests Approval as Submitted for Parts III and IV.

Commenter's Reason: This is an editorial proposal. Two portions of this proposal were approved in some fashion (Part I alone and Part II in code change F15 07/08). This change simply makes it so all of the International Codes are requiring the same number of plans. Approving Parts II and IV of this change will bring consistency amongst all of the codes.

Final Hearing Results

G6-07/08, Part I	**AS**
G6-07/08, Part II	**WP**
G6-07/08, Part III	**AS**
G6-07/08, Part IV	**AS**

Code Change No: G10-07/08

Original Proposal

Sections: 109.3.6; IEBC 109.3.6

Proponent: Bill McHugh, Firestop Contractors International Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IEBC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

109.3.6 Fire and smoke-resistant penetrations. Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.

PART II – IEBC

Revise as follows:

109.3.6 Fire and smoke-resistant penetrations. Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.

Reason: Protection of penetrations and joints in fire and smoke resistance rated construction is very important to maintain tenability for egress or remaining in place until evacuated from a compartment, in compartmentation used in corridors, occupancy separations, and between floors.

Current code only requires that fire resistant penetrations and joints not be concealed from view until inspected and approved. Both fire and smoke-resistance-rated penetrations and joints should be included as smoke travel is very important for tenability. This code change proposal brings consistency between the fire-resistance-rated penetrations and the fire/smoke-resistance-rated or smoke-resistance-rated penetrations, which may or may not have a fire-resistance-rating.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The provisions will increase the quality of construction in the area of smoke resistance to ensure that such aspects of the building perform as expected.

Assembly Action: **None**

PART II – IEBC
Committee Action: **Approved as Submitted**

Committee Reason: The need to keep joints in smoke barriers and smoke partitions open to view until inspection is just as important as that for fire resistance rated construction.

Assembly Action: **None**

Final Hearing Results

G10-07/08, Part I	**AS**
G10-07/08, Part II	**AS**

Code Change No: G13-07/08

Original Proposal

Sections: 202, 502.1, 902.1 (IFC [B] 902.1), 1612.2, 412.2.2, [F] 415.4, [F] 903.2.8.1 (IFC 903.2.8.1), 1203.3, 1915.5, 2111.13.3, 2308.11.2, 2308.12.2

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

SECTION 202
DEFINITIONS

BASEMENT (for other than flood loads). See Sections 502.1 ~~and 1612.2~~.

BASEMENT (for flood loads). See Section 1612.2.

STORY ABOVE GRADE PLANE. (Supp) Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor or roof next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

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

BASEMENT (Supp) A story that is not a story above grade plane (See "Story above grade plane" in Section 202).

The definition of "Basement" does not apply to the provisions of Section 1612 for flood loads (see "Basement" in Section 1612.2).

902.1 (IFC [B] 902.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FIRE AREA (Supp). The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or fire resistance-rated horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.

1612.2 Definitions. The following words and terms shall, for the purposes of this section, have the meanings shown herein.

BASEMENT. The portion of a building having its floor subgrade (below ground level) on all sides.
The definition of "Basement" is limited in application to the provisions of Section 1612 (see "Basement" in Section 502.1).

412.2.2 Basements. Where hangars have basements, ~~the~~ floor over ~~the~~ basements shall be of Type IA construction and shall be made tight against seepage of water, oil or vapors. There shall be no opening or communication between ~~the~~ basements and the hangar. Access to ~~the~~ basements shall be from outside only.

[F] 415.4 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 ~~a~~ basements, crawl spaces or other under-floor spaces. 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 which are in themselves both physical and health hazards in quantities exceeding the maximum allowable quantities per control area

[F] 903.2.8.1 (IFC 903.2.8.1) (Supp) Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m_2).
2. Buildings no more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m^2).
3. Buildings with a repair garages servicing vehicles parked in ~~the~~ basements.

1203.3 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any building except spaces occupied by ~~a~~ basements or cellars shall be provided with ventilation openings through foundation walls or exterior walls. Such openings shall be placed so as to provide cross ventilation of the under-floor space.

1915.5 (Supp) Fire-resistance-rating protection. Pipe columns shall be of such size or so protected as to develop the required fire-resistance ratings specified in Table 601. Where an outer steel shell is used to enclose the fire protective covering, the shell shall not be included in the calculations for strength of the column section. The minimum diameter of pipe columns shall be 4 inches (102 mm) except that in structures of Type V construction not exceeding three stories or 40 feet (12 192 mm) in height, pipe columns used in ~~the~~ basements and as secondary steel members shall have a minimum diameter of 3 inches (76 mm).

2111.13.3 Exterior air intake. The exterior air intake shall be capable of providing all combustion air from the exterior of the dwelling. The exterior air intake shall not be located within ~~the~~ a garage, attic, basement or crawl space of the dwelling nor shall the air intake be located at an elevation higher than the firebox. The exterior air intake shall be covered with a corrosion-resistant screen of $^1/_4$-inch (6.4 mm) mesh.

2308.11.2 (Supp) Concrete or masonry. Concrete or masonry walls and stone or masonry veneer shall not extend above ~~the~~ a basement.

Exceptions:

1. Stone and masonry veneer is permitted to be used in the first two stories above grade plane or the first three stories above grade plane where the lowest story has concrete or masonry walls in Seismic Design Category B, provided that structural use panel wall bracing is used and the length of bracing provided is one- and one half times the required length as determined in Table 2308.9.3(1).
2. Stone and masonry veneer is permitted to be used in the first story above grade plane or the first two stories above grade plane where the lowest story has concrete or masonry walls in Seismic Design Category B or C.
3. Stone and masonry veneer is permitted to be used in the first two stories above grade plane in Seismic Design Categories B and C, provided the following criteria are met:
   3.1. Type of brace per Section 2308.9.3 shall be Method 3 and the allowable shear capacity in accordance with Table 2306.4.1 shall be a minimum of 350 plf (5108 N/m).
   3.2. The bracing of the top story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 40 percent of the braced wall line. The bracing of the first story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 35 percent of the braced wall line.
   3.3. Hold-down connectors shall be provided at the ends of braced walls for the second floor to first floor wall assembly with an allowable design of 2,000 pounds (8896 N). Hold-down connectors shall be provided at the ends of each wall segment of the braced walls for the first floor to foundation with an allowable design of 3,900 pounds (17 347 N). In all cases, the hold-down connector force shall be transferred to the foundation.
   3.4. Cripple walls shall not be permitted.

2308.12.2 (Supp) Concrete or masonry. Concrete or masonry walls and stone or masonry veneer shall not extend above ~~the~~ a basement.

Exception: Stone and masonry veneer is permitted to be used in the first story above grade plane in Seismic Design Category D, provided the following criteria are met:

1. Type of brace in accordance with Section 2308.9.3 shall be Method 3 and the allowable shear capacity in accordance with Table 2306.4.1 shall be a minimum of 350 plf (5108 N/m).
2. The bracing of the first story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 45 percent of the braced wall line.

3. Hold-down connectors shall be provided at the ends of braced walls for the first floor to foundation with an allowable design of 2,100 pounds (9341 N).
4. Cripple walls shall not be permitted.

Reason: Proposal G8-06/07-AMPC1 revised the definition of "basement" to be a story that is not a story above grade plane. The proposal extends these changes to other sections of the IBC. A "story" is a vertical space between each floor and between the upper floor and the roof. There are instances where a basement is assumed to be all stories below grade plane instead of an individual story below grade plane. The proposal makes the necessary corrections for consistency with the revised definition of "basement."

A comprehensive review of the 2006 IBC and 2007 Supplement was made during the preparation of this proposal and it was determined that, except for flood loads (below), the code sections referring to basements do so consistent with the revised definition of "basement" except for the code sections in this proposal. Approximately 50 such code sections were studied.

The definition of "story "in Section 202 establishes the vertical space as "between the upper surface of a floor and the upper surface of the floor or roof next above." The proposal revises the definitions of "story above grade plane" in Section 202 and "fire area" in Section 902.1 for consistency with this definition.

The definition of "basement" in Section 502.1 applies to all provisions of the IBC except for flood loads in Section 1612 for which there is a separate definition of "basement" (see Section 1612.2). This proposal adds language following the definitions in Sections 502.1 and 1612.2 and revises Section 202 to clarify the application of both definitions.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provides a necessary editorial clean up of the definition of the term basement and its use throughout the code.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself requests Approval as Modified by this public comment.

Modify proposal as follows:

SECTION 202
DEFINITIONS

STORY ABOVE GRADE PLANE. (Supp) Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor ~~or roof~~ next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Measuring to the roof next above is problematic. On a mansard roof, where do I measure? On a pitched roof, where do I measure? If the roof is flat, I have a good idea where I measure, but in all other instances I don't. It is inappropriate to determine whether a story is a story above grade based on something as variable as the roof surface.

Final Hearing Results

G13-07/08 **AMPC**

Code Change No: G14-07/08

Original Proposal

Sections: 202 (New), 403.1, 707.14.1; IFC 903.3.5.2 (IBC [F] 903.3.5.2), 903.4.3 (IBC [F] 903.4.3), 907.2.12 (IBC [F] 907.2.12), 907.7.3.2 (IBC [F] 907.7.3.2)

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

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Add a new definition as follows:

SECTION 202
DEFINITIONS

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (23 m) above the lowest level of fire department vehicle access.

2. Revise as follows:

403.1 Applicability. ~~The provisions of this section shall apply to buildings with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.~~ High rise buildings shall comply with Section 403.2 through 403.18.

Exception: The provisions of ~~this~~ Section 403.2 through 403.18 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.

707.14.1 (Supp) Elevator lobby. An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than three stories. The lobby shall separate the elevator shaft enclosure doors from each floor by fire partitions equal to the fire-resistance rating of the corridor and the required opening protection. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

Exceptions:

1. Enclosed elevator lobbies are not required at the street floor, provided the entire street floor is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to have enclosed elevator lobbies.
3. Where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall be tested in accordance with UL 1784 without an artificial bottom seal.
4. In other than Group I-2 and I-3~~,~~ and high-rise buildings ~~having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access~~, enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 707.14.2.

PART II – IFC

Revise as follows:

903.3.5.2(IBC [F] 903.3.5.2) Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings required to comply with Section 403 of the *International Building Code* in Seismic Design Category C, D, E or F as determined by this code. 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.~~

903.4.3 (IBC [F] 903.4.3) Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings required to comply with Section 403 of the *International Building Code*.

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. ~~Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access~~ High rise buildings shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Sections 907.2.21 and 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.7.3.2 (IBC [F] 907.7.3.2) (Supp) High-rise buildings. In ~~buildings with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access,~~ high rise buildings required to comply with Section 403 of the *International Building Code*, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

Reason: The term “High-Rise Building” is utilized in numerous locations through-out the IBC and IFC. However, there is no definition for a “High-Rise Building.” This definition is proposed from and is consistent with the high-rise building applicability language in section 403.1 of the IBC. The definition will be applied to both the IFC and the IBC and provide consistency.

Additionally, Section 903.3.5.2 is revised by deleting the exception. The exception refers to existing buildings and is not necessary in this section. IFC Section 903.6 deals specifically with existing buildings and this provision is not required in that section. Therefore, it is not necessary under the major section 903.3 since it does not address existing buildings at all.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: Clarifies throughout the code that a high rise building is a building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Assembly Action: **None**

PART II – IFC
Committee Action: **Disapproved**

Committee Reason: The proposed added text would be redundant since high-rise buildings must already comply with IBC Section 403. The deletion of the exception in Section 903.3.5.2 is inappropriate in light of the difficulties in retrofitting existing buildings.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

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

Modify proposal as follows:

903.3.5.2 (IBC [F] 903.3.5.2) Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings ~~required to comply with Section 403 of the *International Building Code*~~ in Seismic Design Category C, D, E or F as determined by this code. 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.

903.4.3 (IBC [F] 903.4.3) Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings ~~required to comply with Section 403 of the International Building Code~~.

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. High rise buildings shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Sections 907.2.21 and 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.7.3.2 (IBC [F] 907.7.3.2) (Supp) High-rise buildings. In high rise buildings ~~required to comply with Section 403 of the *International Building Code*,~~ a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

Commenter's Reason: The term “High-Rise Building” is utilized in numerous locations through-out the IBC and IFC. Part I was Approved as Submitted by the IBC General Committee which added the definition of “High-Rise Building” to the IBC. This definition is consistent with, and replaces the language used in each of the sections.

The revisions in this Public Comment to Part II will utilize the same definition in the IFC and provide consistency between the codes. The phrase “required to comply with Section 403 of the IBC” has been deleted since it is redundant and Section 403 only addresses high rise buildings.

Additionally, Section 903.3.5.2 is revised by re-inserting the exception. The exception refers to existing buildings and would only apply when an existing high rise is being retrofit with fire sprinklers. The difficulty in retrofitting existing high rise buildings would only be compounded if this exception is deleted, and the high rise building is not structurally designed to support the secondary water supply.

Final Hearing Results

G14-07/08, Part I	**AS**
G14-07/08, Part II	**AMPC**

Code Change No: G16-07/08

Original Proposal

Sections: 202 (New); IECC 202; IFC 202; IFGC 202; IMC 202; IPMC 202; IRC 202

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, IECC, IFC, IFGC, IMC, IPMC AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 7 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Add new definition as follows:

SECTION 202
DEFINITIONS

LABELED. Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART II – IECC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LABELED. ~~Devices, equipment, or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items that attests to compliance with a specific standard.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART III – IFC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LABELED. ~~Equipment or material to which has been attached a label, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling is indicated compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART IV – IFGC

Revise as follows:

SECTION 202 (IFGC)
GENERAL DEFINITIONS

LABELED. ~~Devices, equipment, appliances or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART V – IMC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LABELED. ~~Devices, equipment, appliances or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART VI – IPMC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LABELED. ~~Devices, equipment, appliances, or materials to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART VII – IRC BUILDING/ENERGY

Revise as follows:

LABELED. ~~Devices, equipment or materials to which have been affixed a label, seal, symbol or other identifying mark of a testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above labeled items that attests to compliance with a specific standard.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Reason: The term "labeled" is used throughout the *International Building* Code and other I-Codes. It is preferred to have such a definition in Chapter 2 rather than elsewhere in code. The definition complements the definition of "LABEL" currently in IBC Section 1702.1 and the requirements of IBC Section 1703.5. Through a series of proposals, the exact same generic text is being proposed for each of the I-codes where the term is used.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: Defining the term 'labeled' provides a necessary definition and will add clarity and consistency to the code.

Assembly Action: **None**

PART II – IECC
Committee Action: **Approved as Submitted**

Committee Reason: This definition for "labeled" needs to be the same definition throughout the I-Codes for purposes of uniform application of the codes for products requiring third party certification.

Assembly Action: **None**

PART III – IFC
Committee Action: **Approved as Submitted**

Committee Reason: The change will provide a clearer definition that is correlated with its companion term "Listed". Approval is also consistent with the actions taken on Parts I and II, and IV through VI to correlate with the other I-Codes.

Assembly Action: **None**

PART IV – IFGC
Committee Action: **Approved as Modified**

Modify proposal as follows:

LABELED. Equipment, appliances, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, appliance, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The proposed definition will provide consistent text throughout the codes in the ICC family. The modification adds "appliances" because the IFGC regulates gas appliances which do not fall under the definition of equipment and which are required to be listed and labeled.

Assembly Action: **None**

PART V – IMC
Committee Action: **Approved as Modified**

Modify proposal as follows:

LABELED. Equipment, appliances, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The latter part of this definition was reworded to better clarify what labeling a product signifies. The definition will be coordinated with all other I-codes. The modification added the term "appliances" back into the definition from the existing language to complete the list of items which receive labels.

Assembly Action: **None**

PART VI – IPMC
Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved to provide consistency across the I-Codes with respect to the technical definition of the term "label."

Assembly Action: **None**

PART VII – IRC-B/E
Committee Action: **Disapproved**

Committee Reason: The committee preferred the current language in the code for consistency across the International Codes with respect to the technical definition of the term "labeled."

Assembly Action: **Approved as Submitted**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part IV and V.

Commenter's Reason: Although "appliances" would not be included under the term "equipment", they would be included under the term "products", so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The definition for "Labeled" was approved as Submitted in the International Building Code, International Energy Conservation Code, International Fire Code and International Property Maintenance Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part VII.

Commenter's Reason: The membership in attendance at Palm Springs recognized the benefit of having a consistent definition for the term "labeled" as used throughout the family of International Codes. The definition for "Labeled" was Approved as Submitted in the International Building Code, International Energy Conservation Code, International Fire Code and International Property Maintenance Code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each other's modified definitions. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

Final Hearing Results

G16-07/08, Part I	**AS**
G16-07/08, Part II	**AS**
G16-07/08, Part III	**AS**
G16-07/08, Part IV	**AS**
G16-07/08, Part V	**AS**
G16-07/08, Part VI	**AS**
G16-0708, Part VII	**AS**

Code Change No: G17-07/08

Original Proposal

Sections: 202; IECC 202; IFC 202 (IBC [F] 902.1); IFGC 202; IMC 202; IRC 202

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, IECC, IFC, IFGC, IMC AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 6 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Revise as follows:

SECTION 202
DEFINITIONS

LISTED. ~~See Section 902.1.~~ Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART II – IECC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LISTED. ~~Equipment, appliances, assemblies or materials included in a list published by an approved testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances, assemblies or material, and whose listing states either that the equipment, appliances, assemblies, or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART III – IFC

Revise as follows:

SECTION 202 (IBC [F] 902.1)
GENERAL DEFINITIONS

LISTED. ~~Equipment or materials included on a list published by an approved testing laboratory, inspection agency or other organization concerned with current product evaluation that maintains periodic inspection of production of listed equipment or materials, and whose listing states that equipment or materials comply with approved nationally recognized standards and have been tested or evaluated and found suitable for use in a specified manner.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART IV – IFGC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LISTED. ~~Equipment, appliances or materials included in a list published by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances or materials, and whose listing states either that the equipment, appliance or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. The means for identifying listed equipment, appliances or materials may vary for each testing laboratory, inspection agency or other organization concerned with product evaluation, some of which do not recognize equipment, appliances or materials as listed unless they are also labeled. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART V – IMC

Revise as follows:

SECTION 202
GENERAL DEFINITIONS

LISTED. ~~Equipment, appliances or materials included in a list published by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances or materials, and whose listing states either that the equipment, appliances or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. Not all testing laboratories, inspection agencies and other organizations concerned with product evaluation use the same means for identifying listed equipment, appliances or materials. Some do not recognize equipment, appliances or materials as listed unless they are also labeled. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART VI – IRC BUILDING/ENERGY

LISTED ~~AND LISTING.~~ ~~Terms referring to equipment that is shown in a list published by an approved testing agency qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current productions and whose listing states that the equipment complies with nationally recognized standards when installed in accordance with the manufacturer's installation instructions.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Reason: The term "listed" is used in nearly every chapter of the *International Building Code* and throughout the other I-Codes. It is preferred to have such a definition in Chapter 2 of the IBC rather than in Chapter 9. The definition is somewhat revised from the definition currently in IBC Chapter 9, but through a series of proposals, the exact same generic text is being proposed for each of the I-codes where the term is used.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: Defining the term 'listed' provides a necessary definition and will add clarity and consistency to the code.

Assembly Action: **None**

PART II – IECC
Committee Action: **Approved as Submitted**

Committee Reason: This definition for "listed" needs to be the same throughout the I-Codes for purposes of uniform application of the codes for products that need to be listed by an agency.

Assembly Action: **None**

PART III – IFC
Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved for consistency with the action taken on code change G16-07/08, Part III.

Assembly Action: **None**

PART IV – IFGC
Committee Action: **Approved as Modified**

Modify proposal as follows:

LISTED. Equipment, <u>appliances,</u> materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment<u>,</u> <u>appliances</u> or materials or periodic evaluation of services and whose listing states either that the equipment, <u>appliance,</u> material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The proposed definition will provide consistent text throughout the codes in the ICC family. The modification adds "appliances" because the IFGC regulates gas appliances which do not fall under the definition of equipment and which are required to be listed and labeled.

Assembly Action: **None**

PART V – IMC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

LISTED. Equipment, <u>appliances,</u> materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The definition was simplified to clarify the meaning of a listed item and to delete a requirement that did not belong in a definition. The modification added the term "appliances" back into the definition from the existing language to complete the list of items that can be listed.

Assembly Action: **None**

PART VI – IRC-B/E
Committee Action: **Disapproved**

Committee Reason: The committee preferred the current language in the code for consistency across the International Codes with respect to the technical definition of the term "listed".

Assembly Action: **Approved as Submitted**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part IV.

Commenter's Reason: Although "appliances" would not be included under the term "equipment", they would be included under the term "products", so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The definition for "Listed" was approved as Submitted in the International Building Code, International Energy Conservation Code and International Fire Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

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

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part V.

Commenter's Reason: Although "appliances" would not be included under the term "equipment", they would be included under the term "products", so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each others modified definitions. The definition of "labeled" as modified by the Mechanical Committee is flawed. The term "appliances" was added only in the first line by the committee, but omitted in the third and fourth lines. The definition for "Listed" was approved as Submitted in the International Building Code, International Energy Conservation Code, and International Fire Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part VI.

Commenter's Reason: The definition as submitted expands the definition beyond "equipment." Products other than "equipment" are required to be listed and labeled elsewhere in the code. The definition for "Listed" was approved as Submitted in the International Building Code, International Energy Conservation Code, and International Fire Code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each others modified definitions. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

Final Hearing Results

G17-07/08, Part I	**AS**
G17-07/08, Part II	**AS**
G17-07/08, Part III	**AS**
G17-07/08, Part IV	**AS**
G17-07/08, Part V	**AS**
G17-07/08, Part VI	**AS**

Code Change No: G23-07/08

Original Proposal

Sections: 304.1, 202 (New) [IFC [B] 202 (New)], 421 (New); IFC 903.2.2 (New) [IBC [F] 903.2.2 (New)], 907.2.2 (IBC [F] 907.2.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services, WA

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Revise as follows:

304.1 (IFC [B] 202) Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers
Ambulatory health care facilities (see section 421)
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic—outpatient
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade
Electronic data processing
Laboratories: testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges
Training and skill development not within a school or academic program

2. Add new definition as follows:

SECTION 202 (IFC 202)
DEFINITIONS

AMBULATORY HEALTH CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation.

3. Add new text as follows:

SECTION 421
AMBULATORY CARE FACILITIES

421.1 General. Occupancies classified as Group B Ambulatory Health Care Facilities shall comply with the provisions of this section and other applicable provisions of this code.

421.2 Smoke barriers. Smoke barriers shall be provided to subdivide every ambulatory care facility greater than 10,000 square feet (929 m^2) into a minimum of two smoke compartments. The travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709.

421.3 Refuge area. At least 30 net square feet (2.8 m^2) per nonambulatory patient shall be provided within the aggregate area of corridors, patient rooms, treatment rooms, lounge or dining areas and other low-hazard areas on each side of each smoke barrier.

421.4 Independent egress. A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

421.5 Automatic Sprinkler Systems. Automatic sprinklers systems shall be provided for ambulatory care facilities in accordance with Section 903.2.2.

421.6 Fire alarm systems. A fire alarm system shall be provided in accordance with Section 907.2.2.

PART II – IFC

1. Add new text as follows:

903.2.2 (IBC [F] 903.2.2) Group B ambulatory health care facilities. An automatic sprinkler system shall be provided for Group B Ambulatory Health Care Facility occupancies when either of the following conditions are met:

1. Four or more care recipients are incapable of self preservation at any given time
2. One or more care recipients that are incapable of self preservation are located at other than the level of exit discharge.

(Renumber subsequent sections)

2. Revise as follows:

907.2.2 (IBC [F] 907.2.2) (Supp) Group B. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where 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 water flow.

A manual and automatic fire alarm system shall be installed in all Group B Ambulatory Health Care Facilities.

Reason: This code change is intended to address the issue of ambulatory surgery centers. Thirty years ago, few surgical procedures were performed outside of the hospital. Today, complex outpatient surgeries outside of the hospital are commonplace. They are performed in facilities often called “day surgery centers” or “Ambulatory surgical centers (ASC’s)” because patients are able to walk in and walk out the same day. Procedures render patients temporarily incapable of self-preservation by application of nerve blocks, sedation, or anesthesia. Patients in these facilities typically recover quickly.

The IBC identifies the healthcare Group I occupancies as having 24 hour stay. Without 24 stay these surgery centers are being classified as Group B. Essentially this allows you to render an unlimited number of people incapable of self preservation with no more protection than a business office. Since there is no distinct classification for ASC’s in the I codes, the total number of these facilities cannot be quantified. These types of facilities contain distinctly different hazards to life and safety than other Business Occupancies, such as:

- Patients incapable of self-preservation require rescue by other occupants or fire personnel.
- Medical staff must stabilize the patient prior to evacuation; therefore, staff may require evacuation as well.
- Use of oxidizing medical gases such oxygen and nitrous oxide
- Prevalence of surgical fires.

Past changes have tried to force these occupancies into the Group I-2 category. This is a poor fit, because these are not hospitals. Other Federal and State jurisdictions have recognized that there is a middle ground somewhere in between Group B and I-2. This proposal provides a scaled approach to protection. Occupancy classification stays as group B. A fire alarm is required in all facilities for increased staff awareness. A sprinkler is required when several people are incapable of self preservation. In larger facilities, a smoke compartment is provided to allow more of a protect in place environment. These allow staff a safer environment to stabilize the patients before evacuation, and protection for fire personnel who may have to evacuate both patients and staff.

An ICC CTC study group was formed last year to examine these facilities and determine what if any changes to the code are necessary. Unfortunately, scheduling did not allow enough time for the study group to complete a proposal for a code change. Hundreds of these facilities are being built every year, and those are the ones that we know about. Please do not wait until 2012 to provide a safer environment for this very sensitive population of patients.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: Approved as Modified

Modify the proposal as follows:

304.1 (IFC [B] 202) Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers
Ambulatory health care facilities ~~(see section 421)~~
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic—outpatient
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade
Electronic data processing
Laboratories: testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges
Training and skill development not within a school or academic program

421.2 Smoke barriers. Smoke barriers shall be provided to subdivide every ambulatory care facility greater than 10,000 square feet (929 m^2) into a minimum of two smoke compartments per story. The travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was felt to comprehensively address the issue of surgery centers that are not classified as Group I occupancies but need increased regulation based upon the conditions of the people being treated at these facilities. There were two modifications made. The first was simply an editorial revision to remove an unnecessary reference in the occupancy classifications to the new Section 421. The second clarifies that each story needs to be divided into at least 2 smoke compartments. This addresses multiple story facilities. The committee also felt that an issue to be addressed during public comment would be the threshold number of patients that classify an occupancy as an ambulatory health care facility.

Assembly Action: None

PART II – IFC
Committee Action: Approved as Modified

Modify the proposal as follows:

903.2.2 (IBC [F] 903.2.2) ~~Group B~~ ambulatory health care facilities. An automatic sprinkler system shall be ~~provided for~~ installed throughout all fire areas containing a ~~Group B~~ Ambulatory Health Care Facility occupancies when either of the following conditions ~~are met~~ exist at any given time:

1. Four or more care recipients are ~~rendered~~ incapable of self preservation ~~at any given time~~
2. One or more care recipients that are incapable of self preservation are located at other than the level of exit discharge.

[F] 907.2.2 Group B. A manual fire alarm system ~~that activates the occupant notification system in accordance with Section 907.6~~ shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. Fire areas containing a Group B occupancy classified as an ambulatory health care facility

Exception: Manual fire alarm boxes are not required where 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 water flow.

~~A manual and automatic fire alarm system shall be installed in all Group B ambulatory health care facilities.~~

[F] 907.2.2.2 Group B - Ambulatory health care facilities. Fire areas containing ambulatory health care facilities shall be provided with an electrically supervised automatic smoke detection system installed within the ambulatory health care facility and in public use areas outside of tenant spaces, including public corridors and elevator lobbies.

Exception: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 provided the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. This code change represents a co-operative effort of concerned parties through the ICC Code Technology Committee's Care Study Group to resolve a long-standing problem in how the code deals with the subject facilities. This also correlates with the action taken by the IBC-G Committee in Part I. The modification represents additional consensus on the level of protection that should be afforded these facilities.

Assembly Action: **None**

Final Hearing Results

G23-07/08, Part I	**AM**
G23-07/08, Part II	**AM**

Code Change No: G24-07/08

Original Proposal

Sections: 304.1.1 (IFC [B] 202)

Proponent: Roger Severson, RSA Consulting, representing the Oregon Department of Health Services

Add new text as follows:

304.1.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CLINIC-OUTPATIENT. A medical office or facility serving patients who are capable of self-preservation, or where not more than three patients are rendered incapable of self-preservation and the facility is on the level of exit discharge. Facilities with four or more patients who are rendered incapable of self-preservation or where one or more patients that are incapable of self preservation are located at other than the level of exit discharge are Ambulatory Health Care Facilities (see Section 421.)

Reason: This code change is intended to be submitted in collaboration with the state of Washington to correlate with their new proposal in Section 421 for Ambulatory Health Care Facilities. Oregon, as well as other states, have made modifications to areas of the code affected by Clinic-outpatient facilities. These modifications and national certification requirements recognize that there are additional levels of protection required where patients are not capable of caring for them self. Finding common ground and putting these modifications into the model code would provide greater consistency across the country.

The amendment in Section 304.1 simply limits the number of patients who are not capable of self-preservation to three or fewer by adding a definition. There is also a reference that sends the reader to Section 421 for facilities that provide service to more than three patients incapable of self preservation.

Cost Impact: For facilities abiding by the requirements for federal funding, or for those areas who are modifying the code in a similar respect, the code change proposal will not increase the cost of construction.

However, for areas where outpatient clinics are allowed to provide services that would render patients incapable of self-preservation and be classified as a B occupancy, there would be an increase to the cost of construction.

Additionally, when a facility is not built to the standards required to receive federal funding, and they would then choose to become certified later, another additional cost could be imposed upon the facility.

Analysis: Note that the Section 421 that is referenced in this definition is a new section proposed in code change proposal Williams G23-07/08.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

304.1.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CLINIC-OUTPATIENT. ~~A medical office or facility serving patients who are capable of self-preservation, or where not more than three patients are rendered incapable of self-preservation and the facility is on the level of exit discharge. Facilities with four or more patients who are rendered incapable of self-preservation or where one or more patients that are incapable of self-preservation are located at other than the level of exit discharge are Ambulatory Health Care Facilities (see Section 421.)~~ Buildings or portions thereof used to provide medical care on less than a 24-hour basis to individuals who are not rendered incapable of self-preservation by the services provided.

Committee Reason: The definition clarifies the difference between ambulatory surgery centers as addressed in G23-07/08 and doctors offices. The modification is simply to correlate more closely with G23-07/08.

Assembly Action: **None**

Final Hearing Results

G24-07/08 **AM**

Code Change No: G25-07/08

Original Proposal

Sections: 306.2 (IFC [B] 202), 311.2 (IFC 202.1), 311.3 (IFC 202.1), 421.2.1(New), [F] 412.2.6 (IFC 914.8.2), Table [F] 421.2.6 (IFC Table 914.8.2) (New), [F] 412.2.6.1 (IFC 914.8.2.1) (New), [F] 412.2.6.2 (IFC 914.8.2.2) (New)

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

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

306.2 (IFC 202) Factory Industrial F-1 Moderate-hazard Occupancy. Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft (manufacturing, not to include repair)
Appliances
Athletic equipment
Automobiles and other motor vehicles
Bakeries
Beverages; over 12-percent alcohol content
Bicycles
Boats
Brooms or brushes
Business machines
Cameras and photo equipment

Canvas or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Engines (including rebuilding)
Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet)

311.2 (IFC 202) Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft ~~repair~~ hangar
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber

Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.6)
Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

311.3 (IFC 202) Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

~~Aircraft hangar~~
Asbestos
Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

PART II – IFC

1. Revise as follows:

[F] 412.2.6 (IFC 914.8.2) Fire suppression. Aircraft hangars shall be provided with a fire suppression system designed in accordance with ~~as required by~~ NFPA 409, based upon the classification for the hangar given in Table 412.2.6.

Exception: When a Fixed Base Operator has separate repair facilities on site, Group II hangars operated by a Fixed Base Operator used for storage of transient aircraft only~~, as defined in NFPA 409, storing private aircraft without major maintenance or overhaul are~~ shall have a fire suppression system, but the system is exempt from foam ~~suppression~~ requirements.

2. Add new table and text as follows:

[F] TABLE 412.2.6 (IFC TABLE 914.8.2)
HANGAR FIRE SUPPRESSION REQUIREMENTS[a,b]

Maximum Single Fire Area, sq. ft. (m^2)	Type of Construction								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
>40,001 (3,716)	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I
40,000 (3,716)	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II
30,000 (2,787)	Group III	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II
20,000 (1,858)	Group III	Group III	Group II	Group II	Group II	Group II	Group II	Group II	Group II
15,000 (1,394)	Group III	Group III	Group III	Group II	Group III	Group II	Group III	Group II	Group II
12,000 (1,115)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II	Group II
8,000 (743)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II
5,000 (465)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III

a. Aircraft hangars with a door height greater than 28 feet shall be provided with fire suppression for a Group I hangar regardless of maximum fire area.
b. Groups shall be as classified in accordance with NFPA 409.

[F] 412.2.6.1 (IFC 914.8.2.1) Hazardous Operations. Any Group III aircraft hangar according to Table 914.8.2 that contains hazardous operations including, but not limited to, the following shall be provided with a Group I or Group II fire suppression system in accordance with NFPA 409 as applicable:

1. Doping.
2. Hot work including, but not limited to welding, torch cutting, and torch soldering.
3. Fuel transfer.
4. Fuel tank repair or maintenance not including de-fueled tanks per NFPA 409, inerted tanks or tanks that have never been fueled.
5. Spray finishing operations.
6. Total fuel capacity of all aircraft within the non-sprinklered single fire area in excess of 1,600 gal (6057 L).
7. Total fuel capacity of all aircraft within the maximum single fire area in excess of 7,500 gal (28,390 L) for a hangar with a fire sprinkler system per Section 903.3.1.1.

[F] 412.2.6.2 (IFC 914.8.2.2) Separation of maximum single fire areas. Maximum single fire areas established in accordance with hangar classification and construction type in Table 914.8.2 shall be separated by 2 hour fire walls constructed in accordance with Section 705.

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

FIXED BASE OPERATOR (FBO). A commercial business granted the right by the airport sponsor to operate on an airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, and flight instruction.

TRANSIENT AIRCRAFT. Aircraft based at another location and is at the transient location for not more than 90 days.

Reason: The current fire suppression requirements found in the IBC and IFC for aircraft hangars are confusing at best. The IBC and IFC require: "Aircraft hangars shall be provided with fire suppression as required by NFPA 409." Neither the IBC nor the IFC gives any guidance when going to NFPA 409 on how to use that standard. In addition, the exception to the fire suppression requirements uses two terms that have no definition. Those terms are: "private aircraft" and "major maintenance or overhaul."

"Private aircraft" is difficult to define. For example, is a Cessna 210 owned my a corporation a private aircraft or the Gulfstream V (which carries over 6,700 gallons of fuel and has a range of that similar to a 737) owned by a celebrity a private aircraft? The FAA does not define aircraft this way and the reference to "private aircraft" is confusing and difficult to enforce and administer.

"Major maintenance or overhaul" is another term that is difficult to define. The FAA cannot even define "major maintenance" in a way intended by the IBC and IFC. The FAA has a document that all aircraft owners and operators have. It is CFR Part 43 Appendix A. There is no definitive list is this document that the code official can use when determining the extent of maintenance in an aircraft hangar. In addition, NFPA 409 makes no mention of "maintenance" for any of its requirements except for certain "hazardous operations" in Group III hangars.

This proposal will eliminate these two terms because they are difficult to define and they are not necessary when determining the fire suppression requirements from NFPA 409. There is an exception for the foam requirements in the IBC and IFC that use these terms. The exception to 914.8.2 is intended for those aircraft hangars that Flight Base Operators (FBO) use for visiting aircraft to an airport. The FBO will have other repair facilities on the airport and the "storage" hangar is intended for short-term storage only inside a hangar from the weather.

In place of the "private aircraft" and "major maintenance" terms, this proposal adds the term "transient aircraft." This better identifies the intent of this type of aircraft hangar. It seems that most frequently, the owner that wants to develop an aircraft hangar that fits the Group II category, will do no "major maintenance" and will only "store" airplanes in their hangar. This becomes a significant enforcement issue after the hangar is built and occupied, as everyone will then only be doing minor repair even though the aircraft engine is in pieces or a wing is lying on the floor of the hangar. NFPA 409 does not use "maintenance" as a criterion to determine the fire suppression requirements for any aircraft hangars except for Group III hangars where certain "hazardous" operations are conducted. Even then, if those "hazardous" operations are done, the group type of the hangar goes from a Group III hangar to a Group II.

The other aspect of maintenance that the IBC and IFC ignore is that of the maintenance of "experimental" aircraft. The experimental aircraft owner will always maintain and repair his or her aircraft as an FAA mechanic "will not" work on an experimental aircraft. An FAA mechanic cannot work on an experimental aircraft because there is no "service manual" for the aircraft like there is for a factory built aircraft. On every airport in the country where there are T-hangars, one will find experimental aircraft. As the codes currently read, this then becomes an enforcement problem requiring the code official to monitor maintenance in the T-hangars, which is not the intent of NFPA 409. NFPA 409 intends that maintenance be done in the small hangars just like in the large hangars.

Because repair is intended in NFPA 409 in aircraft hangars, this proposal eliminates the S-2 occupancy classification for "storage" aircraft hangars. The S-2 occupancy classification is confusing to the designer and code official and serves no purpose. The S-1 occupancy classification is all that is needed. When one looks at NFPA 409 to determine the fire suppression requirements, one will find that the Group III hangars have no fire suppression requirements except for during certain hazardous operations. NFPA 409 recognizes that in these small aircraft hangars there will be repair operations and has determined that fire suppression is not required due to the small size of the aircraft hangars. As the IBC and IFC are currently worded, if a designer were to select the S-2 occupancy classification, that hangar could not contain any repair operations. This does a disservice to the hangar owner and anyone who may lease or rent an aircraft space in that hangar. A Group III hangar could be as large as 12,000 square feet in area with Type IIB construction without any fire suppression systems and NFPA 409 would allow repair activities in that aircraft hangar.

NFPA 409 also limits the size of the small hangars with the definitions of a "single hangar building" and the "cluster hangar" for Group III aircraft hangars. These two definitions limit the size and location separations of these two types of hangars, which is part of the fire suppression scheme for Group III hangars. NFPA handles the lack of required separation of hangar buildings by requiring two two-hour walls on each hangar building. This seems to be like a "fire wall" as defined by IBC Section 705. This proposal thus adds this requirement for separation of single hangar buildings with a fire wall as defined by IBC Section 705 in lieu of the NFPA 409 requirement of two 2-hour walls.

NFPA 409 specifies fire protection for aircraft hangars based on Group I, Group II or Group III hangar, but the IBC and IFC do not define aircraft hangars using these terms. This proposal adds a table that coordinates the IBC/IFC terms and construction requirements with the fire protection design requirements found in NFPA 409 for Group I, II and III hangars. This table is based on correlating the NFPA construction and area limits with the IBC and IFC construction requirements. This table combines several tables in NFPA 409 into a single table that allows determination of the group type for aircraft hangars based on construction type and area before proceeding to NFPA 409 for the suppression requirements.

This proposal will simplify the current IBC and IFC requirements for aircraft hangars and make the codes easier to use by both the aircraft hangar designer and the code official.

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

Public Hearing Results

PART I – IBC GENERAL

Committee Action: **Approved as Modified**

Modify proposal as follows:

311.2 (IFC 202) Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber

Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.6)
Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved as it was felt that Group S1 is a more appropriate classification and that a Group H classification would be too limiting. The modification clarifies that repairs can occur in Group S-1 occupancies which as originally written would have been unclear.

Assembly Action: **None**

PART II – IFC
Committee Action: **Approved as Modified**

Modify the proposal as follows:

[F] TABLE 412.2.6 (IFC TABLE 914.8.2)
HANGAR FIRE SUPPRESSION REQUIREMENTS [a,b,c]

(No change to table contents)

a. Aircraft hangars with a door height greater than 28 feet shall be provided with fire suppression for a Group I hangar regardless of maximum fire area.
b. Groups shall be as classified in accordance with NFPA 409.
c. Membrane structures complying with Section 3102 of the *International Building Code* shall be classified as a Group IV hangar.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. This code change represents a comprehensive effort to resolve a long-standing problem in how to apply the provisions of NFPA 409 as referenced without creating conflict with the construction requirements of the IBC. This also correlates with the action taken by the IBC-G Committee in Part I. The modification provides additional guidance on the appropriate treatment of membrane structures which are often used to shelter aircraft.

Assembly Action: **None**

Final Hearing Results

G25-07/08, Part I **AM**
G25-07/08, Part II **AM**

Code Change No: G26-07/08

Original Proposal

Sections: 306.2, 306.3, 311.3 (IFC [B] 202)

Proponent: Gary L. Rencehausen, Lewiston, ID, representing himself

1. Revise as follows:

306.2 (IFC [B] 202) Factory Industrial F-1 Moderate-hazard Occupancy. Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft
Appliances
Athletic equipment
Automobiles and other motor vehicles
Bakeries
Beverages; over ~~12-~~ 16-percent alcohol content
Bicycles
Boats
Brooms or brushes
Business machines
Cameras and photo equipment
Canvas or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Engines (including rebuilding)
Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Recreational vehicles
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet

306.3 (IFC [B] 202) Factory Industrial F-2 Low-hazard Occupancy. Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

Beverages; up to and including ~~12-~~ 16-percent alcohol content
Brick and masonry
Ceramic products
Foundries
Glass products
Gypsum
Ice
Metal products (fabrication and assembly)

311.3 (IFC [B] 202) Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

Aircraft hangar
Asbestos
Beverages up to and including ~~12-~~ 16-percent alcohol in metal, glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

Reason: I am proposing a change and an alternative, and I will try and explain both.

I am part owner in a small startup winery and we are hoping to relocate into part of an older existing downtown building. For us getting the code change would allow us to build a 2 hour fire wall, opposed to a 3 hour fire wall required by the F-1, moderate hazard class for liquids 12% alcohol and above.

The 12% was a relatively arbitrary number. I spoke with William Stuart the architect who submitted the change to allow up to 12% from the 0% that it was prior to 2000. He stated that not being a avid wine drinker he had simply reached in to the cupboard and pulled out a bottle of Gallo and it listed it's alcohol at 12% and that was what he used as his standard. If his intent was to allow the production and storage of wine in the F-2 class then for the most part he failed…

In my opinion there are two other logical choices for an alcohol % limit. Twenty percent alcohol would be the first choice with 16% being the alternate. I will try to explain both. I don't know how familiar the code council is with the making of wine so I will include a very brief description of the process. In a juice adding a yeast will turn the natural sugar into alcohol. It is a self limiting process, in that most common wine yeast will die off as the alcohol raises to between 12 and 16.% (depending mostly on the type of yeast). A good dry red wine will often finish at 14 to 15 %. (And it may be a little higher at some point during the process) To reach a higher alcohol % the wine needs to be fortified by adding alcohol. Such is the case of Port style wines where brandy is added to bring the alcohol up 18 -20% which is the usual upper limit of fortified wines. I hope that explains my justification for the two higher limit proposals.

From the chart included (Flash Points of Ethanol based Water Solutions) you can see if you extrapolate 15% would be about 120 degrees F. Now it is possible that during the fermentation process the must (the juice, skin and seed solution) might approach 95 to 100 degrees F. This would typically be near the mid point of the fermentation cycle when the alcohol would be in the 8-10% range. As the process continues and must (wine) reaches the 15 % level the fermentation slows down and the temp drops to room temp (65 to 70 degrees F). Were the wine then to be fortified it is here at this temp that alcohol would be added. I might also add here that another byproduct of the fermentation process is the production of CO2 and being heaver than air it floats on top of the fermentation vats. CO2 will not support combustion, in fact one method of checking to insure the fermentation process is still working is to hold a match over the vat, as soon as the match drops below the rim of the vat it goes out.

In conclusion I have added a couple of letters that give a little insight into how an alcohol/water solution is classified as a waste product. It doesn't appear that raising the limit to 16 or 20 % significantly raises the risks in the production of wine. The 16 or 20 % alcohol is still less than the ignitability of wine with the temperatures we see in the production of wine.

I think that raising the limit would not only open up some possibilities for other wineries but also for other downtown areas where a winery might well help in their revitalization.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Other types of beverages beyond simply wine were not addressed in the reason and the flashpoint data was not provided as noted in the reason. The committee had concerns as to how other alcohol would relate to this new classification in terms of possible unnecessary hazards posed.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Gary L. Rencehausen, Lewiston, ID, representing himself requests Approval as Submitted.

Commenter's Reason: I'm not sure how to address "other types of beverages" I would say though that simple wine would include 99 + % of the production of beverages that fall into the category of the 12 to 16 % that I'm trying to change.

Flashpoint data of ethanol based water solutions from EngineeringToolBox.com are: 135 deg. for 10% solution and 105 deg. for 20% solution this gives approximately 129 deg and 117 deg for 12 and 16 % respectively. Given that the ideal storage temp for wines is below 60 deg. and in manufacturing it is unlikely to exceed 85 deg. this seems a safe margin. The term Flashpoint brings to mind images of exploding barrels of wine. This is unlikely to happen, and it does not mean that you can heat a container of wine to 140 degrees or more and toss in a match and it will burn. It is theoretically possible that if you had a closed container half full of wine and heated it up you could collect enough alcohol to flash if a flame was introduced, but it would not burn. Barrels and tanks ate kept full (air is not good to wine) so there is no room to collect vaporizing alcohol. Even in an open container the vaporizing alcohol is most likely to dissipate and dilute in the air before it would flash. This proposal is a reasonable and prudent change with a minimum risks to life and health safety issues.

Public Comment 2:

Maureen Traxler, City of Seattle Department of Planning and Development, requests Approval as Submitted.

Commenter's Reason: This is a modest proposal that would ease an unnecessarily restrictive provision. It changes the threshold at which beverages are classified as F-1 or S-1 from 12% to 16% alcohol content. There is very little fire hazard from beverages with alcohol content this low.

This change would only affect regular wines. The highest alcohol content in unfortified wines is found in premium red wines which have alcohol content under 15%. Fortified and port-style wines have a higher alcohol content because brandy or other distilled beverages have been added to them. Brandy is distilled wine with an alcohol content of 40% or more, similar to whiskey.

G27-07/08, which raises the alcohol content to 20%, would include fortified wines. We encourage disapproval of G27, not because of the wine, but because of the amount of higher-alcohol content liquids that are present during the production of fortified wines.

Final Hearing Results

G26-07/08 **AS**

Code Change No: G28-07/08

Original Proposal

Sections: [F] 307.1 (IFC 202)

Proponent: Robert J Davidson, Davidson Code Concepts, LLC, representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IFC CODE DEVELOPMENT COMMITTEE.

Revise as follows:

[F] 307.1 (IFC 202) (Supp) 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*.

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 or 1-hour horizontal assemblies 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. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterrupted 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*.
10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
11. 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*.
12. 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.
13. 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*.
14. <u>Canopies used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code.*</u>

Reason: Section 307.1 Applies to buildings or structures. A canopy at a motor fuel-dispensing facility is a structure. This proposed code change is intended to clarify that canopies that are used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy should not be classified in Group H.

The need for this clarification was identified during a "Hydrogen Fueling Station Permitting Workshop" held on July 10, 2007 that was co-sponsored by the United States Department of Energy and the National Association of State Fire Marshals. Building and fire code officials participating in the workshop believe the plain language of Section 307.1 would require classifying the canopy, (which is enclosed at the roof line on four sides), as an H Group structure, and that an exception should be added as clarification.

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

Public Hearing Results

This code change was heard by the IFC Code Development Committee.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

[F] 307.1 (IFC 202) (Supp) 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*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble:

1. through 13. (No change)
14. Canopies used to shelter dispensing operations where ~~flammable~~ compressed hydrogen gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code.*

Committee Reason: The proposal was approved because the committee felt that it provides clarification that weather shelter canopies that store hydrogen gas on their roofs at gaseous motor-fuel dispensing facilities do not create a Group H occupancy. The modification further clarifies the intent of the exception that it applies only to hydrogen, a lighter-than-air flammable gas, and not to all flammable gases.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Jeffrey Shapiro, International Code Consultants and Robert J. Davidson, Davidson Code Concepts, LLC, representing themselves, request Approval as Modified by this public comment.

Further modify proposal as follows:

[F] 307.1 (IFC 202) (Supp) 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. through 13. (No change)
~~14. Canopies used to shelter dispensing operations where compressed hydrogen gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code.*~~

Commenter's Reason: It was never the intent of the code to assign a Group H occupancy classification to rooftop or canopy top storage, and by providing an exception to the Group H occupancy classification for hydrogen fuel in such conditions, the implication is that any other material in a similar situation would trigger Group H. To fix this problem, the exception text has been relocated to the main paragraph, and the text has been broadened to clarify the intent of the code for all such storage or use, not just hydrogen.

Final Hearing Results

G28-07/08 **AMPC**

Code Change No: G30-07/08

Original Proposal

Sections: 308.3 (IFC [B] 202), 308.3.1(IFC [B] 202)

Proponent: Roger Severson, RSA Consulting, representing the Oregon Department of Health Services

1. Revise as follows:

308.3 (IFC [B] 202) Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care ~~on a 24-hour basis~~ for ~~more than five~~ persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

Hospitals
Nursing homes ~~(both intermediate care facilities and skilled nursing facilities)~~
Mental hospitals
Detoxification facilities

~~A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the *International Residential Code*.~~

2. Revise as follows:

308.3.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CHILD CARE ~~FACILITY~~ FACILITIES. ~~A~~ Child care ~~facility~~ facilities that provide~~s~~ care on a 24-hour basis to more than five children, $2^1/_2$ years of age or less, shall be classified as Group I-2.

DETOXIFICATION FACILITY. Detoxification facilities serve patients who are provided treatment for substance abuse on a 24-hour basis and who are incapable of self-preservation or who are harmful to others.

HOSPITALS AND MENTAL HOSPITALS. A building or portion thereof used on a 24-hour basis for the medical, psychiatric, obstetrical, or surgical treatment of inpatients who are incapable of self-preservation.

NURSING HOMES. Nursing homes are long-term care facilities on a 24-hour basis, including both intermediate care facilities and skilled nursing facilities, serving more than five persons and any of the persons are incapable of self-preservation.

Reason: (Note: Sections 308.1 and 308.2 are unchanged. Section 308.3 is amended for greater conformity of specific facility functions by moving the "hourly basis" and the number of persons into definitions specific to each topic.) A new facility title has been added which works in concert with an amendment to Section 304.1, clinic-outpatient. This new facility reference is for Ambulatory Health Care Facilities and completes the package for outpatient care where patients are not capable of self-preservation.

The only existing sub-section in 308.3 is for Child Care Facilities. Because it is written to look like a defined statement, it's section was changed to become a definitions section and the title and content for Child care facilities was added to the new list of definitions.
The reference to R-3 is deleted because I-2 health care facilities, such as these, are not legally capable of operating in R-3 occupancies, regardless of the number of patients.

Cost Impact For facilities abiding by the requirements for federal funding, or for those areas who are modifying the code in a similar respect, the code change proposal will not increase the cost of construction.

However, for areas where outpatient clinics are allowed to provide services that would render patients incapable of self-preservation and be classified as a B occupancy, there would be an increase to the cost of construction.

Additionally, when a facility is not built to the standards required to receive federal funding, and they would then choose to become certified, another additional cost could be imposed upon the facility.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

DETOXIFICATION FACILITY. Detoxification facilities serve patients who are provided treatment for substance abuse on a 24-hour basis and who are incapable of self-preservation or who are harmful to themselves or others.

(Portions of proposal not shown remain unchanged)

Committee Reason: This proposal will help to better determine the types of facilities during the plan review process. The modification further clarifies that detoxification facilities focus on not only the patients possibly harming others but also focuses on the fact that they may be a harm to themselves.

Assembly Action: **None**

Final Hearing Results

G30-07/08 **AM**

Code Change No: G36-07/08

Original Proposal

Sections: 310.1 (IFC [B] 202)

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

Revise as follows:

310.1 (IFC [B] 202) (Supp) Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* in accordance with Section 101.2. Residential occupancies shall include the following:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient)
Hotels (transient)
Motels (transient)

Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses
Boarding houses (not transient)
Convents
Dormitories
Fraternities and sororities
Hotels (nontransient)
Live/work units
Monasteries
Motels (nontransient)
Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two dwelling units.
Adult care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
Congregate living facilities with 16 or fewer persons.

Adult care and child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*

.

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code~~, or shall comply with the *International Residential Code*~~.

Exception: Facilities complying with the *International Residential Code* need not meet the construction requirements of a Group R-3 provided that the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: R-4 occupancies can house residents who cannot evacuate within a reasonable amount of time. This change would restrict builders from using the less restrictive IRC unless the home is equipped with a fire sprinkler system. This proposal will require a fire sprinkler system in all R-4 occupancies. A fire sprinkler system is required by federal regulations for any of these facilities that may also be licensed.

Cost Impact: This proposal will increase the cost of construction, unless the facility is also desiring compliance with federal regulations.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code or shall comply with the *International Residential Code* provided the building is protected by an automatic extinguishing system installed in accordance with Section 903.2.7

~~**Exception:** Facilities complying with the *International Residential Code* need not meet the construction requirements of a Group R-3 provided that the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved based upon the proponent's reason which is concerned with the lifesafety of occupants in Group R-4 occupancies this relates to both their ability to evacuate quickly and the number of occupants. The modification is felt to be cleaner language than the currently proposed exception. The meaning of the language is the same. There were some concerns expressed by committee members that proper justification for requiring sprinklers was not provided by the proponent.

Assembly Action: **None**

Final Hearing Results

G36-07/08 **AM**

Code Change No: G38-07/08

Original Proposal

Sections: 402.2, 402.5.2 (New), 402.9

Proponent: Kerwin Lee, Rolf Jensen & Associates, Inc.

1. Revise as follows:

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

COVERED MALL BUILDING. A single building enclosing a number of tenants and occupants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, passenger transportation terminals, offices, and other similar uses wherein two or more tenants have a main entrance into one or more malls. For the purpose of this chapter, anchor buildings shall not be considered as a part of the covered mall building. The term covered mall building shall include open mall buildings as defined by this section.

MALL. A roofed or covered common pedestrian area within a covered mall building that serves as access for two or more tenants and not to exceed three levels that are open to each other. The term mall shall include open malls as defined by this section.

OPEN MALL. An unroofed common pedestrian way serving a number of tenants not exceeding three levels. Circulation at levels above grade shall be permitted to include open exterior balconies leading to exits discharging at grade.

OPEN MALL BUILDING. Several structures housing a number of tenants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, offices, and other similar uses wherein two or more tenants have a main entrance into one or more open malls. For the purpose of this chapter, anchor buildings are not considered as a part of the open mall building.

2. Add new text as follows:

402.5.2 Minimum width open mall. The minimum floor and roof opening width above grade shall be 20 feet (9096 mm) in open malls.

3. Revise as follows:

402.9 (Supp) Smoke control. Where a covered mall building contains an atrium, a smoke control system shall be provided in accordance with Section 404.4.

Exceptions:

1. A smoke control system is not required in covered mall buildings, when an atrium connects only two stories.
2. An open mall building.

Reason: The purpose of the proposed changes is to provide a code process for addressing covered mall types of building projects that do not have a roof over the common pedestrian circulation area. Projects of this type are common, particularly in the “sun belt” areas of the country and in similar climates around the world. These projects should have the same benefits from the covered mall provisions, because an open to the sky mall provides equivalent or better life safety and property protection.

The key to this concept is to have everything a covered mall building would have, except for the roof over the mall area. The requirement for an open mall requires a minimum dimension of 20 feet from grade through the roof. This dimension aligns with Section 402.5.1, minimum mall width for egress. This provides a dimensional value for the required open portion. The open portion would be required from the lowest/grade level to the roof. This will provide ventilation from the lowest level. The intent of this requirement should not prevent the use of balconies on either side of the opening or pedestrian bridges across the opening.

Section 402.9 refers to Section 404, Atriums, for smoke control. When a mall becomes three levels, smoke control is required. The change removes the requirement for smoke control in an open mall. Without a roof over the mall area and required openings from grade level, natural ventilation is provided and mechanical smoke control is no longer necessary. This would include smoke control within the tenant spaces. The main reason for smoke control is to maintain a tenable environment in the mall area to permit occupants of the covered mall building to safely egress. The intent of this change should not affect any other requirements associated with Covered Malls.

Cost Impact: The code change proposal may decrease the cost of construction with the removal of the roof and smoke control system.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This allows a reasonable option for design where malls are open to the sky. Open mall provisions would not limit other more traditional methods of compliance for individual or strip mall retail configurations.

Assembly Action: **None**

Final Hearing Results

G38-07/08 **AS**

Code Change No: G39-07/08

Original Proposal

Sections: 402.2, 402.4 (New), 402.7.3, 402.7.3.1; 402.7.3.1.1, 402.4.1.1, 402.4.1.5 (New), 402.4.1.5.1 (New)

Proponent: Sarah A. Rice, CBO, Schirmer Engineering Corporation

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IBC MEANS OF EGRESS COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Revise as follows:

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

COVERED MALL BUILDING. A single building enclosing a number of tenants and occupants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, passenger transportation terminals, offices, and other similar uses, with or without an anchor building(s) attached. ~~wherein two or more tenants have a main entrance into one or more malls. For the purpose of this chapter, anchor buildings shall not be considered as a part of the covered mall building.~~

2. Add new text as follows:

402.4 Mall access. A minimum of two tenant spaces shall have an entrance opening onto a mall, or malls.

402.7.3 Anchor building. Where an anchor building is attached to a covered mall building, the anchor building shall be constructed as a separate building, and not considered as a part of the covered mall building.

3. Revise as follows:

~~402.7.3~~ 402.7.3.1 Anchor building separation. An anchor building shall be separated from the covered mall building by fire walls complying with Section 705.

Exception: Anchor buildings of not more than three stories above grade plane that have an occupancy classification the same as that permitted for tenants of the covered mall building shall be separated by 2-hour fire-resistive fire barriers complying with Section 706.

402.7.3.1.1 ~~402.7.3.1~~ Openings between anchor building and mall. Except for the separation between Group R-1 sleeping units and the mall, openings between anchor buildings of Type IA, IB, IIA and IIB construction and the mall need not be protected.

PART II – IBC MEANS OF EGRESS

1. Revise as follows:

402.4.1.1 Occupant formula. In determining required means of egress of the mall, the number of occupants for whom means of egress are to be provided shall be based on gross leasable area of the covered mall building (excluding anchor buildings) and the occupant load factor as determined by the following equation.

$$OLF = (0.00007)\ (GLA) + 25 \qquad \textbf{(Equation 4-1)}$$

where:
OLF = The occupant load factor (square feet per person).
GLA = The gross leasable area (square feet).

Exception: Tenant spaces attached to a covered mall building but with a means of egress system that is totally independent of the covered mall building shall not be considered as gross leasable area for determining the required means of egress for the covered mall building.

2. Add new text as follows:

402.4.1.5 Exterior tenant spaces Tenant spaces that do not have an entrance opening onto a mall shall have a main entrance opening directly to the exterior. The main entrance shall be of sufficient width to accommodate not less than one-half the occupant load of the tenant space.

402.4.1.5.1 Exit passageways. Where exit passageways provide a secondary means of egress from both an interior and exterior tenant space, the exit passageway shall be of sufficient width to accommodate both the occupant load from the mall and not less than one-half the occupant load of the each exterior tenant discharging into the exit passageway.

Reason: This proposal seeks recognize how covered mall buildings are being designed today by providing guidance on how to address a tenant spaces, that is are physically part of a covered mall building, but does not have an opening onto a mall with but rather to the exterior of the building. This type of design often creates an "outer loop" of tenant spaces which have no communication with the interior of the mall.

The only element that will vary for these tenant spaces is how they contribute to the design of the means of egress system of the covered mall building. All other elements remain the same, e.g., fire alarm, sprinkler, etc.

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

Public Hearing Results

PART I – IBC GENERAL **Withdrawn by Proponent**

PART II – IBC MEANS OF EGRESS
Committee Action: **Approved as Modified**

Modify the proposal as follows:

402.4.1.1 Occupant formula. In determining required means of egress of the mall, the number of occupants for whom means of egress are to be provided shall be based on gross leasable area of the covered mall building (excluding anchor buildings) and the occupant load factor as determined by the following equation.

$$OLF = (0.00007)\ (GLA) + 25 \qquad \textbf{(Equation 4-1)}$$

where:
OLF = The occupant load factor (square feet per person).
GLA = The gross leasable area (square feet).

Exception: Tenant spaces attached to a covered mall building but with a means of egress system that is totally independent of the covered mall building shall not be considered as gross leasable area for determining the required means of egress for the covered mall building.

~~**402.4.1.5 Exterior tenant spaces** Tenant spaces that do not have an entrance opening onto a mall shall have a main entrance opening directly to the exterior. The main entrance shall be of sufficient width to accommodate not less than one-half the occupant load of the tenant space.~~

~~**402.4.1.5.1 Exit passageways.** Where exit passageways provide a secondary means of egress from both an interior and exterior tenant space, the exit passageway shall be of sufficient width to accommodate both the occupant load from the mall and not less than one-half the occupant load of the each exterior tenant discharging into the exit passageway.~~

Committee Reason: Based on a request by the proponent, Sections 402.4.1.5 and 402.4.2.5.1 were deleted and not considered as part of this proposal because there were problems with the proposed language. The exception to Section 402.4.1.1 was approved and would provide a reasonable allowance for spaces attached to a mall but that do not egress through the mall. A concern was expressed for situations where non-required exits would provide access into the mall.

Assembly Action: **None**

Final Hearing Results

G39-07/08, Part I	**WP**
G39-07/08, Part II	**AM**

Code Change No: G44-07/08

Original Proposal

Section: 403.1

Proponent: Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

Revise as follows:

403.1 Applicability. The provisions of this section shall apply to buildings with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Exception: The provisions of this section shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with ~~an occupancy~~ in Group A-5 <u>occupancy</u> in accordance with Section 303.1.
4. ~~Low-hazard~~ special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with an ~~occupancy in~~ Group H-1, H-2 or H-3 <u>occupancy</u> in accordance with Section 415.

Reason: As proponents of Item G96-04/05, it was our intent to remove some inconsistencies in Section 503.1.1 as regards which hazard categories qualified as special industrial occupancies. At the time, the section limited that designation to low-hazard occupancies, although, some of the examples cited in the provision were moderate-hazard occupancies. Our proposal suggested adding moderate-hazard occupancies to the provision. The code development committee agreed with our concern; however, took it one step further and modified the proposal to increase the flexibility of the provision by eliminating reference to any specific hazard category. Since this provision has appeared in the 2006 Edition of the IBC, it has been noted that Section 403.1 has an exception that references Section 503.1.1, but contains the former “low-hazard” language. Section 403.1 should have been correlated with the change to Section 503.1.1 at the time. This proposal corrects that oversight. It also makes a couple of editorial changes to the exception so that the terminology is consistent with that used elsewhere in the code.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language is more consistent with code terminology throughout the IBC.

Assembly Action: **None**

Final Hearing Results

G44-07/08 **AS**

Code Change No: G46-07/08

Original Proposal

Sections: [F] 403.2.1 (New), 403.2.1.1 (New), [F] 403.2.1.1.1 (New), [F] 403.2.1.2 (New), [F] 403.2.2 (New) [IFC 914.3.1.1 (New), IFC 914.3.1.1.1 (New), IFC 914.3.1.1.1.1 (New), IFC 914.3.1.1.2 (New), IFC 914.3.1.2 (New); IFC 509.1 (IBC [F] 911.1)

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

1. Add new text as follows:

[F] 403.2.1 (IFC 914.3.1.1) Sprinkler riser redundancy and isolation. All buildings that are more than 420 feet (128 m) in height shall have all risers supplying automatic sprinkler systems interconnected to each other at the top and bottom most floor of each vertical riser zone. The interconnections shall be at least as large as the largest riser supplied.

[F] 403.2.1.1 (IFC 914.3.1.1.1) Number of risers and separation. A minimum of two sprinkler water supply risers shall be provided in each vertical riser zone of the building. Sprinkler water supply risers shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the sprinkler water supply risers.

[F] 403.2.1.1.1 (IFC 914.3.1.1.1.1) Hydraulic design evaluations. Independent hydraulic design evaluations shall be completed utilizing individual water supply risers for each vertical riser zone. System hydraulic design shall not be based upon redundancy of water supply risers for each vertical riser zone.

[F] 403.2.1.2 (914.3.1.1.2) Control valves. Manual and remote control valves shall be provided on all riser piping supplying automatic sprinkler systems at every third floor of the building served. This requirement is independent of sprinkler floor control valves required by Section 903.4.3

[F] 403.2.2 (IFC 914.3.1.2) Water supply to required fire pumps. Required fire pumps shall draw from a minimum of two independent street level water mains located in different streets.

> **Exception**: When the street level water main is a looped or gridded system, two taps may by drawn from the same main provided the main is valved such that an interruption on one side of the loop or grid can be isolated so that the water supply will continue without interruption through at least one of the taps. Each tap shall be sized to supply the required flow. The taps shall be located as remote from one another as is practicable given the site conditions.

2. Revise as follows:

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

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

Reason: The purpose of this proposed change is to increase the reliability of fire suppression systems in very tall buildings, those that exceed 420 feet in height, by requiring looping of sprinkler uses and independent street-level water feeds.

The difficulty of fighting fires in very tall buildings ranges from hard to virtually impossible. Accordingly, the reliable functioning of required sprinkler systems is critically important. The National Institute of Standards and Technology (NIST) World Trade Center (WTC) Report documented that the proximate cause of the collapse was a building contents fire that raged out of control, in part at least, because the building's fire sprinkler systems were non-functional due to the initial aircraft attack. Events far less dramatic could knock out or make a sprinkler riser inoperative, thereby leaving the structure very vulnerable to fire.

Recommendation 12 of the NIST WTC report calls for the redundancy of active fire suppression systems to be increased to accommodate the greater risks associated with increasing building height and population. This proposal seeks to do that by providing two water feeds to each floor designed such that the system will function as intended if one of those feeds is damaged or otherwise interrupted.

It is interesting to note that existing standards for water mains in residential subdivisions call for looping and valving to ensure that no more than 20 homes could be cut off by a water main break. Such a break would create a fire suppression risk for 4 people (the average occupancy of one home) or no more than 80 people (assuming all 20 homes catch fire). In contrast, we do not require looping and valving to isolate failure in buildings that might contain 10,000 occupants. This proposal seeks to correct that problem.

Proposed new Subsection 403.2.1 requires the interconnection (looping) of sprinkler risers in each vertical zone.

Proposed new Subsection 403.2.1.1 requires two risers for every zone and specifies a separation distance to reduce the possibility that one incident could incapacitate both risers.

Proposed new Subsection 403.2.1.1.1 ensures that the sprinkler system will be designed to function as intended and required from either riser. This is consistent with the goal of providing redundancy.

Proposed new Subsection 403.2.1.2 requires riser control valves at every third floor of the building. This provision supports the stated intent of this code change by ensuring that a riser break (or other problem eliminating the riser's functionality) will not leave more then two floors without the required sprinkler protection. Standpipe control valves are already required to be monitored and NFPA 14 requires redundancy. However, the control valves required by new section 403.2.1.2 are in addition to the control valves required by NFPA 14. Along with the redundant sprinkler riser that is required by section 403.2.1, the valves required by this new section will assure that any riser break will not leave more than two floors without the required sprinkler protection.

These new valves raise the possibility that someone will inadvertently close one or more. Accordingly, a proposed amendment to Section 911.1 of the Code requires that these automatic valves be able to be monitored from the fire command center by the use of status indicators. This will make it possible to monitor continuously all riser valves from one location and correct any problem from that location.

New Subsection 403.2.2 requires fire pumps to be fed from two independent water mains in separate streets. This will greatly reduce the possibility of the loss of water due to a main break, given the valving which is a feature of public water systems.

Bibliography:

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: This proposal will increase the cost of construction for very tall buildings, but the additional cost is warranted by the additional risk inherent in such buildings.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Fire protection system design criteria and information belong in Chapter 9. The utility and effectiveness of top and bottom sprinkler riser interconnection is questionable. It is also questionable as to the availability of remotely controlled sprinkler riser valves. Proposed Section 403.2.2 needs correlation with Section 903.3.5.2. The ICC Code Technology Committee agrees with the need for redundancy but disagrees with the approach taken in this proposal. There is also a NIST task group working on this topic.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Paul K. Heilstedt, PE, FAIA, Chair, ICC Code Technology Committee (CTC), Gerry Jones/Herman Brice, Co-chairs, NIBS/MMC Committee for Translating the NIST World Trade Center Investigation Recommendations into Building Codes and Gary Lewis, Chair, representing the ICC Ad Hoc Committee on Terrorism Resistant Buildings request Approval as Modified by this public comment.

Modify proposal as follows:

[F] 403.2.1 (IFC 914.3.1.1) Number of sprinkler risers and system design ~~redundancy and isolation.~~ ~~All buildings that are more than 420 feet (128 m) in height shall have all risers supplying automatic sprinkler systems interconnected to each other at the top and bottom most floor of each vertical riser zone. The interconnections shall be at least as large as the largest riser supplied.~~ Each sprinkler system zone in buildings that are more than 420 feet (128 m) in height shall be supplied by a minimum of two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.

~~**[F] 403.2.1.1 (IFC 914.3.1.1.1) Number of risers and separation.** A minimum of two sprinkler water supply risers shall be provided in each vertical riser zone of the building. Sprinkler water supply risers shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the sprinkler water supply risers.~~

[F] 403.2.1.1 (IFC 914.3.1.1.1) Riser location. Sprinkler risers shall be placed in stair enclosures which are remotely located in accordance with Section 1015.2.

~~**[F] 403.2.1.1.1 (IFC 914.3.1.1.1.1) Hydraulic design evaluations.** Independent hydraulic design evaluations shall be completed utilizing individual water supply risers for each vertical riser zone. System hydraulic design shall not be based upon redundancy of water supply risers for each vertical riser zone.~~

~~**[F] 403.2.1.2 (914.3.1.1.2) Control valves.** Manual and remote control valves shall be provided on all riser piping supplying automatic sprinkler systems at every third floor of the building served. This requirement is independent of sprinkler floor control valves required by Section 903.4.3~~

[F] 403.2.2 (IFC 914.3.1.2) Water supply to required fire pumps. Required fire pumps shall be supplied by connections to ~~draw from~~ a minimum of two ~~independent street level~~ water mains located in different streets. Separate supply piping shall be provided between each connection to water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

> **Exception**: ~~When the street level water main is a looped or gridded system, two taps may be drawn from~~ Two connections to the same main shall be permitted provided the main is valved such that an interruption ~~on one side of the loop or grid~~ can be isolated so that the water supply will continue without interruption through at least one of the connections ~~taps~~. ~~Each tap shall be sized to supply the required flow. The taps shall be located as remote from one another as is practicable given the site conditions.~~

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The purpose of this public comment is to increase the reliability of fire sprinkler systems in very tall buildings, those that exceed 420 feet in height, by requiring a minimum of two risers for each sprinkler zone and pumps to be supplied by a minimum of two connections to the municipal distribution system.

The difficulty of fighting fires in very tall buildings ranges from difficult to virtually impossible with the sprinkler system impaired. Accordingly, the reliable functioning of sprinkler systems is critical. Various Events could cause a sprinkler riser to be impaired, thereby leaving the structure highly vulnerable to fire.

Recommendation 12 of the NIST WTC report calls for the redundancy of active fire suppression systems to be increased to accommodate the greater risks associated with increasing building height and population. This proposal seeks to do that by requiring two risers designed such that, if one riser is taken out of service, the other will be able to supply sprinklers on the floors above and below. This will impede any fire spread and allow the fire department time to respond and extinguish the fire. At the Meridian Plaza fire in Philadelphia, the further spread of an out of control fire occurring on floors not protected by sprinklers was prevented by the operation of ten sprinklers when the fire reached a floor which had been retrofitted with sprinklers.

403.2.1 requires a minimum of two sprinkler risers in each sprinkler zone.

403.2.1.1 requires the risers to be located in protected stair enclosures and specifies a separation distance to reduce the possibility that one incident could incapacitate both risers which is consistent with the approach used in the code for stair enclosure separation.

403.2.2 is text similar to the original proposal which requires fire pumps to be fed from two water mains in separate streets. This will greatly reduce the possibility of the loss of water due to a main break, given the valving which is a feature of public water systems~~.~~ with the goal of providing redundancy. The exception is revised to provide performance language which is not specific to a specific configuration (looped or gridded in the original proposal) and eliminates the subjective connection remoteness criteria.

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

Final Hearing Results

G46-07/08 AMPC

Code Change No: G48-07/08

Original Proposal

Sections: 403.3.1, 403.3.2, 507.8, 3310.1 (IFC [B] 1411.1)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

403.3.1 (Supp) Type of construction. The following reductions in the minimum fire resistance rating of the building elements in Table 601 shall be permitted as follows:

1. For buildings not greater than 420 feet (128 m) in building height, the fire resistance rating of the building elements in Type IA construction shall be permitted to be reduced to the minimum fire resistance ratings for the building elements in Type IB.

   Exception: The required fire-resistance rating of columns supporting floors shall not be permitted to be reduced.

2. In other than Groups F-1, M and S-1, the fire resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire resistance ratings in Type IIA.
3. The height and area limitations of a building containing building elements with reduced fire resistance ratings shall be permitted to be the same as the building without such reductions.

403.3.2 Shaft enclosures. For buildings not greater than 420 feet (128 m) in building height, the required fire-resistance rating of the fire barriers enclosing vertical shafts, other than exit enclosures and elevator hoistway enclosures, shall be reduced to 1 hour where automatic sprinklers are installed within the shafts at the top and at alternate floor levels.

507.8 (Supp) Aircraft paint hangar. The area of a Group H-2 aircraft paint hangar no more than one-story above grade plane, shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is entirely surrounded by public ways or yards not less in width than one and one-half times the ~~height of the~~ building height.

3310.1 (IFC [B] 1411.1) Stairways required. Where a building has been constructed to a building height ~~greater than~~ of 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in building height is altered, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

Reason: The changes are proposed for consistency with the actions taken by the membership on Proposal G81-06/07-AS. In IBC Section 3310.1 and IFC Section 1411.1, "greater than" is changed to "of" because "constructed to a building height of 50 feet" adequately specifies the threshold before a temporary lighted stairway is required. A related proposal adjusts the references to "height" and "building height" in Chapter 5.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The change would coordinate with G81-06/07. The additional language clarifies the application of the definition for "building height."

Assembly Action: **None**

Final Hearing Results

G48-07/08 **AS**

Code Change No: G50-07/08

Original Proposal

Section: 403.3.2

Proponent: Thomas Kinsman, T. A. Kinsman Consulting Company, representing himself

Revise as follows:

403.3.2 Shaft enclosures. For buildings not greater than 420 feet (128 m) in height, the required fire-resistance rating of the fire barriers enclosing vertical shafts, other than exit enclosures and elevator hoistway enclosures, shall be permitted to be reduced to 1 hour where automatic sprinklers are installed within the shafts at the top and at alternate floor levels.

Reason: This proposal clarifies the codes intent which is to permit the fire resistive reduction but not demand the reduction.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

403.3.2 Shaft enclosures. For buildings not greater than 420 feet (128 m) in height, the required fire-resistance rating of the fire barriers enclosing vertical shafts, other than exit enclosures and elevator hoistway enclosures, ~~shall be~~ is permitted to be reduced to 1 hour where automatic sprinklers are installed within the shafts at the top and at alternate floor levels.

Committee Reason: The modification was editorial for consistent code language. The proposal clarifies that the provision reducing the required fire resistance for shafts is an allowance and not a requirement.

Assembly Action: **None**

Final Hearing Results

G50-07/08 **AM**

Code Change No: G53-07/08

Original Proposal

Section: [F] 403.7

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

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IFC CODE DEVELOPMENT COMMITTEE.

Revise as follows:

[F] 403.7 Emergency responder radio ~~Fire department~~ communications system. ~~A two-way fire department communications system shall be provided for fire department use in accordance with Section 907.2.12.3.~~ An emergency responder radio communications system shall be installed where required to provide the required level of

radio coverage for emergency responders by allowing radio frequencies to be transmitted and received throughout the building. Amplifiers shall be able to handle the frequencies in operation by the local emergency responder agencies. A permanent sign shall be installed in the fire command center indicating the presence of the amplification system and the frequencies served.

Reason: To allow the emergency services to communicate properly throughout the building during an emergency. This proposal will replace the typical hardwired communications system with a radio system that will work with the FD radio system and provide adequate radio communications

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

Public Hearing Results

This proposal was heard by the IFC Code Development Committee.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

[F] 403.7 Emergency responder radio. An emergency responder radio communications system shall be installed ~~where required to provide the required level of radio coverage for emergency responders by allowing radio frequencies to be transmitted and received throughout the building. Amplifiers shall be able to handle the frequencies in operation by the local emergency responder agencies. A permanent sign shall be installed in the fire command center indicating the presence of the amplification system and the frequencies served.~~ in accordance with Section 511.1 of the *International Fire Code*.

Committee Reason: The proposal was approved for coordination with the action taken on code change F87-07/08. The modification makes a simple reference to the correct section of the *International Fire Code* that contains radio communications system requirements for new buildings.

Assembly Action: **None**

Final Hearing Results

G53-07/08 **AM**

Code Change No: G61-07/08

Original Proposal

Section: 403.12 (New)

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

Add new text as follows:

403.12 Remoteness of exit stairway enclosures. The nearest wall of separate required exit stairway enclosures shall be placed a distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the stairway enclosure. In buildings with three or more exit stairway enclosures, at least two of the exit stairway enclosures shall be placed a distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the exit stairway enclosure. Interlocking or scissor stairs shall be counted as one exit stairway.

Reason: The purpose of this change is to add a new Section 403.19 that will require stair shafts to meet remoteness criteria, in addition to the separation distance requirements for exit access doorways of Section 1015.2.1.

The Code has long contained requirements designed to ensure that all the exit access doors on a floor are not grouped closely together. Grouping exit access doors too closely defeats the whole point of multiple exits.

The National Institute of Standards and Technology's (NIST) report on the World Trade Center (WTC) tragedy recommends a new remoteness criterion for stair shafts (Recommendation 18). The report pointed out that, at some locations, stairs that met the exit access distance requirements were, nonetheless, very closely grouped. Their shafts were very close together and all three were destroyed by the airplane impact, thereby dooming all above. It is not the proponents' intent to make stair shafts immune to airplane attacks but the re-examination of our basic criteria that was prompted by the attack and the WTC Report suggests that far less dramatic events could render more than one stair shaft unusable. The cause need not be an act of terror either. There are other explosive hazards in high rise buildings. It is only prudent to separate the stair shafts themselves as well as the exit access doors.

It is possible that, in some high rise office buildings, this provision will result in one or more stairs being across the hall from the core rather than in the core. No additional floor area will be required for the sum total of core and stairs. If a stair is outside the traditional core, then the core itself will be smaller. Some might suggest that such a stair location might inhibit design flexibility in tenant spaces. This is simply not true. The architect might have to work a little harder to develop layouts but, with a little skill, any constraint can be incorporated into an acceptable design.

Bibliography:

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: The proposal will not increase construction costs. It merely deals with the location of building elements that are already required by the Code.

Analysis: The last sentence of this proposal addresses interlocking/scissor stairways. There are other code changes dealing specifically with scissors stairways that will be heard by the IBC Means of Egress Committee.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Forcing the stairway enclosures to be 1/3 of the diagonal of the building apart will have a profound effect on the design and costs of the building. This should not be done without technical justification and studies on if this proposed requirement will have the desired results.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Herman Brice and Gerald Jones, National Institute of Building Sciences/Multihazard Mitigation Council representing the NIBS/MMC Committee for Translating the NIST World Trade Center Recommendations into Building Codes requests Approval as Modified by this public comment.

Replace proposal as follows:

403.12 Remoteness of exit stairway enclosures. The required exit stairway enclosures shall be separated by a distance not less than 30 feet or not less than one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the stairway enclosures. In buildings with three or more exit stairway enclosures, at least two of the exit stairway enclosures shall comply with this section. Interlocking or scissor stairs shall be counted as one exit stairway.

Commenter's Reason: The change, as originally proposed, would add a new Section 403.19 requiring stair shafts to meet remoteness criteria in addition to the separation distance requirements for exit access doorways of Section 1015.2.1. The reason noted that the code has long contained requirements designed to ensure that all the exit access doors on a floor are not grouped closely together, that grouping exit access doors too closely defeats the whole point of multiple exits, and that the National Institute of Standards and Technology's (NIST) report on the World Trade Center (WTC) tragedy recommends a new remoteness criterion for stair shafts (Recommendation 18). The report pointed out that, at some locations, stairs that met the exit access distance requirements were, nonetheless, very closely grouped. Although the ICC committee disapproved this change indicating that additional technical justification is needed, the vote was very close. The NIBS/MMC committee believes that the modification as proposed by this public comment will lessen the cost and design impacts considerably while also providing the needed separations.

Final Hearing Results

G61-07/08 **AMPC1**

Code Change No: G64-07/08

Original Proposal

Section: 403.15 (New)

Proponent: Ken Kraus, Los Angeles Fire Department, CA and Daniel E. Nichols, PE, New York Division of Code Enforcement and Administration, Albany, NY

Add new text as follows:

403.15 Smoke exhaust. Buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:

1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50 foot intervals. The area of operable windows or panels shall not be less than 40 square feet per 50 linear feet of perimeter.

   Exceptions:

   1. In Group R-1 occupancies, each guest room or suite having an exterior wall shall be permitted to be provided with 2 square feet of venting area in lieu of the area specified in item 1.
   2. Windows shall be permitted to be fixed tempered glass panes provided that no coating or film is applied that will modify the natural breaking characteristics of the glass

2. Mechanical air-handling equipment providing one exhaust air change every 10 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.
3. Any other approved design that will produce equivalent results.

(Renumber subsequent sections)

Reason: Every code development cycle since the 2000 IBC was created, a code change has been submitted regarding requirements to vacate smoke from hi-rise buildings. Unfortunately, many of these proposals were attempting to utilize existing technical sections of the IBC regarding a smoke control system when all they were intending was a way for the fire service to remove smoke from a hi-rise. Smoke control systems would do a great job of removing smoke for the fire department but the full applicability of IBC Section 909 exceeds the intended purpose.

This proposal is to provide a new section to the hi-rise section with technical requirements for smoke exhaust. The proposal permits three ways to comply; natural, mechanical, or alternative method. The result of this system is one of three methods:

1. The fire department opens windows on the floor and provides pressurization by fans.
2. The buildings HVAC system is equipped with dampers per floor, an arrangement to stop recirculation by providing 100% fresh air intake and outside exhaust, and a control panel at the fire command center.
3. An alternative design approved by the code official.

The issue that this code change proposal addresses is that of fire department operations. One of the fire department's duties during a fire event is to expel the smoke after the fire has occurred. With a current lack of requirements for this type of system, the only way that ventilation of smoke or odors occurs without significant building damage is utilizing the exit stairs with fans provided by the fire department. This is marginally effective and is further inhibited by buildings with floor plans that do not have a clear path between two exit stairs or when the building is of significant height.

Addressing automatic sprinkler systems; a fire suppressed by an automatic sprinkler system does significantly reduce the total amount of smoke produced. However, the atmosphere created by a sprinkler suppressed fire or smoke from other incidents, such as burnt food, smoldering fires, or the like, still produces a volume of smoke that needs to be removed after the incident.

To reiterate, this system is for fire department use and not intended to be part of the initial life safety systems placed in hi-rise buildings, like sprinklers, fire alarms, and pressurized exit stairways. During a coordinated fire event, the fire command center already requires air-handling equipment and controls to be located therein. When using the mechanical ventilation option, the net result of this proposal is appropriate dampers to zone, per floor, and an additional requirement to provide for 100% fresh air return and exhaust.

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

Public Hearing Results

This proposal was heard by the IFC Code Development Committee.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

403.15 Smoke exhaust. Buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:

1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50 foot intervals. The area of operable windows or panels shall not be less than 40 square feet per 50 linear feet of perimeter.

   Exceptions:

   1. In Group R-1 occupancies, each guest room or suite having an exterior wall shall be permitted to be provided with 2 square feet of venting area in lieu of the area specified in item 1.
   2. Windows shall be permitted to be fixed ~~tempered glass panes provided that no coating or film is applied that will modify the natural breaking characteristics of the glass~~ , provided that glazing can be cleared by firefighters.

2. Mechanical air-handling equipment providing one exhaust air change every ~~10~~ 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.
3. Any other approved design that will produce equivalent results.

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change which will provide the fire department with an effective tool for the removal of smoke from high-rise buildings during post-fire salvage and overhaul operations. The modification is a clearer statement of the desired performance characteristic of fixed windows.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Sarah A. Rice, C.B.O, Schirmer Engineering Corporation requests Approval as Modified by this public comment.

Further modify proposal as follows:

403.15 Smoke removal exhaust. To facilitate smoke removal in post-fire salvage and overhaul operations, buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:

1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50 foot intervals. The area of operable windows or panels shall not be less than 40 square feet per 50 linear feet of perimeter.

   Exceptions:

   1. In Group R-1 occupancies, each guest room or suite having an exterior wall shall be permitted to be provided with 2 square feet of venting area in lieu of the area specified in item 1.
   2. Windows shall be permitted to be fixed provided that glazing can be cleared by firefighters.
   3. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.
   4. Any other approved design that will produce equivalent results.

Commenter's Reason: As stated in Committee Reason of the 2008 Report of the Public Hearings on the 2008 Editions of the International Code, the ventilation system being required is intended to ONLY "…provide the fire department with an effective tool for the removal of smoke from high-rise buildings during post-fire salvage and overhaul operations." (Entire Committee Reason is found below)

The proposed modification will make the provision clear and concise, therefore limiting the potential for misapplication.

The proposed change to the title is also intended to add clarity to the provision. The term "smoke exhaust" is used in 12 other places in the IBC, each with a little different meaning. The term "smoke removal" is only used in one other location in the IBC, and thus the potential for misapplication is reduced.

Committee Reason: *The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change which will provide the fire department with an effective tool for the removal of smoke from high-rise buildings during post-fire salvage and overhaul operations. The modification is a clearer statement of the desired performance characteristic of fixed windows.*

Final Hearing Results

G64-07/08 **AMPC**

Code Change No: G65-07/08

Original Proposal

Section: 403.15 (New), Chapter 35 (New)

Proponent: Michael Gardner, Gypsum Association

1. Add new text as follows:

403.15 Structural integrity of exit stairway enclosures and elevator shaft enclosures. For all buildings that are more than 420 feet (128 m) in height, exit stairway enclosures and elevator shafts enclosures shall comply with Sections 403.15.1 through 403.15.3.

403.15.1. Wall assembly. The wall assemblies making up the exit stairway enclosures and elevators shaft enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

403.15.2. Wall assembly materials. The face of the wall assemblies making up the exit stairway enclosures and elevator shaft enclosures that are not exposed to the interior of the exit stairway enclosure or elevator shaft enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.
2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.
3. The wall assembly shall incorporate multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

403.15.3. Other wall assemblies: An entire wall assembly that provides impact resistance equivalent to that required by Section 403.15.1.and the Hard Body Impact Classification Level 3 in ASTM C1629/C1629M shall be permitted.

2. Add standard to Chapter 35 as follows:

ASTM

C1629/C1629M-06	Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels

Reason: The intent of this proposal is to incorporate a reference to ASTM Standard C 1629 into the code. The standard was developed through the ASTM process to directly address impact-resistance requirements for materials that could be incorporated into stair and elevator enclosures in high rise construction.

By incorporating the reference to ASTM C 1629 a definitive method of establishing criteria to assess the impact-resistance of stair and elevator enclosures will be incorporated into the code. This is in contrast to recent proposals that have attempted to inappropriately impose specific requirements of the ASTM E 119 standard onto enclosure systems or that have proposed other arbitrary performance requirements for enclosure systems.

While the standard was developed to specifically test gypsum and fiber-reinforced cement panels, it can readily be used to test the impact resistance of other board and panel materials. In addition, it establishes specific values for the impact resistance of materials that can be used as a benchmark for the evaluation of other materials and systems.

This proposal directly reflects recent action by the City of New York. In July 2006, Section 32-05 of Chapter 32 of Title 1 of the Rules of the City of New York was adopted by the City of New York. Section 32-05 established criteria for the evaluation of stair enclosures in office building construction in New York City by incorporating a reference to the ASTM C 1629 standard. Rule 32 also established performance criteria for systems constructed using other materials.

This proposal takes the language adopted by the City of New York and modifies it for use in the IBC. In so doing, it eliminates much of the prescriptive language contained in Section 32-05 of the New York City text. That is intentional since much of the prescriptive language contained in Section 32-05 appears in other sections of or is incorporated by reference into the IBC.

The proposed Section 403.15 establishes that the language will apply only to buildings that are more than 420 feet in height and only to the exit stairway and elevator enclosures within those buildings. This is more restrictive than the New York City language which imposes the impact resistant requirements onto all office buildings regardless of size or height.

Section 403.15.1 directly mimics the New York City language that requires the entire assembly to withstand an impact resistance of 195 lbf as measured by the ASTM C 1629 Soft Body Impact Test. The test method used in C 1629 is conducted in accordance with the ASTM E 695 test method which covers the measurement of the relative resistance of wall, floor, and roof construction to impact loading.

Section 403.15.2 requires the face of the system that is not exposed to the shaft – the outside face - to be protected by a material or materials that comply with a level of impact resistance as established by the ASTM C 1629 Hard Body Impact Test. To comply with the proposed language at least two layers of Level 2 material or one layer of Level 3 material must be incorporated into the system. Level 2 material must withstand a Hard Body impact of 100 lbf to comply with the standard. Level 3 material must withstand a Hard Body impact of 150 lbf to comply with the standard.

The same section also permits the use of a system composed of multiple layers of different materials provided the composite system can comply with a Level 3 Hard Body test. The same concept is contained in the New York City language.

Section 403.15.3. is intended to permit monolithic systems, such as those constructed of masonry or concrete, to be evaluated using an available test method that will permit a quantifiable comparison with the performance requirements established by the proposed language. This is a change from the New York City language which specifically allows the use of masonry or concrete walls, but makes no provisions for other monolithic systems such as those constructed of plaster or other similar materials.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The committee generally agrees with this proposed enhancement of exit enclosure integrity, but as written it is specific for only one material. It would require other enclosure materials such as concrete and masonry to comply with a reference standard that is specific to panels of gypsum and fiber-reinforced cement.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Michael Gardner, Gypsum Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

403.15.3.1. Concrete or masonry walls. Concrete or masonry walls shall be considered to have complied with the requirements of this section.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Committee reason statement for disapproval of the original proposal indicates that the structural committee agreed with the concept of enhanced exit enclosure integrity, but believed that the original proposal restricted material system options when it required concrete and masonry systems to comply with a gypsum board standard. Proposed modification rectifies committee concern by specifically stating that a concrete or masonry system complies with the intent of the overall proposed language and can be installed to satisfy the requirements of the section without the need for further testing.

Public Comment 2:

Steve Skalko. Portland Cement Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

403.15 Structural integrity of exit ~~stairway~~ enclosures and elevator ~~shaft~~ hoistway enclosures. For buildings of occupancy category III or IV in accordance with Table 1604.5 with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, and for all buildings that are more than 420 feet (128 m) in height, exit ~~stairway~~ enclosures and elevator ~~shafts~~ hoistway enclosures shall comply with Sections 403.15.1 through 403.15.~~3~~4.

403.15.1. Wall assembly. The wall assemblies making up the exit ~~stairway~~ enclosures and elevator~~s~~ ~~shaft~~ hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

403.15.2. Wall assembly materials. The face of the wall assemblies making up the exit ~~stairway~~ enclosures and elevator ~~shaft~~ hoistway enclosures that are not exposed to the interior of the exit ~~stairway~~ enclosure or elevator ~~shaft~~ hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.
2. Wall assembly shall incorporate not less than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.
3. The wall assembly shall incorporate multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

403.15.3 Concrete and masonry walls: Concrete or masonry walls shall be deemed to satisfy the requirements of Sections 403.15.1 and 403.15.2.

~~**403.15.3**~~ **403.15.4 Other Wall Assemblies:** ~~An entire~~ Any other wall assembly that provides impact resistance equivalent to that required by Section 403.15.1 and ~~the~~ Section 403.15.2 for Hard Body Impact Classification Level 3 in ASTM 1629/C1629M shall be permitted.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Hardening of exit enclosures and elevator hoistways is an important fire safety feature that is presently lacking in the code. G65 presents an approach to add this feature to the IBC however it needs additional modifications to fully address high rise buildings where this feature would be important to the occupants.

For example, occupancy category III and IV structures less than 420 feet in height may be at higher risk than some category II structures greater than 420 feet in height; therefore, occupants of these structures deserve the additional protection proposed for taller buildings. The height threshold being proposed for category III and IV buildings is the same as the existing threshold for high rise buildings (see Section 403.1).

By deleting the word "stairway" in the proposal, exit passageways (see Section 1021) which are commonly used to connect offset exit stairs will also be required to be "hardened" the same as the stairs they connect. This insures continuity of the hardened exit enclosure for the full length until an occupant reaches the exit discharge. In addition the change from "shaft" to "hoistway" is for consistency with other code provisions (e.g., see Chapter 30).

Finally, as noted in the last paragraph of the proponent's reason, the NYC rule permits concrete or masonry enclosures without further testing. However, Section 403.15.3 of G65 will require concrete or masonry walls to be tested to some unknown standard that is equivalent to C1629. Presumably NYC determined that concrete or masonry walls normally used to enclose exits and elevator hoistways meet the intent of their rule. This modification will exempt concrete and masonry walls from being subjected to unnecessary tests.

Below is the pertinent section from the NYC rule upon which G65 was based.

Concrete and masonry walls. Concrete or masonry walls shall satisfy the impact resistance requirements of this section provided that the enclosure walls are anchored to structural members that provide lateral support as required by the seismic provisions of RS 10. The assembly shall be rated for two-hour fire resistance, as measured by the method described in ASTM E119.

Final Hearing Results

G65-07/08 AMPC1, 2

Code Change No: G68-07/08

Original Proposal

Section: 403.18

Proponent: Tony Crimi, A.C. Consulting Solutions, Inc., representing the North American Insulation Manufacturer's Association (NAIMA)

Revise as follows:

403.18 (Supp) Sprayed fire-resistive materials (SFRM). The bond strength of the SFRM installed throughout the building shall be in accordance with Table 403.18.

Reason: To clarify the requirements in Section 403.18 (2007 Supplement) of the IBC in the previous cycle by proposal G68-06/07 on SFRM bond strength.

Because of the way that the new Table 403.18 is structured, there has been confusion regarding the interpretation of the SFRM bond strength requirements for buildings over 75 ft and 420 ft in height. This proposal intends to clarify that where the SFRM is installed, the bond strengths specified in 403.18 are required to be achieved throughout the height of the building, and not just on those portions of the building exceeding the heights specified in the Table.

Code change proposal G68-06/07 was submitted in the last cycle by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings. The purpose of this proposal was to increase the required adhesions of Spray Applied Fire Resistant Materials (SFRM). Recommendation 6 of the National Institute of Standards and Technology's (NIST) investigation Report into the World Trade Center (WTC) tragedy called for improvement of the in-place performance of SFRM. The Ad Hoc Committee on TRB demonstrated that these higher standards are warranted by the higher risk associated with taller buildings.

However, the language in Section 403.18 (2007 Supplement) has caused some confusion because it does not explicitly state that the higher bond strength material for buildings over 75 feet in height and for buildings exceeding 420 feet applies throughout those buildings. As an example, where SFRM is installed in a building which is 100 ft in height above the lowest level of fire department vehicle access, the SFRM is required to have a bond strength of 430 psf as specified by Table 403.18 throughout the height of the building, and not only on the uppermost 25 ft of building height.

This Code change clarifies the requirement for higher bond strength material for buildings over 75 feet in height and yet again higher strength for those that exceed 420 feet.

Bibliography: National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

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

Public Hearing Results

This code change was heard by the IBC Fire Safety Code Development Committee.

Committee Action: **Approved as Submitted**

Committee Reason: The committee agreed that this proposal clarifies that where the sprayed fire-resistive materials (SFRM) are installed, the bond strengths specified in 403.18 are required to be achieved throughout the height of the building, and not just on those portions of the building exceeding the heights specified in Table 403.18.

Assembly Action: **None**

Final Hearing Results

G68-07/08 **AS**

Code Change No: G74-07/08

Original Proposal

Section: 404.5

Proponent: Raymond A. Grill, PE, Arup, representing himself

Revise as follows:

404.5 (Supp) Enclosure of atriums. Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both.

Exceptions:

1. A glass wall forming a smoke partition where automatic sprinklers are spaced 6 feet (1829 mm) or less along both sides of the separation wall, or on the room side only if there is not a walkway on the atrium side, and between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction. The The glass shall be installed in a gasketed frame so that the framing system deflects without breaking (loading) the glass before the sprinkler system operates.
2. A glass-block wall assembly in accordance with Section 2101.2.5 and having a 3/4-hour fire protection rating.
3. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium where such spaces are ~~included~~ considered in the design of the smoke control system.

Reason: The current language implies that the volume of floors open to the atrium need to be included in the atrium exhaust system regardless of the geometry or other factors. This language has been interpreted to require things like even distribution of makeup air and exhaust throughout floors open to an atrium. This could lead to not having appropriate exhaust volume in the atrium space itself. Methods for determining

appropriate exhaust rates for atriums are driven by maintaining the calculated smoke layer 6 feet above the egress path. If the fire is considered to be on a floor open to the atrium, this criteria could never be met. In some jurisdictions, it has been utilized to eliminate atrium designs for buildings. This was not the intent of the provision.

Spaces open to the atrium should be considered from a fire safety perspective in the design of the overall space and should be addressed in the rational analysis which is required to be prepared as a basis for design for smoke control systems.

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

Analysis: An errata occurred in the 2007 Supplement. The reference in Section 404.5, Exception 2 is Section 2101.2.5 instead of 2110.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed language is clearer as to what is intended by the code for spaces open to the atrium with respect to smoke control design.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Maureen Traxler, City of Seattle Department of Planning and Development, requests Approval as Modified by this public comment.

Modify proposal as follows:

404.5 (Supp) Enclosure of atriums. Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both.

Exceptions:

1. A glass wall forming a smoke partition where automatic sprinklers are spaced 6 feet (1829 mm) or less along both sides of the separation wall, or on the room side only if there is not a walkway on the atrium side, and between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction. The glass shall be installed in a gasketed frame so that the framing system deflects without breaking (loading) the glass before the sprinkler system operates.
2. A glass-block wall assembly in accordance with Section 2101.2.5 and having a 3/4-hour fire protection rating.
3. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium where such spaces are ~~considered~~ accounted for in the design of the smoke control system.

Commenter's Reason: This proposed modification is meant to further the intent of the original proposal. We agree that it might not be appropriate to include the adjacent spaces in the smoke control system's design. However, it may not be adequate merely to "consider" them. When a building department reviews a smoke control design, we want to know how those adjacent spaces are treated in the design. If they aren't "included" as part of the atrium, the design should show how the calculations take them into account.

Final Hearing Results

G74-07/08 **AMPC**

Code Change No: G75-07/08

Original Proposal

Section: 404.8

Proponent: Raymond A. Grill, PE, Arup, representing himself

Revise as follows:

404.8 Travel distance. In other than the lowest level of the atrium, where the required means of egress is through the atrium space, the portion of exit access travel distance within the atrium space shall not exceed 200 feet (60 960 mm). The travel distance requirements for areas of buildings open to the atrium and where access to the exits is not through the atrium, shall comply with the requirements of Chapter 10.

Reason: The change clarifies the intent of the code. This is consistent with the language in the *Uniform Building Code* Handbook which is a legacy code to the IBC. The discussion is located on Page 51 of the 1997 UBC Handbook.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the code with regard to the egress requirements for atriums. More specifically, if the space does not exit through the atrium compliance with travel distance requirements is intended to be in accordance with Chapter 10.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.

Modify proposal as follows:

404.8 Travel distance. In other than the lowest level of the atrium, where the required means of egress is through the atrium space, the portion of exit access travel distance within the atrium space shall not exceed 200 feet (60 960 mm). The travel distance requirements for areas of buildings open to the atrium and where access to the exits is not through the atrium, shall comply with the requirements of ~~Chapter 10~~ Section 1016.

Commenter's Reason: The issue is travel distance. The referral needs to only be back to travel distance section 1016, not to the whole of Chapter 10. The broader reference is confusing.

Final Hearing Results

G75-07/08 **AMPC**

Code Change No: G76-07/08

Original Proposal

Sections: 406.2.3, 406.2.4, 406.3.3, 1607.7, 1607.7.3, Table 1607.1

Proponent: Edwin Huston, National Council of Structural Engineers Association (NCSEA), representing the NCSEA Code Advisory Committee – General Engineering Subcommittee

Revise as follows:

406.2.3 Guards. Guards shall be provided in accordance with Section 1013 ~~at exterior and interior vertical openings on floor and roof areas where vehicles are parked or moved and where the vertical distance to the ground or surface directly below exceeds 30 inches (762 mm)~~. Guards serving as vehicle barrier systems shall comply with Sections 406.2.4 and 1013.

406.2.4 Vehicle barriers systems. ~~Parking areas shall be provided with exterior or interior walls or vehicle barriers, except at pedestrian or vehicular accesses, designed in accordance with Section 1607.7.~~ Vehicle barriers systems not less than 2 feet (607 mm) high shall be placed at the end of drive lanes, and at the end of parking spaces where the ~~difference in adjacent floor elevation~~ vertical distance to the ground or surface directly below is greater than 1 foot (305 mm). Vehicle barrier systems shall comply with the loading requirements of Section 1607.7.3.

406.3.3 Construction. Open parking garages shall be of Type I, II or IV construction. Open parking garages shall meet the design requirements of Chapter 16. For vehicle barrier~~s~~ systems~~,~~ see Section 406.2.4.

1607.7 Loads on handrails, guards, grab bars and vehicle barrier~~s~~ systems. Handrails, guards, grab bars as designed in ICC A117.1 and vehicle barriers systems shall be designed and constructed to the structural loading conditions set forth in this section.

1607.7.3 Vehicle barrier~~s~~ systems. Vehicle barrier systems for passenger cars shall be designed to resist a single load of 6,000 pounds (26.70 kN) applied horizontally in any direction to the barrier system and shall have anchorage or attachment capable of transmitting this load to the structure. For design of the system, the load shall be assumed to act at a minimum height of 1 foot, 6 inches (457 mm) above the floor or ramp surface on an area not to exceed 1 square foot (305 mm^2), and is not required to be assumed to act concurrently with any handrail or guard loadings specified in the preceding paragraphs of Section 1607.7.1. Garages accommodating trucks and buses shall be designed in accordance with an approved method that contains provision for traffic railings.

TABLE 1607.1 (Supp)
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
39. Vehicle barriers system	See Section 1607.7.3	

(Portions of table and footnotes not shown remain unchanged)

Reason: Section 406.2.3 - The suggested change deletes ambiguous text and defers to Section 1013 for where guards are required. The added sentence makes it clear that guards serving as vehicle barrier systems must comply with requirements for both systems.

Section 406.2.4 - The existing first sentence is not needed since Section 406.2.3 clearly indicates that any edge of a floor that is open to the floor or surface below must be provided with a guard, which may be a wall (see Section 1013). The second sentence is being retained and revised to recognize that the surface below the parking surface may not be another floor, but may be the ground. The new sentence being added at the end retains provisions in the existing first sentence.

Other changes are editorial for consistency in terminology.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the application of the code. The proponent's reason statement provided adequate substantiation.

Assembly Action: **None**

Final Hearing Results

G76-07/08 **AS**

Code Change No: G77-07/08

Original Proposal

Sections: 406.2.4, 1607.7.3

Proponent: Donald R. Monahan, Walker Parking Consultants, representing the Parking Consultants Council of the National Parking Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IBC STRUCTURAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

406.2.4 Vehicle barriers. Parking areas shall be provided with exterior or interior walls or vehicle barriers, except at pedestrian or vehicular accesses, designed in accordance with Section 1607.7. Vehicle barriers not less than 2 feet 9 inches (~~607~~ 835 mm) high shall be placed at the end of drive lanes, and at the end of parking spaces where the difference in adjacent floor elevation is greater than 1 foot (305 mm).

Exception: Vehicle storage compartments in a mechanical access parking garage.

PART II – IBC STRUCTURAL

Revise as follows:

1607.7.3 Vehicle barriers. Vehicle barrier systems for passenger cars shall be designed to resist a single load of 6,000 pounds (26.70 kN) applied horizontally in any direction to the barrier system and shall have anchorage or attachment capable of transmitting this load to the structure. For design of the system, two loading conditions shall be analyzed. The first condition shall apply the load ~~shall be assumed to act~~ at a ~~minimum~~ height of 1 foot, 6 inches (457 mm) above the floor or ramp surface. The second loading condition shall apply the load at 2 feet, 3 inches (686 mm) above the floor or ramp surface. The more severe load condition shall govern the design of the barrier restraint system. The load shall be assumed to act on an area not to exceed 1 square foot (305 mm^2), and is not required to be assumed to act concurrently with any handrail or guard loadings specified in the preceding paragraphs of Section 1607.7.1. Garages accommodating trucks and buses shall be designed in accordance with an approved method that contains provision for traffic railings

Reason: The current code provisions for vehicle barriers are outdated and need to be revised to account for the increased presence of trucks, vans and sport utility vehicles inside parking structures.

The latest vehicle sales data available clearly shows the following: Approximately 50% of the vehicles sold in 2006 are light trucks, vans or SUV's (LTVSUV's); these vehicles have bumper heights (front bumper) well in excess of the 18 inches above the pavement that the current code requires for the load application. Bumper height data is available from organizations such as Consumer Reports. We used such data as a guide and measured a representative sample of 50 out of the 135+ vehicle types for LTVSUV's. We also analyzed 2006 sales data for the 175+ vehicle types for passenger automobiles and calculated the bumper load height that would represent the 85th percentile based on sales. We determined that a 27-inch bumper height should be used. Vehicles such as the Nissan Armada, Hummer H3, Ford F150 and Jeep Commander are representative of vehicles with the 27 inch bumper height.

The attached sales table (Table 1) clearly shows the following:

The current code requirement of 18 inches covers only 52% of the vehicles on the road. The proposed 27 inch requirement would cover 96% of vehicles on the road. The bumper height appears to converge on the 27 inch proposed and the 4% of vehicles not covered have bumper heights only 2 inches taller. We measured only one rare model with a height much higher than 27": a Hummer H3 with a lift kit which measured 34 inches. We believe the 27 inch proposed requirement is reasonable and is substantiated by sales and measured bumper data.

Note that the barrier restraint may be horizontal or vertical, may be anchored at the bottom or at the ends. Therefore, one cannot determine in advance whether load condition #1 or load condition #2 will represent the most severe condition governing the design. Therefore, both load conditions should be specified.

In the 1960's and 1970's, a number of accidents occurred in parking garages and open parking structures where passenger vehicles went through the exterior walls and often over the edge of the parking facility with severe injury and often death to the vehicle occupants. These events coincided with the building boom of self-park parking facilities where the driver parked his/her own vehicle.

At that time, some of the state and city building codes had design requirements for the barrier restraints, sometimes called bumper walls or guard rails. However, the commonly used model building codes such as the Uniform Building Code (UBC) by the International Conference of Building Officials mainly used in the West, the BOCA Code by the Building Officials & Code Administrators International used in the Midwest and East, and the Standard Building Code (SBC) by the Southern Building Code Congress International used mainly in the Southeast had no specific provisions for the design of barrier restraints in multistory parking facilities. Several state codes including the New York, Wisconsin, Kentucky and Ohio codes did have barrier restraint barrier requirements. Ohio requirements were 500 pounds per lineal foot at 18 inches above the floor at the ends of parking spaces and 1000 pounds per lineal foot at 18 inches above the floor at the ends of drive aisles.

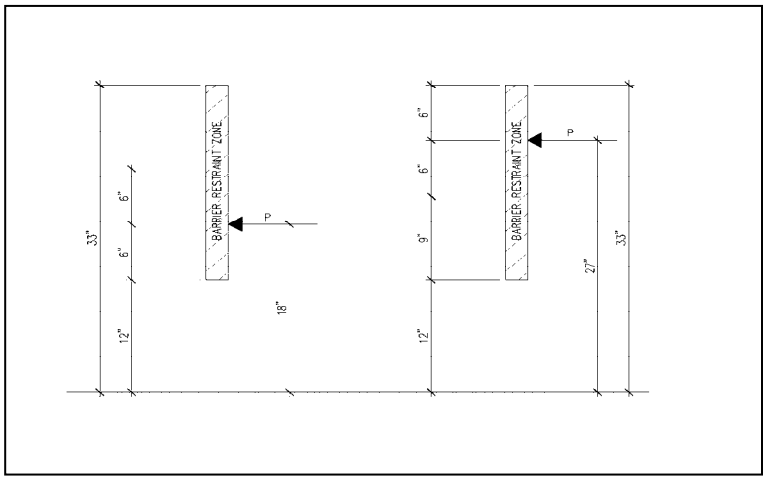


Figure 1. Bumper Load Application

To fill this lack of consensus on the proper method to design parking facility barrier restraints, the Parking Consultants Council (PCC) of the National Parking Association (NPA) formed in the mid 1970's a Building Code Committee to develop *Recommended Building Code Provisions for Open Parking Structures.* This document was published in July 1980.

Regarding barrier restraints, the committee made a survey of NPA members, who are mainly parking facility operators, asking for information and experience with barrier restraint failures. This information showed that where rational design methods had been used with as low as a 2000 pound horizontal load applied against a barrier in a parking space, no failures had occurred. However, failures had occurred where unreinforced masonry walls, pipe railings, precast concrete wheel stops, and similar restraints had been used.

The PCC Building Code Committee also obtained proprietary test data of mid-1970's vintage from the Automotive Research Laboratories at the University of Michigan, Ann Arbor, Michigan. This testing was for the energy absorption of passenger vehicle bumper systems. The goal of the testing was to set a standard for the manufacture of passenger vehicle bumper systems such that for a vehicle striking a wall in a perpendicular manner at a maximum speed of 5 miles-per-hour, it would sustain little or no damage. Also, the maximum weight of a passenger vehicle at that time was approximately 5000 pounds. Based on this information and with the assistance of the Structural Engineering Department at the University of Michigan, a static ultimate horizontal design point load of 10,000 pounds located 18 inches above the floor was developed as the criteria for the design of parking structure barrier restraint systems.

It should be noted that the act of a bumper wall resisting a vehicle striking it is truly a dynamic energy problem—not a static load problem. However, building codes at that time used percentages of static loads to allow for the impact effects on structures. Thus, the use of the 10,000 pound ultimate horizontal static load was deemed appropriate for a 5,000-pound vehicle traveling at a speed of 5 mph.

Therefore, in 1980, the PCC Code Committee developed the following for the design of barrier restraints, "*Barrier railings should be placed at the ends of drive lanes and at the ends of parking spaces at the perimeter of the structure and at the end of parking spaces where the difference in floor elevation is greater than one foot. Barrier railings should be not less than two feet in height and should be designed for a minimum horizontal ultimate load of 10,000 pounds applied at a height of one foot six inches above the floor at any point along the structure."* A footnote stated, "*It is the intent that the horizontal load be considered as applied over a one-foot square area with the load distributed through the barrier railing system into the main structural elements in a manner which is logical and appropriate for the barrier railing system under consideration."*

The PCC barrier rail recommendation was first adopted by the ICBO in the 1990 UBC Supplement. Many multistory parking structures designed prior to 1990 did not meet this requirement. Similar language was incorporated into a number of the model building codes with, in some cases, the load being changed from a 10,000 pound ultimate load to a 6,000 pound service load. The 6000 pound service load with the proper load factor is approximately the same as the 10,000 pound ultimate or factored load.

Barrier Restraint Modifications

During the 10 year period from 1996 to 2006, 13 incidents have been documented (see Table 1) where standard automobiles impacted barrier walls, rails or restraints of parking garages with such force that the barrier systems failed resulting in the deaths of 16 people. A number of the accidents appear to have occurred when the driver hit the accelerator rather than the brake pedal. Most of the failures were in parking structures designed and built prior to the 1980 design recommendations or prior to the 1990 code requirement, and had inadequate barrier restraints including faulty installation of barrier cables and unreinforced masonry walls. Wheel stops or curbs used in many of these facilities were ineffective at stopping the vehicle. Those failures have caused the Parking Consultants Council of the National Parking Association to re-evaluate the design requirements for barrier rail systems.

The characteristics of the passenger vehicle have changed dramatically in the last 27 years. Approximately 50% of the passenger vehicles sold in 2006 consist of light trucks (less than 10,000 pounds Gross Vehicle Weight), vans or SUV's. Those vehicles have a bumper height well in excess of the 18 inch height of load application required by the current building code. An analysis of automobile sales data (see Table 2) indicates the current code requirement of 18 inches only covers 52% of the vehicles. A bumper height of 27 inches would cover 96% of passenger vehicles.

In addition to revising the bumper height used in designing barrier restraints for parking structures, the applied load may also need to be revised. Light trucks and SUV's are heavier than the typical automobile. The empty weight of a Lincoln Navigator, a large sport utility vehicle (SUV), is approximately 7,000 pounds. Some large pick-up trucks have gross (loaded) weights of up to 10,000 pounds.

Also, the speed at point of impact may have to be reconsidered. At least one of the failure incidents reported a speed of 10 to 14 mph compared to a speed of 5 mph used to determine the current load requirement.

Finally, the design methodology may have to be revised. The key to vehicle impact restraint design is to absorb and dissipate the kinetic energy created by the moving vehicle impacting the barrier. The kinetic energy is created by a combination of the vehicle speed or velocity and the vehicle weight where $KE=1/2mv^2$.

This energy is absorbed by a combination of:

- The weight of the resisting element such as a concrete bumper wall,
- the instantaneous elastic or plastic deflection of the wall,
- the crushing or movement of the vehicle components such as bumper energy absorption system, crushing of vehicle fenders, etc.

This is a complex dynamics problem—not unlike designing a building structure for an earthquake.

Summary

A review of the history of vehicle barrier restraint systems shows that systems designed for the 10,000 pound horizontal ultimate static impact load re adequate if proper provision is made to provide toughness and ductility in the barrier restraints and the related connection systems. The connections must be able to extend and deform to absorb impact energy prior to ultimate failure or disconnecting.

Strand or cable barrier systems can perform adequately if they are properly designed, installed, and maintained.

Recent vintage passenger vehicles including SUV's and pick-up trucks are heavier than their predecessors with average bumper heights greater than 18 inches. Loading and height adjustments should be made to provide proper barrier restraint for these heavier and taller vehicles.

Table 1. Parking Structure Vehicle Barrier Failure Incidents

	Facility Name & Location	Year of Incident	Year Built	Barrier Type	Description of Incident
1	Second & Union, Seattle, WA	1987	1969	Concrete curb and cables	3 dead from vehicle falling from fifth floor
2	Claridge Casino, Atlantic City, NJ	1996	1996	Cable Rail	2 dead in vehicle fall from 4th floor, faulty cable installation
3	Pittsburgh, PA	1999	1965	Wheel stops and 3' metal panel	Woman survived vehicle fall from 7th floor
4	Sandcastle Resort, Virginia Beach, VA	2000	1985	Concrete block wall	4 dead in vehicle fall from 5th floor
5	Howard Johnson's Hotel, Ocean City, MD	2002	Unknown	Wheel stops and Cable Rail	2 dead in vehicle fall from 4th floor
6	Golden Nugget, Las Vegas, NV	Jan. 2004	Unknown	Concrete curb and wall	2 dead in vehicle fall from 4th floor
7	City Park Mall, Ft. Lauderdale, FL	2004	1982	Concrete block wall	1 dead in vehicle fall from 5th floor
8	Golden Nugget, Las Vegas, NV	Oct. 2004	Unknown	Concrete curb and wall	2 seriously injured in vehicle fall from 2nd floor
9	Miami, FL	2004	Unknown	Concrete wall	Man injured in vehicle fall from 5th floor
10	Riverpark Square, Spokane, WA	2006	1973	Wheel stops and concrete spandrel wall	1 dead in vehicle fall from 5th floor
11	Lexington, KY	2006	1975	Precast concrete spandrels	Pedestrian killed on sidewalk when spandrel fell from garage after vehicle impact
12	Los Angeles, CA	2007	Unknown	Unknown	Woman injured in vehicle fall from 4th floor
13	Houston, TX	2007	Unknown	Masonry Wall	1 dead in vehicle fall from 5th floor
14	Chumash Casino, CA	2007	Unknown	Concrete Wall	Concrete wall damaged severly, but did not fail. No injuries.

Source: Parking Consultants Council of the National Parking Association, August 2007

Table 2. Bumper Height Analysis for 2007 Car, Truck, SUV and Minivan Models July 26th, 2007							
2007 Vehicle Models	Curb Weight (lb)	Payload (lb)	Gr. Veh. Wt (lb)	Bumper Middle Point Height (in)	2006 Vehicle Sales	Percentile	Notes
GMC Acadia	5,070	1,320	6,390	10	480	0.00%	
GMC Yukon XL	5,935	1,460	7,395	14	45,413	0.28%	
Dodge Ram 3500	6,588	2,300	8,888	14	182,089	1.37%	
GMC Sierra 1500	5,360	1,570	6,930	15	210,736	2.64%	
GMC Yukon	5,715	1,580	7,295	16	71,476	3.07%	
Lincoln Navigator	6,245	1,525	7,770	17	23,947	3.21%	
Mercedes-Benz R-Class	5,120	1,060	6,180	18	18,168	3.32%	
Car Models (175)	N/A	N/A	N/A	18	8,129,582	52.25%	Car Models (175), the current code requirement
Dodge Grand Caravan	4,515	1,185	5,700	19	211,140	53.53%	
Chrysler Town & Country	4,515	1,185	5,700	19	159,105	54.48%	
Mercedes-Benz M-Class	4,845	1,165	6,010	19	31,632	54.67%	
Honda Odyssey	4,615	1,320	5,935	19	177,919	55.74%	
Toyota Sienna	4,415	1,120	5,535	19	163,269	56.73%	
Chrysler Aspen	5,335	1,260	6,595	20	7,656	56.77%	
Ford Explorer	4,905	1,275	6,180	21	179,229	57.85%	
Chevrolet Express	5,015	3,254	8,269	22	123,195	58.59%	
Chevrolet Equinox	3,880	1,115	4,995	22	113,888	59.28%	
Chevrolet Trailblazer	4,830	1,020	5,850	23	174,797	60.33%	
Ford Econoline	5,505	3,215	8,720	23	180,457	61.42%	
Honda CRV	3,505	850	4,355	23	170,028	62.44%	
Ford Escape	3,575	950	4,525	23	157,395	63.39%	
Toyota RAV 4	3,485	825	4,310	23	152,047	64.30%	
GMC Sierra 2500	6,000	3,795	9,795	23	105,368	64.94%	
Cadillac Escalade	5,810	1,330	7,140	24	62,206	65.31%	
Chevrolet Avalanche	6,010	1,230	7,240	24	57,076	65.66%	
Chevrolet Suburban	5,935	1,460	7,395	24	77,211	66.12%	
Chevrolet Tahoe	5,715	1,580	7,295	24	161,491	67.09%	
Mercedes-Benz GL-Class	5,575	1,210	6,785	24	18,776	67.21%	
Volvo XC90	4,950	1,210	6,160	24	33,200	67.40%	
Toyota Highlander	4,035	1,160	5,195	24	129,794	68.19%	
Lexus RX	4,235	925	5,160	24	108,348	68.84%	
Toyota 4 Runner	4,345	1,035	5,380	24	103,086	69.46%	
Hummer H3	4,700	1,150	5,850	24	54,052	69.78%	
Chevrolet Silverado 1500	5,360	1,570	6,930	25	636,069	73.61%	
Dodge Durango	5,335	1,260	6,595	25	70,606	74.04%	
Dodge Ram 1500	5,300	1,350	6,650	25	182,089	75.13%	
Ford Expedition	6,245	1,570	7,815	25	87,203	75.66%	
Toyota Tundra	5,740	1,395	7,135	25	124,508	76.41%	
Volkswagen Touareg	5,210	1,280	6,490	25	10,163	76.47%	
Jeep Grand Cherokee	4,725	1,100	5,825	25	139,148	77.31%	
Nissan Pathfinder	4,875	1,125	6,000	26	73,124	77.75%	
Nissan Titan	5,380	1,105	6,485	26	72,192	78.18%	
Honda Pilot	4,535	1,320	5,855	26	152,154	79.10%	
Jeep Liberty	4,125	1,150	5,275	26	133,557	79.90%	
Ford F-150	5,620	1,510	7,130	27	398,020	82.30%	
Jeep Commander	5,245	1,100	6,345	27	88,497	82.83%	
Nissan Armada	5,715	1,375	7,090	27	32,864	83.03%	85th Percentile Vehicle
87 Additional Truck/SUV/Minivan Models	N/A	N/A	N/A	27	2,188,867	96.20%	87 Additional Truck/SUV/Minivan Models
Hummer H2	6,400	2,200	8,600	27	17,107	96.30%	
Ford F-250	8,080	1,905	9,985	28	398,020	98.70%	
Toyota Sequoia	5,280	1,320	6,600	28	34,315	98.91%	
Toyota Tacoma	4,115	1,100	5,215	28	178,351	99.98%	
Toyota Land Cruiser	5,435	1,240	6,675	29	3,376	100.00%	
Total 2006 Vehicle Sales					**16,614,484**		

Total Number of Vehicles	16,614,484	
Number of vehicles that would be included when using the 85th percentile bumper height	15,983,316	96%
Number of vehicles covered by the current requirement of 18 inches	8,681,891	52%
Number of vehicles not covered by the current code provisions	7,932,594	48%
Number of vehicles not covered by the proposed code Including data for the additional 87 models for LTVSUV's that are also 27 inches	631,169	4%

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: This revision provides more detail to designers and updates the code to address the actual size of cars currently found in parking garages.

Assembly Action: **None**

PART II – IBC STRUCTURAL
Committee Action: **Approved as Submitted**

Committee Reason: The proposed addition of a second loading condition for designing vehicle barriers is warranted based on the data that was provided by the proponent.

Assembly Action: **None**

Final Hearing Results

G77-07/08, Part I	**AS**
G77-07/08, Part II	**AS**

Code Change No: G80-07/08

Original Proposal

Section: 406.3.6

Proponent: Raymond A. Grill, PE, Arup, representing himself

Revise as follows:

406.3.6 (Supp) Area and height increases. The allowable area and height of open parking garages shall be increased in accordance with the provisions of this section. Garages with sides open on three-fourths of the building's perimeter are permitted to be increased by 25 percent in area and one tier in height. Garages with sides open around the entire building's perimeter are permitted to be increased by 50 percent in area and one tier in height. For a side to be considered open under the above provisions, the total area of openings along the side shall not be less than 50 percent of the interior area of the side at each tier and such openings shall be equally distributed along the length of the tier.

Allowable tier areas in Table 406.3.5 shall be increased for open parking garages constructed to heights less than the table maximum. The gross tier area of the garage shall not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches (762 mm) in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet (60 960 mm) horizontally from such an opening. In addition, each such opening shall face a street or yard accessible to a street with a width of at least 30 feet (9144 mm) for the full length of the opening, and standpipes shall be provided in each such tier.

Open parking garages of Type II construction, with all sides open, shall be unlimited in allowable area where the building height does not exceed 75 feet (22 860 mm). For a side to be considered open, the total area of openings along the side shall not be less than 50 percent of the interior area of the side at each tier and such openings shall be equally distributed along the length of the tier. All portions of tiers shall be within 200 feet (60 960 mm) horizontally from such openings or other natural ventilation openings as defined in Section 406.3.3.1. These openings shall be permitted to be provided in courts with a minimum ~~width~~ dimension of ~~30~~ 20 feet (~~9144~~ 6096 mm) for the full width of the openings.

Reason: There was no technical basis for the 30 foot width when it was added to the code. It was noted as a conservative number. The Code currently provides a basis for the 20 width. Footnote d to Table 704.8 allows unlimited unprotected openings when the fire separation is 10 foot or greater. A 20 foot minimum dimension for a court may still be a conservative number, but at least correlates with other provisions in the code.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The current value of 30 feet was felt to be too conservative and inconsistent with other code requirements. The committee felt that changing to the value to 20 would be a reasonable revision.

Assembly Action: **None**

Final Hearing Results

G80-07/08 **AS**

Code Change No: G82-07/08

Original Proposal

Section: 407.8 (New), Chapter 35 (New)

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

1. Add new text as follows:

407.8 Hyperbaric facilities. Group I-2 occupancies containing hyperbaric equipment shall meet the requirements contained in Chapter 19 of NFPA 99.

2. Add standard to Chapter 35 as follows:

NFPA 99–05 Standard for Health Care Facilities

Reason: This proposal will provide a reference standard and guidance for the installation of hyperbaric chambers into Group I-2 occupancies. This will only apply to Group I-2 occupancies and then only when a hyperbaric chamber is installed. This proposal will provide guidance for the designer and the code official regarding the installation and construction of the room containing hyperbaric chambers.

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

Public Hearing Results

Analysis: Review of proposed new standard NFPA 99-05 indicated that, in the opinion of ICC Staff, the standard **did** comply with ICC standards criteria. This standard is already referenced in the IFC.

Committee Action: **Disapproved**

Committee Reason: It is unclear if the requirements intended by the reference to the standard were only for installation of hyperbaric equipment or was intended to be a more extensive reference to the standard. Also, it appears that the proposal incorrectly references Chapter 19 instead of Chapter 20 of the standard.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

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

Modify proposal as follows:

407.8 Hyperbaric facilities. Hyperbaric facilities in Group I-2 occupancies ~~containing hyperbaric equipment~~ shall meet the requirements contained in Chapter ~~19~~ 20 of NFPA 99.

NFPA
99–05 Standard for Health Care Facilities

Commenter's Reason: This item was disapproved by the Code Development Committee for two reasons. First, the referenced chapter should have been Chapter 20 of NFPA 99. The correction has been made to reference Chapter 20.

Secondly, there was uncertainty whether the entire Group I-2 facility needed to comply, or just the hyperbaric chamber. The hyperbaric chamber is required to comply since the remainder of the facility is designed and constructed according to the IBC. The section has been revised to clearly state that it is the hyperbaric chamber that must comply.

This Public Comment will provide a reference standard and guidance for the installation of hyperbaric chambers into Group I-2 occupancies. This will only apply when a hyperbaric chamber is installed in a Group I-2 occupancy. This proposal will provide guidance for the designer and the code official regarding the installation and design for the hyperbaric chambers.

Final Hearing Results

G82-07/08 AMPC

Code Change No: G83-07/08

Original Proposal

Section: 408.1.1 (New)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new definition as follows:

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

SALLYPORT. A security vestibule with two or more doors or gates where the intended purpose is to prevent continuous and unobstructed passage by allowing the release of only one door or gate at a time.

Reason: The term sallyport is used in Section 408 IBC but is not defined. This definition clarifies what is meant by the term sallyport. This section applies to Group I-3 and associated occupancies only.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: Sally port is a commonly used term and is appropriate to define for Group I-3 occupancies.

Assembly Action: **None**

Final Hearing Results

G83-07/08 AS

Code Change No: G84-07/08

Original Proposal

Section: 408.2

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

408.2 (Supp) ~~Mixed~~ Other occupancies. Buildings or portions of buildings ~~with an occupancy in Group I-3 that are classified~~ in Group I-3 occupancies where security operations necessitate the locking of required means of egress shall be permitted to be classified as a different occupancy. Occupancies classified as other than Group I-3 shall meet the applicable requirements of this code for that ~~such~~ occupancy ~~occupancies . Where security operations necessitate the locking of required means of egress,~~ provided provisions ~~shall be~~ are made for the release of occupants at all times. Where the provisions of this code for occupancies other than Group I-3 are more restrictive than the provisions for Group I-3 occupancies, the Group I-3 occupancy provisions shall be permitted to be used.

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

Exception: It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a Group H use.

Reason: The purpose of the change is to clarify the existing provision to make it clear that buildings or portions of buildings in detention and correctional facilities where the doors are locked but otherwise the classification would be a different occupancy (Groups A, E, F, S, B, etc.) may be classified as the occupancy they fall under provided the occupants can exit in an emergency. The IBC Commentary and ICC Interpretation No. 2/308/98 already state this is the intent of the provision. New language is added to permit the use of any Group I-3 provisions which are less restrictive than the provisions of the occupancy in which the building is classified, with the caveat that such provisions may be prohibited from being used by other provisions of the code. While there are no specific prohibitions currently in the code, several proposals being submitted in conjunction with this proposal would provide specific prohibitions, such as the proposal to allow security glazing in smoke barriers in Group I-3 occupancies. Language was added to that proposal to limit its application to only occupancies associated with Group I-3 and not permit it to apply to other occupancies in the Code.

The proposal is necessary to permit building and portions of buildings in detention and correctional facilities which do not otherwise fall into the Group I-3 classification to be constructed at the least possible cost while providing the necessary safeguards and security to assure the safety of the occupants.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

408.2 (Supp) Other occupancies. Buildings or portions of buildings in Group I-3 occupancies where security operations necessitate the locking of required means of egress shall be permitted to be classified as a different occupancy. Occupancies classified as other than Group I-3 shall meet the applicable requirements of this code for that occupancy provided provisions are made for the release of occupants at all times. ~~Where the provisions of this code for occupancies other than Group I-3 are more restrictive than the provisions for Group I-3 occupancies, the Group I-3 occupancy provisions shall be permitted to be used.~~

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

Exception: It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a Group H use.

Committee Reason: The proposal clarifies application of this section which is intended to allow other types of occupancies within buildings containing Group I-3 occupancies.

Assembly Action: **None**

Final Hearing Results

G84-07/08 **AM**

Code Change No: G85-07/08

Original Proposal

Section: 408.3.7 (New)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new text as follows:

408.3.7 Guard tower doors. A hatch or trap door not less than 16 square feet (610 m^2) in area through the floor and having minimum dimensions of not less than 2 feet (610 mm) in any direction shall be permitted to be used to access guard towers.

Reason: This provision is necessary to allow the use of trap doors in the floor of an observation point with limited size access and occupancy as a means of ingress and egress. In order to provide the 360-degree visibility and maximum mobility necessary for guard observation stations, the size of the base of such elevated stations must be kept to a minimum. Security is increased without risk to either the general public or the inmates, since access to these spaces is restricted to prison staff personnel.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The trap door is a reasonable allowance for Group I-3 occupancies. The dimensions provided are reasonable and provide the necessary access for guards to perform their duties in guard towers.

Assembly Action: **None**

Final Hearing Results

G85-07/08 **AS**

Code Change No: G86-07/08

Original Proposal

Section: 408.5

Proponent: Don Lee, DLR Group, representing himself

Delete and substitute as follows:

~~**408.5 Vertical openings.** Vertical openings shall be enclosed in accordance with Section 707.~~

~~**Exception:** A floor opening between floor levels of residential housing areas is permitted without enclosure protection between the levels, provided that both of the following conditions are met:~~

1. ~~The entire normally occupied areas so interconnected are open and unobstructed so as to enable observation of the areas by supervisory personnel.~~
2. ~~Means of egress capacity is sufficient to provide simultaneous egress for all occupants from all interconnected levels and areas.~~

~~The height difference between the highest and lowest finished floor levels shall not exceed 23 feet (7010 mm). Each story, considered separately, has at least one-half of its individual required means of egress capacity provided by exits leading directly out of that story without traversing another story within the interconnected area.~~

408.5 Protection of vertical openings. Vertical openings shall be protected in accordance with Section 408.5.1 through 408.5.3.

408.5.1 Vertical opening enclosure. Any vertical openings shall be enclosed in accordance with Section 707 except as provided by 408.5.2 or 408.5.3.

408.5.2 Atriums. Atriums complying with 404 shall be permitted.

408.5.3 Floor openings. A floor opening between floor levels of residential housing areas is permitted without enclosure protection between the levels, provided the following conditions are met:

1. The entire normally occupied areas so interconnected are open and unobstructed so as to enable observation of the areas by supervisory personnel.
2. Means of egress capacity is sufficient to provide simultaneous egress for all occupants from all interconnected levels and areas.
3. The height difference between the highest and lowest finished floor levels shall not exceed 23 feet (7010 mm). Each floor level, considered separately, shall have at least one-half of the required means of egress capacity provided by exits leading directly out of that floor level without traversing another floor level within the interconnected area.

Exception: When the height difference between the highest and lowest finished floor levels does not exceed 13 feet (7010 mm) egress may traverse another floor level in the interconnected area.

Reason: This change is intended to clarify the exiting from floor levels within the residential housing units. Without this change the "floor levels" get treated as stories and additional exits are required. Currently a residential housing unit with two floor levels and a very small occupant load can be required to have three exits which in a detention facility is problematic. This change would then allow the two level units to have just two exits with no direct egress from the upper floor level as long as common path and travel distances are met. The figures below illustrate the proposal and should be included in the commentary.

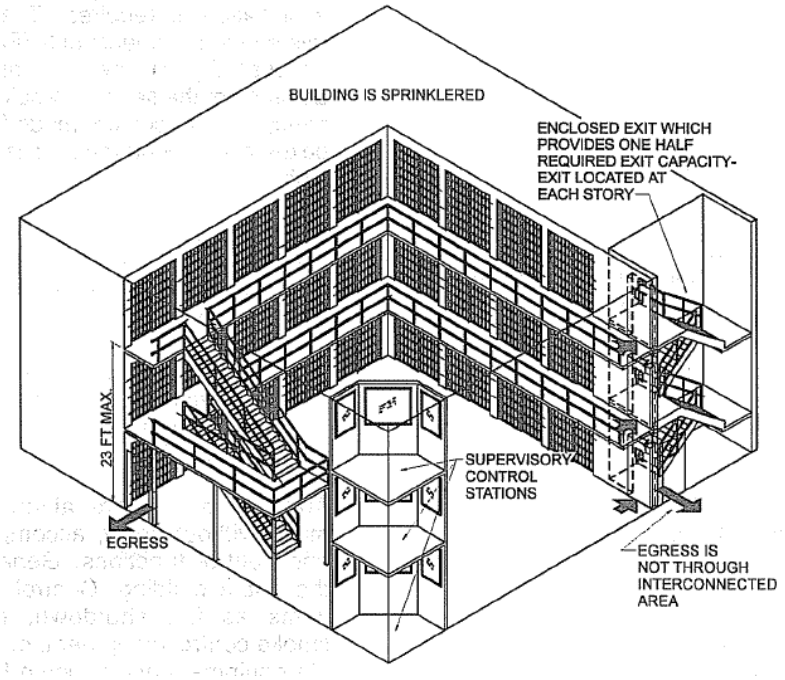


FIGURE 1 – 408.5.3 Item 3
MULTILEVEL RESIDENTIAL HOUSING WITHOUT VERTICAL OPENING ENCLOSURE

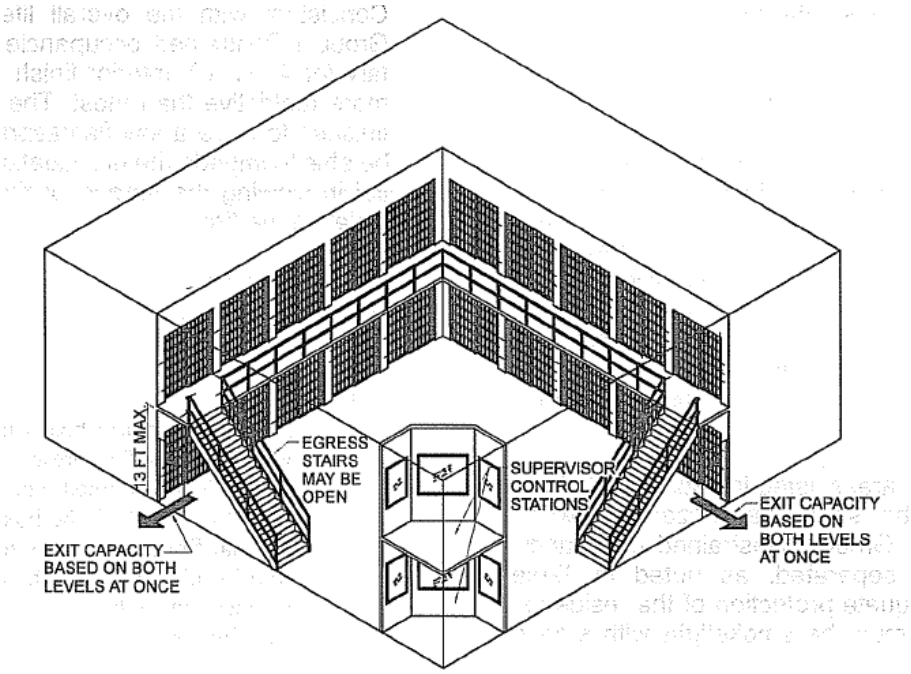


FIGURE 2 – 408.5.3 Item 3
EXCEPTION TO 408.5.3.3

Bibliography:
2006 NFPA 101, Life Safety Code, 22.2.5.1, 22.3.1, National Fire Protection Association
1999 *Standard Building Code*, 409.2.7, International Code Council
1999 *Standard Building Code* Commentary, 409.2.7, International Code Council, Figures for the code change
1997 *Uniform Building Code*, Appendix Chapter 3, Division 1 – Detention & Correctional Facilities, ICBO

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Atriums are already allowed elsewhere in the code and such an allowance does not need to be restated. Generally the proposed **l**anguage is unclear and needs to be revised to clarify intent -specifically, the term traverse is incorrectly used with regard to egress.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Don Lee, DLR Group, representing himself, requests Approval as Modified by this public comment.

Replace proposal as follows:

~~**408.5 Vertical openings.** Vertical openings shall be enclosed in accordance with Section 707.~~

~~**Exception:** A floor opening between floor levels of residential housing areas is permitted without enclosure protection between the levels, provided that both of the following conditions are met:~~

1. ~~The entire normally occupied areas so interconnected are open and unobstructed so as to enable observation of the areas by supervisory personnel.~~
2. ~~Means of egress capacity is sufficient to provide simultaneous egress for all occupants from all interconnected levels and areas.~~

~~The height difference between the highest and lowest finished floor levels shall not exceed 23 feet (7010 mm). Each story, considered separately, has at least one-half of its individual required means of egress capacity provided by exits leading directly out of that story without traversing another story within the interconnected area.~~

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

CELL A room within a housing unit in a detention or correctional facility used for confinement of inmates or prisoners.

CELL TIER Levels of cells vertically stacked above one another within a housing unit.
HOUSING UNIT A dormitory or a group of cells with a common dayroom in Group I-3.

408.5 Protection of Vertical openings. Any vertical openings shall be enclosed in accordance with Section 707 or shall be in accordance with Section 408.5.1.

408.5.1 Floor Openings. Openings in floors within a housing unit are permitted without enclosure protection, provided all the following conditions are met:

1. The entire normally occupied areas so interconnected are open and unobstructed so as to enable observation of the areas by supervisory personnel.
2. Means of egress capacity is sufficient for all occupants from all interconnected cell tiers and areas.
3. The height difference between the floor levels of the highest and lowest cell tiers shall not exceed 23 feet (7010 mm).
4. Egress from any portion of a cell tier to an exit or exit access door shall not require travel on more than one additional floor level within the housing unit.

Commenter's Reason: This change is intended to correct and clarify the code as to the intent of multi-level housing units in I-3 occupancies. These levels are not mezzanines nor are they necessarily separate stories. At the Public Hearing a reason given for denial the committee said egress cannot traverse. At the same time the current code uses the wording. The current code language is confusing in that it starts talking about "floor levels" and then in the last paragraph talks about "stories." The addition of the definitions is aimed at bringing clarity to the section and carrying forth a concept used in legacy codes. The cell tiers are to be treated similar to mezzanines for area calculations but the mezzanine provisions of the code are too restrictive to allow use in this application.

The attached Figures 1 & 2 should be included in the Commentary.

Bibliography;

2006 NFPA 101, Life Safety Code, 22.2.5.1, 22.3.1, National Fire Protection Association
1999 Standard Building Code, 409.2.7, International Code Council
1999 Standard Building Code Commentary, 409.2.7, International Code Council, Figures for the code change
1997 Uniform Building Code, Appendix Chapter 3, Division 1 – Detention & Correctional Facilities, ICBO

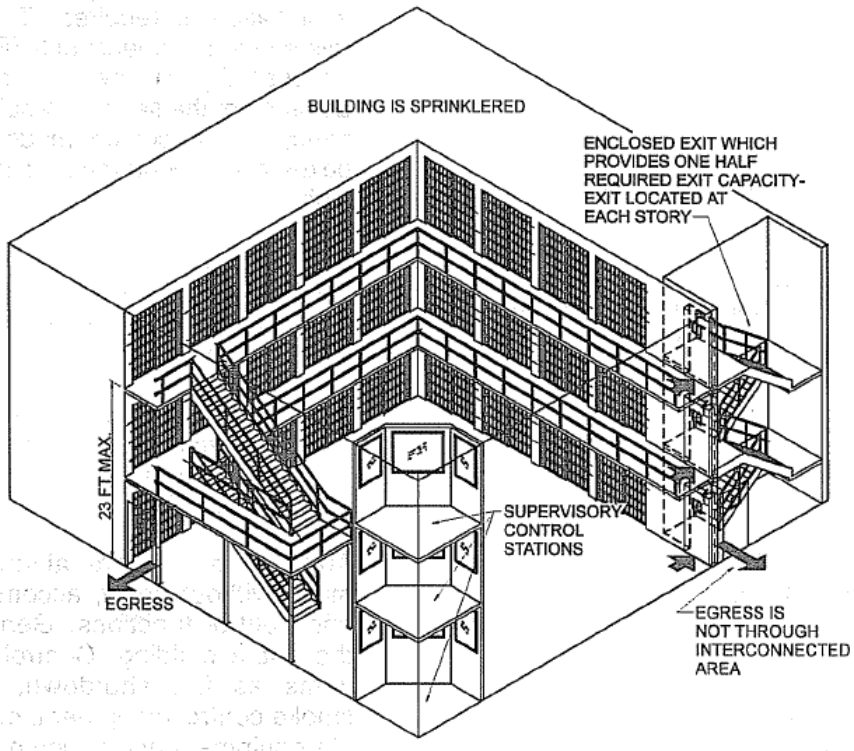


FIGURE 408.5.3(1)
MULTILEVEL RESIDENTIAL HOUSING WITHOUT VERTICAL OPENING ENCLOSURE

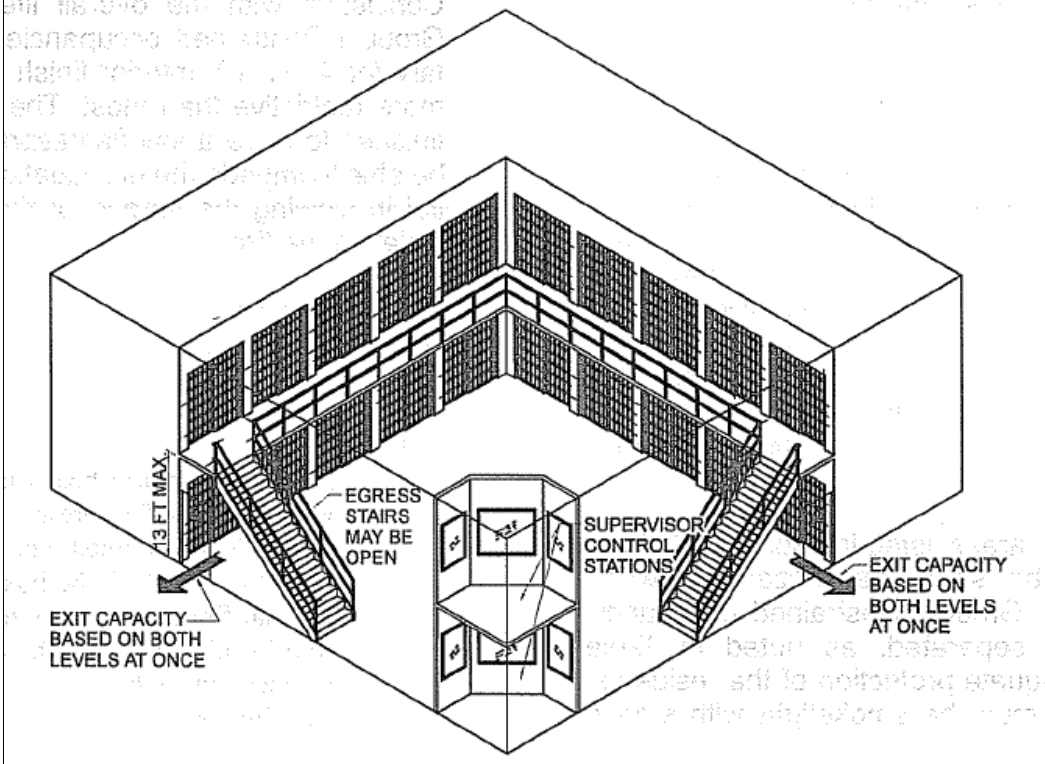


FIGURE 408.5.3(2)
EXCEPTION TO 408.5.3.3

Final Hearing Results

G86-07/08 **AMPC**

Code Change No: G87-07/08

Original Proposal

Section: 408.5.21 (New)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new text as follows:

408.5.1 Noncombustible shaft openings in communicating floor levels. Where vertical openings are permitted without enclosure protection in accordance with Section 408.5, noncombustible shafts serving floor levels within the story such as plumbing chases for individual cells at different levels within the story shall also be permitted without enclosure protection. Where additional stories are located above or below, the shaft shall be permitted to continue with fire and smoke damper protection provided at the fire resistance rated floor/ceiling assembly between the non-communicating stories.

Reason: Section 408.5 permits floor openings between floor levels of residential housing areas without enclosure protection between the levels provided the areas are open and egress capacity is sufficient. In such areas, it makes no sense to require a plumbing or mechanical chase to have to meet the shaft requirements as the floor areas are already open to each other. This proposal simply adds a subsection which recognizes that there is no need for such shafts to be protected at those levels. Should the chase continue to other floors which are not open to each other, this new subsection would require protection at the rated floor/ceiling assembly separating the non-communicating floors.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: There are numerous flaws with the terminology. For example, the term floor level is used very differently throughout the IBC than as applied in this proposal. In addition, the proponent discussed maximum opening size and story limitations which are not specifically addressed in this proposal.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

A. Brooks Ballard, Virginia Department of Corrections, requests Approval as Modified by this public comment.

Modify proposal as follows:

408.5.1 ~~Noncombustible~~ Shaft openings in communicating floor levels. Where ~~vertical~~ a floor opening~~s~~ ~~are~~ is permitted between communicating floor levels of residential housing, ~~without enclosure protection~~ in accordance with the exception to Section 408.5~~, noncombustible shafts serving floor levels within the story such as~~ plumbing chases ~~for~~ serving vertically stacked individual cells ~~at different levels~~ contained within the ~~story~~ area shall ~~also~~ be permitted without enclosure ~~protection. Where additional stories are located above or below, the shaft shall be permitted to continue with fire and smoke damper protection provided at the fire resistance rated floor/ceiling assembly between the non-communicating stories~~.

Commenter~~'~~s Reason: To remove flaws in terminology and to clarify the intent of the original submitted change.

Final Hearing Results

G87-07/08 **AMPC**

Code Change No: G88-07/08

Original Proposal

Section: 408.6.4 (New)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new text as follows:

408.6.4 Fire barriers. Windows and doors in fire barriers with a fire resistance rating of 1 hour constructed in accordance with Section 706 shall be permitted to have security glazing installed provide that the following conditions are met.

1. The total area of glazing at each floor level shall not exceed 5,000 square inches (3 m^2) and individual panels of glazing shall not exceed 1,296 square inches (0.84 m^2).
2. The glazing shall be protected on both sides by an automatic fire sprinkler system. The sprinkler system shall be designed to wet completely the entire surface of any glazing affected by fire when actuated.
3. The glazing shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler system operates.
4. Obstructions, such as curtain rods, drapery traverse rods, curtains, drapes or similar materials shall not be installed between the automatic sprinklers and the glazing.

Reason: This change extends the methodology already permitted for glazing in exit enclosures to security glazing in fire barriers in Group I-3 occupancies. The glazing would not have to meet the requirements of Section 715, Opening protectives, but would have equivalent protection through the limitations of condition numbers 1-4 which require protection through the use of an automatic sprinkler (deluge) system and which limit the size of the glazing and provide other conditions. The change is necessary to track and contain inmate movement for the protection of other inmates and administrative personnel. This change would be applicable to other occupancies in detention and correctional occupancies accordance with Section 408.2.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The provisions were felt to be located within the smoke barrier requirements which was confusing. The testing demonstrating the performance of such provisions was not provided.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

A. Brooks Ballard, Virginia Department of Corrections, requests Approval as Modified by this public comment.

Modify proposal as follows:

408.6 Smoke barrier. Occupancies in Group I-3 shall have smoke barriers complying with Section 408.7 and Section 709 to divide every story occupied by residents for sleeping, or any other story having an occupant load of 50 or more persons, into at least two smoke compartments.

Exception: Spaces having a direct exit to one of the following, provided that the locking arrangement of the doors involved complies with the requirements for doors at the smoke barrier for the use condition involved:

1. A public way.
2. A building separated from the resident housing area by a 2-hour fire-resistance-rated assembly or 50 feet (15 240 mm) of open space.
3. A secured yard or court having a holding space 50 feet (15 240 mm) from the housing area that provides 6 square feet (0.56 m^2) or more of refuge area per occupant, including residents, staff and visitors.

~~**408.6.4 Fire barriers**~~ **408.7 Security glazing.** In occupancies in Group I-3, windows and doors in 1 hour fire barriers ~~with a fire resistance rating of 1 hour~~ constructed in accordance with Section 706, fire partitions constructed in accordance with Section 708 and smoke barriers constructed in accordance with Section 709 shall be permitted to have security glazing installed provided that the following conditions are met.

1. ~~The total area of glazing at each floor level shall not exceed 5,000 square inches (3 m^2) and~~ Individual panels of glazing shall not exceed 1,296 square inches (0.84 m^2).
2. The glazing shall be protected on both sides by an automatic fire sprinkler system. The sprinkler system shall be designed to, when actuated, wet completely the entire surface of any glazing affected by fire ~~when actuated~~.
3. The glazing shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler system operates.
4. Obstructions, such as curtain rods, drapery traverse rods, curtains, drapes or similar materials shall not be installed between the automatic sprinklers and the glazing.

(Renumber subsequent sections)

Commenter's Reason: The intent of the changes remains to permit openings in walls in of I-3 occupancies, similar to those allowed in the stairway enclosures. The modification will address the three most common types of walls, fire barriers, fire partitions and smoke barriers, which can occur within this type of facility. It is not the intent to permit this in fire walls or any wall requiring a 2-hour or higher rating. Although this could be located in Chapter 7, it is for use within Use I-3 only and may be less confusing and more applicable in the special requirements section for I-3. As an additional note, in the original reason the term 'deluge' was included by mistake and should be deleted for purposes of explanation in the commentary.

-Technical requirements were taken from 1991 test results performed on polycarbonate (Lexan) security glazing by Southwest Research Institute, National Research Council of Canada at Inchcape Testing Services (Warnock Hersey). These tests show one and two hour performance per ASTM E-119 fuel load. Similar results are shown in ICC ES Legacy Report NER-516 in the testing of regular glass with sprinkler protection.

- There is currently no security glazing available (except those that are wire glass laminates) which have fire ratings. A product that is promoted as vandal resistant is not security glazing. To call a product 'security glazing' it needs to meet requirements from ASTM F1915 or from HP White or WMFL forced entry tests.

Bibliography:

ICC ES Legacy Report NER-516, ICC Evaluation Service, Inc.
"Fire Test of a LEXAN Polycarbonate Glazing Assembly Protected by a Sprinkler",
Report No. CR- 6485.1, dated 14 June 1991, National Fire Laboratory, National Research Council of Canada

Final Hearing Results

G88-07/08 AMPC

Code Change No: G89-07/08

Original Proposal

Section: 408.8

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

408.8 Windowless buildings. For the purposes of this section, a windowless building or portion of a building is one with nonopenable windows, windows not readily breakable or without windows. Windowless buildings shall be provided with an engineered smoke control system to provide ~~ventilation (mechanical or natural)~~ a tenable environment for exiting from the smoke compartment in the area of fire origin in accordance with Section 909 for each windowless smoke compartment.

Reason: Because of the security requirements in jails and prisons, safety for both inmates and the public requires a “defend in place” philosophy. This change is necessary for the safety of the public, of the facility employees and the inmates themselves. In an incident, doors and locks must be opened by administrative action for the inmates to be moved. Employees may have to go into the area of origin to rescue inmates, to break up fights or to release door locks. Of the three engineered smoke control systems indicated in Section 909, only Section 909.8, Exhaust Method, requires a tenable environment in the area of origin. A tenable environment is necessary for the safety and liability issues inmate to I-3 occupancies.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the intent of the windowless building provisions for smoke control. A pressurization system would not provide a tenable environment in the area of fire origin. This clarification will specifically require that a tenable environment be provided.

Assembly Action: **None**

Final Hearing Results

G89-07/08 **AS**

Code Change No: G92-07/08

Original Proposal

Sections: 411.7, 411.7.1 (New)

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE

Revise as follows:

411.7 (Supp) Exit marking. Exit signs shall be installed at the required exit or exit access doorways of amusement buildings in accordance with this section and in accordance with Section 1011. Approved directional exit markings shall also be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1011.4, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic fire detection system and the automatic sprinkler system in accordance with Section 907.2.11.2.

411.7.1 Externally illuminated exit signs. Where demonstrated to be reliable and sufficient and where approved, externally illuminated exit signs shall be permitted to be installed.

Reason: The proposed change includes the requirement that it meet the exit sign requirements of section 1011. By including this reference the exit sign will clearly provide the use of the different types, duration and listing for the exits signs. As new technology for the illumination of the exit signs changes, so should be code sections that regulate them. The language in the IBC section 1011.4 includes the new self-luminous and photoluminescent exit sign types. The new Section 411.7.1 provides direction for this new type of exit sign. In some situations, not all types of signs can be used and adding this new section highlights the need to assess the normal lighting levels in the area it is to be installed. This is so that in areas with normal low lighting, a sign that depends on normal light levels might not be appropriate for some type of signs, such as the photoluminescent type signs.

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

Public Hearing Results

This code change was heard by the IBC MOE Code Development Committee.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

411.7 (Supp) Exit marking. Exit signs shall be installed at the required exit or exit access doorways of amusement buildings in accordance with this section and in accordance with Section 1011. Approved directional exit markings shall also be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1011.4, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic fire detection system and the automatic sprinkler system in accordance with Section 907.2.11.2.

~~**411.7.1 Externally illuminated exit signs.** Where demonstrated to be reliable and sufficient and where approved, externally illuminated exit signs shall be permitted to be installed.~~

Committee Reason: Section 411.7.1 was deleted because the term 'demonstrated to be reliable and sufficient' is vague and unenforceable. In addition, the proposal does not indicate who would be responsible to demonstrate this to the code official. The proposed language in Section 411.7, by its reference to Section 1011, would address exterior exit signage adequately.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Bob Eugene, Underwriters Laboratories Inc., requests Approval as Modified by this public comment.

Further modify proposal as follows:

411.7 (Supp) Exit marking. Exit signs shall be installed at the required exit or exit access doorways of amusement buildings in accordance with this section and in accordance with Section 1011. Approved directional exit markings shall also be provided. Where mirrors, mazes or other designs are utilized that disguise the path of egress travel such that they are not apparent, approved and listed low-level exit signs that comply with Section 1011.4, and directional path markings listed in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the automatic fire detection system and the automatic sprinkler system in accordance with Section 907.2.11.2.

411.7.1 Photoluminescent exit signs. Where photoluminescent exit signs are installed, activating light source and viewing distance shall be in accordance with the listing and markings of the signs.

Commenter's Reason: The new Section 411.7.1 provides direction for photoluminescent of exit sign. Photoluminescent exit signs are excited by specific sources of light as indicated in the listing and labeling. In some situations, not all types of signs can be used and adding this new section highlights the need to assess the normal lighting levels in the area where such signs are to be installed.

Final Hearing Results

G92-07/08 **AMPC**

Code Change No: G93-07/08

Original Proposal

Section: 412.2.4

Proponent: Randall R. Dahmen, WI Registered PE, representing the WI Licensed Commercial Building Inspector

Revise as follows:

412.2.4 Heating equipment. Heating equipment shall be placed in another room separated by 2-hour fire-resistance-rated fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~construction~~. Entrance shall be from the outside or by means of a vestibule providing a two-doorway separation.

Exceptions:

1. Unit heaters and vented infrared radiant heating equipment suspended at least 10 feet (3048 mm) above the upper surface of wings or engine enclosures of the highest aircraft that are permitted to be housed in the hangar and at least 8 feet (2438 mm) above the floor in shops, offices and other sections of the hangar communicating with storage or service areas.
2. A single interior door shall be allowed, provided the sources of ignition in the appliances are at least 18 inches (457 mm) above the floor.

Reason: As stated in the 2006 commentary "As part of the special use and occupancy requirements for commercial aircraft hangars, all possible ignition sources must be controlled and isolated. Specifically, all heating equipment must be located in rooms that are separated from the main areas where the aircraft are parked. This separation must be a 2-hour fire-resistance-rated construction. Although not explicitly stated in the current wording, all openings through the fire rated walls must be protected…"

Because the type of fire rated assembly is not currently defined, the means by which to protect a penetration to the assembly is in question. By defining the fire rated assemblies as either a fire barrier or a horizontal fire assembly, this directs the code user to IBC sections 711, 712, 716.5.2 & 715.6 for the proper means on how to address penetrations.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

412.2.4 Heating equipment. Heating equipment shall be placed in another room separated by 2-hour ~~fire-resistance-rated~~ fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Entrance shall be from the outside or by means of a vestibule providing a two-doorway separation.

Exceptions:

1. Unit heaters and vented infrared radiant heating equipment suspended at least 10 feet (3048 mm) above the upper surface of wings or engine enclosures of the highest aircraft that are permitted to be housed in the hangar and at least 8 feet (2438 mm) above the floor in shops, offices and other sections of the hangar communicating with storage or service areas.
2. A single interior door shall be allowed, provided the sources of ignition in the appliances are at least 18 inches (457 mm) above the floor.

Committee Reason: The proposal is consistent with code terminology and revisions in the 2007 Supplement. The modification removes and unnecessary term as fire barriers and horizontal assemblies are already fire-resistive.

Assembly Action: **None**

Final Hearing Results

G93-07/08 **AM**

Code Change No: G94-07/08

Original Proposal

Section: 412.5.4

Proponent: Robert Bagnetto, Lapeyre Stair, Inc.

Revise as follows:

412.5.4 Means of egress. The means of egress from heliports and helistops shall comply with the provisions of Chapter 10. Landing areas located on buildings or structures shall have two or more means of egress. For landing areas less than 60 ft (18,288mm) in length or less than 2,000 square feet (186 m^2) in area, the second means of egress may be a fire escape, alternating tread device or ladder leading to the floor below.

Reason: The purpose of this proposed change is to allow the use of alternating tread devices as a second means of egress from Heliports and Helistops with landing areas less than 60 ft in length or less than 2,000 square feet in area.

The proposed change is superior to the current provisions of the code in that it provides the option of using an additional type of access component to heliports and helistops that is suitable for such application and that is not currently allowed by the code. IBC-2006 section 412.5.4 is overly restrictive in that it does not allow the use of alternating tread devices as a second means of egress from heliports or helistops, but does allow ladders for such use. Alternating tread devices have been shown by the scientific study "Performance, perceived safety and comfort of the alternating tread stair" to be an acceptable vertical access component. Alternating tread devices, by virtue of their features (i.e. 50 to 70° angle, larger tread size and side rails), are typically safer to use than vertical ladders and would be suitable for the application specified in section 412.5.4. IBC-2006 allows the use of alternating tread devices in sections, including but not limited to, 1009.11, 1015.3, 1015.4, 1015.6.1. Additionally, proposal E134-06/07, which was approved at the Code Development Hearings in September 2006, added the use of alternating tread devices to Helistops to section 1019.1.2.

Bibliography

IBC code change proposal E134-06/07
Performance, perceived safety and comfort of the alternating tread stair, Virginia Polytechnic and State University, Jorna, Mohageg and Snyder, March 1989

Cost Impact: The code change proposal could result in a minor increase in construction costs if alternating tread devices are used in lieu of ladders as the second means of egress to Heliports or Helistops.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: It is reasonable to add alternating tread devices as ladders are already permitted.

Assembly Action: **None**

Final Hearing Results

G94-07/08 **AS**

Code Change No: G98-07/08

Original Proposal

Sections: [F] 415.6, [F] 415.7.1 (New)

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IFC CODE DEVELOPMENT COMMITTEE.

1. Revise as follows:

[F] 415.6.2 Flammable and combustible liquids. The storage, handling, processing and transporting of flammable and combustible liquids in Group H-2 and H-3 occupancies shall be in accordance with 415.6.2.1 through 415.6.2.10, the *International Mechanical Code* and the *International Fire Code*.

2. Add new text as follows:

[F] 415.7.1 Flammable and combustible liquids. The storage, handling, processing and transporting of flammable and combustible liquids in Group H-3 occupancies shall be in accordance with 415.6.2.

(Renumber subsequent sections)

Reason: Flammable and combustible liquids can cause an occupancy to be classified as H-2 or H-3, and the fact that these materials are currently addressed under 415.6.2 for H-2 is confusing. The proposed revisions fix this by adding appropriate references for H-3.

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

Public Hearing Results

This proposal was heard by the IFC Code Development Committee.

Committee Action: **Approved as Submitted**

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. The proposal clarifies that flammable and combustible liquids can result in either a Group H-2 or a Group H-3 occupancy classification whereas the current text implies only Group H-2.

Assembly Action: **None**

Final Hearing Results

G98-07/08 **AS**

Code Change No: G100-07/08

Original Proposal

Section: [F] 415.6.3, Chapter 35 (New)

Proponent: Larry Fluer, Larry Fluer, Inc., representing the Compressed Gas Association

THIS PROPOSAL IS ON THE AGENDA OF THE IFC DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IFC CODE DEVELOPMENT COMMITTEE.

Revise as follows:

[F] 415.6.3 Liquefied petroleum gas ~~distribution~~ facilities. The construction and installation of liquefied petroleum gas facilities shall be in accordance with the requirements of this code, the *International Fire Code,* the *International Mechanical Code*, the *International Fuel Gas Code* and NFPA 58.

~~The design and construction of propane, butane, propylene, butylene and other liquefied petroleum gas-distribution facilities shall conform to the applicable provisions of Sections 415.6.3.1 through 415.6.3.5.2. The storage and handling of liquefied petroleum gas systems shall conform to the *International Fire Code*. The design and installation of piping, equipment and systems that utilize liquefied petroleum gas shall be in accordance with the *International Fuel Gas Code*. Liquefied petroleum gas distribution facilities shall be ventilated in accordance with the *International Mechanical Code* and Section 415.6.3.1.~~

~~**[F] 415.6.3.1 Air movement.** Liquefied petroleum gas distribution facilities shall be provided with air inlets and outlets arranged so that air movement across the floor of the facility will be uniform. The total area of both inlet and outlet openings shall be at least 1 square inch (645 mm2) for each 1 square foot (0.093 m2) of floor area. The bottom of such openings shall not be more than 6 inches (152 mm) above the floor.~~

~~**[F] 415.6.3.2 (Supp) Construction.** Liquefied petroleum gas distribution facilities shall be constructed in accordance with Section 415.6.3.3 for separate buildings, Section 415.6.3.4 for attached structures or Section 415.6.3.5 for rooms within buildings.~~

~~**[F] 415.6.3.3 Separate buildings.** Where located in separate buildings, liquefied petroleum gas-distribution facilities shall be occupied exclusively for that purpose or for other purposes having similar hazards. Such buildings shall be limited to one story in height and shall conform to Sections 415.6.3.3.1 through 415.6.3.3.3.~~

~~**[F] 415.6.3.3.1 Floors.** The floor shall not be located below ground level and any spaces beneath the floor shall be solidly filled or shall be unenclosed.~~

~~**[F] 415.6.3.3.2 Materials.** Walls, floors, ceilings, columns and roofs shall be constructed of noncombustible materials.~~

~~**[F] 415.6.3.3.3 Explosion venting.** Explosion venting shall be provided in accordance with the *International Fire Code*.~~

~~**[F] 415.6.3.4 (Supp) Attached structures.** Where liquefied petroleum gas-distribution facilities are located in an attached structure, the attached perimeter shall not exceed 50 percent of the perimeter of the space enclosed and the facility shall comply with Sections 415.6.3.3 and 415.6.3.4.1. Where the attached perimeter exceeds 50 percent, such facilities shall comply with Section 415.6.3.5.~~

~~**[F] 415.6.3.4.1 (Supp) Fire separation**. Attached structures shall be separated from the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 1 hour and the fire barriers shall not have openings. Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.~~

~~**Exception:** Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section 706.7.~~

~~**[F] 415.6.3.5 Rooms within buildings.** Where liquefied petroleum gas-distribution facilities are located in rooms within buildings, such rooms shall be located in the first story above grade plane and shall have at least one exterior wall with sufficient exposed area to provide explosion venting as required in the *International Fire Code*. The building in which the room is located shall not have a basement or unventilated crawl space and the room shall comply with Sections 415.6.3.5.1 and 415.6.3.5.2.~~

~~**[F] 415.6.3.5.1 Materials.** Walls, floors, ceilings and roofs of such rooms shall be constructed of approved noncombustible materials.~~

~~**[F] 415.6.3.5.2 (Supp) Fire separation**. The rooms shall be separated from the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 1 hour and the fire barriers shall not have openings. Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (4788 Pa), except where the building, within which the room is located, is occupied by operations or processes having a similar hazard.~~

> ~~**Exception:** Fire barriers between common walls occupied only for the storage of LP-gas are permitted to have opening protectives complying with Section 715.~~

2. Add standard to Chapter 35 as follows:

NFPA

58-04 Liquefied Petroleum Gas Code

Reason: The provisions of 415.6.3 are a carry over from one of the Legacy codes. The requirements are applicable to "Liquefied petroleum gas (LP-Gas)-distribution facilities" which as a term is undefined in the IBC and not used in the IFC. NFPA 58 provides a comprehensive set of construction requirements for LP Gas-distribution facilities as well as bulk plants, and industrial plant in which LP gas systems, storage systems, vaporizers, mixing systems and similar activities are involved. The terminology used in the existing IBC provisions include terms that are undefined within the ICC system including "separate building and attached building." The ICC approach uses "detached buildings" and buildings of mixed use or occupancy.

IFGC Section 406.2.1 refers the user to Chapter 10 of NFPA 58 (Buildings or Structures Housing LP Gas-Distribution Facilities) for construction requirements in areas used exclusively to house industrial processes, research and experimental laboratories, or equipment or processing having similar hazards under certain use specific conditions. The reference in the IFGC is intended to get the user to a set of comprehensive provisions which are only found in NFPA 58. IMC Section 502.9.10 requires LP Gas-distribution facilities to be ventilated in accordance with NFPA 58, and no reference is made to IBC Section 415.6.3.

There are no requirements in the IBC that address the construction of *bulk plants* or *industrial plants* and those provisions are only found in NFPA 58. The term *industrial plant* is unique to the NFPA regulatory approach, and it does not correlate with the terminology used within the ICC system. Requirements for cylinder storage areas are not found within the context of "gas-distribution facilities" as they are regulated by other aspects of the LP-Gas Code. The lack of definition has proven to be problematical for some users that handle small quantities of LP-Gas where the primary business is related to the storage and filling of other industrial gases that are located in an IBC compliant H-2 facility, and applicability and adequacy of Section 415.6.3 is called into question.

Chapter 38 of the IFC in Section 3801.1 requires compliance with NFPA 58. Chapter 27 of the IFC in Section requires that building construction comply with the IBC. Deferring construction elements to NFPA 58 will allow the user to determine the requirements for all facilities where LP Gas is stored or used, not just LP Gas-distribution facilities. The application of NFPA 58 is complex, and having an extract of a limited portion of this comprehensive standard (LP Gas Code) in the IBC does not serve to solve problems in application. Should potential conflict arise between application of NFPA 58 and the IBC provisions of the IBC will govern as stated in Section 102.4. This same approach has been used in Section 415.6.4 relative to the construction of dry cleaning plants which must meet the requirements of the IBC as well as those of NFPA 32.

When used in conjunction with the existing requirements of the IFC, IFGC and IMC referring the user to NFPA 58 for construction will improve the overall regulatory approach to control while coordinating with a recognized national standard which is currently referenced by the IFC, IFGC and IMC.

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

Public Hearing Results

This code change was heard by the IFC Code Development Committee.

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard NFPA 58-04 indicated that, in the opinion of ICC Staff, the standard **did** comply with ICC standards criteria. The standard is already referenced in the IFC and IFGC.

Committee Action: **Approved as Submitted**

Committee Reason: The proponent's reason statement accurately and adequately substantiates the need for the change to delete confusing text that is not correlated with the IFC and IFGC and is redundant with the referenced standard.

Assembly Action: **None**

Final Hearing Results

G100-07/08 **AS**

Code Change No: G103-07/08

Original Proposal

Section: 419.2

Proponent: Tim Pate, City & County of Broomfield Building Department, CO, representing the Colorado Chapter of ICC

Revise as follows:

419.2 (Supp) Occupancies. Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Section 508.3 shall not apply when the live/work unit is in compliance with Section 419. High-hazard and storage occupancies shall not be permitted in a live/work unit. The aggregate of storage in the non-residential portion of ~~in~~ the live/work unit shall be limited to 10 percent of the space dedicated to nonresidential activities.

Reason: This new wording is required to clarify that the 10% limit of storage square footage should only be based on the square footage of the non-residential area and not the entire area of the live/work area. The present wording would mean you would have to include all of the closet areas in the residential portion. This would include kitchen pantry and all closets in halls and bedrooms. This was brought up as a problem when this code change was brought through in Orlando. The proponent Dave Collins admitted that it was a problem and not his intent but he failed to fix it when it went through the Final Action Hearings in Rochester. This new wording will fix this problem.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the storage limitation allowed in a live/work unit is for the non-residential portion of the unit.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle Department of Planning and Development, requests Approval as Modified by this public comment.

Modify proposal as follows:

419.2 (Supp) Occupancies. Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Section 508.3 shall not apply when the live/work unit is in compliance with Section 419. High-hazard and storage occupancies shall not be permitted in a live/work unit. The aggregate area of storage in the non-residential portion of the live/work unit shall be limited to 10 percent of the space dedicated to nonresidential activities.

Commenter's Reason: This comment adds a word that appears to have been inadvertently omitted from the sentence.

Final Hearing Results

G103-07/08 **AMPC**

Code Change No: G104-07/08

Original Proposal

Sections: 419.2, 419.3, 508.2.4, 508.3.3

Proponent: Steven R. Winkel, FAIA, PE, The Preview Group, Inc., representing the American Institute of Architects; Stephan Kiefer, CBO, City of Livermore Building Division, CA

1. Revise as follows (2007 Supplement Live work units):

419.2 (Supp) Occupancies. Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Sections 420 and 508 ~~508.3~~ shall not apply within the live/work unit when the live/work unit is in compliance with Section 419. High-hazard and storage occupancies shall not be permitted in a live/work unit. The aggregate of storage in the live/work unit shall be limited to 10 percent of the space dedicated to nonresidential activities.

2. Revise as follows (2006 Code Section 419, Group I-1, R-1, R-2 and R-3):

419.2 (Supp) Separation walls. Walls separating dwelling units in the same building ~~and~~ walls separating sleeping units in the same building and walls separating dwelling or sleeping units from other occupancies contiguous to them in the same building shall be constructed as fire partitions in accordance with Section 708.

419.3 (Supp) Horizontal separation. Floor assemblies separating dwelling units in the same buildings and floor assemblies separating sleeping units in the same building and floor assemblies separating dwelling or sleeping units from other occupancies contiguous to them in the same building shall be constructed as horizontal assemblies in accordance with Section 711.

3. Revise as follows:

508.2.4 (Supp) Separation of occupancies. No separation is required between accessory occupancies and the main occupancy.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2. Incidental accessory occupancies required to be separated or protected by Section 508.2.5.
3. ~~Group R occupancies shall be separated from other accessory occupancies in accordance with Section 508.4.4.~~ Group I-1, R-1, R-2 and R-3 dwelling units and sleeping units shall be separated from other dwelling or sleeping units and from accessory occupancies contiguous to them per the requirements of Section 419.

508.3.3 (Supp) Separation. No separation is required between nonseparated occupancies.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.3.3.
2. ~~All Group R occupancies shall be separated from other occupancies in accordance with Section 508.4.4~~. Group I-1,. R-1, R-2 and R-3 dwelling units and sleeping units shall be separated from other dwelling or sleeping units and from other occupancies contiguous to them in accordance with the requirements of Section 419.

Reason: This proposal is an amendment to the changes made by G140-06/07 during the last code change cycle. The changes made by G140-06/07 had an overbroad scope that we believe went beyond the intent of what that code change proposal was attempting to accomplish. This amendment adjusts the scope of that prior code change to clarify the application of separation requirements while retaining what we believe was its intended scope of application. G140-06/07 as adopted requires broad application of separated occupancy provisions for all R occupancies for what otherwise should be considered as accessory or nonseparated occupancies. It is our belief that the problem G140-06/07 was attempting to address was to define where separations are required between dwelling units or sleeping units and the other portions of what are otherwise considered accessory or nonseparated occupancies. This condition occurs at the walls or floors where a group of dwelling or sleeping units ends in relationship to the rest of the mixed use building. The purpose of this proposal is the same as what we believe were the goals of G140-06/07,

which is to clarify that separations between dwelling or sleeping units are still required, including at the perimeter wall or floor of a group of dwelling units or sleeping units. The original proposal was meant to apply for accessory or nonseparated uses as does the new proposal. The proposal defines when the accessory or nonseparated parts of a mixed use facility are to provide separations for dwelling units or sleeping units. The previous change applies broadly throughout R occupancies and effectively negates the use of accessory and nonseparated code provisions in those occupancies. We believe this proposal more accurately defines where the rated partitions and horizontal assemblies that are to separate portions of a building from each other begin and end. We consider that this proposal defines what is required at the wall or floor that surrounds a group of dwelling units or sleeping units where the surrounding wall or floor abuts another occupancy in a mixed use building. For example the wall at a sleeping unit in an R-1 occupancy (dwelling unit at an R-2 occupancy) which is contiguous to an adjacent retail space or restaurant would need to be rated based on the presence of sleeping or dwelling units, and the fact that the walls between the units and the other occupancy are contiguous. However, under the new proposal other parts of what otherwise could be considered as non-sleeping spaces in the R occupancy, such as the lobby, a restaurant or a gift shop could be treated as accessory or nonseparated uses in the way they relate to each other in the public parts of the facility. That would not be the case if the language from G140-6/07 remains in the code. The currently adopted language applies throughout the R occupancy, not just at the dwelling units or sleeping units. While the impact of the original proposal would be the greatest in R-1 occupancies where such mixed uses occur most often, we believe the requirements for separations between dwelling units or sleeping units should apply in all occupancies covered by Section 420 and the scope of application should be clarified for all of the occupancies covered by Section 420.

We have also included clarifications related to the new provisions for live/work units contained in Section 419 to make it clear that the supplementary separation requirements contained in Sections 420 and 508 are to be applied between separate live work units, not within the live/work unit. This clarifies that if the live/work units meets the criteria of Section 419 then the dwelling and livelihood related uses inside the unit are allowed to be nonseparated.

The modifications to Section 420 are to clarify the requirements for fire barriers and horizontal assemblies by adding the requirement for separation from contiguous occupancies in addition to the separations between dwelling units or sleeping units already contained in this code section.

Cost Impact: The code change proposal will not increase the cost of construction from the provisions contained in the 2007 Accumulative Supplement.

Analysis: Section 419 as referenced in items 2,3 and 4 of this proposal refers to the 2006 section titled Group I-1, R-1, R-2 and R-3. Section 420 as referenced in Item 1 of this proposal is intended to reference the same section but has been renumbered to work with the introduction of the new Section 419 (Supp) dealing with Live/Work units.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the separation requirements in the current Section 419 of the code and how it applies to live/work units and mixed use occupancy requirements.

Assembly Action: **None**

Final Hearing Results

G104-07/08 **AS**

Code Change No: G106-07/08

Original Proposal

Sections: 419.4 (New); IRC R304.5 (New); IPC Table 403.1 (IBC [P] Table 2902.1)

Proponent: Dave Collins, AIA, The Preview Group, Inc., representing the AIA Codes Committee

THESE PROPOSALS ARE ON THE AGENDA FOR THE IBC GENERAL, IRC BUILDING ENERGY CODE, AND IPC DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Add new text as follows:

419.4 Arrangement of dwelling units and sleeping units. Dwelling units and sleeping units shall comply with the Sections 419.4.1 through 419.4.8

419.4.1 Dwelling units. Every dwelling unit shall contain its own bathtub or shower, lavatory, water closet and kitchen sink. The lavatory shall be placed in the same room as the water closet or located in close proximity to the door leading directly into the room in which such water closet is located. A kitchen sink shall not be used as a substitute for the required lavatory.

419.4.2 Access from sleeping areas. Sleeping areas within a dwelling unit or sleeping unit shall not constitute the only means of access to other sleeping areas or habitable spaces and shall not serve as the only means of egress from other habitable spaces.

Exception: Dwelling units and sleeping units that contain fewer than two bedrooms.

419.4.3 Water closet access. Every sleeping area of a dwelling unit or sleeping unit shall have access to at least one water closet and one lavatory without passing through another sleeping area. Every sleeping area in a dwelling unit or sleeping unit shall have access to at least one water closet and lavatory located on the same story as the sleeping area or on an adjacent story.

419.4.4 Congregate living facilities. In congregate living facilities, provide fixtures in accordance with Table 2902.1.

419.4.5 Group R-1 occupancies. In Group R-1 occupancies, where private water closets, lavatories and baths are not provided within a sleeping unit, one water closet, one lavatory and one bathtub or shower having access from a public hallway shall be provided for each ten occupants.

419.4.6 Privacy. Toilet rooms and bathrooms shall provide privacy and shall not constitute the only passageway to a hall, a habitable space, or to the exterior. A door and interior locking device shall be provided for all common or shared bathrooms and toilet rooms in a congregate living facility or a Group R-1 occupancy.

419.4.7 Bathroom access. Common use bathrooms serving sleeping units shall have access without passing through another sleeping area. Common use bathrooms shall be located on the same story as the sleeping unit or on an adjacent story.

419.4.8 Food preparation. All spaces to be occupied for food preparation purposes shall contain suitable space and equipment to store, prepare and serve foods in a sanitary manner. There shall be adequate facilities and services for the sanitary disposal of food wastes and refuse, including facilities for temporary storage.

PART II – IRC BUILDING/ENERGY

Add new text as follows:

R304.5 Arrangement of dwelling units and sleeping units. Dwelling units and sleeping units shall comply with the Sections R304.5.1 through R304.5.5

R304.5.1 Dwelling units. Every dwelling unit shall contain its own bathtub or shower, lavatory, water closet and kitchen sink. The lavatory shall be placed in the same room as the water closet or located in close proximity to the door leading directly into the room in which such water closet is located. A kitchen sink shall not be used as a substitute for the required lavatory.

R304.5.2 Access from sleeping areas. Sleeping areas within a dwelling unit or sleeping unit shall not constitute the only means of access to other sleeping areas or habitable spaces and shall not serve as the only means of egress from other habitable spaces.

Exception: Dwelling units and sleeping units that contain fewer than two bedrooms.

R304.5.3 Water closet access. Every sleeping area of a dwelling unit or sleeping unit shall have access to at least one water closet and one lavatory without passing through another sleeping area. Every sleeping area in a dwelling unit or sleeping unit shall have access to at least one water closet and lavatory located on the same story as the sleeping area or on an adjacent story.

R304.5.4 Congregate living facilities. In congregate living facilities, at least one water closet and lavatory shall be provided for each 10 occupants. In addition, at least one bathtub or shower shall be provided for each 8 occupants.

R304.5.4 Privacy. Toilet rooms and bathrooms shall provide privacy and shall not constitute the only passageway to a hall , a habitable space, or to the exterior. A door and interior locking device shall be provided for all common or shared bathrooms and toilet rooms in a congregate residence.

R304.5.5 Bathroom access. Common use bathrooms serving sleeping units shall have access without passing through another sleeping area. Common use bathrooms shall be located on the same story as the sleeping unit or on an adjacent story.

R304.5.6 Food preparation. All spaces to be occupied for food preparation purposes shall contain suitable space and equipment to store, prepare and serve foods in a sanitary manner. There shall be adequate facilities and services for the sanitary disposal of food wastes and refuse, including facilities for temporary storage.

PART III – IPC

Revise table as follows:

TABLE 403.1 (IBC [P] Table 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]
(See Sections 403.2 (IBC [P] 2902.2) and 403.3 (IBC [P] 2902.3))

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (Urinals see Section 419.2)	LAVATORIES	BATHTUBS/ SHOWERS	DRINKING FOUNTAINS (See Section 410.1)	OTHER
7	Residential	R-3	Congregate living facilities with 16 or fewer person	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink

(Portions of table and footnotes not shown do not change)

Reason: The *International Property Maintenance Code* contains provisions which address the design of dwelling units, congregate residences, hotels, motels and boarding houses. Except for a portion of IPMC Sec. 404.4.2, none of these provisions are contained in either the IBC or IRC. It is therefore possible for a building to be designed and approved under the IBC and receive a certificate of occupancy that would then be immediately out of compliance with the IPMC. The IPMC should not have requirements that have to be maintained that are not required when a building is constructed. The solution is to either put them into the IBC and IRC or to delete them from the IPMC. This is one of two proposals to add these requirements into the construction codes. The proponent has also submitted an alternative proposal to delete the requirements from the IPMC. For the codes to be coordinated, either amendment of IBC and IRC or IPMC must be accomplished.

The concept behind the proposal was to concentrate the requirements in Section 419. Other locations were considered including Chapter 12, 10 and 29, however the proposal concentrates the items in 419 for the convenience of the code users. The provisions of the IPMC provisions which are the basis of this proposal are below. The intent of the proposal was to replicate these provisions into the IBC with identical language where appropriate. However, the IPMC uses terms which are not used in the IBC. Therefore certain changes were made. For example, "bedroom" was changed to "sleeping area"; "rooming unit" , "dormitory unit", and "housekeeping unit" were replaced with sleeping unit, congregate living facility or Group R1 occupancy as appropriate.

The current requirements in the IPMC is in conflict with what is required in Group R-4 homes in the IPC (i.e. one water closet and lavatory for each 10 occupants and one bath/shower for each 8 occupants.

The current IPMC does not allow for shared bathrooms in hotels or group home by requiring hall access in IPMC Section 503.2. This revised text here is worded to require access without going through another sleeping area, but will allow private baths or baths shared between two sleeping units.

2006 IBC, Section 310.1 allows congregate living facilities with 16 or fewer persons to be considered Group R-3. The current IPC does specify requirements for bathroom in congregate living facilities for Group R-3. The proposed addition to IPC Table 403.1 (IBC Table 2902.1) will mirror what is required for larger congregate living facilities under Group R-2 and assisted living facilities under Group R-4.

Provisions of the 2006 IPMC
404.4.2 Access from bedrooms. Bedrooms shall not constitute the only means of access to other bedrooms or habitable spaces and shall not serve as the only means of egress from other habitable spaces.
Exception: Units that contain fewer than two bedrooms.
404.4.3 Water closet accessibility. Every bedroom shall have access to at least one water closet and one lavatory without passing through another bedroom. Every bedroom in a dwelling unit shall have access to at least one water closet and lavatory located in the same story as the bedroom or an adjacent story.
404.7 Food preparation. All spaces to be occupied for food preparation purposes shall contain suitable space and equipment to store, prepare and serve foods in a sanitary manner. There shall be adequate facilities and services for the sanitary disposal of food wastes and refuse, including facilities for temporary storage.
502.1 Dwelling units. Every dwelling unit shall contain its own bathtub or shower, lavatory, water closet and kitchen sink which shall be maintained in a sanitary, safe working condition. The lavatory shall be placed in the same room as the water closet or located in close proximity to the door leading directly into the room in which such water closet is located. A kitchen sink shall not be used as a substitute for the required lavatory.
502.2 Rooming houses. At least one water closet, lavatory and bathtub or shower shall be supplied for each four rooming units.
502.3 Hotels. Where private water closets, lavatories and baths are not provided, one water closet, one lavatory and one bathtub or shower having access from a public hallway shall be provided for each ten occupants.

503.1 Privacy. Toilet rooms and bathrooms shall provide privacy and shall not constitute the only passageway to a hall or other space, or to the exterior. A door and interior locking device shall be provided for all common or shared bathrooms and toilet rooms in a multiple dwelling.
503.2 Location. Toilet rooms and bathrooms serving hotel units, rooming units or dormitory units or housekeeping units, shall have access by traversing not more than one flight of stairs and shall have access from a common hall or passageway.

Cost Impact: This is simply a correlation among the codes and should have no cost impact.

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The committee expressed concerns regarding possible contradictions with other Building Code requirements, specifically on plumbing fixture counts. Also it was suggested that this may better fit within Chapter 12.

Assembly Action: **None**

PART II – IRC-B/E
Committee Action: **Disapproved**

Committee Reason: The proposed change contains undefined terms including close proximity and congregate living facilities and other language that is not appropriate for use in the IRC.

Assembly Action: **None**

PART III – IPC
Committee Action: **Approved as Submitted**

Committee Reason: The IPC needs to be in alignment with the IEBC and IBC with regard to Group R-3 occupancies being used as congregate living facilities. To avoid any confusion as to the number of plumbing fixtures required for such facilities, a new row for R-3 for congregate living facilities makes it clear that the fixture requirements are not any different than for R-2 dormitories or R-4 assisted living facilities.

Assembly Action: **None**

Final Hearing Results

G106-07/08, Part I	**D**
G106-07/08, Part II	**D**
G106-07/08, Part III	**AS**

Code Change No: G109-07/08

Original Proposal

Sections: 421 (New), 202 (New), Chapter 35 (New); IRC R325 (New), Chapter 43 (New)

Proponent: Marc Levitan, LSU Hurricane Center, representing the ICC/NSSA Storm Shelter Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Add new text as follows:

SECTION 421
STORM SHELTERS

421.1 General. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC/NSSA-500.

421.1.1 Scope. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

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

STORM SHELTER. A building, structure, or portions(s) thereof, constructed in accordance with ICC-500 and designated for use during a severe wind storm event such as a hurricane or tornado.

Community Storm Shelter. A storm shelter not defined as a Residential Storm Shelter.

Residential Storm Shelter. A storm shelter serving occupants of dwelling units and having an occupant load not exceeding 16 persons.

2. Add new definition as follows:

SECTION 202
DEFINITIONS

STORM SHELTER. See Section 421.2

3. Add standard to Chapter 35 as follows:

ICC
ICC 500-08 ICC/NSSA Standard on the Design and Construction of Storm Shelters

PART II – IRC BUILDING/ENERGY

1. Add new text as follows:

SECTION R325
STORM SHELTERS

R325.1 General. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC/NSSA-500.

2. Add standard to Chapter 43 follows:

ICC
ICC 500 -08 ICC/NSSA Standard on the Design and Construction of Storm Shelters

Reason: These proposed changes to the IBC are intended to bring the new ICC Storm Shelter standard into the code as a referenced document for the construction of storm shelters. This standard establishes minimum requirements for structures and spaces designated as hurricane, tornado, or combination shelters. The standard addresses the design of such shelters from the perspective of the structural requirements for high wind conditions, as well as addressing minimum requirements for the interior environment during a storm event. A companion change is being proposed for the IRC.

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

Public Hearing Results

PART I – IBC STRUCTURAL
Committee Action: **Disapproved**

Committee Reason: The committee supports the addition of the proposed storm shelter reference standard to the building code and does not take any technical issues with that document. The committee's disapproval is based on the standard not yet being finalized and it is hoped that the proponent will submit a public comment to allow this standard to be accepted at the final action hearings.

Assembly Action: **None**

PART II – IRC
Committee Action: **Approved as Modified**

Modify proposal as follows:

R325.1 General. This section applies to the construction of storm shelters when constructed as separate detached buildings or when constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC/NSSA-500.

(Portions of proposal not shown remain unchanged)

Committee Reason: This change brings a new standard into the code for the construction of storm shelters. The modification clarifies that a storm shelter is not required but when one is constructed it must comply with ICC/NSSA-500.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Marc Levitan, LSU Hurricane Center, representing the ICC/NSSA Storm Shelter Committee, requests Approval as Submitted for Part I.

Commenter's Reason: The IBC-Structural Committee disapproved this code change because the standard proposed for inclusion in the code, ICC 500, was not finalized. Since that time, the ICC/NSSA Storm Shelter Committee has completed its work, submitted the standard to ANSI for approval, received approval, and published the standard. Other than the objections stated regarding the completion of the standard, the committee had no other technical concerns or issues regarding this proposed code change. Given that the standard proposed for reference is now complete and in compliance with the ICC criteria for referenced standards given in ICC Council Policy no. CP 28, the ICC/NSSA Storm Shelter Committee request approval of the proposed code change G109-07/08 Part I "As Submitted."

Public Comment 2:

Joseph J. Messersmith, Jr., PE, Portland Cement Association, requests Approval as Submitted for Part I.

Commenter's Reason: As indicated in the committee reason, the change to reference ICC/NSSA-500 in the IBC was disapproved because the standard was not complete. It should be noted that Part II of this change to reference this new standard in the IRC was approved as modified in Palm Springs. Since the Palm Springs hearings, the standard has been completed and the membership is urged to overturn the motion for disapproval and subsequently vote to approve Part I of the change.

Public Comment 3:

Roger Robertson, Chesterfield County Virginia, representing the ICC Storm Shelter Committee, requests Approval as Submitted for Part I.

Commenter's Reason: The IBC General Committee disapproved the proposal based on the standard not yet having received ANSI accreditation. The committee suggested a public comment requesting approval be submitted once accreditation was received.

Final Hearing Results

G109-07/08, Part I	**AS**
G109-07/08, Part II	**AM**

Code Change No: G112-07/08

Original Proposal

Section: 502

Proponent: Robert Bagnetto, Lapeyre Stair, Inc.

Revise as follows:

SECTION 502
DEFINITIONS

EQUIPMENT PLATFORM. An unoccupied, elevated platform used exclusively for mechanical systems or industrial process equipment, including the associated elevated walkways, stairs, alternating tread devices and ladders necessary to access the platform (see Section 505.5).

Reason: The purpose of this proposed change to IBC-2006 is to allow the use of alternating tread devices as an access component to equipment platforms.

The proposed change is superior to the current provisions of the code in that it provides the option of using an additional type of access component to equipment platforms that is suitable for such application and that is not currently allowed by the code. IBC-2006 section 502 is overly restrictive in that it does not allow the use of alternating tread devices as an access component to equipment platforms, but does allow ladders for such use. (Or the intent of section 502 is to imply that other access components such as alternating tread devices are allowed, but this is not clearly stated).

Alternating tread devices have been shown by the scientific study "Performance, perceived safety and comfort of the alternating tread stair" to be an acceptable vertical access component and preferred over ships' ladders. Alternating tread devices have been successfully used as an access component to equipment platforms for approximately 25 years. Alternating tread devices, by virtue of their features (i.e. 50 to 70° angle, larger tread size and size rails) are typically safer to use than vertical ladders and are suitable for the application specified in section 502. . IBC-2006 currently allows use of alternating tread devices for accesses such as to mezzanines, boiler incinerator and furnace rooms, refrigeration machinery rooms, gallery gridirons and catwalks, unoccupied roofs, etc. Also, access to equipment platforms is a primary intended use for alternating tread devices, especially since they can be used such that tools can be carried up or down the device.

Alternating tread devices were patented and 1981 and their use to equipment platforms has been allowed by the Occupational Safety and Health Administration (OSHA) since December of 1981. Alternating tread devices were allowed as an access component to equipment platforms per The BOCA National Building Code/1999 and the 1997 Uniform Building Code, which were precursor codes to IBC. Alternating tread devices are also allowed to be used as an access component to equipment platforms under NFPA-101, 2006.

Bibliography:

OHSA instruction STD 1-1.11, dated 4/26/82
Letter dated 12/2/81 from Mark Cowan (OHSA) to Dale Ordoyne (Lapeyre Stair)
Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder, Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32
The BOCA National Building Code/1999, section 2805.2.5
1997 Uniform Building Code, section 1003.3.3.1
Letter dated 10/20/87 from Tom Briggs (ICBO) to J. Robert Nelson (PFS Corp.)
NFPA-101, 2006, section 7.2.11.1 (3)
IBC-2006 sections 1009.1, 1015.3, 1015.4, 1015.6.1

Cost Impact: The code change proposal could minimally affect the cost of construction if alternating tread devices are used in lieu of ladders for access to equipment platforms.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal is approved to be consistent with the committee action on G94-07/08. A ladder is already permitted, so it is reasonable to also allow alternating tread devices.

Assembly Action: **None**

Final Hearing Results

G112-07/08 **AS**

Code Change No: G115-07/08

Original Proposal

Table 503

Proponent: Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group

Revise table as follows:

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per story

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
GROUP	HGT(feet) HGT(S)	UL	160	65	55	65	55	65	50	40
B	S	UL	11	5	~~4~~ 3	5	~~4~~ 3	5	3	2
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000

(Portions of table and footnotes not shown remain unchanged)

Reason: One area of concern identified for study by the Height and Area Task Group was 4 and 5 story buildings of unrated construction. The table below shows the occupancies in the IBC where that condition exists for sprinklered construction. In addition, the table shows the sprinklered height allowances for these occupancies in the legacy codes.

Type IIB, Type IIIB (Unprotected Construction)
Story Comparison (w/ NFPA 13 Sprinklers)

	SBC	NBC	UBC	2006 IBC
B	5	4	2	**5**
F-2	4	4	2	**4**
M	5	3	2	**5**
S-1	4	3	2	**4**
S-2	4	4	2	**5**
R* (13)	5	4	4	**5**
R*(13R)	4	4	3	**4**

NA- Not Applicable NP- Not Permitted
* - Applies for R-1, R-2 and R-3 Use Groups

The study group noted that for Use Group B, M, S-1, and R buildings of Type IIB or Type IIIB construction, the allowance for 4 or 5 stories in the IBC was premised on the story heights allowed in the SBC. In all these instances, the SBC sprinklered height allowance for these Use Groups relied on a multiple story sprinkler increase. For example, for Use Group B, the SBC allowed 2 stories for unsprinklered construction and 5 stories for sprinklered construction. This exceeds the consistent one story sprinkler height increase incorporated in the IBC height and area provisions. Based on this review, the study group identified two anomalies from what was permitted by the legacy codes. First, the story height allowance for S-2 use groups is not based on any of the legacy code allowances. Second, for Use Group B, M, S-1, and R (Type IIB and IIIB construction), the IBC story height allowance for unsprinklered construction exceeds what was allowed by any of the legacy codes. For example, the maximum height for an unsprinklered Type IIB office building in any of the legacy codes was the NBC allowance for 3 stories. Currently, the IBC allows 4 stories for this condition. Rather than modify the sprinkler increase in the IBC, the study group suggested the following recommended story height changes:

Unsprinklered IBC Table 503 Values

Use Group	IIB	IIIB
B	3	3
M	2	2
S-1	2	2
S-2	3	3
R* (13)	3	3

* - Applies for R-1, R-2 and R-3 Use Groups

In essence, these reductions would eliminate the anomalies created by the multi-story SBC sprinkler increase and drop the IBC value back to the next least restrictive legacy code (in these cases, the NBC).

The study group noted that the motivation for these recommendations was to address anomalies associated with unsprinklered 4 and 5 story buildings of nonrated construction. No evidence was submitted to suggest that the existing sprinklered height allowances for these buildings in either the IBC or the legacy codes had created an unsafe condition that requires correction.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Large losses in B occupancies are not seen in any of the 3 legacy code areas, thus taking the least restrictive approach is justified. The focus should be on the IBC not on the legacy codes at this point in time.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group, requests Approval as Submitted.

Commenter's Reason: Although the proposal will reduce the allowable height of Group B buildings of Types IIB and IIIB construction by one story, the maximum area (total of all stories) of the tallest building that will then be permitted is generally considerably greater than that permitted by any of the legacy codes (see table below). For example, consider an unsprinklered Type IIB business building with a height of 3 stories; the tallest permitted by any of the legacy codes. If less than 20 feet of open space is provided around the building, the IBC permits the aggregate area of all three stories to be 100% greater than the largest total area permitted by the legacy codes. If the width of the open space is increased to 40 feet, the IBC's total area is still 22% greater than that permitted by the largest legacy code. Although allowable heights are proposed to be reduced, the foregoing illustrates that buildings will still be able to have total areas that are comparable to or greater than permitted by the legacy codes.

Occupancy Group	Type of Construction	NFPA 13 Sprinklers – Yes/No	Width of Open Space (ft.)[a, b]	Ratio of IBC Maximum Building Area to the Largest Maximum Building Area Permitted by Legacy Codes				
				Number of Stories				
				1	2	3	4	5
B	IIB	No	< 20	1.35	1.35	2.00	NPLC	NP
			40	1.12	1.12	1.22	NPLC	NP
		Yes	< 20	1.80	1.60	2.03	1.52	1.22
			40	1.52	1.33	1.69	1.27	1.01
	IIIB	No	< 20	1.32	1.32	1.65	NPLC	NP
			40	0.92	0.92	1.00	NPLC	NP
		Yes	< 20	1.76	1.32	2.04	1.53	1.22
			40	1.25	1.10	1.50	1.12	1.02

NPLC means not permitted by any of the legacy codes, but permitted by IBC.
NP means not permitted by any of the legacy codes or IBC.
If G115 is approved, building heights represented by shaded cells will not be permitted by the IBC.
a. Width of open space around 100% of building perimeter.
b. 40 feet was used because the UBC required a minimum of 40 feet of open space on all sides in order to qualify for 100% area increase; the maximum permitted by that code. The NBC and SBC permitted maximum open space increases of 150% and 100%, respectively, at 30 feet.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. This public comment is a result of the CTC's investigation of the area of study entitled "Balanced Fire Protection". The CTC web page for this area of study is: http://www.iccsafe.org/cs/cc/ctc/WTC.html. As part of the CTC process, Study Groups are often formed to address specific issues related to CTC areas of study. The CTC BFP Features Study group is one such study group. This study group was formed subsequent to the 2006 Orlando Code Development Hearings, with the focus being a review of the height and area provisions in the IBC. Since its inception, the study group has held ten meetings - all open to the public.

Final Hearing Results

G115-07/08 **AS**

Code Change No: G117-07/08

Original Proposal

Table 503

Proponent: Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group

Revise as follows:

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per story

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
GROUP	HGT(feet) HGT(S)	UL	160	65	55	65	55	65	50	40
M	S	UL	11	4	~~4~~ 2	4	~~4~~ 2	4	3	1
	A	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000

(Portions of table and footnotes not shown remain unchanged)

Reason: One area of concern identified for study by the Height and Area Task Group was 4 and 5 story buildings of unrated construction. The table below shows the occupancies in the IBC where that condition exists for sprinklered construction. In addition, the table shows the sprinklered height allowances for these occupancies in the legacy codes.

Type IIB, Type IIIB (Unprotected Construction)
Story Comparison (w/ NFPA 13 Sprinklers)

	SBC	NBC	UBC	2006 IBC
B	5	4	2	**5**
F-2	4	4	2	**4**
M	5	3	2	**5**
S-1	4	3	2	**4**
S-2	4	4	2	**5**
R* (13)	5	4	4	**5**
R*(13R)	4	4	3	**4**

NA- Not Applicable NP- Not Permitted
* - Applies for R-1, R-2 and R-3 Use Groups

The study group noted that for Use Group B, M, S-1, and R buildings of Type IIB or Type IIIB construction, the allowance for 4 or 5 stories in the IBC was premised on the story heights allowed in the SBC. In all these instances, the SBC sprinklered height allowance for these Use Groups relied on a multiple story sprinkler increase. For example, for Use Group B, the SBC allowed 2 stories for unsprinklered construction and 5 stories for sprinklered construction. This exceeds the consistent one story sprinkler height increase incorporated in the IBC height and area provisions. Based on this review, the study group identified two anomalies from what was permitted by the legacy codes. First, the story height allowance for S-2 use groups is not based on any of the legacy code allowances. Second, for Use Group B, M, S-1, and R (Type IIB and IIIB construction), the IBC story height allowance for unsprinklered construction exceeds what was allowed by any of the legacy codes. For example, the maximum height for an unsprinklered Type IIB office building in any of the legacy codes was the NBC allowance for 3 stories. Currently, the IBC allows 4 stories for this condition. Rather than modify the sprinkler increase in the IBC, the study group suggested the following recommended story height changes:

Unsprinklered IBC Table 503 Values

Use Group	IIB	IIIB
B	3	3
M	2	2
S-1	2	2
S-2	3	3
R* (13)	3	3

* - Applies for R-1, R-2 and R-3 Use Groups

In essence, these reductions would eliminate the anomalies created by the multi-story SBC sprinkler increase and drop the IBC value back to the next least restrictive legacy code (in these cases, the NBC).

The study group noted that the motivation for these recommendations was to address anomalies associated with unsprinklered 4 and 5 story buildings of nonrated construction. No evidence was submitted to suggest that the existing sprinklered height allowances for these buildings in either the IBC or the legacy codes had created an unsafe condition that requires correction.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The lifesafety statistics for Group M occupancies in the IBC has been better than for the legacy codes therefore decreases in the height limitations are not warranted.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group, requests Approval as Submitted.

Commenter's Reason: Although the proposal will reduce the allowable height of Group M buildings of Types IIB and IIIB construction by two stories, the maximum area (total of all stories) of the tallest building that will then be permitted is generally greater than that permitted by any of the legacy codes, especially where sprinklers are provided (see table below). For example, consider an unsprinklered Type IIB mercantile building with a height of 2 stories; the tallest permitted by any of the legacy codes. If less than 20 feet of open space is provided around the building, the IBC permits the aggregate area of both stories to be 4% greater than the largest total area permitted by the legacy codes. If the width of the open space is increased to 40 feet, the IBC's total area is 9% less than that permitted by the largest legacy code. Where sprinklers are provided in the Type IIB building with less than 20 feet of open space, 3 stories will be permitted, and the maximum area permitted by the IBC will be 108% greater than that permitted by the largest legacy code. Although allowable heights are proposed to be reduced, the foregoing illustrates that buildings will still be able to have total areas that are comparable to or greater than permitted by the legacy codes.

Occupancy Group	Type of Construction	NFPA 13 Sprinklers – Yes/No	Width of Open Space (ft.)[a, b]	Ratio of IBC Maximum Building Area to the Largest Maximum Building Area Permitted by Legacy Codes				
				Number of Stories				
				1	2	3	4	5
M	IIB	No	< 20	1.04	1.04	NPLC	NPLC	NP
			40	0.91	0.91	NPLC	NPLC	NP
		Yes	< 20	1.39	1.30	2.08	1.56	1.25
			40	0.82	0.98	1.48	1.30	1.04
	IIIB	No	< 20	1.04	1.04	NPLC	NPLC	NP
			40	0.91	0.91	NPLC	NPLC	NP
		Yes	< 20	1.39	1.30	2.08	1.56	1.25
			40	0.82	0.98	1.48	1.30	1.04

NPLC means not permitted by any of the legacy codes, but permitted by IBC.
NP means not permitted by any of the legacy codes or IBC.
If G117 is approved, building heights represented by shaded cells will not be permitted by the IBC.
a. Width of open space around 100% of building perimeter.
b. 40 feet was used because the UBC required a minimum of 40 feet of open space on all sides in order to qualify for 100% area increase; the maximum permitted by that code. The NBC and SBC permitted maximum open space increases of 150% and 100%, respectively, at 30 feet.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. This public comment is a result of the CTC's investigation of the area of study entitled "Balanced Fire Protection". The CTC web page for this area of study is: http://www.iccsafe.org/cs/cc/ctc/WTC.html. As part of the CTC process, Study Groups are often formed to address specific issues related to CTC areas of study. The CTC BFP Features Study group is one such study group. This study group was formed subsequent to the 2006 Orlando Code Development Hearings, with the focus being a review of the height and area provisions in the IBC. Since its inception, the study group has held ten meetings - all open to the public.

Final Hearing Results

G117-07/08 AS

Code Change No: G119-07/08

Original Proposal

Table 503

Proponent: Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group

Revise table as follows:

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per story

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
GROUP	HGT(feet) HGT(S)	UL	160	65	55	65	55	65	50	40
S-1	S	UL	11	4	~~3~~ 2	3	~~3~~ 2	4	3	1
	A	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000

(Portions of table and footnotes not shown remain unchanged)

Reason: One area of concern identified for study by the Height and Area Task Group was 4 and 5 story buildings of unrated construction. The table below shows the occupancies in the IBC where that condition exists for sprinklered construction. In addition, the table shows the sprinklered height allowances for these occupancies in the legacy codes.

Type IIB, Type IIIB (Unprotected Construction)
Story Comparison (w/ NFPA 13 Sprinklers)

	SBC	NBC	UBC	2006 IBC
B	5	4	2	**5**
F-2	4	4	2	**4**
M	5	3	2	**5**
S-1	4	3	2	**4**
S-2	4	4	2	**5**
R* (13)	5	4	4	**5**
R*(13R)	4	4	3	**4**

NA- Not Applicable NP- Not Permitted
* - Applies for R-1, R-2 and R-3 Use Groups

The study group noted that for Use Group B, M, S-1, and R buildings of Type IIB or Type IIIB construction, the allowance for 4 or 5 stories in the IBC was premised on the story heights allowed in the SBC. In all these instances, the SBC sprinklered height allowance for these Use Groups relied on a multiple story sprinkler increase. For example, for Use Group B, the SBC allowed 2 stories for unsprinklered construction and

5 stories for sprinklered construction. This exceeds the consistent one story sprinkler height increase incorporated in the IBC height and area provisions. Based on this review, the study group identified two anomalies from what was permitted by the legacy codes. First, the story height allowance for S-2 use groups is not based on any of the legacy code allowances. Second, for Use Group B, M, S-1, and R (Type IIB and IIIB construction), the IBC story height allowance for unsprinklered construction exceeds what was allowed by any of the legacy codes. For example, the maximum height for an unsprinklered Type IIB office building in any of the legacy codes was the NBC allowance for 3 stories. Currently, the IBC allows 4 stories for this condition. Rather than modify the sprinkler increase in the IBC, the study group suggested the following recommended story height changes:

Unsprinklered IBC Table 503 Values

Use Group	IIB	IIIB
B	3	3
M	2	2
S-1	2	2
S-2	3	3
R* (13)	3	3

* - Applies for R-1, R-2 and R-3 Use Groups

In essence, these reductions would eliminate the anomalies created by the multi-story SBC sprinkler increase and drop the IBC value back to the next least restrictive legacy code (in these cases, the NBC).

The study group noted that the motivation for these recommendations was to address anomalies associated with unsprinklered 4 and 5 story buildings of nonrated construction. No evidence was submitted to suggest that the existing sprinklered height allowances for these buildings in either the IBC or the legacy codes had created an unsafe condition that requires correction.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Justification to reduce or revise height and area limitations for buildings based upon the legacy code requirements is not sufficient.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group, request Approval as Submitted.

Commenter's Reason: Although the proposal will reduce the allowable height of Group S-1 buildings of Types IIB and IIIB construction by one story, the maximum area (total of all stories) of the tallest building that will then be permitted is generally greater than that permitted by any of the legacy codes, especially where sprinklers are provided (see table below). For example, consider an unsprinklered Type IIB S-1 storage building with a height of 2 stories; the tallest permitted by any of the legacy codes. If less than 20 feet of open space is provided around the building, the IBC permits the aggregate area of both stories to be 9% greater than the largest total area permitted by the legacy codes. If the width of the open space is increased to 40 feet, the IBC's total area is 4% less than that permitted by the largest legacy code. Where sprinklers are provided in the Type IIB building with less than 20 feet of open space, 3 stories will be permitted, and the maximum area permitted by the IBC will be 64% greater than that permitted by the largest legacy code. Although allowable heights are proposed to be reduced, the foregoing illustrates that buildings will still be able to have total areas that are comparable to or greater than permitted by the legacy codes.

Occupancy Group	Type of Construction	NFPA 13 Sprinklers – Yes/No	Width of Open Space (ft.)[a, b]	Ratio of IBC Maximum Building Area to the Largest Maximum Building Area Permitted by Legacy Codes			
				Number of Stories			
				1	2	3	4
S-1	IIB	No	< 20	1.09	1.09	NPLC	NP
			40	0.96	0.96	NPLC	NP
		Yes	< 20	1.46	1.64	1.64	1.23
			40	1.15	1.37	1.37	1.03
	IIIB	No	< 20	1.09	1.09	NPLC	NP
			40	0.96	0.96	NPLC	NP
		Yes	< 20	1.46	1.64	1.64	1.23
			40	1.15	1.37	1.37	1.03

NPLC means not permitted by any of the legacy codes, but permitted by IBC.
NP means not permitted by any of the legacy codes or IBC.
If G119 is approved, building heights represented by shaded cells will not be permitted by the IBC.
a. Width of open space around 100% of building perimeter.
b. 40 feet was used because the UBC required a minimum of 40 feet of open space on all sides in order to qualify for 100% area increase; the maximum permitted by that code. The NBC and SBC permitted maximum open space increases of 150% and 100%, respectively, at 30 feet.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. This public comment is a result of the CTC's investigation of the area of study entitled "Balanced Fire Protection". The CTC web page for this area of study is: http://www.iccsafe.org/cs/cc/ctc/WTC.html. As part of the CTC process, Study Groups are often formed to address specific issues related to CTC areas of study. The CTC BFP Features Study group is one such study group. This study group was formed subsequent to the 2006 Orlando Code Development Hearings, with the focus being a review of the height and area provisions in the IBC. Since its inception, the study group has held ten meetings - all open to the public.

Final Hearing Results

G119-07/08 AS

Code Change No: G120-07/08

Original Proposal

Table 503

Proponent: Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group

Revise table as follows:

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per story

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
GROUP	HGT(feet) HGT(S)	UL	160	65	55	65	55	65	50	40
S-2[b, c]	S	UL	11	5	~~4~~ 3	4	~~4~~ 3	5	4	2
	A	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500

(Portions of table and footnotes not shown remain unchanged)

Reason: One area of concern identified for study by the Height and Area Task Group was 4 and 5 story buildings of unrated construction. The table below shows the occupancies in the IBC where that condition exists for sprinklered construction. In addition, the table shows the sprinklered height allowances for these occupancies in the legacy codes.

Type IIB, Type IIIB (Unprotected Construction)
Story Comparison (w/ NFPA 13 Sprinklers)

	SBC	NBC	UBC	2006 IBC
B	5	4	2	**5**
F-2	4	4	2	**4**
M	5	3	2	**5**
S-1	4	3	2	**4**
S-2	4	4	2	**5**
R* (13)	5	4	4	**5**
R*(13R)	4	4	3	**4**

NA- Not Applicable NP- Not Permitted
* - Applies for R-1, R-2 and R-3 Use Groups

The study group noted that for Use Group B, M, S-1, and R buildings of Type IIB or Type IIIB construction, the allowance for 4 or 5 stories in the IBC was premised on the story heights allowed in the SBC. In all these instances, the SBC sprinklered height allowance for these Use Groups relied on a multiple story sprinkler increase. For example, for Use Group B, the SBC allowed 2 stories for unsprinklered construction and 5 stories for sprinklered construction. This exceeds the consistent one story sprinkler height increase incorporated in the IBC height and area provisions. Based on this review, the study group identified two anomalies from what was permitted by the legacy codes. First, the story height allowance for S-2 use groups is not based on any of the legacy code allowances. Second, for Use Group B, M, S-1, and R (Type IIB and IIIB construction), the IBC story height allowance for unsprinklered construction exceeds what was allowed by any of the legacy codes. For example, the maximum height for an unsprinklered Type IIB office building in any of the legacy codes was the NBC allowance for 3 stories. Currently, the IBC allows 4 stories for this condition. Rather than modify the sprinkler increase in the IBC, the study group suggested the following recommended story height changes:

Unsprinklered IBC Table 503 Values

Use Group	IIB	IIIB
B	3	3
M	2	2
S-1	2	2
S-2	3	3
R* (13)	3	3

* - Applies for R-1, R-2 and R-3 Use Groups

In essence, these reductions would eliminate the anomalies created by the multi-story SBC sprinkler increase and drop the IBC value back to the next least restrictive legacy code (in these cases, the NBC).

The study group noted that the motivation for these recommendations was to address anomalies associated with unsprinklered 4 and 5 story buildings of nonrated construction. No evidence was submitted to suggest that the existing sprinklered height allowances for these buildings in either the IBC or the legacy codes had created an unsafe condition that requires correction.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon action on G119-07/08.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Kate Dargan and David Collins, Co-Chairs, Code Technology Committee (CTC) Balanced Fire Protection Features Study Group, request Approval as Submitted.

Commenter's Reason: Although the proposal will reduce the allowable height of Group S-2 buildings of Types IIB and IIIB construction by one story, the maximum area (total of all stories) of the tallest building that will then be permitted is generally considerably greater than that permitted by any of the legacy codes, especially where sprinklers are provided (see table below). For example, consider an unsprinklered Type IIB S-2 storage building with a height of 3 stories; the tallest permitted by any of the legacy codes. If less than 20 feet of open space is provided around the building, the IBC permits the aggregate area of all three stories to be 126% greater than the largest total area permitted by the legacy codes. If the width of the open space is increased to 40 feet, the IBC's total area is 37% greater than that permitted by the largest legacy code. Where sprinklers are provided in the Type IIB building with less than 20 feet of open space, 4 stories will be permitted, and the maximum area permitted by the IBC will be 83% greater than that permitted by the largest legacy code. Although allowable heights are proposed to be reduced, the foregoing illustrates that buildings will still be able to have total areas that are comparable to or greater than permitted by the legacy codes.

Occupancy Group	Type of Construction	NFPA 13 Sprinklers – Yes/No	Width of Open Space (ft.)[a, b]	Ratio of IBC Maximum Building Area to the Largest Maximum Building Area Permitted by Legacy Codes				
				Number of Stories				
				1	2	3	4	5
S-2	IIB	No	< 20	1.44	1.44	2.26	NPLC	NP
			40	1.26	1.26	1.37	NPLC	NP
		Yes	< 20	1.93	1.81	2.44	1.83	NPLC
			40	1.14	1.35	2.03	1.52	NPLC
	IIIB	No	< 20	1.44	1.44	2.26	NPLC	NP
			40	1.26	1.26	1.37	NPLC	NP
		Yes	< 20	1.93	1.81	2.44	1.83	NPLC
			40	1.14	1.35	2.03	1.52	NPLC

NPLC means not permitted by any of the legacy codes, but permitted by IBC.
NP means not permitted by any of the legacy codes or IBC.
If G120 is approved, building heights represented by shaded cells will not be permitted by the IBC.
a. Width of open space around 100% of building perimeter.
b. 40 feet was used because the UBC required a minimum of 40 feet of open space on all sides in order to qualify for 100% area increase; the maximum permitted by that code. The NBC and SBC permitted maximum open space increases of 150% and 100%, respectively, at 30 feet.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. This public comment is a result of the CTC's investigation of the area of study entitled "Balanced Fire Protection". The CTC web page for this area of study is: http://www.iccsafe.org/cs/cc/ctc/WTC.html. As part of the CTC process, Study Groups are often formed to address specific issues related to CTC areas of study. The CTC BFP Features Study group is one such study group. This study group was formed subsequent to the 2006 Orlando Code Development Hearings, with the focus being a review of the height and area provisions in the IBC. Since its inception, the study group has held ten meetings - all open to the public.

Final Hearing Results

G120-07/08 AS

Code Change No: G121-07/08

Original Proposal

Table 503, 503.1.2, 504.2, 506.1, 506.2, 506.3, 506.4.1, 508.2.1, 508.2.3, 508.3.2, 508.4.2, 202

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise table as follows:

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Building area limitations as determined by the definition of "Area, building," per story

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m2.
A = building area per story, S = stories above grade plane, UL = Unlimited, NP = Not permitted.
a. See the following sections for general exceptions to Table 503:
1. Section 504.2, Allowable height and story increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable building area increase due to street frontage.
3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area buildings.
b. For open parking structures, see Section 406.3.
c. For private garages, see Section 406.1.
d. See Section 415.5 for limitations.

503.1.2 Buildings on same lot. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building if the height of each building and the aggregate building area of the buildings are within the limitations of Table 503 as modified by Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.

504.2 (Supp) Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one. These increases are permitted in addition to the building area increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively.

Exceptions:

1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Fire-resistance rating substitution in accordance with Table 601, Note d.

SECTION 506
BUILDING AREA MODIFICATIONS

506.1 General. The building areas limited by Table 503 shall be permitted to be increased due to frontage *(If)* and automatic sprinkler system protection *(Is)* in accordance with the following:

$$A_a = \{A_t + [A_t \times I_f] + [A_t \times I_s]\} \qquad \textbf{Equation 5-1}$$

where:
A_a = Allowable building area per story (square feet).
A_t = Tabular building area per story in accordance with Table 503 (square feet).
I_f = Area increase factor due to frontage as calculated in accordance with Section 506.2.
I_s = Area increase factor due to sprinkler protection as calculated in accordance with Section 506.3.

506.2 Frontage increase. Every building shall adjoin or have access to a public way to receive ~~an~~ a building area increase for frontage. Where a building has more than 25 percent of its perimeter on a public way or open space having a minimum width of 20 feet (6096 mm), the frontage increase shall be determined in accordance with the following:

$$I_f = [F / P - 0.25]W / 30 \qquad \textbf{Equation 5-2}$$

where:
I_f = Area increase due to frontage.
F = Building perimeter that fronts on a public way or open space having 20 feet (6096 mm) open minimum width (feet).
P = Perimeter of entire building (feet).
W = Width of public way or open space (feet) in accordance with Section 506.2.1.

506.3 (Supp) Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the building area limitation in Table 503 is permitted to be increased by an additional 200 percent ($I_s = 2$) for buildings with more than one story above grade plane and an additional 300 percent ($I_s = 3$) for buildings with no more than one story above grade plane. These increases are permitted in addition to the height and story increases in accordance with Section 504.2.

Exception: The building area limitation increases shall not be permitted for the following conditions:

1. The automatic sprinkler system increase shall not apply to buildings with an occupancy in Group H-1.
2. The automatic sprinkler system increase shall not apply to the building area of an occupancy in Group H-2 or H-3. For buildings containing such occupancies, the allowable building area shall be determined in accordance with Section 508.3.3.2, with the sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.

506.4.1 (Supp) Area determination. The total allowable building area of a building with more than one story above grade plane shall be determined by multiplying the allowable building area per story (*Aa*), as determined in Section 506.1, by the number of stories above grade plane as listed below:

1. For buildings with two stories above grade plane, multiply by 2;
2. For buildings with three or more stories above grade plane, multiply by 3; and
3. No story shall exceed the allowable building area per story (*Aa*), as determined in Section 506.1, for the occupancies on that story.

Exceptions:

1. Unlimited area buildings in accordance with Section 507.
2. The maximum area of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2 shall be determined by multiplying the allowable area per story *(Aa),* as determined in Section 506.1, by the number of stories above grade plane.

508.2.1 (Supp) Area limitations. Aggregate accessory occupancies shall not occupy more than 10 percent of the building area of the story in which they are located and shall not exceed the tabular values in Table 503, without building area increases in accordance with Section 506 for such accessory occupancies.

508.2.3 (Supp) Allowable building area and height. The allowable building area and height of the building shall be based on the allowable building area and height for the main occupancy in accordance with Section 503.1. The height of each accessory occupancy shall not exceed the tabular values in Table 503, without increases in accordance with Section 504 for such accessory occupancies. The building area of the accessory occupancies shall be in accordance with Section 508.2.1

508.3.2 (Supp) Allowable building area and height. The allowable building area and height of the building or portion thereof shall be based on the most restrictive allowances for the occupancy groups under consideration for the type of construction of the building in accordance with Section 503.1.

508.4.2 (Supp) Allowable building area. In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed one.

SECTION 202
DEFINITIONS

AREA. (for masonry) See Section 2102.1.
Bedded. See Section 2102.1.
Gross cross-sectional. See Section 2102.1.
Net cross-sectional. See Section 2102.1.

Reason: "Building area" is defined in Section 502.1. "Area" is not defined in the IBC except indirectly in Section 2102.1, which defines "bedded area," "gross cross-sectional area" and "net cross-sectional area" for applying the structural provisions of Chapter 21 on masonry construction. With respect to the nonstructural provisions of the IBC, however, "area" has no technical meaning except to the extent that a technical meaning can be derived from the ordinarily accepted meaning of "area" (refer to Section 201.4). A statement in the title of Table 503 makes it clear that "A" means building area per story. There are instances of "area" elsewhere in Chapter 5, however, where "building area" is intended, for example, in Section 506 on modifications to the entries in Table 503 on building area per story. The proposal makes the necessary corrections. The overall result will be that an undefined term (i.e., area) is replaced by a defined term (i.e., building area).

In Section 202, the parenthetical reference "for masonry" is added to clarify that the definition for "area" is limited in application to the provisions of Chapter 21 on masonry construction. In Item #1 of Footnote (a) at Table 503, ""height increase" is changed to "height and story increases" for consistency with Sections 504.2 and 506.3. In the notations at the bottom of Table 503, descriptions for "A" as the "building area per story" and "S" as "stories above grade plane" are added to clarify their application to the entries in Table 503.

Note that "area increase factor due to frontage" and "area increase factor due to sprinklers" in Sections 506.1 and 506.2 remain unchanged. These could be changed to "building area increase factors" but such changes are not crucial to this proposal that is, nevertheless, intended to be comprehensive. These "area increase factors" are unique to Section 506 and are terms for factors that modify building areas. They are not references to building areas.

A related proposal correlates building height in the same manner as this proposal for building area.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provided appropriate editorial clean up of "building area" throughout Chapter 5; essentially clarifying that the term "area" was referring to "building area."

Assembly Action: **None**

Final Hearing Results

G121-07/08 **AS**

Code Change No: G122-07/08

Original Proposal

Sections: 503, 503.1, 503.1.1, 503.1.2, 503.1.3, Table 503, 504.1, 504.2, 504.3, 508.4.3

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

CHAPTER 5 (Supp)
GENERAL BUILDING HEIGHTS AND ~~BUILDING~~ AREAS

SECTION 503
GENERAL BUILDING HEIGHTS AND AREA LIMITATIONS

503.1 (Supp) General. The building height and area ~~of a building~~ shall not exceed the limits specified in Table 503 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Each portion of a building separated by one or more fire walls complying with Section 705 shall be considered to be a separate building.

503.1.1 Special industrial occupancies. Buildings and structures designed to house special industrial processes that require large areas and unusual building heights to accommodate craneways or special machinery and equipment, including, among others, rolling mills; structural metal fabrication shops and foundries; or the production and distribution of electric, gas or steam power, shall be exempt from the building height and area limitations of Table 503.

503.1.2 Buildings on same lot. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building if the building height of each building and the aggregate area of buildings are within the limitations of Table 503 as modified by Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.

503.1.3 Type I construction. Buildings of Type I construction permitted to be of unlimited tabular building heights and areas are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited building height in Sections 503.1.1 and 504.3 or increased building heights and areas for other types of construction.

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND ~~BUILDING~~ AREAS[a]
Building height limitations shown ~~as stories and~~ in feet above grade plane.
Story limitations shown as stories above grade plane.
Area limitations as determined by the definition of "Area, building", per story

Group		TYPE OF CONSTRUCTION								
	Hgt(feet)	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	~~Hst~~ Stories (S)	UL	160	65	55	65	55	65	50	40

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m^2.
UL = Unlimited, NP = Not permitted.

a. See the following sections for general exceptions to Table 503:
   1. Section 504.2, Allowable building height increase due to automatic sprinkler system installation.
   2. Section 506.2, Allowable area increase due to street frontage.
   3. Section 506.3, Allowable area increase due to automatic sprinkler system installation.
   4. Section 507, Unlimited area buildings.
b. For open parking structures, see Section 406.3.
c. For private garages, see Section 406.1.
d. See Section 415.5 for limitations.

SECTION 504
HEIGHT

504.1 General. The building height permitted by Table 503 shall be increased in accordance with this section.

Exception: The building height of one-story aircraft hangars, aircraft paint hangars and buildings used for the manufacturing of aircraft shall not be limited if the building is provided with an automatic fire-extinguishing system in accordance with Chapter 9 and is entirely surrounded by public ways or yards not less in width than one and one-half times ~~the height of the~~ building height.

504.2 (Supp) Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one. These increases are permitted in addition to the area increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively.

Exceptions:

1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.

504.3 Roof structures. Towers, spires, steeples and other roof structures shall be constructed of materials consistent with the required type of construction of the building except where other construction is permitted by Section 1509.2.1. Such structures shall not be used for habitation or storage. The structures shall be unlimited in height if of noncombustible materials and shall not extend more than 20 feet (6096 mm) above the allowable building height if of combustible materials (see Chapter 15 for additional requirements).

508.4.3 (Supp) Allowable height. Each separated occupancy shall comply with the building height limitations based on the type of construction of the building in accordance with Section 503.1.

Exception: Special provisions permitted by Section 509.

Reason: "Building height" is defined in Section 502.1. "Height" is not defined in the IBC. Consequently, it has no technical meaning except to the extent that a technical meaning can be derived from the ordinarily accepted meaning of "height" (refer to Section 201.4). There are instances of "height" in Chapter 5, however, where "building height" is intended. The proposal makes the necessary corrections. The result will be that an undefined term (i.e., height) is replaced by a defined term (i.e., building height).

The title of Table 503 is changed by specifying the building height in feet above grade plane separately from the story limitations as stories above grade plane. This change eliminates the potentially confusing reference to story limitations in terms of height. The story limitations in Table 503 are based on the number of stories above grade plane, not their height "as stories" above grade plane.

The changes from "building areas" to "areas" in the title of Chapter 5 and from "area of a building" to "area" in Section 503.1 are intended as editorial and for consistency with the references to "building height and area limitations" and "building heights and areas" in Sections 503.1.1 and 503.1.3, respectively. A related proposal correlates building area in the same manner as this proposal for building height.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provided appropriate editorial clean up of "building height" throughout Chapter 5; essentially clarifying that the term "height" was referring to "building height."

Assembly Action: **None**

Final Hearing Results

G122-07/08 **AS**

Code Change No: G128-07/08

Original Proposal

Section: 505.1

Proponent: Lori Lee Graham, City of Portland, OR

Revise as follows:

505.1 General. A mezzanine or mezzanines in compliance with Section 505 shall be considered a portion of the story ~~below~~ in which it is contained. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the mezzanine shall be included in determining the fire area defined in Section 702. The clear height above and below the mezzanine floor construction shall not be less than 7 feet (2134 mm).

Reason: In the 2003 IBC, this first sentence stated that a mezzanine was considered a "portion for the floor below". As part of a series of editorial code changes addressing the use of "level" or 'floor', this section was changed from floor to story. One can now read that a mezzanine on the 3rd story is considered a portion of the 2nd story, the story below. Mezzanines are part of the story defined by the ceiling above the mezzanine and the floor below the mezzanine platform.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This change clarifies which story within a building a mezzanine is associated.

Assembly Action: **None**

Final Hearing Results

G128-07/08 **AS**

Code Change No: G129-07/08

Original Proposal

Section: 505.4

Proponent: William McErlane, City of Springdale, OH, representing the Ohio Building Officials Association

Revise as follows:

505.4 (Supp) Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10.
2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located if at least one of the means of egress provides direct access to an exit from the mezzanine level.
3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area.
4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.
5. In occupancies other than Groups H and I, ~~occupancies~~ that are no more than two stories above grade plane and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.

Reason: Existing text is awkward. It confuses the user by appearing to refer to " …Groups H and I occupancies which are no more than two stories in height…" The proposed text clarifies the intent.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional proposed language clarifies the intent of the exception.

Assembly Action: **None**

Final Hearing Results

G129-07/08 **AS**

Code Change No: G130-07/08

Original Proposal

Section: 505.5

Proponent: Robert Bagnetto, Lapeyre Stair, Inc.

Revise as follows:

505.5 (Supp) Equipment platforms. Equipment platforms in buildings shall not be considered as a portion of the floor below. Such equipment platforms shall not contribute to either the building area or the number of stories as regulated by Section 503.1. The area of the equipment platform shall not be included in determining the fire area in accordance with Section 903. Equipment platforms shall not be a part of any mezzanine and such platforms and the walkways, stairs, alternating tread devices and ladders providing access to an equipment platform shall not serve as a part of the means of egress from the building.

Reason: The purpose of this proposed change to IBC-2006 is to allow the use of alternating tread devices as an access component to equipment platforms.

The proposed change is superior to the current provisions of the code in that it provides the option of using an additional type of access component to equipment platforms that is suitable for such application and that is not currently allowed by the code. IBC-2006 section 505.5 is overly restrictive in that it does not allow the use of alternating tread devices as an access component to equipment platforms, but does allow ladders for such use. (Or the intent of the section is to imply that other access components such as alternating tread devices are allowed but this is not clearly stated).

Alternating tread devices have been shown by the scientific study "Performance, perceived safety and comfort of the alternating tread stair" to be an acceptable vertical access component and preferred over ships' ladders. Alternating tread devices have been successfully used as an access component to equipment platforms for approximately 25 years. Alternating tread devices, by virtue of their features (i.e. 50 to 70° angle, larger tread size and size rails) are typically safer to use than vertical ladders and are suitable for the application specified in section 502. IBC-2006 currently allows use of alternating tread devices for accesses such as to mezzanines, boiler incinerator and furnace rooms, refrigeration machinery rooms, gallery gridirons and catwalks, unoccupied roofs, etc. Also, access to equipment platforms is a primary intended use for alternating tread devices, especially since they can be used such that tools can be carried up or down the device.

Alternating tread devices were patented and 1981 and their use to equipment platforms has been allowed by the Occupational Safety and Health Administration (OSHA) since December of 1981. Alternating tread devices were allowed as an access component to equipment platforms per The BOCA National Building Code/1999 and the 1997 Uniform Building Code, which were precursor codes to IBC. Alternating tread devices are also allowed to be used as an access component to equipment platforms under NFPA-101, 2006.

Bibliography:

OHSA instruction STD 1-1.11, dated 4/26/82
Letter dated 12/2/81 from Mark Cowan (OHSA) to Dale Ordoyne (Lapeyre Stair)
Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder, Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32
The BOCA National Building Code/1999, section 2805.2.5
1997 Uniform Building Code, section 1003.3.3.1
Letter dated 10/20/87 from Tom Briggs (ICBO) to J. Robert Nelson (PFS Corp.)
NFPA-101, 2006, section 7.2.11.1 (3)
IBC-2006 sections 1009.1, 1015.3, 1015.4, 1015.6.1

Cost Impact: The code change proposal could minimally affect the cost of construction if alternating tread devices are used in lieu of ladders for access to equipment platforms.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: Allowing alternating tread devices where ladders are permitted is appropriate.

Assembly Action: **None**

Final Hearing Results

G130-07/08 **AS**

Code Change No: G132-07/08

Original Proposal

Section: 506.2.1

Proponent: John Berry, Cole + Russell Architects, Inc.

Revise as follows:

506.2.1 (Supp) Width limits. The value of *W* shall be at least 20 feet (6096 mm). Where the value of *W* varies along the perimeter of the building, the calculation performed in accordance with Equation 5-2 shall be based on the weighted average of each portion of exterior wall and open space where the value of *W* is greater than or equal to 20 feet (6096 mm). Where the value of *W* exceeds 30 feet (9144 mm), a value of 30 feet (9144 mm) shall be used in calculating the weighted average, regardless of the actual width of the open space. Where two or more buildings are on the same lot, *W* shall be measured from the exterior face of a building to the exterior face of an opposing building, as applicable.

Exception: The value of *W* divided by 30 shall be permitted to be a maximum of 2 when the building meets all requirements of Section 507 except for compliance with the 60-foot (18 288 mm) public way or yard requirement, as applicable.

Reason: I have recently experienced some confusion from building officials on two separate projects that interpreted the determination of "W" on a multi-building development on the same property was determined by placing an imaginary line between the two buildings as one would do for the determination of fire separation distance for Table 602 and per the definition of Fire Separation Distance in Section 702. Per ICC staff, "For the measurement of "W", the major concern is the amount of open area between buildings. Because the buildings are on the same lot, the owner is in control of the space between buildings. W can be measured between buildings on the same lot."

Approval of this proposal will clarify this issue for all users of the code.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional language clarifies how to measure W with two buildings on the same lot.

Assembly Action: **None**

Final Hearing Results

G132-07/08 **AS**

Code Change No: G135-07/08

Original Proposal

Sections: 506.4, 506.4.1, 506.4.1.1, 506.5 (New), 506.5.1 (New), 506.5.2 (New)

Proponent: Gene Boecker, Code Consultants, Inc. and Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

1. Revise as follows:

506.4 (Supp) Single occupancy buildings with more than one story. The total allowable building area of a single occupancy building with more than one story above grade plane shall be determined in accordance with this section. The actual aggregate building area at all stories in the building shall not exceed the total allowable building area.

Exception: A single basement need not be included in the total allowable building area, provided such basement does not exceed the area permitted for a building with no more than one story above grade plane.

506.4.1 (Supp) Area determination. The total allowable building area of a single occupancy building with more than one story above grade plane shall be determined by multiplying the allowable area per story (*Aa*), as determined in Section 506.1, by the number of stories above grade plane as listed below:

1. For buildings with two stories above grade plane, multiply by 2;
2. For buildings with three or more stories above grade plane, multiply by 3; and
3. No story shall exceed the allowable area per story (*Aa*), as determined in Section 506.1, for the occupancies on that story.

Exceptions:

1. Unlimited area buildings in accordance with Section 507.
2. The maximum area of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2 shall be determined by multiplying the allowable area per story *(Aa),* as determined in Section 506.1, by the number of stories above grade plane.

2. Delete as follows:

~~**506.4.1.1 (Supp) Mixed occupancies.** In buildings with mixed occupancies, the allowable area per story (*Aa*) shall be based on the most restrictive provisions for each occupancy when the mixed occupancies are treated according to Section 508.3.2. When the occupancies are treated according to Section 508.3.3 as separated occupancies, the maximum total building area shall be such that the sum of the ratios for each such area on all floors as calculated according to Section 508.3.3.2 shall not exceed 2 for two-story buildings and 3 for buildings three stories or higher.~~

3. Add new text as follows:

506.5 Mixed occupancy area determination. The total allowable building area for buildings containing mixed occupancies shall be determined in accordance with the applicable provisions of this section. A single basement need not be included in the total allowable building area, provided such basement does not exceed the area permitted for a building with no more than one story above grade plane.

506.5.1 No more than one story above grade plane. For buildings with no more than one story above grade plane and containing mixed occupancies, the total building area shall be determined in accordance with the applicable provisions of Section 508.1.

506.5.2 More than one story above grade plane. For buildings with more than one story above grade plane and containing mixed occupancies, each story shall individually comply with the applicable requirements of Section 508.1. For buildings with more than three stories above grade plane, the total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of such stories based on the applicable provisions of Section 508.1 shall not exceed three.

Reason: Mixed occupancy area determination procedures were first introduced into the 2006 IBC. Section 506.4.1.1 intends to prescribe multistory mixed occupancy provisions that were formerly not addressed in the IBC. Unfortunately, it tends to oversimplify what is necessarily a complicated process based on the recognition of numerous multistory, mixed occupancy design options. We submitted a modification to former Section 506.4.1 in Orlando that was approved as modified by the General Code Development Committee. That action was overturned by the membership in Rochester based on a public comment that the proposal was too wordy.

This simplified proposal integrates mixed occupancy provisions into the single occupancy, multistory requirements as revised by the 2007 Supplement. The key feature of this proposal is that it acknowledges all three of the mixed occupancy design options (accessory occupancies, nonseparated occupancies and separated occupancies) and maintains the rational sum of the ratio concept contained in the current provision. For one story, mixed occupancy buildings, proposed Section 506.5.1 defaults to Section 508.1 which prescribes allowable area determination procedures for each mixed occupancy contingency. For multistory buildings, Section 506.5.2 of the proposal still defaults to Section 508.1 which limits the allowable area of a given story based on the applicable design method. The current provision limits two-story buildings to an aggregate sum of the ratios of two and three for three or higher story buildings. This in fact is a moot point because if Section 508.1 individual story requirements are followed, the required ratios will never be exceeded.

For example, in a nonsprinklered, two-story, Type IIA building with 3,000 sf of Group B occupancy and 23,000 sf of Group S-1 occupancy on the first story and 2,000 sf of Group M and 24,000 sf of Group B occupancy on the second story, two mixed occupancy design options come into play. The first story qualifies for the nonseparated occupancy design method because the total square footage is equal to that permitted for the most restrictive, Group S-1 occupancy (26,000 sf). The second floor is larger that that permitted for a Group M occupancy; however, inasmuch as the Group M occupancy is less than 10% of the area of the second story, it qualifies as an accessory occupancy if subsidiary to the Group B occupancy. In this instance, each story individually qualifies based on the applicable mixed occupancy provision and therefore would always meet the current requirement that the sums of the ratios shall not exceed 2.0 in a two-story building. (26,000 ÷ 26,000) + (26,000 ÷ 37,500) = 1.69 > 2.0 ∴ OK. Obviously, if a third story were added the sum of the ratio calculation would be no more than 2.69 and satisfy the current 3.0 aggregate sum of the ratio requirement for a three-story building.

The aggregate sum of the ratio not to exceed three requirement does become appropriate for buildings of four or more stories in height. In the previous example, with only 0.31 credit remaining for a fourth story, it would appear that the building footprint would have to be reduced or the area of the fourth story reduced so as not to exceed the 3.0 maximum for buildings of more than three stories in height. For example: a

nonsprinklered, four story, Type IIA building with 3,000 sf of Group B occupancy and 17,000 sf of Group S-1 occupancy on the first story, 2,000 sf of Group M and 18,000 sf of Group B occupancy on the second story, 6,667 sf of Group B occupancy, 6,667 sf of Group M occupancy and 6,667 sf of Group F-1 occupancy on the third story and 2,000 sf of Group S-2 occupancy and 18,000 sf of Group S-1 occupancy on the fourth story. Story One: nonseparated occupancies -- 20,000 ÷ 26,000 = 0.77. Story Two: accessory occupancies -- 20,000 ÷ 37,500 = 0.53. Story Three: nonseparated occupancies -- 20,000 ÷ 21,500 = 0.93. Story Four: accessory occupancies --20,000 ÷ 26,000 = 0.77. Aggregate sum of the ratios: 0.77 + 0.53 + 0.93 + 0.77 = 3.0 ≥ 3.0 4 OK.

Similar to single occupancy, multistory buildings, these mixed occupancy, multistory provisions only apply to buildings not permitted to be of unlimited area. Unlike Section 506.4.1, it was felt that an exception referencing Section 507 was inappropriate as there is no Section 507 unlimited area provision would apply to a building four or more stories in height.

In summary, this proposal provides comprehensive requirements for the relatively common mixed occupancy, multistory design condition. Approval of this proposal will clarify current requirements and provide specific, but simple, guidance for the determination of total allowable building areas in multistory, mixed occupancy buildings that is currently lacking in the IBC.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This code change appropriately addresses multistory mixed occupancy buildings. The code currently does not address this issue in detail.

Assembly Action: **None**

Final Hearing Results

G135-07/08 **AS**

Code Change No: G142-07/08

Original Proposal

Section: 507.3

Proponent: Dave Ansell, Spotsylvania County Building Inspections, representing the Virginia Building and Code Officials Association

Revise as follows:

507.3 (Supp) Sprinklered, one story. The area of a Group B, F, M or S building no more than one-story above grade plane, or a Group A-4 building no more than one-story above grade plane, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections ~~507.2~~ 507.3 ~~and~~, 903.3.1.1 and Chapter 23 of the IFC. ~~NFPA 230~~.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
   2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
   2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
   3.1. All assembly occupancies are separated from other spaces as required for separated uses in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
   3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
   3.3. All required exits shall discharge directly to the exterior.

Reason: This change is considered editorial and corrects an erroneous reference to 507.2. This language was contained in the BOCA legacy code and provides a height exception for unlimited area rack storage facilities. These rack storage facilities were allowed to contain combustible storage and be classified as an S-1 or F-1. As currently written the facility would be limited to F-2 or S-2 occupancies.

Additionally this change revises the reference to NFPA 230 to Chapter 23 of the IFC. This is related to the fact that NFPA 230 will no longer be published by NFPA and the type of information contained in NFPA 230 is essentially what is found in Chapter 23 of the IFC dealing with high-piled storage.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal appropriately references the correct Section 507.3 which is for sprinklered buildings versus Section 507.2 which is for nonsprinklered buildings. The proposal also appropriately revises the reference from an outdated standard NFPA 230 to Chapter 23 of the IFC which contains the intended requirements.

Assembly Action: **None**

Final Hearing Results

G142-07/08 **AS**

Code Change No: G144-07/08

Original Proposal

Section: 507.3

Proponent: Dave Collins, AIA, The Preview Group, Inc., representing the AIA Codes Committee

Revise as follows:

507.3 (Supp) Sprinklered, one story. The area of a Group B, F, M or S building no more than one-story above grade plane, or a Group A-4 building no more than one-story above grade plane, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
   2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
   2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.

507.3.1 Mixed occupancy buildings with Group A-1 and A-2. ~~3.~~ Group A-1 and A-2 occupancies ~~of other than Type V construction~~ shall be permitted within mixed occupancy buildings of unlimited area complying with Section 507.3, provided:

~~3.1. All assembly~~ 1. Group A-1 and A-2 occupancies are separated from other ~~spaces~~ occupancies as required for separated occupancies in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;

~~3.2. Each Group A occupancy~~ 2. The area of the portions of the building used for Group A-1 or Group A-2 occupancies shall not exceed the maximum allowable area permitted for such occupancies in Section 503.1; and

~~3.3~~. 3. All ~~required exits~~ exit doors from Group A-1 and A-2 occupancies shall discharge directly to the exterior of the building.

Reason: **Exception #3 was** added to Section 507.3 for the 2006 IBC by Code Change No. G124-04/05. The intent of the change was to allow A1 and A2 occupancies in one story buildings of unlimited area, but not as stand alone buildings. Part of the rationale for the change was that such occupancies are allowed in the mix of uses in a covered mall building. The intent of this proposal is to clarify the intent of the original proposal as approved by the membership. This proposal moves the section from being an exception to 507.3 to being a related subsection 507.3.1. The reason for this organizational change is because the charging sentences of 507.3 never mention the A-1 and A-2 occupancies, and it is hard for the code user to understand that the exception adds occupancies. The first sentence of the new 507.3.1 is revised to make sure that such buildings comply with all the provisions of 507.3, not just that it can't be in a Type V building. Item 1 (former item 3.1) is revised so that it only applies to the A-1 and A-2 occupancies that this provision is intended to address rather than applying also to an A-4 occupancy which might be in a mixed occupancy building. Item 2 (former item 3.2) is revised similarly to Item 1 so that it is limiting the area of the A-1 and A-2 and not the A-4. Item 3 (former Item 3.3) is revised to clarify that it is the exit doors from the A-1 and A-2 occupancies and not all the exit doors throughout the building.

Cost Impact: This is simply editorial and has no cost impact.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows;

507.3.1 Mixed occupancy buildings with Group A-1 and A-2. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted within mixed occupancy buildings of unlimited area complying with Section 507.3, provided:

1. Group A-1 and A-2 occupancies are separated from other occupancies as required for separated occupancies in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
2. Each ~~the~~ area of the portions of the building used for Group A-1 or Group A-2 occupancies shall not exceed the maximum allowable area permitted for such occupancies in Section 503.1; and
3. All exit doors from Group A-1 and A-2 occupancies shall discharge directly to the exterior of the building.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal clarifies a complicated exception that is specifically allowing Group A1 and A2 occupancies of a limited size in an unlimited area building. The first modification was to clarify that the type of construction excludes Type V. The second modification was a clarification that each occupancy is looked at on its own and not as an aggregate.

Assembly Action: **None**

Final Hearing Results

G144-07/08 **AM**

Code Change No: G146-07/08

Original Proposal

Section: 507.5

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

507.5 Reduced open space. The ~~permanent open space~~ public ways or yards of 60 feet (18 288 mm) in width required in Sections 507.2, 507.3, 507.4, 507.6 and 507.10 shall be permitted to be reduced to not less than 40 feet (12 192 mm)~~,~~ in width provided the following requirements are met:

1. The reduced ~~open space~~ width shall not be allowed for more than 75 percent of the perimeter of the building.
2. The exterior walls facing the reduced ~~open space~~ width shall have a minimum fire-resistance rating of 3 hours.
3. Openings in the exterior walls facing the reduced ~~open space~~ width shall have opening protectives with a minimum fire protection rating of 3 hours.

Reason: The changes are proposed for consistency with the code sections referenced in Section 507.5 none of which specify permanent open space but all specify public ways or yards.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provides consistency with terms used throughout the code.

Assembly Action: **None**

Final Hearing Results

G146-07/08 **AS**

Code Change No: G147-07/08

Original Proposal

Sections: 507.6, 507.7 (New)

Proponent: Wayne R. Jewell, CBO, City of Southfield, MI

Revise as follows:

507.6 (Supp) Group A-3 buildings Type II Construction. The area of a Group A-3 building no more than one-story above grade plane, used as a place of religious worship, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type II construction shall not be limited when all of the following criteria are met:

1. The building shall not have a stage other than a platform.
2. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. ~~The assembly floor shall be located at or within 21 inches (533 mm) of street or grade level and all exits are provided with ramps complying with Section 1010.1 to the street or grade level.~~
4. ~~4.~~3. The building shall be surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.7 Group A-3 buildings Type III and IV Construction. The area of a Group A-3 building no more than one-story above grade plane, used as a place of religious worship, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type III or IV construction shall not be limited when all of the following criteria are met:

1. The building shall not have a stage other than a platform.
2. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The assembly floor shall be located at or within 21 inches (533 mm) of street or grade level and all exits are provided with ramps complying with Section 1010.1 to the street or grade level.
4. The building shall be surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

(Renumber subsequent sections)

Reason: Section 507.6 was added into the IBC by code change G104-00, which had a supporting statement that cited one story buildings of Group A-3 were permitted in two legacy codes. While two of the three legacy codes did permit one story unlimited area buildings of Group A-3, the language that was proposed, modified and approved by the membership did not completely reflect the scope of what was permitted in the previous codes.

Those previously permitted unlimited area buildings were not:

1. Limited to just Type II construction by either code.
2. Not all A-3 Uses were subject to the provision of having the assembly floor within 21 inches (533mm) of street or grade level.
   a. Provision to limit the elevation of assembly floors was not applied to any Group A-3 Uses in one of the codes.
   b. Wasn't applied to sport facility type uses without spectator seating in the other code.

What has occurred in adding this language is to group a selection of A-3 Uses together that were not identified in either of the legacy codes. What was limited to having an assembly floor within 21" of street or grade level within the Standard Building Code was all Group A buildings without a stage requiring proscenium opening protection of Type V 1-hour, IV or III construction. The types of construction in the Standard building Code were different from those we now use Type IV is what is now known as Type IIB. Another Section in the Standard Building Code addressed large and small Group A occupancies with and without stages requiring proscenium protection. What has been done is to narrow the scope of what was permitted in both legacy codes by listing selected uses. This language further prohibits uses that are less of a risk to persons than others permitted to be two stories and unlimited in area such as Group M. What is current language ignored what was permitted; having a building containing participant sports from being unlimited in area. G104-00 allowed some of what was missing from the IBC, but increased the limitations than previously were required. Also it greatly impacted all A-3 Uses for the other code of origin.

I have no concern with the added limitation for Types of Construction that current language requires that didn't previously, but to not allow a mezzanine or raised floor surface beyond 21 inches for the uses such as a running track or location to have tread mills, aerobic cycles or dance studios or business offices is very restrictive. More restrictive than either of the codes of origin and is more restrictive than the source of the original language and what was the expressed intent of the original proposal.

Elimination of the 21 inch floor elevation limit for Type II construction and retaining it for Types III and IV which more closely reflects a compromise of the provisions of both legacy codes. While retaining the restriction for types of construction that permit combustible materials.

If we want to restrict unlimited area buildings used as a place of worship or lecture hall to the floor level elevation limit of 21 inches (533 mm), I guess that we have done. Such a restriction eliminates all balconies and reduces or limits the slope of a floor to improve sight lines to a platform or stage. It certainly limits the height of raised areas in an exhibition hall; even those completely accessed by ramps.

This is one of two code change proposals accomplishing essentially the same end goal. The first proposal is preferred but represents a larger shift from current code text. Therefore the second option G148-07/08 is offered as an alternative.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved based upon proponent's reason; which is to allow balconies in one story unlimited area Group A-3 buildings of Type II construction. The new section provides the same requirements for unlimited area Group A-3 buildings for Type III and IV construction with the additional limitation on the height of the assembly floor.

Assembly Action: **None**

Final Hearing Results

G147-07/08 **AS**

Code Change No: G150-07/08

Original Proposal

Section: 507.8

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

507.8 (Supp) Aircraft paint hangar. The area of a Group H-2 aircraft paint hangar no more than one-story above grade plane, shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is ~~entirely~~ surrounded and adjoined by public ways or yards not less in width than one and one-half times the height of the building.

Reason: The changes are proposed for consistency with identical language in Sections 507.2, 507.3, 507.4, 507.6 (Item 4), 507.9 (Item 3) and 507.10.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the language for unlimited area aircraft paint hangars. The term "entirely" was difficult to understand.

Assembly Action: **None**

Final Hearing Results

G150-07/08 **AS**

Code Change No: G153-07/08

Original Proposal

Table 508.2.5

Proponent: Rob Geislinger, Parker Fire District, CO, representing the Fire Marshals Association of Colorado (FMAC)

Revise table as follows:

TABLE 508.2.5 (Supp)
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Stationary storage battery systems having a liquid <u>electrolyte</u> capacity of more than 100 gallons<u>, or a lithium-ion capacity of 1,000 pounds (454 Kg)</u> used for facility standby power, emergency power or uninterrupted power supplies	1-hour in Group B, F, M, S and U occupancies. 2-hour in Group A, E, I and R occupancies

(Portions of table and footnotes not shown remain unchanged)

Reason: This change is necessary to complete the correlation between the IBC and IFC begun in G149. This change recognized that modern storage battery systems rely upon electrolytes other than typical lead-acid systems. The proposed language recognizes that lithium-ion batteries are measured by weight and not by volume.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed revision correlates stationary storage battery systems appropriately with the IFC.

Assembly Action: **None**

Final Hearing Results

G153-07/08 **AS**

Code Change No: G154-07/08

Original Proposal

Table 508.2.5

Proponent: Rob Geislinger, Parker Fire District, CO, representing the Fire Marshals Association of Colorado (FMAC)

Revise table as follows:

TABLE 508.2.5 (Supp)
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Stationary storage battery systems having a liquid capacity of more than ~~100~~ 50 gallons used for facility standby power, emergency power or uninterrupted power supplies	1-hour in Group B, F, M, S and U occupancies. 2-hour in Group A, E, I and R occupancies

(Portions of table and footnotes not shown remain unchanged)

Reason: This change attempts to correlate the IBC and IFC. The provisions in IFC Section 608 apply to battery systems containing more than 50 gallons. This limit has existed since the 2000 edition of that Code. Without this change there are two thresholds for battery room provisions, one at 50 gallons (found in the IFC) and the second at 100 gallons (found in the IBC). Providing only one threshold will simplify enforcement.

Cost Impact: This will increase cost for battery system installations containing between 50 and 100 gallons of electrolyte.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposed revision correlates stationary storage battery systems appropriately with the IFC.

Assembly Action: **None**

Final Hearing Results

G154-07/08 **AS**

Code Change No: G155-07/08

Original Proposal

Table 508.2.5

Proponent: Greg Johnson, City of Saint Paul, MN

Revise table as follows:

TABLE 508.2.5 (Supp)
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Rooms containing fire pumps	2 hours; or 1 hour and provide automatic fire extinguishing system

(Portions of table and footnotes not shown remain unchanged)

Reason: The proposal correlates fire pump room construction requirements that already exist through the reference to NFPA 20 in IFC Section 913.2. The addition of this language in the IBC clarifies that a separation requirement exists for fire pump rooms and improves the ease of use of the document.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposed requirements need to be correlated with NFPA 20 before such provisions can be placed within Table 508.2.5.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Greg Johnson, representing the City of Saint Paul, MN and Wayne R. Jewell, CBO, City of Southfield, representing himself request Approval as Modified by this public comment.

Modify proposal as follows:

TABLE 508.2.5 (Supp)
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Rooms in non-high-rise buildings containing fire pumps	2 hours; or 1 hour and provide automatic fire extinguishing system throughout the building.
Rooms in high-rise buildings containing fire pumps	2 hours

508.2.5.3 Protection (Supp). Except as specified in Table 508.2.5 for certain incidental accessory occupancies, where an automatic fire-extinguishing system or an automatic sprinkler system is provided in accordance with Table 508.2.5, only the space occupied by the incidental accessory occupancy need be equipped with such system.

Commenter's Reason: The intent of the original proposal was to bring to the attention of the user of the International Building Code that fire pump rooms in NFPA 20 are required to be separated out from the remainder of the building by fire barriers like other incidental accessory use areas. NFPA 20 is referenced in Section 913.2 of the International Fire Code. However it was pointed out in the code hearings in Palm Springs that NFPA 20 does not permit a reduction in the fire resistance of the separation barrier in high-rise buildings that are provided with sprinkler protection. And a further review of NFPA 20 indicates that the reduction to 1 hour is only allowed in a fully sprinklered building. This public comment revises the requirements for fire pump rooms so any reduction in the fire resistance ratings of the fire barrier for sprinklers is consistent with the requirements in NFPA 20, referenced in the IFC. Since the code now only requires the sprinkler protection within the incidental accessory areas, per Section 508.2.5.3 (2007 Supplement), we have proposed an additional change to this section to coordinate with the proposed change in the table.

Final Hearing Results

G155-07/08 **AMPC**

Code Change No: G156-07/08

Original Proposal

Sections: 508.2.5.1, 706.5

Proponent: William Clayton, City of Westminster, CO, representing himself

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

508.2.5.1 (Supp) Fire-resistance rated separation. Where Table 508.2.5 specifies a fire-resistance rated separation, the incidental accessory occupancies shall be separated from the remainder of the building by a fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both. Construction supporting one-hour fire-resistance-rated fire barriers or horizontal assemblies used for incidental accessory occupancy separations in buildings of Type IIB, IIIB, and VB construction are not required to be fire-resistance-rated unless required by other sections of this code.

PART II – IBC FIRE SAFETY

Revise as follows:

706.5 (Supp) Continuity. Fire barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling. The supporting construction for a fire barrier shall be protected to afford the required fire-resistance rating of the fire barrier supported., ~~except for 1-hour fire barriers required by Table 508.2 in buildings of Type IIB, IIIB and VB construction.~~ Hollow vertical spaces within a fire barrier shall be fireblocked in accordance with Section 717.2 at every floor level.

Exceptions:

1. The maximum required fire-resistance rating for assemblies supporting fire barriers separating tank storage as provided for in Section 415.6.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type.
2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 707.12.
3. Construction supporting one-hour fire-resistance-rated fire barriers used for incidental accessory occupancy separations as required by Table 508.2.5 in buildings of Type IIB, IIIB, and VB construction are not required to be fire-resistance-rated unless required by other sections of this code.

Reason: Section 508.2.5.1 sends the reader to sections 706 and 711 for the specific requirements for the fire-resistance rated fire-barrier and horizontal assemblies. When reading sections 706.5 it is not clear that the floor supporting the incidental use area walls is not required to be fire-resistance rated. Within our own group of code officials, design professionals, and plans examiners, we have had lively discussions revolving around this requirement. By placing this new wording in section 508.2.5.1 and revising Section 706.5, the intent and meaning is clear and we relieve any confusion. Section 706.5 currently does not read clearly and it includes an exception within the body of the code. I have removed the exception from the body and added it as the 3rd exception. By submitting this change I have eliminated any possible discrepancy. Both code changes mirror each other in wording and intent.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approval as Submitted**

Committee Reason: This code change clarifies that the supporting fire resistive construction for fire barriers and horizontal assemblies separating incidental accessory occupancies is not required for Types IIB, IIIB and VB construction.

Assembly Action: **None**

PART II – IBC FIRE SAFETY
Committee Action: **Approved as Submitted**

Committee Reason: The committee agreed that this proposal clarifies the current code requirements by separating the requirements for the continuity of the vertical fire barrier from the allowance for the fire resistance ratings of the supporting construction relating to Type IIB, IIIB, and VB construction that does not require continuity of the fire resistive rating when supporting separations for incidental accessory occupancies.

Assembly Action: **None**

Final Hearing Results

G156-07/08, Part I	**AS**
G156-07/08, Part II	**AS**

Code Change No: G157-07/08

Original Proposal

Section: 508.2.5.2

Proponent: William Clayton, City of Westminster, CO, representing himself

Revise as follows:

508.2.5.2 (Supp) Nonfire-resistance rated separation and protection. Where Table 508.2.5 permits an automatic fire extinguishing system without a fire barrier, the incidental accessory occupancies shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. The walls shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the fire-resistance-rated floor/ceiling assembly above or fire-resistance-rated roof/ceiling assembly above or to the underside of the floor or roof sheathing, deck or slab above. Doors shall be self- or automatic closing upon detection of smoke in accordance with Section 715.4.7.3~~.~~ and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80. Walls surrounding the incidental accessory occupancy shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.7. ~~Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80~~.

Reason: Currently Section 508.2.5.1 prohibits air transfer openings to be installed in the door to an incidental use area. The code is silent regarding the protection of the wall when the incidental use area wall is allowed to be constructed to resist the passage of smoke rather than be constructed as a one-hour fire–resistance-rated assembly. Without adding this language, the wall could effectively have unlimited air transfer openings while the door is regulated to prohibit air transfer openings. As a Building Plans Examiner, I see this situation presented frequently. Currently the building designer and code official are left with no guidance as to the requirements. By adding the necessary language above, we can clarify the code and correct this over-sight. The addition of this language would define the level of protection needed to allow penetrations of the wall that separates an incidental use area from other portions of the building. Section 710.7 currently provides the charging statement to require dampers in similar smoke partitions. The exact specifications are then given in 716.3 as referenced in section 710.7. This is a logical path and uses language that already exists in the code for similar assemblies.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

508.2.5.2 (Supp) Nonfire-resistance rated separation and protection. Where Table 508.2.5 permits an automatic fire extinguishing system without a fire barrier, the incidental accessory occupancies shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. The walls shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the fire-resistance-rated floor/ceiling assembly above or fire-resistance-rated roof/ceiling assembly above or to the underside of the floor or roof sheathing, deck or slab above. Doors shall be self- or automatic closing upon detection of smoke in accordance with Section 715.4.7.3. ~~and shall~~

~~not be undercut in excess of the clearance permitted in accordance with NFPA 80. Walls surrounding the incidental accessory occupancy shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.7.~~ Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80. Walls surrounding the incidental accessory occupancy shall not have air transfer openings unless provided with smoke dampers in accordance with Section 710.7.

Committee Reason: Currently Section 508.2.5.1 prohibits air transfer openings to be installed in the door to an incidental use area. The code is silent regarding the protection of the wall when the incidental use area wall is allowed to be constructed to resist the passage of smoke rather than be constructed as a one-hour fire–resistance-rated assembly. Without adding this language, the wall could effectively have unlimited air transfer openings while the door is regulated to prohibit air transfer openings. Currently the building designer and code official are left with no guidance as to the requirements. The addition of this language would define the level of protection needed to allow penetrations of the wall that separates an incidental use area from other portions of the building. Section 710.7 currently provides the charging statement to require dampers in similar smoke partitions. The exact specifications are then given in Section 716.3 as referenced in Section 710.7. This is a logical path and uses language that already exists in the code for similar assemblies. The modification to the proposal simply addresses a better layout of the language proposed.

Assembly Action: **None**

Final Hearing Results

G157-07/08 **AM**

Code Change No: G160-07/08

Original Proposal

Table 508.4

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

Revise table as follows:

TABLE 508.4 (Supp)
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A[d], E		~~I~~ I-1, I-3, I-4		I-2		R[c]		F-2, S-2[b,d], U[d]		B, F-1, M, S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A[d], E[d]	N	N	1	2	2	2	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
~~I~~ I-1, I-3, I-4	—	—	N	N	2	2	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
I-2	—	—	—	—	N	N	2	NP	2	2	2	2	NP	NP	3	NP	2	NP
R[c]	—	—	—	—	—	—	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2[b,c] U[c]	—	—	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3[a]
B, F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2[a]
H-1	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m^2.

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2.
b. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
c. See Section 406.1.4.
d. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

Reason: This proposal will require Group I-2 occupancies to be separated by at least a two hour separation from the remainder of the building. Group I-2 occupancies contain patients who need assistance during evacuation and thus require longer evacuation time. The separation of a minimum of 2 hours will provide for horizontal movement and then vertical movement/evacuation if needed.

This provision will provide consistency in the IBC with Federal Regulations for these facilities.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Group I-2 occupancies already have smoke compartment requirements in Section 407 therefore the separation requirements currently in Table 508.4 were considered adequate.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

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

Modify proposal as follows:

TABLE 508.4 (Supp)
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

Occupancy	A[e], E		I-1, I-3, I-4		I-2		R[d]		F-2, S-2[c,d], U[d]		B[b], F-1, M[b], S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A[e], E[e]	N	N	1	2	2	~~2~~ NP	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
I-1, I-3, I-4	—	—	N	N	2	~~2~~ NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
I-2	—	—	—	—	N	N	2	NP	2	~~2~~ NP	2	~~2~~ NP	NP	NP	3	NP	2	NP
R[d]	—	—	—	—	—	—	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2[c,d], U[d]	—	—	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3[a]
B[b], F-1, M[b], S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2[a]
H-1	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m^2.
S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. For Group H-5 occupancies, see Section 903.2.4.2.
b. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
c. See Section 406.1.4.
d. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

Commenter's Reason: This Public Comment requires that I-2 occupancies be separated from other occupancies by at least 2-HR fire resistive construction. The Code Development Committee disapproved this original proposal. The reason was that the smoke compartments exist in I-2 occupancies therefore this change is not necessary.

However, even with the smoke compartments, this proposal will specify that Group I-2 occupancies need to be separated by at least a two hour separation from other occupancies. Group I-2 occupancies contain patients who need assistance during evacuation and thus require longer evacuation time. The separation of a minimum of 2 hours will provide for horizontal movement and then vertical movement/evacuation if needed.

Four entries in the Table are revised from 2-HR to NP for separations between I-2 and other occupancies. This is consistent with Section 903.2.5 which requires that the entire building must be sprinklered when it contains a I occupancy. Therefore, a non-sprinklered situation could not exist for new construction.

This provision will provide consistency and correlation of the IBC with mandated Federal Regulations for these facilities. In other words, the Federal Regulations already require this separation. Without the inclusion of this information in the IBC, a new facility could be constructed and completed only to find out that they need to go back and install a 2 hour fire separation. If the IBC contains this requirement, it will eliminate confusion and frustration on the part of the owner/developer and eliminate finger pointing after the code official has "approved" the facility.

Final Hearing Results

G160-07/08 AMPC

Code Change No: G161-07/08

Original Proposal

Table 508.4

Proponent: Larry Fluer, Larry Fluer, Inc., representing the Compressed Gas Association

Revise table as follows:

TABLE 508.4 (Supp)
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

	A[d], E		I		R[c]		F-2, S-2[b,c], U[c]		B, F-1, M, S-1		H-1		H-2		H-3, H-4, H-5	
OCCUPANCY	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**
A[d], E[d]	N	N	1	2	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
I	--	--	N	N	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
R[c]	--	--	--	--	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2[b,c], U[d]	--	--	--	--	--	--	N	N	1	2	NP	NP	3	4	2	3[a]
B, F-1, M, S-1	--	--	--	--	--	--	--	--	N	N	NP	NP	2	3	1	2[a]
H-1	--	--	--	--	--	--	--	--	--	--	N	NP	NP	NP	NP	NP
H-2	--	--	--	--	--	--	--	--	--	--	--	--	N	NP	1	NP
H-3, H-4, H-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1[e,f] ~~N~~	NP

For SI: 1 square foot = 0.0929 m^2.

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

N = No separation requirement.

NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2.
b. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
c. See Section 406.1.4.
d. Commercial kitchens need not be separated from the restaurant seating areas that they serve.
e. Separation is not required between occupancies of the same classification.
f. For H-5 occupancies see Section 415.8.2.2.

Reason: There were a number of proposals made in the 2006/2007 code cycle to extensively revise Table 508.3.3. Several of the code changes have proposed completely rewriting the table to return it to a point that resembles the legacy code approach. The ICC membership appears to have accepted the current format for the table. There has been testimony offered by proponents of the table that have asked those with specific concerns to bring the concerns forward for resolution.

The Compressed Gas Association has voiced opposition to changes in the table that have been proposed subsequent to the current revised state that markedly increase requirements for separation that appear to be inconsistent with established practice. The Compressed Gas industry and its customer base routinely occupy buildings of mixed occupancy where gas storage rooms are constructed as a means to isolate materials determined to be mutually incompatible, and where occupancy separation provides a means to do so.

The legacy codes traditionally have required a one-hour separation between occupancies of H-3, H-4 and H-5 as a means to isolate physical hazard materials from those that present a health hazard. The H-5 occupancy (semiconductor manufacturing) utilizes a wide variety of compressed gases as well as a variety of other hazardous materials liquids and solids and one of the basic tenets of control has been the use of a minimum one-hour separation between the H-5 area and the hazardous materials storage rooms which are used to support the activity in the fabrication area.

Other industries that utilize the wide variety of hazardous materials indicated in IBC Sections 307.5 and 307.6 routinely separate these materials one from the other through the use of an occupancy separation. Examples of Section 307.5 materials include flammable and combustible liquids, oxidizers, flammable solids, and unstable reactives.

Health hazard materials, e.g., toxics and corrosives (H-4), especially those in storage, are normally separated from physical hazard materials (H-3) as a means to protect against exposure fires. Where these materials are required to be used in a process where incompatibles with a physical hazard are involved, the incompatible materials are required to be separated, and the more restrictive provisions governing construction are applied.

The requirements for the H-5 occupancy were established in the Uniform Codes in 1984, and the provisions were accepted into the BOCA National and SBCCI Standard Codes by 1987. A fire resistive separation has been required between the fabrication area and chemical storage rooms with the degree of fire resistance varying depending on the code, but generally patterned after the approach used for required separations for flammable and combustible liquids established in NFPA 30. In any case, the required separation could not be less than one-hour.

The requirements to separate health hazards from physical hazards within the array of materials knows as “high hazard” was first established in the Uniform Codes in 1988 and adopted by the BOCA National and SBCCI Standard Codes in 1993 and 1994 Editions respectively as those two codes evolved to resolve issues surrounding the storage and use of hazardous materials.

With recognition that a required one-hour separation has been established for 20 years (or more in the case of the H-5) these same requirements were adopted by NFPA and debated during the consensus process as NFPA 5000 evolved demonstrating that these requirements were subjected to wider view by members of industry and the public as that process evolved.

Footnote e has been added to avoid having the code user interpret that a separation is required between two different areas of the same occupancy. While this may appear obvious to some a question can be raised when multiple rooms or areas are constructed to serve operational needs. For example, an area that contains Class 2 oxidizers (H-3 materials) is located in an adjacent room containing flammable solids (also H-3 material) would not be required to have a fire resistive separation between the rooms. Without the footnote the code is subject to interpretation. On the other hand, Footnote f has been added to direct the user to Section 415.8.2.2 which does require a one hour separation between multiple fabrication areas each of which are in an H-5 occupancy. The required separation in this instance is based on the limitations imposed on ventilation systems, maximum quantities of HPM and other factors.

CGA is asking that the required mutual separation of one-hour between the H-3, H-4 and H-5 occupancies be returned to the established and accepted norm. Doing so will reconstitute the reasonable minimum safeguard for the required separation between these important occupancies.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal provides needed separation between different classifications of H occupancies. See also proponent’s reason.

Assembly Action: **None**

Final Hearing Results

G161-07/08 **AS**

Code Change No: G162-07/08

Original Proposal

Table 508.4

Proponent: Martha (Marty) Gillis, Bureau Veritas North America, Inc., representing the Washington Association of Building Officials, Technical Code Development Committee

Revise table as follows:

TABLE 508.4 (Supp)
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

	A[d], E		I		R[e]		F-2, S-2 [b,e], U[e]		B, F-1, M, S-1		H-1		H-2		H-3, H-4, H-5	
OCCUPANCY	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**
A[d], E[d]	N	N	1	2	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
I	—	—	N	N	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
R[e]	—	—	—	—	N	N	1[c]	2[c]	1	2	NP	NP	3	NP	2	NP
F-2, S-2 [b,e], U[e]	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3[a]
B, F-1, M, S-1	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2[a]
H-1	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m^2.
S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2
b. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
c. See Section 406.1.4
d. Commercial kitchens need not be separated from the restaurant seating area that they serve.

Reason: This proposal is, in part, editorial, needed for consistency, and provides clean up.

Presently whenever either U or R occupancies are paired with any other occupancy the user must cross reference 406.1.4 needlessly since 406.1.4 only applies to mixed occupancies containing only the pairing of R and U. This proposal therefore relocates footnote "c" to the center where R and U cross in order to express than Footnote "c" and Section 406.1.4 are only applicable to this particular mixed occupancy condition (R with U).

This proposal seeks to relocate footnote "c" to the applicable cells where U and R occupancies cross in the center of the table in order to provide efficient use of the table and add clarity.

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

Public Hearing Results

Errata: Replace Footnote "a" in two places in the last column of the table for non sprinklered Group H-3, H-4 and H-5 Occupancies.

Committee Action: **Approved as Submitted**

Committee Reason: The proposal is an editorial revision for the location in Table 508.4 for Footnote "c" that provides clarity to the table regarding the application of separation requirements for a mixed occupancy building with Groups R and U.

Assembly Action: **None**

Final Hearing Results

G162-07/08 **AS**

Code Change No: G163-07/08

Original Proposal

Table 508.4

Proponent: Don Davies, Salt Lake City Corporation, representing the Utah Chapter of ICC

Revise table as follows:

TABLE 508.4 (Supp)
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

(Portions of table not shown remain unchanged)

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2.
b. The required separation from areas used only for private or pleasure vehicles shall be ~~allowed to~~ reduced ~~separation~~ by 1 hour but to not less than one hour.
c. See Section 406.1.4.
d. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

Reason: The code user is alerted in IBC Section 406.2.7 that there must be some type of occupancy separation between a garage and another occupancy which does not normally occur in the code. When one turns to Section 508.3 as directed they are directed to Section 508.3.2 as one of the options which allows nonseparated uses. In most instances the nonseparated option would be the preferred and likely used option. Even though vehicle fires have gone down and there is a good history of that there should be at least a minimal amount of protection to the adjoining uses as required in other areas of the code as required for private garages in Section 406.1.4 which have a few vehicles.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was a good clarification that a minimum of 1 hour fire resistive construction is required for separation of areas housing private or pleasure vehicles.

Assembly Action: **None**

Final Hearing Results

G163-07/08 **AS**

Code Change No: G167-07/08

Original Proposal

Section: 509.9

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

509.9 (Supp) Multiple buildings above or below ~~an enclosed or open~~ Group S-2 parking garages. Where two or more buildings are provided above the horizontal assembly separating a ~~Group S-2 open or closed parking garage~~ building below from the buildings above in accordance with the special provisions in Section~~s~~ 509.2, ~~and~~ 509.3 or 509.8, the buildings above the horizontal assembly shall be regarded as separate and distinct buildings and shall comply with all other provisions of this code as applicable to each separate and distinct building.

Reason: The current language applies to open and enclosed parking garages below horizontal assemblies in accordance with the provisions of Sections 509.2 and 509.3. Section 509.3 is limited to an open parking garage above the horizontal assembly and an enclosed parking garage below the horizontal assembly. Section 509.2, however, permits open or enclosed parking garages above or below the horizontal assembly. Section 509.8 has provisions similar to Section 509.3 except it is limited to an open parking garage above the horizontal assembly. The proposal revises Section 509.9 to more comprehensively account for the special provisions of Sections 509.2, 509.3 and 509.8 each of which permit multiple buildings above the horizontal assembly to be considered as separate and distinct buildings.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

509.9 (Supp) Multiple buildings above or below Group S-2 parking garages. Where two or more buildings are provided above the horizontal assembly separating a Group S-2 open or closed parking garage ~~building below~~ from the buildings above in accordance with the special provisions in Section 509.2, 509.3 or 509.8, the buildings above the horizontal assembly shall be regarded as separate and distinct buildings and shall comply with all other provisions of this code as applicable to each separate and distinct building.

Committee Reason: The proposal revises Section 509.9 to more comprehensively account for the special provisions of Sections 509.2, 509.3 and 509.8, each of which permit multiple buildings above the horizontal assembly to be considered as separate and distinct buildings. The modification was to restore the phrase “Group S-2 open or closed parking garage” as without this phrase the section was thought to lose its intent.

Assembly Action: **None**

Final Hearing Results

G167-07/08 **AM**

Code Change No: G168-07/08

Original Proposal

Section: 509.9

Proponent: Maureen Traxler, City of Seattle, WA, representing the Department of Planning and Development

Revise as follows:

509.9 (Supp) Multiple buildings above an enclosed or open Group S-2 parking garage. Where two or more buildings are provided above the horizontal assembly separating a Group S-2 open or closed parking garage from the buildings above in accordance with the special provisions in Sections 509.2 and 509.3, the buildings above the horizontal assembly shall be regarded as separate and distinct buildings from each other and shall comply with all other provisions of this code as applicable to each separate and distinct building.

Reason: Section 509.9 was added to the code by item G158-06/07. It addresses one interpretation issue, but raises another question. The intent behind G158-06/07 was to clarify that the buildings above the horizontal separation are separate, but the language also seems to say that those upper buildings are to be considered as separate from the building below the horizontal separation. Section 509.2 clearly states that the horizontal separation "shall be considered as a separate and distinct building for the purpose of determining area limitations, continuity of fire walls, limitation of number of stories and type of construction". The effect of the horizontal separation in Section 509.3 is even more limited— the garage below the separation "shall be classified as a separate and distinct building for the purpose of determining the type of construction".

This proposal removes the inconsistency between the new Section 509.9 and Sections 509.2 and 509.3 by stating that the buildings above the horizontal separation are separate from each other, and allowing Section 509.2 and 509.3 to answer the question of whether they are separate from the building below the separation.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proponent sought to clarify that each of the buildings above the horizontal assembly were considered as separate from one another, but the committee felt that the code was already clear enough in this regard.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

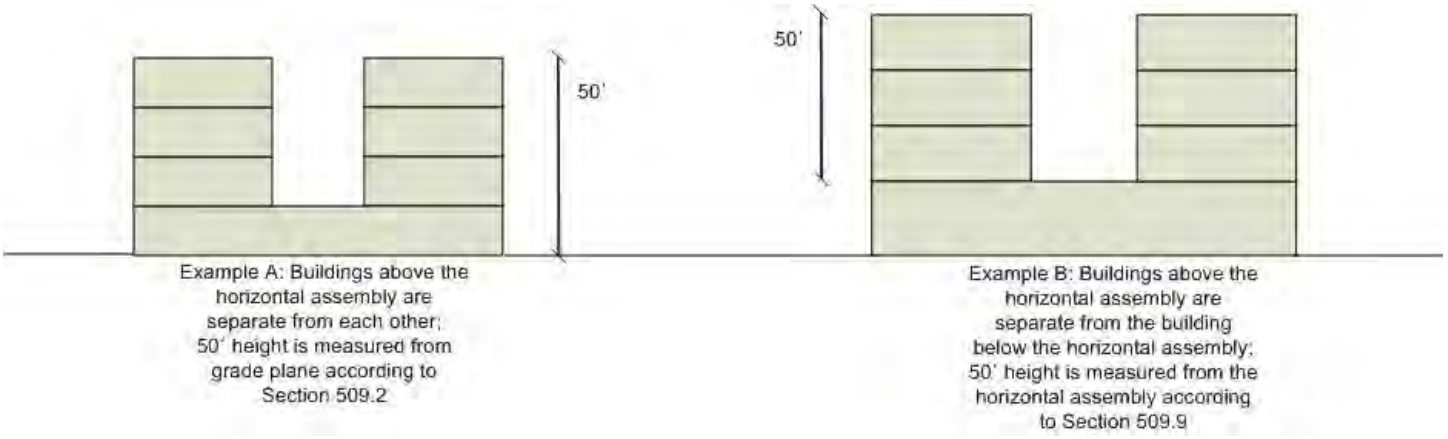
Public Comment:

Maureen Traxler, City of Seattle Department of Planning and Development, requests Approval as Submitted.

Commenter's Reason: Section 509.9 says that, for buildings built according to Section 509.2 or 509.3, the buildings above the horizontal assembly are separate buildings. It doesn't say what they are separate from, and could easily be read to say they are separate from the building below the horizontal assembly.

The sketches below illustrate the two interpretations of Section 509.9. The buildings in both sketches comply with Section 509.2—their lower stories are parking garages of Type IA construction; the upper stories are unsprinklered Group B occupancies of Type VA construction. Example A illustrates the correct interpretation of Section 509.9, which is that the Type VA buildings are separate from each other, but are only separate from the lower story to the extent provided in Section 509.2. Example B illustrates the effect of interpreting Section 509.9 as allowing the Type VA stories to be separate from the Type IA story—if the height of the building is measured from the top of the three-hour separation, the allowable building height is much greater.

This proposal is consistent with the reason for adding this section to the code in the 2006-2007 code cycle. The reason for that proposal stated "This text is needed to clarify when two or more buildings are built atop a common parking garage that the buildings above the garage are to be considered as distinct buildings separate *from one another*." [emphasis added]



Final Hearing Results

G168-07/08 AS

Code Change No: G172-07/08

Original Proposal

Table 602

Proponent: Sarah A. Rice, CBO, Schirmer Engineering Corporation

Revise table as follows:

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, e]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[f]	OCCUPANCY GROUP F-1, M, S-1[g]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2[g], U[b]

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. For special requirements for Group U occupancies see Section 406.1.2
c. See Section 705.1.1 for party walls.
d. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
e. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
f. For special requirements for Group H occupancies see Section 415.3
g. For special requirements for Group S aircraft hangers see Section 412.2.1

Reason: Similar to footnote b which references the special provisions applying to fire separation and fire-resistance rating for Group U exterior walls, these footnotes would provide reference to the other two provisions in Chapter 4 where there are unique separation or fire-resistance requirements based on distance to property line. The additional footnotes are proposed for consistency and for clarity for the code users. With respect to Group H occupancies there are additional separation requirements that are greater than those of Table 602. For aircraft hangers, there is a greater fire resistance rating imposed than required by Table 602.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The added footnotes provide clarity to the code by referencing relevant fire resistive separation requirements for Group H Occupancies and Group S-2 aircraft hangers.

Assembly Action: **None**

Final Hearing Results

G172-07/08 **AS**

Code Change No: G178-07/08

Original Proposal

Sections: 1202; IRC R202;

Proponent: Daniel J. Walker, PE, Thomas Associates, Inc., representing the National Sunroom Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND THE IRC B/E CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

SECTION 1202
DEFINITIONS

SUNROOM ~~ADDITION.~~ A one-story ~~addition~~ structure ~~added~~ attached to a~~n~~ ~~existing~~ building with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof.

Reason: The definition of a Sunroom is inconsistent in the IBC when compared to the IRC and IECC. This proposal seeks to unify the definition in all three codes. This revised definition is necessary because sunrooms are often constructed as a part of a building during the initial construction, not only as additions to existing buildings.

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

Public Hearing Results

PART II – IRC BUILDING/ENERGY

Revise as follows:

SECTION R202
GENERAL DEFINITIONS

SUNROOM. A one-story structure attached to a ~~dwelling~~ building with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof.

Reason: The definition of a Sunroom is currently inconsistent in the IRC, IBC and IECC. This proposal seeks to unify the definition in all three codes. This revised definition deletes the term "dwelling" and replaces it with "building" because, in the IECC, the term "building" includes dwellings and other types of structures where sunrooms are used. The change is a clarification since sunrooms can be utilized as common areas in buildings that have multiple dwelling units, restaurant dining areas, etc.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The revised definition brings consistency with the IRC for the term “sunroom”.

Assembly Action: **None**

PART II – IRC-B/E
Committee Action: **Disapproved**

Committee Reason: This new language for the definition of Sunroom is not appropriate for the IRC. The scope of the IRC and the structures it deals with is more accurately portrayed with the current definition.

Assembly Action: **None**

Final Hearing Results

G178-07/08, Part I	**AS**
G178-07/08, Part II	**D**

Code Change No: G179-07/08

Original Proposal

Sections: 1203.2.1; IRC R806.1

Proponent: Matthew Dobson, Vinyl Siding Institute

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1203.2.1 (Supp) Openings into attic. Exterior openings into the attic space of any building intended for human occupancy shall be protected to prevent the entry of birds, squirrels, rodents, snakes and other similar creatures. Openings for ventilation having a least dimension of ~~1/8~~ 1/16 inch (~~3.2~~ 1.6 mm) minimum and 1/4 inch (6.4 mm) maximum shall be permitted. Openings for ventilation having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of ~~1/8~~ 1/16 inch (~~3.2~~ 1.6 mm) minimum and 1/4 inch (6.4 mm) maximum ~~openings~~. Where combustion air is obtained from an attic area, it shall be in accordance with Chapter 7 of the *International Mechanical Code*.

PART II – IRC BUILDING/ENERGY

R806.1 (Supp) Ventilation required. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of ~~1/8~~ 1/16 inch (~~3.2~~ 1.6 mm) minimum and 1/4 inch (6.4 mm) maximum ~~openings~~.

Reason: Soffit and opening sizes have changed and become more innovative, products like hidden vents and other have helped to improve the architectural ability of these exterior attic openings. This change does not change the venting requirement but reflects minimum requirements that are now being used effectively in the market place. It is also more consistent with current language in the IRC.

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the code and is consistent with the provisions of the IRC for attic vents.

Assembly Action: **None**

PART II – IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change adds necessary clarity on how to figure the minimum opening requirements for attic vents.

Assembly Action: **None**

Final Hearing Results

G179-07/08, Part I	**AS**
G179-07/08, Part II	**AS**

Code Change No: G180-07/08

Original Proposal

Sections: 1207.2.1 (New), Chapter 35 (New); IRC AK102.1 (New), AK104 (New)

Proponent: Jason Thompson, PE, National Concrete Masonry Association, representing the Masonry Alliance for Codes and Standards (MACS); Phil Samblanet, The Masonry Society

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IRC BUILDING/ENERGY DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Add new text as follows:

1207.2.1 Masonry. The sound transmission class of concrete masonry and clay masonry assemblies shall be calculated in accordance with TMS 0302 or determined through testing in accordance with ASTM 90.

2. Add standard to Chapter 35 as follows:

The Masonry Society
TMS 0302-07 Standard Method for Determining the Sound Transmission Class Rating for Masonry Walls

PART II – IRC BUILDING/ENERGY

1. Add new text as follows:

AK102.1.1 Masonry. The sound transmission class of concrete masonry and clay masonry assemblies shall be calculated in accordance with TMS 0302 or determined through testing in accordance with ASTM 90.

2. Add standard to Section AK104 as follows:

The Masonry Society
TMS 0302-07 Standard Method for Determining the Sound Transmission Class Rating for Masonry Walls

Reason: The Masonry Society (TMS) has recently updated and published a new standardized method for calculating the sound transmission class (STC) for various concrete and clay masonry wall assemblies. The resulting STC values are derived from laboratory testing of masonry assemblies in accordance with ASTM E 90. Introducing the reference to TMS 0302 will provide users with quicker alternatives to complying with the IBC and IRC requirements for STC ratings.

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

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard TMS 0302-07 indicated that, in the opinion of ICC Staff, the standard **did** comply with ICC standards criteria.

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: The new standard and proposed language makes it easier to understand how to apply the sound transmission requirements for masonry.

Assembly Action: **None**

PART II – IRC
Committee Action: **Approved as Submitted**

Committee Reason: This change brings a new standard into the code to promote Sound Transmission Class (STC) rating for masonry assemblies. Also, there are liability issues with sound transmission and this should help the builder in this regard.

Assembly Action: **None**

Final Hearing Results

G180-07/08, Part I	**AS**
G180-07/08, Part II	**AS**

Code Change No: G182-07/08

Original Proposal

Sections: 1210.2; IPC 310.5

Proponent: Lawrence Brown, CBO, National Association of Home Builders (NAHB)

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, AND IPC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Revise as follows:

1210.2 Walls <u>and partitions</u>. Walls <u>and partitions</u> within 2 feet (610 mm) of urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of 4 feet (1219 mm) above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

Exceptions:

1. Dwelling units and sleeping units.
2. Toilet rooms that are not accessible to the public and which have not more than one water closet.

Accessories such as grab bars, towel bars, paper dispensers and soap dishes, provided on or within walls, shall be installed and sealed to protect structural elements from moisture.

PART II – IPC

310.5 Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. ~~The construction of such walls or partitions shall incorporate waterproof, smooth, readily cleanable and nonabsorbent finish surfaces.~~ The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal a minimum of 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished back wall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or unisex toilet room with a lockable door.
2. Toilet rooms located in day care and child care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason: **Part I:** To provide consistency with terminology in the IBC and the IPC for walls separating water closets and urinals.

Part II: This change provides consistency between the IPC and the IBC for the walls and partitions surrounding urinals and water closets. As currently written the provisions for these surfaces in the IBC and IPC conflict with each other. The IBC requires a, "smooth, hard, nonabsorbent surface…that is not adversely affected by moisture". IPC Section 310.5 requires a, "waterproof, smooth, readily cleanable and nonabsorbent finish surfaces." The walls (partitions) only for the urinals (not the water closets) would also be required to be "readily cleanable".

To eliminate this inconsistency, the text of the second sentence is stricken. In addition, it is not necessary for the IPC contain the provisions needed for these surfaces. IPC Section 310.3 (shown below) already requires that, "the interior finish surfaces of toilet rooms shall comply with the International Building Code." IBC Section 1210.2 states (with the proposed modification): "Walls and partitions within 2 feet (610 mm) of urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of 4 feet (1219 mm) above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture." Please note that Section IPC Section 310.3 also applies to the partitions for water closet compartment surfaces covered by Section 310.4. As there is no need for this repetitive text to be contained within Section 310.4 for water closets, there should no need to include it in Section 310.5 for urinals.

(IPC) 310.3 Interior finish. Interior finish surfaces of toilet rooms shall comply with the International Building Code.

It is also understood by the Proponent that the IBC General Code Committee has jurisdiction over wall surfaces, not the Plumbing Code Committee. With the modification to IBC Section 1210.2, and the proposed change for the IPC, the concerns of both Code Committees for these walls are addressed. .

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

Public Hearing Results

PART I – IBC GENERAL
Committee Action: **Approved as Submitted**

Committee Reason: This proposal will make sure that partitions adjacent to water closets and urinals will be constructed of non-absorbent materials.

Assembly Action: **None**

PART II – IPC
Committee Action: **Approved as Submitted**

Committee Reason: Material requirements for walls or partitions is best covered by the IBC and not the IPC. Elimination of the text in the IPC avoids the current discrepancies between the IBC and IPC on types of finish required for walls and partitions.

Assembly Action: **None**

Final Hearing Results

G182-07/08, Part I	**AS**
G182-07/08, Part II	**AS**

Code Change No: G184-07/08

Original Proposal

Sections: [P] 2902.6 (New) (IPC 310.5)

Proponent: John Berry, Cole + Russell Architects, Inc.

Add new text as follows:

[P] 2902.6 (IPC 310.5) Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The construction of such walls or partitions shall incorporate waterproof, smooth, readily cleanable and nonabsorbent finish surfaces. The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal a minimum of 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished back wall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or unisex toilet room with a lockable door.
2. Toilet rooms located in day care and child care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason: This new section is an exact duplication of Section 310.5, IPC. This requirement was recently added to the IPC. The specification of and design of urinal partitions is traditionally accomplished by an architect, whom typically is not as familiar with the IPC. Locating these provisions in the building code is reasonable since plumbing engineers typically would not be concerned with these provisions and typically would not inform the architect of such requirements. Architects are accustomed to reviewing Chapter 29 for plumbing fixture counts, so this is a reasonable location to include this requirement in the code.

This proposal is similar to my other proposal adding Section 2902.6 for water closet compartments.

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

Analysis: Requirements for walls surrounding urinals are in IBC 1210.2 and IPC [B] 419.3.

The proposed language is exiting in Section 310.5 of the IPC. The maintenance of the technical content of the text to be placed in the IBC by this proposal rests with the IPC Code Development Committee. The need for and duplication of the language within the IBC is a matter to be determined by the IBC General Code Development Committee.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: Providing this section within the IBC is beneficial as it is often overlooked by designers that are not familiar with the IPC.

Assembly Action: **None**

Final Hearing Results

G184-07/08 **AS**

Code Change No: G185-07/08

Original Proposal

Sections: [P] 2902.6 (New) (IPC 310.4)

Proponent: John Berry, Cole + Russell Architects, Inc.

Add new text as follows:

[P] 2902.6 (IPC 310.4) Water closet compartment. Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

Exceptions:

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
2. Toilet rooms located in a day care and child care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.

Reason: This new section is an exact duplication of Section 310.4, IPC. The specification of and design of toilet stall partitions is traditionally accomplished by an architect, whom typically is not as familiar with the IPC. Locating these provisions in the building code is reasonable since Plumbing engineers typically would not be concerned with these provisions and typically would not inform the architect of such requirements. Architects are accustomed to reviewing Chapter 29 for plumbing fixture counts, so this is a reasonable location to include this requirement in the code.

This proposal is similar to my other proposal adding Section 2902.7 for urinal partitions. It was the realization that the IPC now requires urinal partitions that drove the decision to also include this section on water closet compartments.

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

Analysis: The Requirements for walls surrounding water closets are in IBC1210.2.

The proposed language is exiting in Section 310.5 of the IPC. The maintenance of the technical content of the text to be placed in the IBC by this proposal rests with the IPC Code Development Committee. The need for and duplication of the language within the IBC is a matter to be determined by the IBC General Code Development Committee.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved for consistency with the action taken on G184-07/08. Such provisions are often overlooked by designers not familiar with the IPC.

Assembly Action: **None**

Final Hearing Results

G185-07/08 **AS**

Code Change No: G188-07/08

Original Proposal

Section: 3002.4

Proponent: Ed Donoghue, Edward Donoghue Associates Inc. (EADAI), representing the National Elevator Industry, Inc. (NEII)

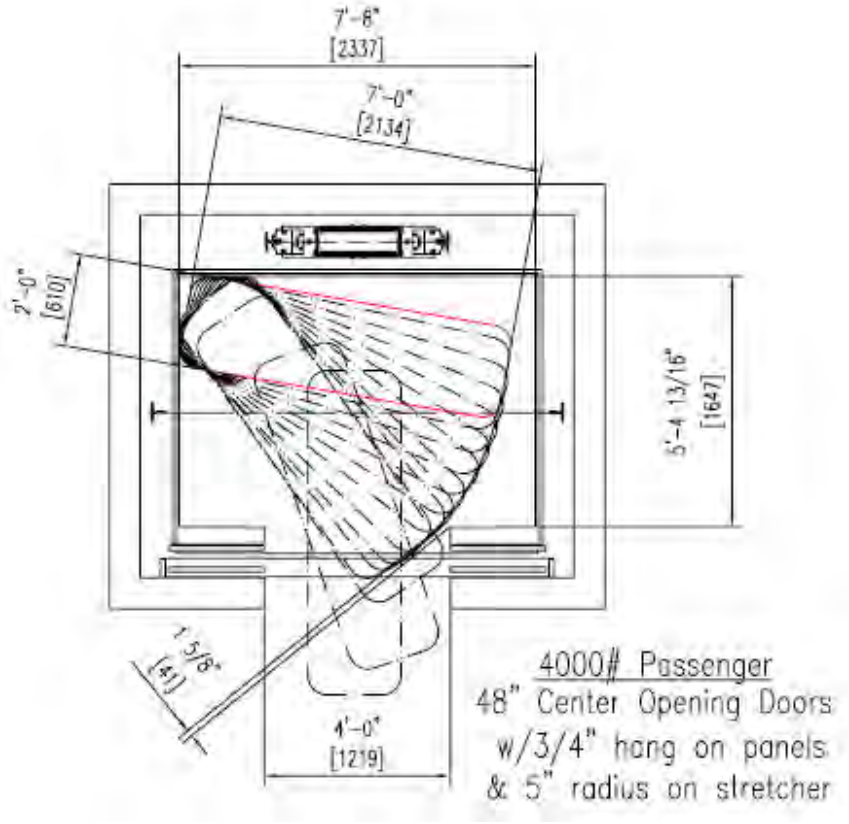
Revise as follows:

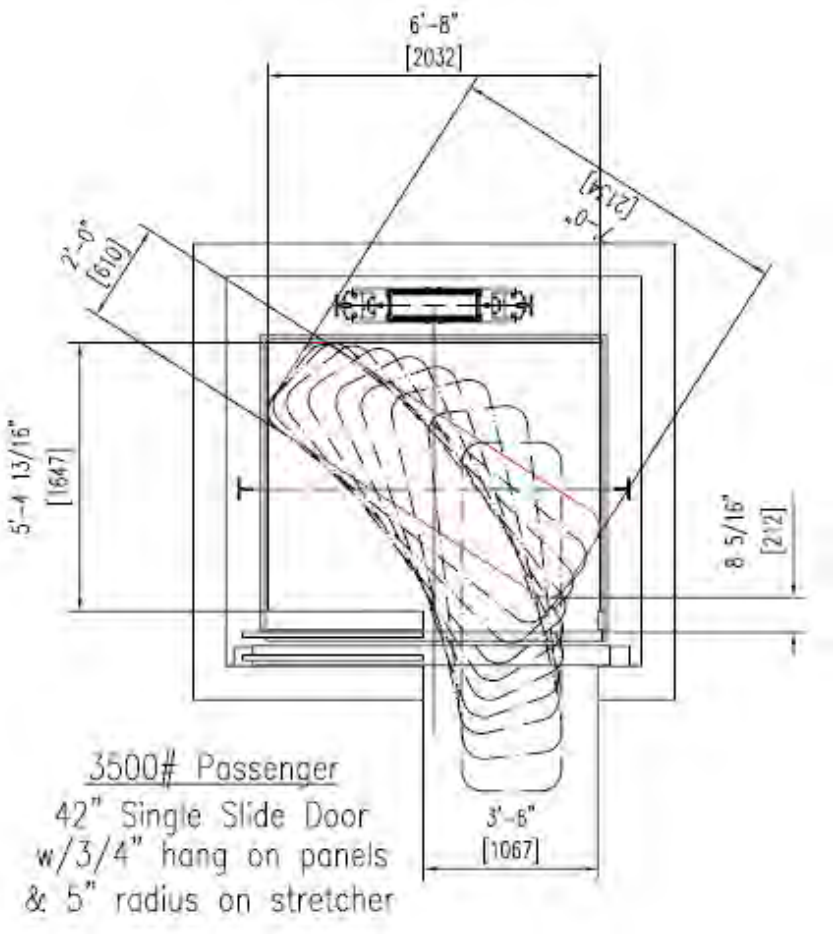
3002.4 (Supp) Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories above grade plane or four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2134 mm) with not less than 5 inch (127mm) radius corners, ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

Reason: All ambulance stretchers found to date, are made from tubular metal, formed with radius or chamfered corners. Adding this change reflects actual stretcher size and will allow the industry to better meet the requirement with more flexibility and appropriately sized cars, while still meeting the size requirement desired by the IBC. This change will also have added benefit of providing direction to the stretcher suppliers to aid in standardizing their products. None of the vendors researched to date offer a 24 inch by 84 inch ambulance stretcher, Stryker, the largest stretcher manufacturer, has a standard stretcher of 23 inches by 83 inches, with a combination of radius and chamfered corners. Further the only standard for ambulance stretchers found was a European Specification, EN 1865:2000. Section 4.1.5 Frame states “All corners of the frame shall be radiused for greater safety.”

See the following figures.

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





Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

3002.4 (Supp) Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories above grade plane or four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24-inch by 84-inch (610 mm by 2134 mm) with not less than 5 inch (127mm) radius corners, ~~ambulance stretcher~~ in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

Committee Reason: Ambulance stretchers found to date, are made from tubular metal, formed with radius or chamfered corners. Adding this change reflects actual stretcher size and will allow the industry to better meet the requirement with more flexibility and appropriately sized cars, while still meeting the size requirement desired by the IBC. This change will also have added benefit of providing direction to the stretcher suppliers to aid in standardizing their products.

Assembly Action: **None**

Final Hearing Results

G188-07/08 **AM**

Code Change No: G189-07/08

Original Proposal

Section: 3004.1

Proponent: Masoud Sabounchi, Advanced Consulting Engineers, Inc., representing the Colorado Chapter ICC

Revise as follows:

3004.1 Vents required. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.

Exceptions:

1. In occupancies of other than Groups R-1, R-2, I-1, I-2 and similar occupancies with overnight sleeping quarters, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Sidewalk elevator hoistways are not required to be vented.
3. Elevators contained within and serving parking garages only.
4. Elevators within individual residential dwelling units.

Reason: As noted in the IBC Commentary "Ventilation of hoistways is required to prevent the accumulation and spread of hot smoke and gases from a fire to the upper stories of a building."

Parking garages have vehicle ramps that are open to all garage level. Since ramps are open to each other, migration of smoke and hot gases from garage level to another garage level would be via the open ramps. Due to lack of pressure build up during a fire on a garage level where smoke and hot gases travel thru the ramps, elevator shafts would not transfer smoke from one garage level to another garage level.

Floors within residential dwelling units are permitted to be open to each other per IBC Section 707.2 exception 1. Justification is as noted above.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

3004.1 Vents required. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.

Exceptions:

1. In occupancies of other than Groups R-1, R-2, I-1, I-2 and similar occupancies with overnight sleeping quarters, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Sidewalk elevator hoistways are not required to be vented.
3. Elevators contained within and serving open parking garages only.
4. Elevators within individual residential dwelling units.

Committee Reason: This revision eliminates the requirement for venting the elevator hoistway when elevators are located in open parking garages . Parking garages have vehicle ramps that are open to all garage levels. Since the vehicle ramps are open to each other, migration of smoke and hot gases from garage level to another garage level would be via the ramps. Due to lack of pressure build up during a fire, elevator shafts would not transfer smoke from one garage level to another garage level. The modification was to limit the scope of exception 3 to open parking garages due to concerns related to smoke build up in enclosed parking garages.

Floors within residential dwelling units are permitted to be open to each other per IBC Section 707.2 Exception 1. Since any smoke would be migrating through the stair opening, venting in the elevator hoistway is not required.

Assembly Action: **None**

Final Hearing Results

G189-07/08 **AM**

Code Change No: G190-07/08

Original Proposal

Section: 3004.3

Proponent: Ed Donoghue, Edward Donoghue Associates Inc. (EADAI)

Revise as follows:

3004.3 (Supp) Area of vents. Except as provided for in Section 3004.3.1, the area of the vents shall not be less than $3^1/_2$ percent of the area of the hoistway nor less than 3 square feet (0.28 m^2) for each elevator car, and not less than $3^1/_2$ percent nor less than 0.5 square feet (0.047 m^2) for each dumbwaiter car in the hoistway, whichever is greater. Of the total required vent area, not less than one-third shall be permanently open. Closed portions of the required vent area shall consist of openings glazed with annealed glass not greater than 0.125 inch (3.2 mm) in thickness.

Exception: The total required vent area shall not be required to be permanently open where all the vent openings automatically open upon detection of smoke in the elevator lobbies or hoistway, upon power failure and upon activation of a manual override control. The manual override control shall be capable of opening and closing the vents and shall be located in an approved location.

Reason: The manual override control should be able to both open and close the vents. As currently written the section only seems to require that such manual controls open the vents

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The manual controls need to be capable of both opening and closing the vents.

Assembly Action: **None**

Final Hearing Results

G190-07/08 **AS**

Code Change No: G195-07/08

Original Proposal

Sections: 3007.3 (New), 3007.6

Proponent: Ed Donoghue, Edward Donoghue Associates Inc. (EADAI)

1. Add new text as follows:

3007.3 (Supp) Hoistway lighting. The entire hoistway shall be illuminated at not less than 1 foot-candle (11 lux) at each hoistway entrance when firefighters' emergency operation is active.

(Renumber subsequent sections)

2. Revise as follows:

3007.6 (Supp) Electrical power. The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. Elevator hoistway lighting
3. ~~2.~~ Elevator machine room ventilation and cooling equipment.
4. ~~3.~~ Elevator controller cooling equipment.

Reason: The focus of this proposal was upon providing illumination to assist fire fighters as they to advance up into the building. The prescribed procedure before leaving the designated level (DL), is to shine a light up into the hoistway to try and detect smoke, flame or water above them. They will repeat this step every 5 floors until they safely arrive at their staging floor, which is two floors below the lowest reported floor in alarm. By having hoistway lighting this will make their life safety maneuver much more effective.

Background. As a result of the September 11, 2001 attacks on the World Trade Center, code provisions for emergency egress from tall buildings are being re-examined. There is renewed interest in the use of elevators for both occupant egress and fire fighters access. Therefore a Workshop on the Use of Elevators in Fires and Other Emergencies was held March 2-4, 2004, in Atlanta, Georgia. The workshop was cosponsored by American Society of Mechanical Engineers (ASME International), National Institute of Standards and Technology (NIST), International Code Council (ICC), National Fire Protection Association (NFPA), U.S. Access Board, and the International Association of Fire Fighters (IAFF).

The workshop focused on two general topics:
(1) Use of Elevators by Fire fighters and
(2) Use of Elevators by Occupants during Emergencies
To follow up on the ideas generated at the workshop, 2 task groups were formed; one for each topic. Their goals are:

- Review the suggestions from the Workshop on the Use of Elevators in Fires and other Emergencies.
- Develop a prioritized list of issues.
- Conduct a hazard analysis of the prioritized list of issues to see if there are any residual hazards.
- Draft code revisions for those issues that survive the process and the task group members still want addressed.

The membership of these task groups is broad and includes representatives from the elevator industry and manufacturers of devices such as fire alarms, the fire service, model codes and standards development organizations, and the accessibility community as well as fire protection engineers, architects and specialists in human factors and behavior. Since February 2005 the groups have each been conducting a hazard analysis on their assigned topic. The results of the hazard analysis focused upon the fire fighter needs is nearing completion.

The task group studied 16 different cases. In these cases a particular hazard followed by a cause/trigger was reviewed. The result of the hazard interacting with cause/trigger events may create a particular incident/effect. To address possible incident/effects corrective actions are proposed. Such corrective actions are then reviewed to see if they create any residual hazards. The hazard analysis then carries out each of the residual hazards with additional corrective actions until the hazard is mitigated. It is strictly a hazard analysis (I.e. not probabilistic) and certain assumptions were made such as a single fire start in a high rise building.

The code changes generated by this analysis are related both to the summary of corrective actions resulting from the hazard analysis and the existing language related to fire service access elevators placed into the 2007 supplement.
These proposals will work with the 2007 supplement requirements for fire service access elevators to address these concerns. It should be noted that the hazard analysis assumed a lobby to be directly connected with the fire service access elevator thus making the result of the analysis consistent with the philosophical approach found in the 2007 Supplement.

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

Analysis: The 2007 Supplement includes a new Section 3007, Fire Service Access Elevators. The requirement is scoped in Section 403.10.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal is not clear how it would deal with multiple elevators in a single hoistway, and how the light level would be measured. Generally, the committee felt that such requirements were unnecessary.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Brian Black BDBlack Codes, Inc., representing the National Elevator Industry, Inc., John J. O'Donoghue, representing the International Association of Fire Fighters, and Jack J. Murphy, representing the Fire Safety Directors Association of Greater New York, request Approval as Modified by this public comment.

Modify proposal as follows:

3007.3 (Supp) Hoistway lighting. When firefighters' emergency operation is active the entire height of the hoistway shall be illuminated at not less than 1 foot-candle (11 lux) ~~at each hoistway entrance when firefighters' emergency operation is active~~ as measured from the top of the car of each fire service access elevator.

(Portions of proposal not shown remain unchanged)

Commenters Reason: The proposal was modified to address the comments received at the ICC hearing regarding adequacy of light, location of measurement and extent of hoistway coverage. The focus of this proposal was upon providing illumination to assist fire fighters as they to advance up into the building. If firefighters become trapped in a stopped elevator and need to self rescue through the top of car emergency exit, they need adequate light to safely escape. The illumination level specified is taken from means of egress illumination provisions of section 1006 of the IBC.

The current prescribed procedure before leaving the elevator's designated level (typically the ground floor) is to shine a light up into the hoistway to try and detect smoke, flame or water above them. They will repeat this step every 5 floors until they safely arrive at their staging floor, which is two floors below the lowest reported floor in alarm. By providing hoistway lighting, this will make their life safety maneuver much more effective.

Final Hearing Results

G195-07/08 AMPC

Code Change No: G196-07/08

Original Proposal

Sections: 3007.3.3, 3007.3.3.1 (New)

Proponent: Gregory J. Cahanin, Cahanin Fire and Code Consulting, representing the Smoke Safety Council

Revise as follows:

3007.3.3 Lobby doorways. Each fire service access elevator lobby shall be provided with a doorway that is protected with a $^{3}/_{4}$-hour fire door assembly complying with Section 715.4.

3007.3.3.1 Fire doors. Fire door assemblies shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784 without an artificial bottom seal installed across the full width of the bottom of the door assembly during the test. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot [ft3/(min × ft2)](0.015424 m3/ s × m2) of door opening at 0.10 inch (24.9 Pa)of water column for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.

Reason: This revision to lobby doorways as a part of the newly approved Fire Service Access Elevator requirements brings consistency with the door specification requirements found in the code. While the 715.4 reference now in this new section will lead many to believe that 715.4.3.1 is to be applied; the language of 715.4 states that doors conforming to 715.4.1, 715.4.2 or 715.4.3 are approved.

Provisions added to the IBC in the last cycle establish a Fire Service Access Elevator that will operate through a fire event for the use of firefighters and occupants that are rescued from upper floors due to mobility impairments or by virtue of being trapped by the fire on upper floors. Sections 715.4.3.1 in the code provide more complete prescriptive requirements for the doors behind which occupants and firefighters may seek refuge.

Doors which are utilized to protect occupants and rescue personnel for extended periods of time will be challenged by smoke spread on a fire floor that is impacted by the size of the fire, the presence or absence of building ventilation on the fire floor, stack effect, and wind load upon the building. The UL 1784 test allows for testing with or without an artificial bottom seal, with the use of duct tape being the typical mode of providing an artificial bottom seal during testing. Doors which have been tested to UL 1784 without taping of the bottom of the door and passed the leakage requirements mirror possible smoke impact that will be experienced during a fire better provide for the safety of firefighters and occupants staying in the Fire Service Access Elevator lobby for extended periods of time.

Cost Impact: There is no cost impact.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The reference to Chapter 7 should be more specific to Section 715.4.3.1. In addition the issue being addressed by this proposal is better addressed within Chapter 7 instead of within Section 3007.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Mike Ashley, CBO, Alliance for Fire and Smoke Containment and Control (AFSCC), requests Approval as Modified by this public comment.

Modify proposal as follows:

3007.3.3 Lobby doorways. Each fire service access elevator lobby shall be provided with a doorway that is protected with a $^{3}/_{4}$-hour fire door assembly complying with Section 715.4. The fire door assembly shall also comply with the smoke and draft control door assembly requirements of Section 715.4.3.1 with the UL1784 test conducted without the artificial bottom seal.

~~**3007.3.3.1 Fire doors.** Fire door assemblies shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784 without an artificial bottom seal installed across the full width of the bottom of the door assembly during the test. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot [ft3/(min × ft2)](0.015424 m3/ s × m2) of door opening at 0.10 inch (24.9 Pa)of water column for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.~~

Commenter's Reason: We believe that this Public Comment which modifies the original code change proposal addresses the concerns expressed by the Committee and others during the code hearings held in Palm Springs, CA. The preferred way of achieving the necessary degree of smoke and draft control door protection for these fire service access elevator lobby doors is to provide direct reference to Section 715.4.3.1. Section 715.4.3.1 of the Supplement specifies the testing requirements for smoke and draft control door assemblies based on UL1784. The additional provision is included to address that the test method be performed without an artificial bottom seal installed across the full width of the bottom of the door assembly in order to measure the complete leakage rate for the door assembly on the assumption that leakage could occur under the bottom of the door in this application. This will assure that the doorways not only have an adequate fire protection rating for protecting the fire service access elevator lobbies but they will also protect against smoke intrusion into the lobby where the fire service will stage its operations before attacking a fire on the fire floor. This is a very important component of the overall protection package provided for the fire service access elevators.

Final Hearing Results

G196-07/08 **AMPC1**

Code Change No: G197-07/08

Original Proposal

Section: 3007.3.4 (New)'

Proponent: Ken Kraus, Los Angeles Fire Department, CA

Add new text as follows:

3007.3.4 Lobby size. Each fire service access elevator lobby shall be a minimum of 150 square feet (14 m^2) in area. The lobby shall increase in size by 50 square feet (4.65 m^2) for each additional elevator car served.

Reason: The purpose of this change is to enhance the efficacy of provisions recently added to the IBC as G63-06/07.

Stipulating a minimum size for the fire service elevator lobby is essential to ensure the effectiveness of the intended use. Areas used as a basis for firefighting emergency operations must be able to accommodate; multiple fire attack teams, tactical equipment, practical use of the associated standpipe, and do not conform to standard occupancy factor calculations.

A minimum size is also necessary to; ensure the effective utilization of the associated exit enclosure.

Without this change, design constraints, egress configuration limitations and other factors could dictate or limit the size of the lobby rendering it potentially useless.

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

Analysis: The 2007 Supplement includes a new section 3007, Fire Service Access Elevators. The requirement is scoped in Section 403.10.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The committee felt it was a good idea to provide guidance on the size of the lobbies but there was a concern that the justification for the size of the area needed to be provided. There was added concern that the requirement may conflict with the exception to Section 3007.3.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Ken Kraus, Los Angeles Fire Department, requests Approval as Modified by this public comment.

Modify proposal as follows:

3007.3.4 Lobby Size. Each enclosed fire service access elevator lobby shall be a minimum of 150 square feet (14 m^2) in area with a minimum dimension of 8 feet (2440 mm). ~~The lobby shall increase in size by 50 square feet (4.65 m^2) for each additional elevator car served.~~

Commenter's Reason: The word "enclosed" is inserted to address the concern of the Committee regarding creating conflict with Section 3007.3 (Supp), which exempts street level lobbies from the enclosure requirement.

Basis for the 150 Sq Ft.:

The Fire Service Access Elevator provisions exist to ensure the access and operational capabilities of firefighters in high-rise buildings greater than 120 feet in height. A minimum lobby size stipulation is necessary to make sure that the space provided is adequate for firefighters during emergencies.

Most Fire Departments operate with high-rise fire attack teams comprised of either 3 & 4 firefighters. The lobby should be large enough to accommodate 1 team preparing to enter the fire area (floor) and 1 team needing to withdraw from the fire area, while leaving access to the hoist-way and exit enclosure doors clear. On average this equates to 7 firefighters).

I used as a basis an occupancy factor of 15 (waiting area per Table 1004.1.1). I increased 15 by a factor of 1.5 to adjust for the additional space required for firefighters on-person and related equipment. (15 X 1.5 = **22.5**)

My calculation of **7** firefighters @**22.5** square feet per FF rendered a lobby size of **157.5** square feet. I rounded down to **150 square feet.**

Basis for the 8 feet minimum dimension:

My reason for requiring additional lobby size when additional cars are provided was to avoid a long narrow lobby that would compromise the 2-team scenario above. In lieu of increased size, I have added a minimum dimension component.

I subjected an accepted shoulder width allowance of 32 inches to a factor of 1.5, again due to the bulk of firefighters clothing and equipment, which resulted in 48 inches. To remain consistent with the 2-team scenario, I allowed each team a **4 foot** wide operating area, arriving at the **8 feet minimum dimension.**

The additional car increase is deleted.

Final Hearing Results

G197-07/08 **AMPC**

Code Change No: G201-07/08

Original Proposal

Sections: 3101.1, 3110 (New), Chapter 35 (New)

Proponent: Joseph R. Hetzel, PE, Thomas Associates, Inc., representing the Door & Access Systems Manufacturers Association

1. Revise as follows:

3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, and towers and antennas.

2. Add new text as follows:

SECTION 3110
AUTOMATIC VEHICULAR GATES

3110.1 General. Automatic vehicular gates shall comply with the requirements of this section and other applicable sections of this code.

3110.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to a drive, parking lot or similar location, and that is not generally intended for use by pedestrian traffic.

3110.3 Vehicular gates intended for automation. Vehicular access gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

3110.4 Vehicular gate openers. Vehicular gate openers, when provided, shall be listed in accordance with UL 325.

3. Add standards to Chapter 35 as follows:

ASTM
F 2200-05 Standard Specification for Automated Vehicular Gate Construction

UL
325-02 Door, Drapery, Gate, Louver, and Window Operators and Systems, with revisions through February, 2006

Reason: The purpose of the proposed code change is to provide requirements for automatic vehicular gates, which are not currently addressed in the Code. A set of companion changes was submitted for the International Fire Code, to harmonize that code with the IBC with respect to automated vehicular gates.

The current Code provisions are inadequate because public safety needs are not addressed regarding automatic operation of vehicular gates.

Protection is needed from potential entrapment of individuals between an automatically moving gate and a stationary object, or surface, in close proximity to such gate. Gates intended for automation require specific design, construction and installation to accommodate entrapment protection to minimize or eliminate certain excessive gate gaps, openings and protrusions identified as contributing to the hazard of entrapments that have historically caused numerous serious injuries and deaths.

The Code will be improved by including provisions referencing UL 325 and ASTM F 2200. UL 325 is an ANSI recognized safety standard containing provisions governing gate openers. Gate openers listed to the requirements of UL 325 provide the public with assurance that safety requirements have been met for such openers. ASTM F 2200 is a consensus document containing provisions governing the construction of vehicular gates intended for automation, and has been harmonized with the applicable provisions of UL 325.

Death and injury data does exist associated with automated vehicular gates. A previous related proposal on the topic, submitted in 2002 by the Consumer Product Safety Commission and designated as E34-02, pointed out the following information compiled by the CPSC from 1985 to that time:

1. Reports of 32 deaths relating to automatically operated vehicular gates were received, many as a result of entrapment between a moving gate and a stationary object.
2. Data from the National Electronic Injury Surveillance System estimated that approximately 2,000 people are treated annually in hospital emergency rooms due to injuries in such gates. Many of these injuries have been identified as serious, involving amputation, broken arms and broken legs.

Cost Impact: The code change proposal will increase the cost of construction**.** However, the resulting safety benefits will outweigh the increased cost.

Public Hearing Results

Analysis: Review of proposed new standards ASTM F 2200-05 and UL325-02 indicated that, in the opinion of ICC Staff, the standards **did** comply with ICC standards criteria. Note that UL325 is already referenced in the IRC.

Committee Action: **Disapproved**

Committee Reason: The provisions need to be limited to gates associated with buildings. Currently as written the proposal does not meet the scope and intent of the IBC.

Staff note: F70-07/08 contained a proposal with similar requirements for the IFC. That code change was Approved as Modified.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

Joseph R. Hetzel, PE, Thomas Associates, Inc., representing the Door & Access Systems Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3110.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to a ~~drive, parking lot or similar location~~ facility, building or portion thereof, and that is not ~~generally~~ intended for use by pedestrian traffic.

3110.3 Vehicular gates intended for automation. Vehicular ~~access~~ gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

(Portions of the proposal not shown remain unchanged.)

Commenter's Reason: Replacing “drive, parking lot or similar location” with “facility, building or portion thereof” satisfies the Committee concern that the definition previously proposed for “Vehicular Gate” was too broad in scope with respect to the IBC. Deletion of the words “generally” and “access” are editorial.

Automated vehicular gates are often provided for use in facilities and buildings that incorporate vehicular access to parking in either lower floors, upper floors or adjacent structures. Multi-story commercial retail establishments, hotels, and multi-story residential structures are among the common applications.

Similar automated vehicular gate related language was approved for inclusion in the International Fire Code, via code change F70-07/08. The new IFC language applies to barricades and security gates across “fire apparatus access roads”, defined in that code as providing “fire apparatus access from a fire station to a facility, building or portion thereof”, and “inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.”

Final Hearing Results

G201-07/08 **AMPC**

Code Change No: G203-07/08

Original Proposal

Sections: 1613.3, 3401.4 (New) (IEBC [B] 301.2), 3401.4.1 (New) (IEBC [B] 301.2.1), 3401.4.2 (New) (IEBC [B] 301.2.2), 3403 (New) (IEBC [B] 302), 3404 (New) (IEBC [B] 303), 3405 (New) (IEBC [B] 304)

Proponent: David Bonowitz, S.E, David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC STRUCTURAL AND THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

PART I – IBC STRUCTURAL

1. Revise as follows:

1613.3 Existing buildings. Additions, alterations, ~~modification~~, repairs or change of occupancy of existing buildings shall be in accordance with ~~Sections 3403.2.3 and 3406.4~~ Chapter 34.

2. Add new text as follows:

3401.4 (IEBC 301.2) Building materials. Building materials shall comply with the requirements of this section.

3401.4.1 (IEBC 301.2.1) Existing materials. Materials already in use in a building in conformance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to be detrimental to life, health or safety.

3401.4.2 (IEBC 301.2.2) New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

3. Delete section it its entirety and substitute follows:

~~**SECTION 3403 (IEBC 302)**~~
~~**ADDITIONS, ALTERATIONS OR REPAIRS**~~

SECTION 3403 (IEBC 302)
ADDITIONS

3403.1 (IEBC 302.1) General. Additions to any building or structure shall comply with the requirements of the code for new construction. Alterations to the existing building or structure shall be made to ensure that the existing building or structure together with the addition are no less conforming with the provisions of this code than the existing building or structure was prior to the addition. An existing building together with its additions shall comply with the height and area provisions of Chapter 5.

3403.2 (IEBC 302.2) Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any addition that constitutes substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

3403.3 (IEBC 302.3) Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced, or otherwise altered as needed to carry the increased load required by this code for new structures. Any existing gravity load-carrying structural element whose

gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 3404.3. Any existing element that will form part of the lateral load path for any part of the addition shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 3403.4.

3403.3.1 (IEBC 302.3.1) Design live load. Where the addition does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the addition. If the approved live load is less than that required by Section 1607, the area designed for the non-conforming live load shall be posted with placards of approved design indicating the approved live load. Where the addition does result in increased design live load, the live load required by Section 1607 shall be used.

3403.4 (IEBC 302.4) Existing structural elements carrying lateral load. Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is no more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces per Sections 1609 and 1613. For purposes of this Exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

SECTION 3404 (IEBC 303)
ALTERATIONS

3404.1 (IEBC 303.1) General. Except as provided by Section 3401.4 or this section, alterations to any building or structure shall comply with the requirements of the code for new construction. Alterations shall be such that the existing building or structure is no less conforming with the provisions of this code than the existing building or structure was prior to the alteration.

3404.2 (IEBC 303.2) Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any alteration that constitutes substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

3404.3 (IEBC 303.3) Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an alteration causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced, or otherwise altered as needed to carry the increased gravity load required by this code for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design gravity loads required by this code for new structures.

3404.3.1 (IEBC 303.3.1) Design live load. Where the alteration does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the alteration. If the approved live load is less than that required by Section 1607, the area designed for the non-conforming live load shall be posted with placards of approved design indicating the approved live load. Where the alteration does result in increased design live load, the live load required by Section 1607 shall be used.

3404.4 (IEBC 303.4) Existing structural elements carrying lateral load. Except as permitted by Section 3404.5, where the alteration increases design lateral loads per Section 1609 or Section 1613, or where the alteration results in a structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is no more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces per Sections 1609 and 1613. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

3404.5 (IEBC 303.5) Voluntary seismic improvements. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

SECTION 3405 (IEBC 304)
REPAIRS

3405.1 (IEBC 304.1) General. Buildings and structures, and parts thereof, shall be repaired in conformance with Section 3401.2. Work on non-damaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter.

3405.2 (IEBC 304.2) Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any repair that constitutes substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

(Renumber subsequent sections)

PART II – IBC MEANS OF EGRESS

Add exceptions to proposed new Section 3404.1 (see above) as follows:

Exceptions:

1. An existing stairway shall not be required to comply with the requirements of Section 1009 where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1009.10 shall not be required to comply with the requirements of Section 1012.5 regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

Reason: The proposal is entirely editorial (with one exception regarding clarification of wind design triggers, described below) and is intended to clarify and correct inconsistencies in section 3403 by breaking it into separate sections, defining certain terms, and removing obsolete, unnecessary, and unenforceable provisions. The proposal does not change the intended scope of the section or the intended outcome of the work. That is, the basic philosophy of Chapter 34, which requires upgrades beyond the intended scope of work in rare cases only, is maintained.

The proposal does the following:

- Adds a section on permitted materials to replace unenforceable and incomplete provisions in current 3403.2 and 3403.3 and to incorporate the new provision from the 07 supplement in current section 3403.1.1.
- Separates 3403 into separate sections for Additions, Alterations, and Repairs in order to clarify different requirements and facilitate future code changes.
- Clarifies that the structural trigger for evaluation of wind loading should be a 10% trigger (as it is for earthquake loading), not the 5% trigger implied from the current non-specific language in section 3403.2.

The following table documents the proposed change in section numbering in order to facilitate review:

2006 IBC section	Proposed section(s)
3403.1 Existing buildings or structures	3403.1, 3404.1
3403.1.1 Existing approved materials (added with 07 supplement)	3401.4.1
3403.1.2 Flood hazard areas (3403.1.1 prior to 07 supplement)	3403.2, 3404.2, 3405.2
3403.2 Structural	3403.3, 3404.3 3401.4.1, 3405.1 (these replace the last sentence of 3403.2)
3403.2.1 Existing live load	3403.3.1
3403.2.2 Live load reduction	3403.3.1
3403.2.3 Seismic	3403.4, 3404.4
3403.2.3.1 Additions to existing buildings	3403.4
3403.2.3.2 Alterations	3404.4
3403.2.3.2 Alterations – Exception	3404.5
3403.3 Nonstructural	3401.4
3403.4 Stairways (including 3403.4.1, added with 07 supplement)	Exceptions to 3404.1

Overall, the proposal is necessary and justified because of obsolete and inconsistent provisions. Examples:

- Current provisions are difficult to enforce because they use implicit, not explicit, wording. That is, they say only what is not allowed but are not clear as to what is required as an allowed alternative. Section 3403.1, for example, says an alteration may not cause the existing building to be in violation. What if the intended alteration – removal of a doorway, for example – *would* cause a violation? The implication is that additional or compensating work must be performed to maintain the same level of compliance as the existing condition. But that implication is contradicted by the final sentence of 3403.1, which limits the extent of triggered work. The result is an unclear provision with an unintended limitation on building alterations and an unclear scope of required work. Similar examples exist with respect to the structural and seismic triggers in 3403.2.
- The scope of current section 3403.2 is unclear. There's a separate subsection regarding seismic design, but no similar subsection for wind. Is wind excluded, or is wind presumed to be covered by current 3403.2, with a 5% trigger?
- Current section 3403.2 is non-rational in that it requires full compliance of the entire structure if even a single existing element is overstressed or weakened. Full compliance is often impossible to achieve. The proposed wording allows an element-by-element check, which was probably the unstated intent of the current provision.
- Existing wording is incomplete, incorrect, or unenforceable. For example, section 3403 is supposed to cover additions, alterations, and repairs, but there is only one sentence about repairs (the last sentence of 3403.2), and it is unenforceable. References are made to ASCE 7 that should more properly be made to Chapter 16. 3403.2.3 purports to cover change of occupancy, in contradiction to 3406. See below for other examples.

Each of the various changes is justified and explained separately:

Proposed 3401.4: Replaces incomplete and unenforceable language in 3403.2 and 3403.3 and states more clearly the intent of the chapter to allow existing materials except in certain conditions. Since these requirements cover a basic code philosophy that should apply to change of occupancy and to historic buildings as well as to additions, alterations, and repairs, these should be moved from current 3403 to a more general section covering the entire chapter. Existing materials and new materials are treated separately for clarity. Wording for existing materials already in place is from current 3403.1.1, added with the 07 supplement. Wording for new materials is borrowed from IEBC 501.2 and 502.1.

Section 3403 for Additions only: Portions of current 3403.1 relevant to additions are retained, largely unchanged.

- Some requirements are changed from implicit to explicit.
- "No less conforming" language is borrowed from IEBC 501.3.
- No change to the Flood provision.
- Current 3403.2 (which per 1613.3 is not intended to apply to seismic force resisting systems) and 3403.2.3 are reorganized to apply to different parts of the structural system: gravity and lateral. The provision for the gravity system, proposed 3403.3, retains the current 5% trigger. The lateral system provision, 3403.4, retains the distinction between independent and non-independent additions, retains the 10% element trigger, and clarifies that wind loads must be considered as well as seismic (as intended by current 3403.2).
- The two conditions in current 3403.2.3.1 are rewritten as an exception to proposed 3403.4. To eliminate a loophole by which a 9% increase in load would be allowed even with a simultaneous 9% decrease in capacity, the provision is written in terms of demand-capacity ratio to reflect the actual intent of a trigger based on 10% total change.
- Current 3403.2.1 and 3403.2.2 are combined into 3403.3.1 with no change in intent, but with an explicit requirement added for cases previously covered by unenforceable "public safety not endangered thereby" clause, such as conversion of office space into an exit corridor to serve the addition. Also, the current 3403.2.2 uses the term "live load reduction" incorrectly; "non-conforming live load" is proposed instead. ("Live load reduction" is a structural provision – 1607.9 – that has to do with the probability of uniform loading. It is not what is intended by this provision.)
- References to ASCE 7 are changed to refer to Chapter 16. This is the more appropriate reference because Chapter 16 makes (or could make) certain changes to ASCE 7 that should be considered.

Section 3404 for Alterations only: Portions of current 3403.1 relevant to alterations are retained, largely unchanged.

- Reference to proposed 3401.4 allows the use of like materials.
- Some requirements are changed from implicit to explicit.
- "No less conforming" language is borrowed from IEBC 501.3.
- No change to the Flood provision.
- Current 3403.2 and 3403.2.3 are reorganized similar to Additions.
- Current 3403.2.1 and 3403.2.2 are combined and corrected as for Additions.
- Current 3403.4 and 3403.4.1 regarding stairway alterations are relocated as exceptions to the general requirement of 3404.1.
- References to ASCE 7 are changed to refer to Chapter 16, as for Additions.

Section 3405 for Repairs only: Separated to distinguish from other work scopes.

- Proposed 3405.1 cites 3401.2, which gives the owner's requirement to maintain the building and the code official's authority to require repairs, as an explicit provision.

- Because of the split into separate sections for repair and alteration, proposed 3405.1 now clarifies that work undertaken for purposes of repair is not intended to invoke the upgrade triggers for voluntary alterations.
- No change to the Flood provision.
- As in current Chapter 34, repairs do not trigger any upgrades.

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

Public Hearing Results

PART I – IBC STRUCTURAL
Committee Action: **Approved as Submitted**

Committee Reason: The committee agrees that reformatting these IBC sections on alterations, additions and repairs provides a badly needed code clarification of the existing building provisions in Chapter 34.

Assembly Action: **None**

PART II – IBC MEANS OF EGRESS
Committee Action: **Approved as Submitted**

Committee Reason: The proposed language is necessary for existing stairways undergoing alterations.

Assembly Action: **None**

Final Hearing Results

G203-07/08, Part I	**AS**
G203-07/08, Part II	**AS**

Code Change No: G204-07/08

Original Proposal

Section: 3401.4 (New)

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

Add new text as follows:

3401.4 Alternative compliance. Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.

Reason: To allow an approach to existing buildings that is already part of the I-codes family.

The IEBC takes a more comprehensive approach to existing buildings than IBC chapter 34. In particular, the Work Area method in IEBC chapters 4-12 uses a more specific and clearer set of upgrade triggers and design criteria than does current IBC section 3403, and it adopts current reference standards such as *ASCE 31* for the seismic evaluation of existing buildings and allows the ICC's *Guidelines for the Seismic Retrofit of Existing Buildings* (IEBC Appendix A). Also, by allowing these reference standards, the IBC would be in greater compliance with FEMA rules in 44CFR 206.226(d), which note that repairs using criteria for new construction are often unreasonable and generally less acceptable than repairs based on criteria developed for existing buildings. The IEBC has been through two full code cycles and is adopted in part or in full by jurisdictions across the country. It is a reasonable and valuable alternative to Chapter 34.

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

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal appropriately gives recognition to the IEBC as a viable design tool. The reference to the IEBC is simply recognized as a compliance option for existing buildings.

Assembly Action: **None**

Final Hearing Results

G204-07/08 **AS**

Code Change No: G205-07/08

Original Proposal

Sections: 3402 (IEBC 202), 3403.2 (IEBC [B] 302.2)

Proponent: Gary R. Searer, PE, SE, Wiss, Janney, Elstner Associates, Inc., representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

1. Add new text as follows:

SECTION 3402 (IEBC 202)
DEFINITIONS

DANGEROUS. Any building or structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, partially collapsed, moved off its foundation, or lacks the support of any portion of ground necessary to support it.
2. There exists a significant risk of collapse, detachment, or dislodgment of any portion, member, appurtenance, or ornamentation of the building or structure under typical day-to-day service loads.

2. Revise as follows:

3403.2 (IEBC [B] 302.2) Structural. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. Where repairs are made to structural elements of an existing building, and uncovered structural elements are found dangerous, such dangerous conditions shall be mitigated or made safe to the satisfaction of the code official. ~~to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.~~

Reason: The existing wording of Section 3403.2 contains two undefined terms (“unsound” and “structurally deficient”) one of which is not particularly meaningful and one of which that can have multiple common meanings to engineers. This proposal replaces these two undefined terms with a term from the IEBC in an attempt to clarify the intent and meaning of this Section and to bring the Section into better alignment with the IEBC.

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

Public Hearing Results

This code change was heard by the IBC Structural Code Development Committee.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

SECTION 3402 (IEBC 202)
DEFINITIONS

DANGEROUS. Any building or structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, partially collapsed, moved off its foundation, or lacks the support of ~~any portion of~~ ground necessary to support it.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under ~~typical day-to-day~~ service loads.

3403.2 (IEBC [B] 302.2) Structural. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be dangerous, such dangerous conditions shall be eliminated ~~mitigated or made safe to the satisfaction of the code official~~.

Committee Reason: The committee agrees that adding a definition of the term “dangerous” will clarify the intent of the IBC existing building provisions. The modifications remove unnecessary or unclear wording and they are consistent with actions by the IEBC committee.

Assembly Action: **None**

Final Hearing Results

G205-07/08 **AM**

Code Change No: G206-07/08

Original Proposal

Sections: 3403 (IEBC [B] 302), 3403.1.1(IEBC [B] 302.1.1), 3403.2 (IEBC [B] 302.2), 3404 (New) (IEBC [B] 303 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC STRUCTURAL PORTION OF THE HEARING ORDER.

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

1. Revise as follows:

SECTION 3403 (IEBC [B] 302)
ADDITIONS~~,~~ AND ALTERATIONS ~~OR REPAIRS~~

3403.1.1 (IEBC [B] 302.1.1) Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any additions~~,~~ or alterations ~~or repairs~~ that constitute substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

3403.2 (IEBC [B] 302.2) Structural. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. ~~Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.~~

3403.3 (IEBC [B] 302.3) (Supp) Nonstructural. Nonstructural alterations ~~or repairs~~ to an existing building or structure are permitted to be made of the same materials of which the building or structure is constructed, provided that they do not adversely affect any structural member or the fire-resistance rating of any part of the building or structure.

The work shall not make the building less conforming to the building, plumbing, mechanical, electrical or fire codes of the jurisdiction, or to alternative materials, design and methods of construction, or to any previously approved plans, modifications, alternative methods, or compliance alternatives, than it was before the alteration ~~repair~~ was undertaken.

2. Add new text as follows:

SECTION 3404 (IEBC [B] 303)
REPAIRS

3404.1 [IEBC 303.1] General. Buildings and structures, and parts thereof, shall be repaired in conformance with this section and with Section 3401.2. Work on non-damaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter. Routine maintenance required by section 3401.2, ordinary repairs exempt from permit per Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

3404.1.1 [IEBC 303.1.1] Dangerous conditions. Regardless of the extent of structural or nonstructural damage, the code official shall have the authority to require the elimination of conditions deemed dangerous.

3404.2 [IEBC 303.2] Substantial structural damage to vertical elements of the lateral-force-resisting system. A building that has sustained substantial structural damage to the vertical elements of its lateral-force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 3404.2.1 through 3404.2.3.

3404.2.1 [IEBC 303.2.1] Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of this code for wind and earthquake loads. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by or related to earthquake effects or if the building is in Seismic Design Category C, D, E, or F.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be seventy-five percent of those prescribed in Section 1613. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3404.2.2 [IEBC 303.2.2] Extent of repair for compliant buildings. If the evaluation establishes compliance of the pre-damage building in accordance with Section 3404.2.1, then repairs shall be permitted that restore the building to its pre-damage state using materials and strengths that existed prior to the damage.

3404.2.3 [IEBC 303.2.3] Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the pre-damage building in accordance with Section 3404.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations, including wind or seismic loads. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be as required by the code in effect at the time of original construction or as required by this code, whichever are greater. Earthquake loads for this rehabilitation design shall be those required for the design of the pre-damage building, but not less than seventy-five percent of those prescribed in Section 1613. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.3 [IEBC 303.3] Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions of this code for dead and live loads. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. Non-damaged gravity load-carrying components that receive dead, live, or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the rehabilitation design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.3.1 [IEBC 303.3.1] Lateral force-resisting elements. Regardless of the level of damage to vertical elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building shall be evaluated in accordance with Section 3404.2.1 and, if noncompliant, rehabilitated in accordance with Section 3404.2.3.

3404.4 [IEBC 303.4] Less than substantial structural damage. For damage less than substantial structural damage, repairs shall be allowed that restore the building to its pre-damage state using materials and strengths that existed prior to the damage. New structural members and connections used for this repair shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.5 [IEBC 303.5] Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any repair that constitutes substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

(Renumber subsequent sections)

3. Add new definition as follows:

SUBSTANTIAL STRUCTURAL DAMAGE. A condition where:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 20 percent from its pre-damage condition; or
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

Reason: To provide reasonable requirements for building improvements in the interest of public safety and within the intent of the building code.

The proposal does the following:

- Defines Substantial Structural Damage to capture conditions of severe or widespread damage, as opposed to local effects or member distress, and to distinguish the damage requiring structural upgrade from damage to architectural and mechanical components.
- Separates repairs from current Section 3403 for clarity. (This is a nominal editorial revision, as repairs are scarcely mentioned in Section 3403 despite the current title of that section.)
- Creates a new Section 3404 with a logical method for evaluating damage and identifying cases where upgrade is warranted. The logic and language is based on IEBC Section 506.2, with certain editorial clarifications.

Chapter 34 currently requires structural improvements meeting "the code for new structures" in certain cases of additions, alterations, and changes of occupancy. It does not, however, require any improvements in the event of damage due to fire, structural overload, settlement, natural hazard, or any other cause, no matter how extensive or disproportionate the damage. This proposal identifies conditions of damage that should warrant improvements to the structural system for purposes of increasing safety and limiting attrition from the existing building stock.

In doing so, the proposal retains Chapter 34's basic philosophy that triggered structural upgrades should be relatively rare. With this proposal, structural upgrade would be triggered only upon substantial structural damage to the lateral system, and only when evaluation shows that the pre-damage building was sub-standard. "Reduced" earthquake loads, a concept from the IEBC long in use in California and consistent with FEMA standards, are used both for evaluation and any required seismic rehabilitation to recognize that existing buildings should not be expected to perform as well as newer buildings.

Structural upgrade remains *not* required for:

- Architectural damage
- Equipment and other nonstructural damage
- Any structural damage less than "substantial"
- Any structural damage that does not affect the lateral system, except in rare cases of extreme non-conformance.
- Any building adequate for current wind loads and "reduced" seismic loads, even if damage was substantial.

The proposal's language borrows heavily from the 2006 IEBC. The IEBC has been through two full code cycles and is adopted in part or in full by jurisdictions across the country.

Additional explanatory notes:

- The proposed definition of substantial structural damage is from IEBC Chapter 2.
- Proposed Section 3404 mirrors IEBC Section 506.2, with two substantive changes: 1) the addition of snow loads in proposed Section 3404.3 and 2) the limitation on seismic evaluation and upgrade for SDC A and B in proposed Section 3404.2.1.
- Proposed Section 3404.1 clarifies that proposed Section 3404.2 does not limit the code official's discretion with respect to dangerous conditions.
- Proposed Section 3404.2.1 refers to Section 1613 for earthquake loads and limits the selection of design parameters. Section 1613 requires the engineer to identify the seismic force-resisting system of the existing building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown, design parameters for "Ordinary" systems must be used. The language proposed is based on similar language in IEBC Section 506.1.1.2.
- Wording from IEBC Section 506.1.2 is modified to remove the bright line that the 2006 IEBC uses to distinguish when design parameters for Ordinary systems are needed. Rather than require strict compliance with the "proportioning and detailing requirements" of Intermediate or Special systems, general equivalence, similar to that contemplated by IBC Section 3406.4 is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings.
- Wording from IEBC Section 506.2 is modified by using "gravity load" as opposed to "vertical load" in order to avoid confusion over the term "vertical load-carrying component".
- The flood provision in proposed Section 3404.5 is identical to the existing provision in current Section 3403.1.1.

Note to ICC: NCSEA and SEAOC have separately proposed a broad reorganization of current Section 3403. If Section 3403 is reorganized per that proposal, the revisions proposed here to current Section 3403 will be unnecessary, and the text proposed here as new Section 3404 would be incorporated into proposed Section 3405.

Cost Impact: The code change proposal will not increase the cost of new construction. It might increase the cost of rare but already extensive repairs after one damaging event, but if it does, it will also reduce the cost of repairs in subsequent events.

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The committee opposes the proposed triggers in the definition of substantial structural damage. No study was provided on the cost-benefits of mitigation.

Assembly Action: **Approved as Submitted**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful.

Final Hearing Results

G206-07/08 **AS**

Code Change No: G208-07/08

Original Proposal

Sections: 3403.1.2 (IEBC [B] 302.1.2) (New)

Proponent: Jerry R. Tepe, FAIA, JRT-AIA Architect, representing the American Institute of Architects

THIS PROPOSAL IS ON THE AGENDA OF THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

Add new text as follows:

3403.1.2 [IEBC [B] 302.1.2] Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any additions, alterations or repairs that do not constitute substantial improvement or substantial damage of the existing structure, as defined in Section 1612.2, are not required to comply with the flood design requirements for new construction.

Reason: Although it is clear in Section 1612 that additions, alterations and/or repairs that do not constitute substantial improvements or restoration of substantial damage are not required to comply with the requirements for new construction as regards flood resistant construction (see attached IBC Committee Interpretation 42-06), the first sentence of 3403.1 is being used to force flood resistant design and construction. The argument goes further stating that 3403.1 confirms this and also requires the balance of the building to be brought into compliance when the scope exceeds the level of substantial improvement as an exception to the last sentence in 3403.1. Adding the proposed subsection will clarify the intent of the code.

SECTION 1612.1
IBC Interpretation No. 42-06
2006 Edition
Issued: 12-08-2006

1612.1 General. Within flood hazard areas as established in Section 1612.3, all new construction of buildings, structures and portions of buildings and structures, including substantial improvements and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. For buildings that are located in more than one flood hazard area, the provisions associated with the most restrictive flood hazard area shall apply.

REFERENCED SECTIONS:

1612.2 Definitions. The following words and terms shall, for the purposes of this section, have the meanings shown herein.
EXISTING CONSTRUCTION. Any buildings and structures for which the "start of construction" commenced before the effective date of the community's first flood plain management code, ordinance o r standard. "Existing construction" is also referred to as "existing structures."
EXISTING STRUCTURE. See "Existing construction."
SUBSTANTIAL IMPROVEMENT. Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions.
2. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions.. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

1612.3 Establishment of flood hazard areas. To establish flood hazard areas, the governing body shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for [INSERT NAME OF JURISDICTION]," dated [INSERT DATE OF ISSUANCE], as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

Q: An existing building constructed prior to the effective date established in Section 1612.3 is located within a flood hazard area. Is an addition (to the existing building) that is not defined as a substantial improvement required to comply with the provisions of Section 1612.1 of the *International Building Code* for new construction?

A: No. The provisions in Section 1612.1 apply only to new construction to the extent indicated. As defined in Section 1612.2 of the *International Building Code*, a structure constructed prior to the effective date established in Section 1612.3 is considered an existing structure. Additions (improvements) to an existing building that does not equal or exceed 50 percent of the market value of the existing structure before the improvement is not a substantial improvement and is not required to comply with the provisions of Section 1612.1 for the effects of flood hazards and flood loads.

Cost Impact: Correct enforcement of the code will save costs.

Analysis: The referenced committee interpretation is limited to "existing buildings constructed prior to the effective date established in Section 1612.3", and is not applicable to all existing buildings.

Public Hearing Results

This code change was heard by the IBC Structural Code Development Committee.

Committee Action: **Approved as Submitted**

Committee Reason: The new section clarifies that existing buildings only need to comply with flood design for new construction when the conditions under "substantial improvement" are met.

Assembly Action: **None**

Final Hearing Results

G208-07/08 **AS**

Code Change No: G209-07/08

Original Proposal

Sections: 3403.2.3 (IEBC [B] 302.2.3), 3403.2.3.1 (IEBC [B] 302.2.3.1), 3403.2.3.2 (IEBC [B] 302.2.3.2), 3406.4; IEBC 506.1.1.2, 506.1.1.3

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC STRUCTURAL AND IEBC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC STRUCTURAL

Revise as follows:

3403.2.3 (IEBC[B] 302.2.3) Seismic. Seismic requirements for additions and~~,~~ alterations ~~or modification or change of occupancy of existing buildings~~ shall be in accordance with this section ~~for the purposes of seismic considerations~~. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3403.2.3.1 (IEBC [B] 302.2.3.1) Additions to existing buildings. An addition that is structurally independent from an existing structure shall be designed and constructed with the seismic requirements for new structures. An addition that is not structurally independent from an existing structure shall be designed and constructed such that the entire structure conforms to the seismic-force-resistance requirements for new structures unless the following conditions are satisfied:

1. The addition conforms with the requirements for new structures,
2. The addition does not increase the seismic forces in any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the increased forces determined in accordance with ~~ASCE 7~~ Section 1613, and
3. Additions do not decrease the seismic resistance of any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the forces determined in accordance with ~~ASCE 7~~ Section 1613. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

3403.2.3.2 (IEBC [B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to ~~ASCE 7~~ Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ~~ASCE 7~~ Section 1613 and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces conforming to ~~ASCE 7~~ Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.

4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in ~~ASCE 7~~ Section 1613 or make an existing structural Irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or ~~ASCE 7~~ Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of ~~this code and ASCE 7~~ Section 1613 are not required.

PART II – IEBC

1. Revise as follows:

506.1.1.2 (Supp) IBC level seismic forces. When seismic forces are required to meet the *International Building Code* level, they shall be one of the following:

1. One-hundred percent of the values in the *International Building Code*. ~~The *R*-factor~~ Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be ~~the *R*-factor~~ those specified for structural systems classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it ~~can be~~ is demonstrated that the structural system ~~satisfies the proportioning and detailing requirements for systems classified as “Intermediate” or “Special.”~~ Will provide performance equivalent to that of an “Intermediate” or “Special” system.
2. Those associated with the BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 506.1.1.2.

506.1.1.3 (Supp) Reduced IBC level seismic forces. When seismic forces are permitted to meet reduced *International Building Code* levels, they shall be one of the following:

1. Seventy-five percent of the forces prescribed in the *International Building Code*. ~~The *R*-factor~~ Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those ~~the *R*-factor as~~ specified in Section 506.1.1.2 of this code.
2. In accordance with the applicable chapters in Appendix A of this code as specified in Items 2.1 through 2.5 below. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A shall be deemed to comply with the requirements for reduced *International Building Code* force levels.
   2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
   2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A2.
   2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light frame wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A3.
   2.4. Seismic evaluation and design of soft, weak or open-front wall conditions in multiunit residential buildings of wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A4.
   2.5. Seismic evaluation and design of concrete buildings and concrete with masonry infill buildings in all occupancy categories are permitted to be based on the procedures specified in Appendix Chapter A5.

3. In accordance with ASCE 31 based on the applicable performance level as shown in Table 506.1.1.2.
4. Those associated with the BSE-1 Earthquake Hazard Level defined in ASCE 41 and the performance level as shown in Table 506.1.1.2. Where ASCE 41 is used, the design spectral response acceleration parameters *SXS* and *SX1* shall not be taken less than 75 percent of the respective design spectral response acceleration parameters *SDS* and *SD1* defined by the *International Building Code* and its reference standards.

Reason: IBC: To clarify the intent of the code, correct overlaps between code sections, and ensure appropriate application to existing buildings of "seismic requirements for a new structure."

Sections 3403.2.3 and 3406.4 refer to ASCE 7 for seismic design criteria. First, they should actually refer to Section 1613, which contains important provisions besides those in ASCE 7 and which modifies ASCE 7 in certain respects. Second, whether Section 1613 or ASCE 7, these criteria for new design require the engineer to identify the seismic force-resisting system of the existing building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown or inadequate, design parameters for "Ordinary" systems must be used.

The language proposed is based on existing language in IEBC Section 506.1.1.2, but the current IEBC wording is modified to remove the bright line the IEBC uses to distinguish when design parameters for Ordinary systems are needed. Rather than require strict compliance with the "proportioning and detailing requirements" of Intermediate or Special systems, general equivalence, similar to that contemplated by IBC Section 3406.4 is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings. A coordination change to IEBC Section 506.1.1.2 is being submitted separately.

3403.2.3, first sentence: The wording is clarified, and "modification or change of occupancy" is deleted because change of occupancy is covered by 3406, not by 3403.

Note to ICC: NCSEA and SEAOC have separately proposed a broad reorganization of current Section 3403. If Section 3403 is reorganized per that proposal, the text proposed here as the second sentence of current Section 3403.2.3 would go at the end of proposed Section 3403.4 and at the end of proposed Section 3404.4.

IEBC: This proposal is submitted in coordination with a separate proposal also submitted by the NCSEA Existing Buildings Committee regarding IBC Section 3403.2.3.2. It replaces current IEBC language on the subject of voluntary seismic rehabilitation in two places.

To improve usability and to ensure complete and appropriate application of Chapter 16 code provisions to existing buildings. The proposal:

- addresses all three seismic design parameters, not just *R*.
- changes the bright line criteria established by the IBC's "proportioning and detailing requirements" for new structures to a more appropriate criterion based on equivalent performance.

These sections require the engineer to identify the seismic force-resisting system of the existing or rehabilitated building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown or inadequate, the current provisions properly require use of design parameters for "Ordinary" systems.

However, the current provisions would require the existing building to meet the letter of the IBC's prescriptive requirements for proportioning and detailing, which is problematic and sometimes inappropriate for existing buildings. This proposal would replace the current prescriptive criteria with a requirement for equivalent performance, which can be demonstrated in a number of ways. (For example, some or all of the criteria used by the IBC for undefined structural systems or for change of occupancy in IBC Section 3406.4 may be applied as appropriate.) The performance-based criterion is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings.

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

Public Hearing Results

PART I – IBC STRUCTURAL

Errata Part I - IBC: Revise the following sections:

3403.2.3.1 (IEBC [B] 302.2.3.1) Additions to existing buildings.
Item 2: Replace "this code and ASCE 7" with "Section 1613"
Item 3: Replace "this code and ASCE 7" with "Section 1613"

3403.2.3.2 (IEBC [B] 302.2.3.2) Alterations.
1st paragraph: Replace "this code and ASCE 7" with "Section 1613"
Exception: Replace "this code and ASCE 7" with "Section 1613" in 2 places
Exception 5: Replace "this code and ASCE 7" with "Section 1613"

3406.4 Change of occupancy.
Exception 1: Replace "this code and ASCE 7" with "Section 1613"
Exception 2: Replace "this code and ASCE 7" with "Section 1613"

(Portions of proposal not shown remain unchanged)

Committee Action: Approved as Modified

Modify proposal as follows:

3403.2.3 (IEBC[B] 302.2.3) Seismic. Seismic requirements for additions and alterations shall be in accordance with this section. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3403.2.3.1 (IEBC[B] 302.2.3.1) Additions to existing buildings. An addition that is structurally independent from an existing structure shall be designed and constructed with the seismic requirements for new structures. An addition that is not structurally independent from an existing structure shall be designed and constructed such that the entire structure conforms to the seismic-force-resistance requirements for new structures unless the following conditions are satisfied:

1. The addition conforms with the requirements for new structures,
2. The addition does not increase the seismic forces in any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the increased forces determined in accordance with Section 1613, and
3. Additions do not decrease the seismic resistance of any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the forces determined in accordance with Section 1613. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

3403.2.3.2 (IEBC[B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ~~Section 1613~~ this Chapter and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces conforming to Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in Section 1613 or make an existing structural Irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and Section 1613 are not required.

Committee Reason: This proposal provides guidance to engineers on selecting R-values and other coefficients for existing buildings with structural systems that do not meet the seismic detailing requirements for new buildings. The modification corrects the Exception to Section 3403.2.3.2 to refer to this chapter (Chapter 34) which is what was intended.

Assembly Action: None

PART II – IEBC

Errata Part II – IEBC: Revise Section 506.1.1.3, Item 1 as follows:

506.1.1.3 (Supp) Reduced IBC level seismic forces. When seismic forces are permitted to meet reduced *International Building Code* levels, they shall be one of the following:

1. Seventy-five percent of the forces prescribed in the *International Building Code*. ~~The *R* factor~~ Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those ~~the *R*-factor as~~ specified in Section 506.1.1.2 of this code.

(Portions of proposal not shown remain unchanged)

Committee Action: Disapproved

Committee Reason: There seemed to be some confusion regarding whether the proposed language accomplished the intent of the proponent. The committee felt that it was important to include all three factors, and felt that the intent of the proponent would be appropriate. However, the confusion was with the actual language and whether the outcome was different than the intent of the proponent. Therefore, the committee disapproved the proposal.

Assembly Action: None

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3403.2.3 Seismic. Seismic requirements for additions and alterations shall be in accordance with this section. Where the existing seismic force-resisting system is a type that can be designated Ordinary, values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Where the existing seismic force-resisting system is a type that can be designated Ordinary, values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and Section 1613 are not required.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This is an editorial clarification only. The intent of G209 – that existing systems should be considered Ordinary by default – was fully approved by the Committee. This comment merely clarifies that the intent only applies to systems for which there is a choice of Ordinary, Special, Intermediate, or Detailed to be made.

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

Public Comment 2:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

506.1.1.2 (Supp) IBC level seismic forces. When seismic forces are required to meet the *International Building Code* level, they shall be one of the following:

1. One-hundred percent of the values in the *International Building Code*. Where the existing seismic force-resisting system is a type that can be designated "Ordinary," v~~V~~alues of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it is demonstrated that the structural system will provide performance equivalent to that of a "Detailed," ~~an~~ "Intermediate" or "Special" system.
2. Those associated with the BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 506.1.1.2.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This is an editorial clarification only. The intent of G209 – that existing systems should be considered Ordinary by default – is already in this IEBC section. This comment merely clarifies that the intent only applies to systems for which there is a choice of Ordinary, Special, Intermediate, or Detailed to be made.

This comment is moot and will be withdrawn if either of the following occurs:

- The Final Action on G209 Part II is not Approved as Submitted, in accordance with a separate Public Comment.
- G209 Part I is not Approved as Modified in accordance with a similar Public Comment.

Final Hearing Results

G209-07/08, Part I	**AMPC1**
G209-07/08, Part II	**AMPC2**

Code Change No: G210-07/08

Original Proposal

Sections: 3403.2.3.1 (IEBC [B] 302.2.3.1), 3403.2.3.2 (IEBC [B] 302.2.3.2), 3406.4 (IEBC [B] 305.4)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

Revise as follows:

3403.2.3.1 (IEBC 302.2.3.1) Additions to existing buildings. An addition that is structurally independent from an existing structure shall be designed and constructed with the seismic requirements for new structures. An addition that is not structurally independent from an existing structure shall be designed and constructed such that the entire structure conforms to the seismic-force-resistance requirements for new structures unless the following conditions are satisfied:

1. The addition conforms with the requirements for new structures,
2. The addition does not increase the seismic forces in any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the increased forces determined in accordance with ~~ASCE 7~~ Section 1613, and
3. Additions do not decrease the seismic resistance of any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the forces determined in accordance with ~~ASCE 7~~ Section 1613. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

3403.2.3.2 (IEBC 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to ~~conform to ASCE 7~~ comply with Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ASCE 7 and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces ~~conforming to ASCE 7~~ comply with Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

3406.4 Change of occupancy (IEBC [B] 305.4 Structural). When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure.

Exceptions:

1. Specific seismic detailing requirements of this code ~~or ASCE 7~~ for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to occupancy Category III and the structure is located ~~in a seismic map area~~ where the seismic coefficient S_{DS} ~~<~~ is less than 0.33, compliance with the seismic requirements of this code ~~and ASCE 7~~ are not required.

Reason: The purpose of this proposal is to align the references to ASCE 7 in the affected sections with related sections of the IBC that currently reference ASCE 7. The references to ASCE 7 are for requirement to determine seismic forces, to design for forces complying with ASCE 7 or meet specific seismic detailing requirements contained therein. IBC Section 1613, however, contains the primary charging language for the design and construction of structures or portions thereof to resist the effects of earthquake motions, including the determination of seismic forces, and accomplishes the task by referencing ASCE 7, excluding Chapter 14 and Appendix 11A. Exception 2 to Section 3406.4 is revised for consistency with other references in the IBC to seismic spectral response acceleration parameters (i.e., Section 1808.2.23.1).

This proposal was prompted, in part, because the references to ASCE 7 in the affected sections are the only instances in the 2006 IBC where ASCE 7 is cited without a specific reference to the portions of ASCE 7 applicable to the subject matter.

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

Public Hearing Results

This code change was heard by the IBC Structural Code Development Committee.

Committee Action: **Approved as Modified**

Modify proposal as follows:

3403.2.3.2 (IEBC 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to comply with Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ~~ASCE 7~~ this Chapter and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces complying with Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

(Portions of the proposal not shown remain unchanged)

Committee Reason: This proposal cleans up these provisions by making the appropriate reference to earthquake load requirements, without directing you to the ASCE 7 standard. The modification corrects the Exception to Section 3403.2.3.2 to refer to this chapter (Chapter 34) which is more appropriate, since the requirement is given in this chapter rather than ASCE 7.

Assembly Action: **None**

Final Hearing Results

G210-07/08 **AM**

Code Change No: G211-07/08

Original Proposal

Sections: 3403.2.3.2 (IEBC [B] 302.2.3.2), IEBC 807.7

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC STRUCTURAL AND IEBC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IBC STRUCTURAL

Revise as follows:

3403.2.3.2 (IEBC [B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to ASCE 7 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not ~~required by ASCE 7~~ otherwise required by this chapter and are initiated for the purpose of ~~increasing the strength or stiffness~~ improving the performance of the seismic-force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements ~~need not be designed for forces conforming to ASCE 7~~ shall be permitted, provided that an engineering analysis is submitted ~~indicating~~ demonstrating the following:

1. ~~The design strength of existing structural elements required to resist seismic forces is not reduced.~~ The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
2. ~~The seismic force to required existing structural elements is not increased beyond their design strength.~~
3. ~~3.~~ 2. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. ~~4.~~ 3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. ~~5.~~ 4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.
6. ~~The alterations do not result in the creation of an unsafe condition.~~

PART II – IEBC

Delete and substitute as follows:

~~**807.7 Voluntary lateral-force-resisting system alterations.** Alterations of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral-force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the *International Building Code*, provided that an engineering analysis is submitted to show that:~~

1. ~~The capacity of existing structural elements required to resist forces is not reduced;~~
2. ~~Either the lateral loading to existing structural elements is not increased beyond their capacity or the lateral loading to existing structural elements is not increased by more than 10 percent;~~

~~3. New structural elements are detailed and connected to the existing structural elements as required by the *International Building Code*;~~
~~4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the *International Building Code*; and~~
~~5. A dangerous condition as defined in this code is not created.~~

~~Voluntary alterations to lateral-force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.~~

807.7 Voluntary improvement of the seismic force-resisting system. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic-force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

1. The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
2. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16 of the *International Building Code*.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16 of the *International Building Code.*
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

Voluntary alterations to the seismic force-resisting system in accordance with the applicable chapters of Appendix A of this code shall be permitted.

Reason. Part I. To better meet the intent of this exception, which is to allow voluntary improvements that do not necessarily bring the whole structure "up to code," as might otherwise be required by 3403.2.3.2(IEBC 302.2.3.2),

- The initial paragraph is revised editorially to make it explicit language, to remove improper references to ASCE 7, and to refer more generally to "improvement" as opposed to simply increased strength or stiffness.
- The initial paragraph is supplemented to include voluntary improvements to seismic bracing of nonstructural components, which are as common and as effective at reducing earthquake risk as are structural retrofits.
- Current items 1, 2, and 6 are replaced by a more general requirement that the voluntary improvement must leave the building "no less conforming". This is the intent of the exception expressed most clearly and directly. The "no less conforming" standard allows for greater creativity and design flexibility in the service of improved performance and reduced risk.
- Current item 1 is well-intentioned but can be contrary to the intent of the exception. Consider, for example, the installation of a steel frame as a backup system to prevent collapse of an inadequate stucco shear wall in the first story of an existing building. If the replacement involves demolition of some of the existing shear wall, that would represent a reduction in capacity and would therefore not be allowed by the current provision even though the altered structure would certainly be more safe. Similarly, the current provision would appear to prevent the minor demolition or modification of existing elements in order to install load path elements such as hold-downs, collectors, or out-of-plane wall anchors. The proposed language would allow these reasonable improvements.

Part II. This proposal is submitted to coordinate with proposed revisions to IBC section 3403.2.3.2.(IEBC 302.2.3.2) It replaces current IEBC language on the subject of voluntary seismic rehabilitation.

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

Analysis: A concern is if the last sentence of the proposed IEBC Section 807.7 would conflict with IEBC Section 101.7.

Public Hearing Results

PART I – IBC STRUCTURAL
Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies the intent of the Exception to Section 3403.2.3.2 which allows voluntary seismic upgrades to a building's seismic-force-resisting system without fully complying with the earthquake load provision.

Assembly Action: **None**

PART II – IEBC
Committee Action: **Disapproved**

Committee Reason: The reference in Item 2 to Chapter 16 of the IBC conflicts with Section 101.7.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations, Existing Buildings Subcommittee, requests Approval as Submitted for Part II.

Commenter's Reason: G211 Part II should be Approved as Submitted for the following reasons, any of which should be sufficient:

1. The IBC-Structural Committee approved nearly identical changes for IBC Chapter 34, as G211 Part I. Consistency between the codes is important.
2. IEBC Committee's reason for disapproval – that Item 2's reference to Chapter 16 conflicts with section 101.7 – does not make sense. Section 101.7 is about Appendices, but Item 2 has nothing to do with Appendices. Besides, while Item 2 does refer to IBC Chapter 16 (as does Item 3), it does so no more than the current wording refers to the IBC, so Disapproval does not solve any alleged problem.
3. If conflict with section 101.7 is the issue, the Committee's reason probably intends to reference the final sentence of the proposal, which *is* about the Appendix chapters. But the sentence in question is *essentially identical to the current language* of the code. There is no change here, so Disapproval would not fix anything or prevent any wrong. If the proposal is Disapproved, any alleged conflict with section 101.7 will remain.
4. The concern about appendices was prompted by an ICC staff note added to the monograph. But the ICC staff note was incorrect. ICC staff assured the Committee and the Assembly at the hearings for the 2006 edition that despite 101.7, Appendix Chapters need not be individually adopted if they are specifically cited by the code provision. That is why the existing language is already allowed.
5. When the subject of the ICC staff note came up during Committee deliberations, the moderator improperly did not allow the proponent to address it.

Final Hearing Results

G211-07/08, Part I	**AS**
G211-07/08, Part II	**AS**

Code Change No: G215-07/08

Original Proposal

Sections: 3409.6 (IEBC [B] 308.6), 3409.8.7 (IEBC [B] 308.8.7), 3409.8.8 (IEBC [B] 308.8.8) (New), 3409.8.9 (IEBC [B] 308.8.9) (New); IEBC 605.1.8, 605.1.9 (New), 706.3, 706.4 (New), 706.5 (New)

Proponent: Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND IEBC CODE DEVELOPMENT COMMITTEE AS 2 SEPARATE CODE CHANGES. PLEASE SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Revise as follows:

3409.6 (IEBC [B] 308.6) (Supp) Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.

2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.
~~4. Type A dwelling units or sleeping units required by Section 1107 are not required to be provided in existing building and facilities being altered.~~

3409.8.7 (IEBC [B] 308.8.7)(Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

2. Add new text as follows:

3409.8.8 (IEBC [B] 308.8.8)Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

3409.8.9 (IEBC [B] 308.8.9)Type B dwelling or sleeping units. Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being added.

(Renumber subsequent sections)

PART II – IEBC

1. Revise as follows:

605.1.8 [Supp] Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for accessible ~~or Type A~~ units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

2. Add new text as follows:

605.1.9 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

3. Revise as follows:

706.3 [Supp] Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling units or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units ~~or Type A~~ units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

4. Add new text as follows:

706.4 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

706.5 Type B dwelling or sleeping units. Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

Reason: The original proponent of the code change G206-06/07 to eliminate Type A dwelling units in existing buildings (IBC Section 3409.6 Exp. 4) was concerned that the alteration of a single dwelling unit would require 2% of units to provide Type A features. G206 was approved by the IBC Means of Egress Committee, but disapproved by the IEBC committee. Currently there is a conflict between these two codes.

The intent of this proposal is to coordinate and clarify in IBC and IEBC by do the following:

- IBC 3409.8.8 and IEBC 605.1.9 clarifies that more than 20 units would have to be altered before 2% would have to provide Type A features.
- IBC 3409.8.8 and IEBC 706.4 clarify that Type A units are required in additions that contain 20 or more units.
- IBC 3409.8.9 and IEBC 706.5 clarify that Type B units are required in additions that contain 4 or more units. This is consistent with the Fair Housing Act.

- Current IBC 3409.5.1 and IEBC 605.1.12 ensures that alterations will not require greater accessibility than that which would be required for new construction.
- If altering an existing apartment to comply with Type A requirements has little likelihood of being accomplished because of existing conditions, the permit applicant can't take advantage of the "technically infeasible" exception in IBC 3409.6 and IEBC 605.1.

The Type A units (previously Adaptable units) has been in the codes since 1975. Most existing apartment buildings have been built or modified during that time period (i.e. they have Type A units already), so this should have minimal effects on housing while it has significant effects on persons with disabilities if these units start to disappear in existing buildings.

Cost Impact: The code change proposal will not increase the cost of construction – reflects 2006 IBC.

Public Hearing Results

PART I – IBC MEANS OF EGRESS
Committee Action: **Approved as Modified**

Modify the proposal as follows:

3409.6 (IEBC [B] 308.6) (Supp) Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.

3409.8.7 (IEBC [B] 308.8.7)(Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

~~**3409.8.8 (IEBC [B] 308.8.8)Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.~~
~~**3409.8.9 (IEBC [B] 308.8.9)Type B dwelling or sleeping units.** Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being added.~~

Committee Reason: The modification is to delete the proposed language for Sections 3409.8.8 and 3409.8.9 because this is already addressed in the existing text. It was noted that Section 3409.8.9 was intended for Type B requirements, not Type A requirements – this was a typographical error. The deletion of Exception 4 to Section 3409.6 was approved. While Type A units are not required by the Fair Housing Act (FHA), Section 3409.6 Exception 4 does take the codes further away from compliance with the Americans with Disabilities Act (ADA) and should be deleted.

Assembly Action: **None**

PART II – IEBC
Committee Action: **Approved as Submitted**

Committee Reason: The proposal fixes a disparity between the IBC and IEBC.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3409.8.7 (IEBC 308.8.7) (Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units ~~and Section 907 for visible alarms~~ apply only to the quantity of spaces being altered or added.

3409.8.8 (IEBC 308.8.8) Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 for Type A units apply only to the quantity of the spaces being added.

3409.8.9 (IEBC 308.8.9) Type B dwelling or sleeping units. Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements Section 1107 for Type B units apply only to the quantity of the spaces being added.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: There are three proposals being submitted regarding dwelling and sleeping units in existing buildings. They are split between additions, alterations and change of occupancy for clarity. The intent is that all three proposals will pass. This proposal is for **additions**.

G215-07/08 Part II was approved by the IEBC committee and would require Type A and Type B units in additions large enough that the requirements would be applicable as part of new construction. The intent of this proposal is to both coordinate IEBC and IBC and clarify when Type A and Type B units are required in additions. This is consistent with Fair Housing requirements and is not specifically addressed in current text. Therefore, this is more of a clarification than an additional requirement.

The language for visible alarms was removed from Section 3409.8.7 and not included in the new text because alterations for alarms are addressed in the International Fire Code.

Final Hearing Results

G215-07/08, Part I	**AMPC**
G215-07/08, Part II	**AS**

Code Change No: G216-07/08

Original Proposal

Sections: 3410.4.1 (IEBC 1301.4.1)

Proponent: Peter Somers, SE, Magnusson Klemencic Associates, representing NCSEA Existing Building Committee

THIS PROPOSAL IS ON THE AGENDA OF THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

Revise as follows:

3410.4.1 (IEBC 1301.4.1) Structural analysis. The owner shall have a structural analysis of the existing building made to determine adequacy of structural systems for the proposed alteration, addition, or change of occupancy. The ~~existing building shall be capable of supporting the minimum load requirements of~~ analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16.

Reason: Editorial clarification. Buildings don't support load requirements, they resist loads. Also, the proposal clarifies that the analysis applies to the final, not pre-alteration, condition

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

Public Hearing Results

This code change was heard by the IBC Structural Code Development Committee.

Committee Action: **Approved as Submitted**

Committee Reason: This is primarily an editorial change that rewords the requirements for a structural analysis of an existing building to make the intent of the code more clear.

Assembly Action: **None**

Final Hearing Results

G216-07/08 **AS**

Code Change No: G218-07/08

Original Proposal

Sections: 3410.6.2 (IEBC [B] 1301.6.2), 3410.6.2.1 (IEBC [B] 1301.6.2.1)

Proponent: Maureen Traxler, City of Seattle, WA, representing the Department of Planning and Development

Revise as follows:

3410.6.2 (IEBC [B] 1301.6.2) Building area. The value for building area shall be determined by the formula in Section 3410.6.2.2. Section 503 and the formula in Section 3410.6.2.1 shall be used to determine the allowable area of the building. This shall include any allowable increases due to frontage ~~open perimeter~~ and automatic sprinklers as provided for in Section 506. Subtract the actual building area from the allowable area and divide by 1,200 square feet (112 m2). Enter the area value and its sign (positive or negative) in Table 3410.7 under Safety Parameter 3410.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table 3410.8, Mandatory Safety Scores.

3410.6.2.1 (IEBC [B] 1301.6.2.1) Allowable area formula. The following formula shall be used in computing allowable area:

~~$AA = \left(\frac{(SP + OP + 100) \times (Area, Table 503)}{100} \right)$~~ **(Equation 34-2)**

$A_a = (1 + I_f + I_s) \times A_t$

where:
~~AA~~ A_a = Allowable area.
~~SP~~ I_s = Area ~~Percent~~ increase factor for sprinklers (Section 506.3).
~~OP~~ I_f = Area ~~Percent~~ increase factor for frontage ~~open perimeter~~ (Section 506.2).

Reason: This proposal updates Equation 34-2 to be consistent with the manner in which allowable building area is calculated in IBC Equations 5-1 and 5-2. In the 2006 IBC, I_f and I_s are no longer expressed as percentages.

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

Public Hearing Results

Committee Action: **Approved as Modified**

Modify proposal as follows:

3410.6.2.1 (IEBC [B] 1301.6.2.1) Allowable area formula. The following formula shall be used in computing allowable area:

$A_a = (1 + I_f + I_s) \times A_t$ **(Equation 34-2)**

where:
A_a = Allowable area.
A_t = Tabular area per story in accordance with Table 503 (square feet)

I_s = Area increase factor for sprinklers (Section 506.3).
I_f = Area increase factor for frontage (Section 506.2).

Committee Reason: The proposal correlates the equations in Chapter 34 with that of current Section 506.1. The modification simply added a key for At that was inadvertently not included in the proposal.

Assembly Action: **None**

Final Hearing Results

G218-07/08 **AM**

Code Change No: G219-07/08

Original Proposal

Sections: 3410.6.6, Table 3410.6.6(2) (IEBC [B] 1301.6.6, Table 1301.6.6(2))

Proponent: Daniel E. Nichols PE, New York State Division of Code Enforcement and Administration, Albany, NY

Revise as follows:

3410.6.6 (IEBC [B] 1301.6.6) Vertical openings. Evaluate the fire-resistance rating of exit enclosures, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Table 3410.6.6(1) contains the appropriate protection values. Multiply that value by the construction type factor found in Table 3410.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 3410.7 under Safety Parameter 3410.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building~~, enter a value of 2.~~ or if all the unenclosed vertical openings ~~that~~ within the building conform to the requirements of Section 707, enter a value of 2. The maximum positive value for this requirement shall be 2. ~~shall not be considered in the evaluation of vertical openings~~.

TABLE 3410.6.6(2) (IEBC TABLE 1301.6.6(2))
CONSTRUCTION-TYPE FACTOR

FACTOR	TYPE OF CONSTRUCTION								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	~~IIIA~~/VA	~~IIIB~~/VB
	1.2	1.5	2.2	3.5	~~2.5~~ 3.3	~~3.5~~7	2.3	3.3	7

Reason: The purpose of this code change proposal is correct the calculation of points regarding the protection of vertical openings in existing buildings, or lack thereof. The scope of this code change is to further quantify the benefits or hazards associated with vertical openings by limiting the benefit to the same level of not having them at all and to align similar construction types regarding interior construction.

First, Section 3410.6.6 has been modified to align conditions that meet or exceed vertical opening requirements in new buildings with that of buildings with no shafts at all. The current language would give a one-story Type VB building a +2 score but a Type VB two-story building with a one-hour rated shaft +7 points. Clearly, the addition of a rated shaft does not provide any additional fire protection when compared to not having a shaft at all. Furthermore, the current language gives a four story type IA building with a two-hour rated shaft a vertical opening score of +2.4 and a Type VB a vertical opening score of +14. This proposal limits the benefit points to the same score that one-story buildings receive.

The modification of Table 3410.6.6(2) addresses a non-consistent regulation of identical interior conditions. Table 3410.6.6(2) currently permits Type III buildings to not receive as severe of a negative score for unprotected vertical openings as a Type V building, even though IBC Section 602 permits the interior of a Type III and a Type V building to be constructed of identical materials. The current assumption in Table 3410.6.6(2) is that Type III buildings offer superior fire performance in interior vertical openings over Type V, which is not the case. The proposal aligns the Type III buildings to their Type V counterparts, relative to fire-resistance rating values.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Increasing the construction type factor was felt to be too restrictive for existing buildings.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

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

Public Comment 1:

Daniel E. Nichols, PE, New York State Division of Code Enforcement and Administration, Albany, NY, requests Approval as Modified by this public comment.

Replace proposal as follows:

3410.6.6 (IEBC [B] 1301.6.6) Vertical openings. Evaluate the fire-resistance rating of exit enclosures, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Table 3410.6.6(1) contains the appropriate protection values. Multiply that value by the construction type factor found in Table 3410.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 3410.7 under Safety Parameter 3410.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building~~, enter a value of 2.~~ or if all the unenclosed vertical openings ~~that~~ within the building conform to the requirements of Section 707, enter a value of 2. The maximum positive value for this requirement shall be 2. ~~shall not be considered in the evaluation of vertical openings~~.

Commenter's Reason: The original code proposal was actually two separate code change topics that were combined together. Since the opposition to the code proposal was to only one part of this change, the code change has been split into two public comments for consideration by the ICC voting membership.

This code proposal, as modified above, received no opposition from the floor or code development committee. The proposal is very simple in limiting the amount of positive points given for the protection vertical openings in buildings undergoing reuse or rehabilitation.

To express the point, I have prepared the following table to compare values compiled from Equation 34-4 (Section 3410.6.6.1):

# Stories	Construction Type	Protection of Vertical Openings	Vertical Opening Value
1	All	All	+2
3	IIB	1	+3.5
3	VB	2	+14

What this table is stating is that a one story building (with no hazards from vertical smoke spread) has a value of +2 and an unprotected wood-frame building with three stories in height utilizing a two-hour shaft gets +21 points. Even if the Type VB building put in protection meeting Section 707 for new construction, that would still give the building a +7 point benefit or 5 additional points over the level of no hazard.

By accepting this code proposal, this will still provide a disincentive for not having vertical openings protected but limit the maximum benefit to the same level as a one-story building.

Final Hearing Results

G219-07/08 **AMPC1**

Code Change No: G221-07/08

Original Proposal

Chapter 35

Proponent: Standards writing organizations as listed below.

Revise standards as follows:

ALI Automotive Lift Institute
P. O. Box 85
Cortland, NY 13045

Standard reference number	Title
ALI ALCTV— 2006 ~~98~~	Standard for Automobile~~motive~~ Lifts—Safety Requirements for Construction, Testing and Validation (ANSI)

ASME American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Standard reference number	Title
A17.1/CSA B44-2007 ~~2004~~	Safety Code for Elevators and Escalators
A18.1-2005 ~~03~~	Safety Standard for Platform Lifts and Stairway Chairlifts
A112.19.8M—1987(R1996)	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs~~, and Whirlpool Bathtub Appliances~~
A112.19.17—2002	Manufactured Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub and Wading Pool Suction Systems
B20.1—2006 ~~2003~~	Safety Standard for Conveyors and Related Equipment

ASTM ASTM International
100 Barr Harbor Drive
West Conshocken, PA 19428-2959

Standard reference number	Title
C 94/C 94M- 07 ~~05~~	Specification for Ready-Mixed Concrete
D 86-07a ~~05~~	Test Method for Distillation of Petroleum Products at Atmospheric Pressure
D 93—07 ~~02a~~	Test Method for Flash Point By Pensky-Martens Closed Cup Tester

NFPA National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard reference number	Title
32—07 ~~04~~	Dry Cleaning Plants
40—07 ~~01~~	Storage and Handling of Cellulose Nitrate Film
85—07 ~~04~~	Boiler and Combustion System Hazards Code

110-05 ~~02~~	**Emergency and Standby Power Systems**
111-05 ~~01~~	**Stored Electrical Energy Emergency and Standby Power Systems**
655—07 ~~01~~	Prevention of Sulfur Fires and Explosions
664—07 ~~02~~	Prevention of Fires Explosions in Wood Processing and Woodworking Facilities
704— 07 ~~01~~	Standard System for the Identification of the Hazards of Materials for Emergency Response

UL Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

Standard reference number	Title
1975— 2006 ~~96~~	Fire Test of Foamed Plastics Used for Decorative Purposes
2017—2000	Standards for General-Purpose Signaling Devices and Systems—with Revisions through ~~June 2004~~ August 2005
2200—04 ~~98~~	Stationary Engine Generator Assemblies (Revisions through July 2004)

Reason: The *CP 28 Code Development Policy*, Section 4.5* requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Change Proposal. In May 2007, a letter was sent to each developer of standards that are referenced in the International Codes, asking them to provide the ICC with a list of their standards in order to update to the current edition. Above is the received list of the referenced standards that are under the maintenance responsibility of the IBC General Committee.

***4.5 Updating Standards:** The updating of standards referenced by the Codes shall be accomplished administratively by the appropriate code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal appropriately updates to the most current edition of referenced standards within the IBC for sections related to the General Building Code requirements.

Assembly Action: **None**

Final Hearing Results

G221-07/08 **AS**

Code Change No: G226-07/08

Original Proposal

Section: 3108.1

Proponent: Edward L. Keith, APA – The Engineered Wood Association

Revise as follows:

3108.1 (Supp) General. Towers shall be designed and constructed in accordance with the provisions of TIA-222.

Exception: Single freestanding poles used to support lightweight electrical equipment such as cell-phone antennas shall not be required to be non-combustible.

Reason: 1. The proposed code change clarifies the intent of the building code.

2. Historically under the *Uniform Building Code* (1997 UBC, Section 1512, which exempted freestanding "towers" from the non-combustibility requirement provided they extended no more than 75 feet above grade) single, freestanding wood poles have been used for many years to support small, lightweight electronic equipment such as cell phone antennas. The current code is silent on the use of poles.

This code change seeks a clarification of the requirements of Section 3108 for single freestanding poles supporting lightweight electrical equipment such as cell phone antennas, based on many years of good performance in areas covered by the Uniform Building Code. Note that wood poles are used throughout the United States for high voltage electrical, cable, DSL, and telephone lines. In addition to the lines and often considerable stresses they impose on the poles, the poles are also very often used to support very heavy transformers, street lights, traffic signals and junction boxes. Even carrying electrical loads far greater than cell phone antennas, there has historically been no requirement for non-combustible construction for wood poles.

Requiring non-combustible construction for cell phone poles will greatly increase the cost of such items and yet not provide a single iota of public safety as a result. The clarification is requested to prevent the incorrect interpretation of Section 3108 to include single, wood poles supporting cell phone antennas, thus denying the use of an inexpensive solution to a common situation with a long history of excellent performance simply because wood is combustible. Applying Section 3108 is an unnecessary solution to a non-problem.

Cost Impact: The code change proposal will have no impact on the cost of construction and will decrease the cost of cell-phone towers.

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

3108.1 (Supp) General. Towers shall be designed and constructed in accordance with the provisions of TIA-222.

Exception: Single freestanding poles used to support ~~lightweight electrical equipment such as cell phone~~ antennas not greater than 70 feet (21336 mm) above grade shall not be required to be non-combustible.

Committee Reason: The proposal was approved based upon the proponent's reason; that these types of towers were permitted under UBC and have a good safety record. The modification makes the reference more general to antennas as the description of "lightweight electrical equipment such as cell phone antennas" was potentially limiting for similar poles supporting other types of antennas.

Assembly Action: **None**

Final Hearing Results

G226-07/08 **AMPC**