G13-12
202

Proposed Change as Submitted

Proponent: Gene Boecker, Code Consultants, Inc., representing self

Revise as follows:

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access. In determining the lowest level of fire department vehicle access, it shall not be required to consider recessed loading docks for four vehicles or less and conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

Reason: Add to the definition the same exception as is found in exception #5 to Section 905.3.1. Section 905.3.1 provides two reasonable clarifications of how the lowest level of fire department vehicle access should be determined. This should also be applied in this case as part of the definition for a high-rise building. A small loading dock should not be the factor that causes a building to be considered high rise. Nor should a building be considered high rise where the structure is only four stories in height but has one side that overlooks a ravine with a road at the bottom.

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

202-E-HIGH-RISE-BOECKER (2)

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved due to concerns with the term "recessed" and questions with why the number 4 was chosen. Also there was concern that it would be hard to exclude from perimeter requirements in addressing frontage. Conflicting language of the proposed revision is confusing. There was concern with mandating that this be allowed with the terms "shall not be required." The terms "impractical" and "impossible" were also concerning in terms of the ability to enforce in this application as compared to the standpipe requirements of Section 905.3.1 exception 5.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Gene Boecker, AIA, Code Consultants, Inc. (CCI), requests Approval as Submitted.

Commenter's Reason: The reason stated by the committee for disapproval was that there appeared to be problems with the language. As stated in the original proposal, the language is taken directly from the existing exception #5 to Section 905.3.1. Having checked with staff, there do not appear to be any problems with the interpretation of the language, nor was there any testimony in opposition to the proposal stating that there were interpretation problems with the current exception to Section 905.3.1. It uses the same factors in its language. The loading dock recess should not be a driving factor in determining whether or not a building is categorized as high-rise.

It is unclear how to respond to a question regarding what the terms "recessed," "Impractical," and "impossible" means when the use of the word has been in the code for the last three cycles. An example was used in the original reason statement: a four story building with a single basement sitting next to a ravine. At the bottom of the ravine is a small dirt road that is by way of travel a half mile from the parking lot in front of the building at the top of the ravine. From the dirt road level to the top occupiable floor is 76 feet. Although the dirt road is technically a level where a fire department vehicle can drive, it does not lend itself to useful fire fighting operations. Hence, it becomes a "conditions where topography makes access from the fire department vehicle to the building impractical or impossible."

There are many other examples that can be used. However, the issue with identifying the special needs for a high-rise building, have to do with the overall aspects of the structure and the inability of fire fighters to reach the outside of the building easily with

typical fire apparatus. A four story building as noted, does not meet that test. Another aspect is the ability for occupants to egress quickly.

The code official is the individual responsible for interpreting the code. A "reasonable" person will understand what the intent with a high-rise classification is; and, the code official has the authority (and responsibility) to interpret the text. However, these tools for evaluation have not been previously incorporated into the code. This text, mirroring the language used to evaluate fire department standpipe needs, provides the language. If there isn't a problem with the standpipe language, there isn't a problem with this proposed language.

G13-12

Final Action: AS AM AMPC____ D

G15-12
202

Proposed Change as Submitted

Proponent: William Koffel, P.E., Koffel Associates, representing Firestop Contractors International Association (wkoffel@koffel.com)

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

Revise as follows:

JOINT. The opening in or between adjacent assemblies that interrupts the continuity of a fire-rated or smoke-rated assembly and either involves the intersection of dissimilar materials or assemblies, is created due to building tolerances, or is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.

Reason: The test of a fire resistance rated assembly involves testing the joints within the assembly. However, the edges of the assembly are not evaluated in the same manner. Thermocouples are not placed within 12 inches of the edges of the assembly unless an element of the assembly is located only near the edge of the assembly. In addition to the current concept, that a joint is created due to building tolerances or to allow independent movement, an additional situation would also be considered a joint. If a fire resistance rated gypsum wall assembly intersects with a concrete masonry wall assembly, the intersection would now be considered a joint.

Cost Impact: Increased cost of construction where joints are currently not being properly protected

202-JOINT-G-KOFFEL

Public Hearing Results

This code change was heard by the IBC Fire Safety code development committee.

Committee Action: **Disapproved**

Committee Reason: The proposed definition relates to joints in fire resistance rated or smoke-rated assemblies. There are also joint requirements for non-fire resistance rated assemblies in the code; therefore the definition should include these. Further, the term “dissimilar materials” is subjective and could lead to enforcement problems.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA) requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

715.1 General. Joints that interrupt the continuity of ~~installed in or between~~ fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which it is installed. Fire-resistant joint systems shall be tested in accordance with Section 715.3.

Exception: (Exceptions to remain unchanged)

Commenter's Reason: The concept of interrupting the continuity of the rated assembly was introduced in G15-12 to be included in the definition of a joint. Opposing testimony indicated that the definition of "joint" applies more broadly, and not just to joints in fire-rated assemblies. As such, the proposed text has been proposed to be included in Section 715.1.

The test of a fire resistance rated assembly involves testing the joints within the assembly. However, the edges of the assembly are not evaluated in the same manner. Thermocouples are not placed within 12 inches of the edges of the assembly unless an element of the assembly is located only near the edge of the assembly. For this reason, when the continuity of the rated assembly is not maintained, the listed joint system should be provided to maintain the fire resistance rating of the assembly.

Public Comment 2:

William E. Koffel, P.E., Koffel Associates, Inc., representing Firestop Contractors International Association (FCIA) requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

715.1 General. Joints that involve dissimilar materials in ~~installed in or between~~ fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which it is installed. Fire-resistant joint systems shall be tested in accordance with Section 715.3.

Exception: (Exceptions to remain unchanged)

Commenter's Reason: The concept of dissimilar materials within a rated assembly was introduced in G15-12 to be included in the definition of a joint. Opposing testimony indicated that the definition of "joint" applies more broadly, and not just to joints in fire-rated assemblies. As such, the proposed text has been proposed to be included in Section 715.1.

The test of a fire resistance rated assembly involves testing the joints within the assembly. However, the edges of the assembly are not evaluated in the same manner. Thermocouples are not placed within 12 inches of the edges of the assembly unless an element of the assembly is located only near the edge of the assembly. For this reason, when dissimilar materials form a joint in a fire-rated assembly, the joint is not typically evaluated. For this reason, joints that involve dissimilar materials should be protected with a listed joint system.

It should be noted that this is the second of two Public Comments that are intended to incorporate the concepts included in the original proposal to modify the definition for "joint." If both Public Comments are accepted, Section 715.1 should read as follows:

715.1 General. Joints that involve dissimilar materials in or that interrupt the continuity of ~~installed in or between~~ fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which it is installed. Fire-resistant joint systems shall be tested in accordance with Section 715.3.

Public Comment 3:

Tony Crimi, A.C. Consulting Solutions Inc., representing International Firestop Council, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

JOINT. The ~~opening~~ junction in or between adjacent assemblies that ~~interrupts the continuity of a fire-rated or smoke-rated assembly and either involves the intersection of dissimilar materials or assemblies,~~ is created due to building tolerances, or is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.

Commenter's Reason: The definition is revised to clarify that a "joint" is not an opening, per se, but rather is the location of the junction of two independent surfaces intersecting, with or without contact, and with or without an opening. For example, if the space between two building elements has been filled with some material (e.g. a backer rod), then it is still a "joint", even though the opening was filled, thus literally leaving no opening. The Code already addresses numerous "openings" (e.g. 712 Vertical Openings, 716 Opening Protectives, 717 Ducts & Air Transfer Openings, 1103 Exterior Wall Openings, etc.) which are not Joints.

This item was heard by the IBC Structural Committee. The Committee reason indicated the proposed definition needed to relate to more than joints in fire resistance rated or smoke-rated assemblies. There are also joint requirements for non-fire resistance rated assemblies in the code; therefore the definition should include these. This has been addressed in this modification by deleting that proposed language.

The Committee also felt that the term "dissimilar materials" is subjective and could lead to enforcement problems. That language has been removed.

G15-12

Final Action: AS AM AMPC____ D

G16-12
202

Proposed Change as Submitted

Proponent: Joe Nebbia and Mark Nowak, Steel Framing Alliance

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 definition as follows:

METHODS OF TERMITE PROTECTION. Framing materials such as concrete, treated wood, or steel which remove the food source for termites, or products or services which control the access to and entry of termites into a building or structure.

Reason: Section 2304.11.6 specifies methods of termite protection but provides no guidance for the designer or building official as to what these methods are. There are many different types of approaches used to prevent termite damage in addition to treated wood. This proposal will identify other options currently being used successfully for termite protection.

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

202-METHODS OF TERMITE PROTECTION (NEW)-G-NEBBIA-NOWAK

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: **Disapproved**

Committee Reason: The proposed definition of "methods of termite protection" is not a proper definition.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Mark Nowak, Steel Framing Alliance, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

2304.11.6 Termite protection. In geographical areas where hazard of termite damage is known to be very heavy, wood floor framing in the locations specified in Section 2304.11.2.1 and exposed framing of exterior decks or balconies shall be of naturally durable species (termite resistant) or preservative treated in accordance with AWPA U1 for the species, product preservative and end use or provided with *approved* methods of termite protection, or substituted with materials that remove the food source for termites such as concrete or steel.

Commenter's Reason: Section 2304.11.6 specifies methods of termite protection but provides no guidance for the designer or building official as to what these methods are. There are many different types of approaches used to prevent termite damage in addition to treated wood. This proposal will identify other options currently being used successfully for termite protection for people who do not want to use pesticides or other chemical treatments.

The committee disapproved the original proposal and stated that it was not appropriate for a definition. By placing similar text into this section of the code, the additional guidance necessary to recognize alternative methods of termite resistance will be available to users of the code.

G16-12

Final Action: AS AM AMPC____ D

G20-12
202

Proposed Change as Submitted

Proponent: Michael D. Fischer, Kellen Company, representing Asphalt Roofing Manufacturers Association (mfischer@kellencompany.com)

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:

ROOF RECOVER. ~~The process of installing~~ An alteration consisting of the installation of an additional *roof covering* over a prepared existing *roof covering* without removing the existing *roof covering*.

ROOF REPLACEMENT. ~~The process of removing~~ An alteration consisting of the removal of the existing *roof covering*, repairing any damaged substrate and installing a new *roof covering*.

Reason: This proposal modifies the current definitions for roof recover to clarify that these activities are alterations. This identification is necessary to ensure that all pertinent provisions of Chapter 34 are considered.

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

202-ROOF RECOVER-G-FISCHER

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: **Disapproved**

Committee Reason: Disapproval was requested by the proponent who also indicated a public comment will be considered.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Michael D. Fischer, Kellen Company, representing Asphalt Roofing Manufacturers Association, requests Approval as Submitted.

Commenter's Reason: This proposal was submitted as part of a package. The proponent requested disapproval of the proposal due to concerns with other technical issues. The intent of this proposal is to make it clear that roof recovering or replacement are considered "alterations" and not repairs. That distinction is important when applying the provisions of the IEBC.

G20-12

Final Action:	AS	AM	AMPC____	D

G26-12
202

Proposed Change as Submitted

Proponent: Dennis Pitts, American Wood Council (dpits@awc.org)

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:

TREATED WOOD. Wood ~~and wood-based materials~~ products that ~~use vacuum-pressure impregnation processes~~ are conditioned to enhance fire retardant or preservative properties.

Fire-retardant-treated wood. ~~Pressure-treated lumber and plywood~~ Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface-burning characteristics and resist propagation of fire.

Preservative-treated wood. ~~Pressure-treated wood~~ Wood products ~~that~~ , conditioned with chemicals by a pressure process or other means that exhibit reduced susceptibility to damage by fungi, insects or marine borers.

Reason: Pressure-treatment is not the only method permitted by the code for treated wood. Fire retardant treated wood (FRTW) can be impregnated with chemicals by pressure treatment or "other means during manufacture" (see Section 2303.2 and 2303.2.2). Preservative treated wood can be pressure treated or treated by a number of other methods indicated in the AWPA standards referenced in Section 2303.1.8. The current definition assumes pressure-treatment and therefore conflicts with the requirements in the text for both FRTW and preservative-treated wood.

Cost Impact: The code change proposal will not increase the cost of construction. No increase in cost.

202-FIRE RETARDANT TREATED WOOD-G-PITTS

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: **Approved as Submitted**

Committee Reason: The committee believes the revisions to the definition of the term "treated wood" are improvements that simplify the definition and coordinate the wording with the related code provisions.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

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

Modify the proposal as follows:

Fire-retardant-treated wood. Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface-burning characteristics and resist propagation of fire. For code requirements see Section 2303.2.

(Portions of proposals not shown remain unchanged)

Commenter's Reason: This is a very simple change and it is intended to ensure that no product is offered for use as a fire-retardant-treated wood product unless it meets both the concept, correctly shown in the amended definition, and the requirements shown in section 2303.2. Section 2303.2 requires that fire-retardant-treated wood, when tested in accordance with ASTM E84 or UL 723, exhibit a *listed* flame spread index of 25 or less and show no evidence of significant progressive combustion when the test is continued for an additional 20-minute period. Additionally, the flame front shall not progress more than 10 1/2 feet (3200 mm) beyond the centerline of the burners at any time during the test. In the absence of the link to section 2303.2, a product that contains a minuscule amount of impregnated chemicals could be construed to meet the definition of fire-retardant-treated wood, and accepted for sale as such, without meeting the quantitative code requirements.

Public Comment 2:

Joseph Holland or Dave Bueche, Hoover Treated Wood Products, requests Approval as Modified by the Public Comment.

Modify the proposal as follows:

TREATED WOOD. Wood products that use vacuum-pressure impregnation processes ~~are conditioned~~ to enhance fire retardant or preservative properties.

Fire-retardant-treated wood. Wood products that, when impregnated with chemicals by a pressure process ~~or other means during manufacture~~ exhibit reduced surface-burning characteristics and resist propagation of fire.

Preservative-treated wood. Wood products that , conditioned with chemicals by a pressure process ~~or other means that~~ exhibit reduced susceptibility to damage by fungi, insects or marine borers.

Commenter's Reason: During the hearing in Dallas testimony was given that spoke to the changes in only general language. Looking at the revisions, it opens the code official up to having to approve materials not currently used as preservative treated or FRTW.

Preservative treatment: Are you, as the code official, ready to approve painted products, sprayed products, dipped products, or any other product "conditioned" to enhance the wood's ability for preservative properties for use in your buildings. If this change is approved, as submitted to the committee, that is what you will be faced with. Currently, it must be pressure impregnated. Any other method must be approved as an alternate material. This change eliminates the provisions of 104.11. Let's keep in mind this material must last for the life of the structure.

Fire-Retardant-Treated Wood: It is important to remember that FRTW is allowed in lieu of noncombustible materials. The allowance is based on significant testing of the product over the years. The testing involved much more than than the tunnel test. There is the White House test; a full scale test in a facility 20 feet wide by 100 feet long. There is testing done on material installed building for 30 years to insure the material still exhibited the required attributes. The changes recommended for approval will allow products with only the E84 test to be substituted for noncombustible materials.

The code recognizes there may be products that could be used in lieu of noncombustible materials but wants to insure it will perform as well as pressure impregnated FRTW but because it is not a part of the definition but a part of 2303.2 it needs additional scrutiny under section 104.11.

Public Comment 3:

Kristen L. Owen, Arch Wood Protection, Inc. A Lonza Company, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

TREATED WOOD. Wood products that are ~~conditioned~~ processed to enhance fire retardant or preservative properties.

Fire-retardant treated wood. Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface burning characteristics and resist propagation of fire.

Preservative-treated wood. Wood products ~~conditioned~~ impregnated with chemicals by a pressure process or other means that exhibit reduced susceptibility to damage by fungi, insects or marine borers.

Commenters Reason: The word "conditioned "in the Wood Industry is understood to mean reducing the moisture content of wood through some means of drying. Using this term with respect to the addition of chemicals to enhance the preservative or fire retardant properties is confusing. The more generally understood term of "processed" is more appropriate for the Treated Wood definition. For the Preservative-wood definition using the term "impregnated" is clear and parallels the language used to describe the same process in the Fire-retardant wood definition.

Public Comment 4:

Joseph Holland or Dave Bueche, Hoover Treated Wood Products, requests Disapproval.

Commenter's Reason: During the hearing in Dallas testimony was given that spoke to the changes in only general language. Looking at the revisions, it opens the code official up to having to approve materials not currently used as preservative treated or FRTW.

Preservative treatment: Are you, as the code official, ready to approve painted products, sprayed products, dipped products, or any other product "conditioned" to enhance the wood's ability for preservative properties for use in your buildings. If this change is approved, as submitted to the committee, that is what you will be faced with. Currently, it must be pressure impregnated. Any other method must be approved as an alternate material. This change eliminates the provisions of Section 104.11. Let's keep in mind this material must last for the life of the structure.

Fire-Retardant-Treated Wood: It is important to remember that FRTW is allowed in lieu of noncombustible materials. The allowance is based on significant testing of the product over the years. The testing involved much more than the tunnel test. There is the White House test; a full scale test in a facility 20 feet wide by 100 feet long. There is testing done on material installed building for 30 years to insure the material still exhibited the required attributes. The changes recommended for approval will allow products with only the E84 test to be substituted for noncombustible materials.

The code recognizes there may be products that could be used in lieu of noncombustible materials but wants to insure it will perform as well as pressure impregnated FRTW but because it is not a part of the definition but a part of Section 2303.2 it needs additional scrutiny under Section 104.11.

G26-12

Final Action: AS AM AMPC____ D

G28-12
304.1 (IFC [B] 202)

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering (al.godwin@aon.com**)**

Revise as follows:

304.1 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 care facilities
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
Food processing establishments and commercial kitchens with an occupant load less than 25 and not associated with restaurants, cafeterias and similar dining facilities.
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

Reason: It is not uncommon to have catering services, bakeries, takeout pizza, and other food prep establishments in retail strip centers. Calling such uses an F-1 actually invokes change of use provisions that are not necessary. To avoid this, many jurisdictions will just call them “retail sales”. However, they actually are more closely related to a small café and should be considered as such. Or, they should be listed under Group M.

With 200 sq. ft. per person occupant load calculation, 25 occupants equates to 5,000 sq. ft.

Cost Impact: This code change proposal will not increase the cost of construction but could reduce the cost of unnecessary change of use.

304.1-G-GODWIN

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved for several reasons. First it was considered too high of an occupant load which would basically allow a 5000 square foot kitchen. It was suggested that it might be better to simply limit the square footage instead of basing upon an occupant load. A square footage of 2500 square feet was offered as a suggestion. Additionally, the committee noted that correlation with Group F occupancies was necessary.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Al Godwin, CBO, CPM, Aon Fire Protection Engineering Corporation, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

304.1 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 care facilities
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
Food processing establishments and commercial kitchens ~~with an occupant load less than 25 and~~ not associated with restaurants, cafeterias and similar dining facilities not more than 2500 square feet in area.
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

306.2 Moderate-hazard factory industrial, Group F-1. 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 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 establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities over 2500 square feet in area.
Furniture
Hemp products
Jute products
Laundries
Leather products

Machinery
Metals
Millwork (sash and 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)

Commenter Reason: In its review, the Committee felt that the amendment was appropriate but too large. Also, a correlation amendment should be proposed for F-1 occupancies. Therefore, these amendments would seem to be within the recommendations of the committee.

Although worded differently, these uses will receive a form of recognition under P35-12 which passed committee as follows:

P35 – 12
403.3 (IBC [P] 2902.3)

Proponent: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., representing Little Caesar Enterprises (JBEngineer@aol.com)

Revise as follows:

403.3 (IBC [P] 2902.3) Required public toilet facilities. Customers, patrons and visitors shall be provided with *public* toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employees shall be provided with toilet facilities in all *occupancies*. Employee toilet facilities shall be either separate or combined employee and *public* toilet facilities.

Exceptions: Public toilet facilities shall not be required in:

1. Open or enclosed parking garages. Toilet facilities shall not be required in parking garages where there are no parking attendants.
2. Structures and tenant spaces intended for quick transactions, including take out, pick up and drop off, having a public access area less than or equal to 300 square feet.

Tenant spaces that are only intended for quick transactions do not need to provide public facilities for customers, patrons, and visitors. The public does not rely on such spaces to provide public toilet rooms. Patrons spend a short period of time completing a transaction, then they depart.

Examples of these types of spaces include: takeout food locations, such as Chinese food take outs; pizza take outs; and carry out ribs. Similar quick transaction facilities include: dry cleaners, atm facilities, florists, shoe repair shops, and newspaper stands.

It is recognized that the text of the second exception could be shortened to read: Structures and tenant spaces having a public access area less than or equal to 300 square feet. The added text is provided for clarity.

The purpose of this section has always been to provide comfort facilities for anyone spending a period of time in the public space. Quick transaction spaces are unique, in that people are not in the space for any length of time. Furthermore, the space open to the public is limited to 300 square feet.

It would be a safety and/or health hazard to have the public travel to the working areas of the tenant space to use toilet facilities. Hence, if a public toilet room is added, the space for the toilet room would have to be located in the front space where the small public area is located. This creates a security concern where the public toilet room would block openings in the front tenant space.

The 300 square foot dimension is based on the standard large spaces used by these types of facilities. Most tenant spaces of this type have an area less than 300 square feet for the public.

P35-12 Committee Action: **Approved as Submitted**

Committee Reason: Small spaces intended for momentary occupancy by the public do not require toilet facilities.

Assembly Action: **None**

G28-12

Final Action: AS AM AMPC____ D

G29-12
304.1 (IFC [B] 202)

Proposed Change as Submitted

Proponent: Lee J. Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development (lkranz@bellevuewa.gov)

Revise as follows:

304.1 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
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 (architect, attorneys, dentists, physicians, engineers, etc)
Radio and television stations
Telephone exchanges
Training, educational tutoring and skill development not within a school ~~or academic program~~.

Reason: This code change is intended to clarify that educational tutoring centers, such as those typically found in strip malls or office buildings, are considered to be classified as Group "B" occupancies. The term "educational tutoring" is descriptive of the type of use associated with training and skill development outside of a full time K-12 school and are used by students after normal mid-day school hours. It also more specifically and accurately describes the type of moderate occupant load commercial space used to provide focused learning opportunities for individual students.

"Academic program" has been deleted because it broadly describes many different learning situations or teaching methods which would otherwise be considered part of a conventional school environment and has caused many building officials to erroneously classify these uses as Group "E" occupancies.

Many building officials are classifying businesses like Sylvan, Huntington and Kumon Learning Centers as Group "E" occupancies which places the building in a higher risk occupancy category than is necessary to protect the occupants. The student-to-teacher ratio in educational tutoring centers is typically very low and the overall occupant load is moderately low which creates a safer environment similar to a group "B" occupancy.

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

304.1-G-KRANZ

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved with concern that this description would allow the inclusion of classroom type situations for preparation for SAT's and similar tests versus the smaller tutor/ student ratio intended. The current description, "training and skill development," was felt to be sufficient. Code change G30-12 was preferred.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Lee J. Kranz, City of Bellevue Washington, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

304.1 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
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 (architect, attorneys, dentists, physicians, engineers, etc)
Radio and television stations
Telephone exchanges
Training, educational tutoring and skill development uses with an occupant load less than 50 and not within a school.

Commenter's Reason: Many building officials are classifying businesses like Sylvan, Huntington and Kumon Learning Centers as Group "E" occupancies placing the building in a higher risk occupancy category than is necessary to protect the occupants. The student-to-teacher ratio in educational tutoring centers is typically very low and the overall occupant load is moderately low which creates a safer environment similar to that typically found in a Group "B" occupancy.

Means of Egress Committee members preferred the language in G-30 over G-29 because it included the condition "where not classified as a Group A occupancy". This text is not sufficient as there are cases where the proposed use will not be considered to be "used for assembly purposes…" as indicated in IBC Section 303.1.1 which would allow higher occupant loads to remain in the Group B occupancy category. We believe this is contrary to the Committee's intent. The text proposed in this public comment is better because it insures that low to moderate occupant loads will be maintained and higher density spaces will be classified as Group E or Group A occupancies. WABO TCD will request that our public comment for G-30 be heard before G-29 and if approved we will withdraw G-29.

G29-12
Final Action: AS AM AMPC____ D

G30-12
304.1 (IFC [B] 202)

Proposed Change as Submitted

Proponent: Adria Paesani, Fountain Valley Fire Department (adria.paesani@fountainvalley.org); Robert Marshall, Contra Costa Fire Department representing CalChiefs

Revise as follows:

304.1 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 serving five or fewer patients (see Section 308.3.2 for facilities serving more than five patients)
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, 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 (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics, and similar uses regardless of the ages served, and where not classified as a Group A occupancy)

Reason: The 2012 International Building Code defines a Group E occupancy as *the use of a building or structure, or a portion thereof, by six or more persons at any one time for educational purposes through the 12th grade*. There are a variety of local interpretations on whether a tutoring center falls into a Group B or Group E classification. This code proposal is intended to classify tutoring centers and similar transient occupancies that cater to children as Group B occupancies per section 304.1. Enforcing Group E regulations greatly increases the cost to tutoring centers , in particular, as other similar uses clearly do not fall into the academic provisions of the Group E occupancies, i.e. martial arts, gymnastics, etc. The majority of tutoring centers are placed in multi-unit, Type V structures. Placing a Group E occupancy in a Type V building requires either a one-hour or two-hour wall between adjoining occupancies depending on fire sprinkler coverage. In addition, a manual fire alarm system is required in all Group E occupancies having an occupant load of more than 30, unless provided with fire sprinklers.

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

304.1-G-PAESANI

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was preferred over G29-12 as it better described the smaller scale intention of the application. More specifically the statement "not classified as Group A Occupancies" clarifies that it is not intended to apply to larger classroom settings as discussed in G29-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

David S. Collins, FAIA, The Preview Group, Inc.; Carroll Pruitt, AIA, Pruitt Consulting, Inc., requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

304.1 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 care facilities
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 (~~this shall include, but not be limited to,~~ tutoring centers, martial arts studios, gymnastics, <u>etc.</u> ~~and similar uses regardless of the ages served, and where not classified as Group A occupancy~~)

Commenter's Reason: The implication in the code change is that training areas somehow become assembly occupancies. Section 303.1 states that an assembly occupancy is "for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation." None of these activities are of such a nature that they would be classified as assembly. Many occupancies can have more than 50 occupants in them and are not classified as assembly, these training areas are a primary example and was the reason for initially including these areas in the laundry list under the B occupancy.

Office buildings and even retail centers often include such functions in their buildings and they closely parallel to that business or retail function where a person purchases an instrument or a skill in a training session similar to that function. Data entry and computer skills training are not assembly occupancies. It may be that the original proponent is seeing large assembly type spaces being used for some of these activities such as gymnastics or martial arts in a gymnasium where other activities warrant classification as a Group A classification simply because of its size. It isn't the training or skill development that would be the reason for the classification, it would be the size of the space and whether it was used for recreational purposes.

Public Comment 2:

Lee J. Kranz, City of Bellevue Washington, representing Washington Association of Building Officials Technical Code Development Committee requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

304.1 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
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 (architect, attorneys, dentists, physicians, engineers, etc)
Radio and television stations
Telephone exchanges
Training and skill development not within a school or academic program (~~this~~ This shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics, and similar uses regardless of the ages served, ~~and where not classified as a Group A occupancy~~ with an occupant load less than 50).

Commenter's Reason: Many building officials are classifying businesses like Sylvan, Huntington and Kumon Learning Centers as Group "E" occupancies placing the building in a higher risk occupancy category than is necessary to protect the occupants. The student-to-teacher ratio in educational tutoring centers is typically very low and the overall occupant load is moderately low which creates a safer environment similar to that typically found in a Group "B" occupancy.

G-29 is similar to G-30 but Means of Egress Committee members preferred the language in G-30 over G-29 because it included the condition "where not classified as a Group A occupancy". This text is not sufficient as there are cases where the proposed use will not be considered to be "used for assembly purposes…" as indicated in IBC Section 303.1.1. This would allow higher occupant loads to remain in the Group B occupancy category. We believe this is contrary to the Committee's intent and creates a higher risk due to greater occupant loads.

The text proposed in this public comment is better because it insures that low to moderate occupant loads will be maintained and higher density spaces with occupant loads of 50 or more will be classified as Group E or Group A occupancies. WABO TCD will request that our public comment for G-30 be heard before G-29 and if approved we will withdraw G-29.

G30-12

Final Action: AS AM AMPC____ D

G33-12
202, 308.1.1 (NEW) (IFC [B] 202), 408.1, 425 (NEW), Chapter 35

Proposed Change as Submitted

Proponent: Dave Frable, U.S General Services Administration, Public Buildings Service, representing U.S. General Services Administration, Public Buildings Service (dave.frable@gsa.gov)

Revise as follows:

SECTION 202
DEFINITIONS

Lock-Up. An area located in an occupancy, other than an I-3 occupancy, where occupants are detained by the use of security measures not under such occupants' control.

Revise as follows:

SECTION 308
INSTITITUIONAL GROUP I

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.1.1 Lockups. Lockups located in occupancies, other than Group I-3 occupancies, shall comply with the requirements of the main occupancy of the building in which the lockup is located and with the requirements of Section 425.

Revise as follows:

SECTION 408
GROUP I-3

408.1 General. Occupancies in Group I-3 shall comply with the provisions of Sections 408.1 through 408.11 and other applicable provisions of this code (see Section 308.5). Lockups located in occupancies, other than I-3 occupancies, shall comply with the requirements of Section 425.

SECTION 425
LOCKUPS.

425.1 General. Lockups in occupancies, other than Group I-3 occupancies, where the holding area has capacity for more than 50 detainees or where any individual is detained for more than 24 hours, shall be classified as Group I-3 occupancies and shall comply with the requirements of Section 408. Lockups in occupancies, other than Group I-3 occupancies, where the holding area has capacity for not more than 50 detainees, and where no individual is detained for more than 24 hours, shall comply with Section 425.2 or Section 425.3.

425.2 Lockup Option 1. The lockup shall comply with the requirements for the main occupancy of the building in which the lockup is located, and all of the following criteria:

1. Doors and other physical restraints to free egress by detainees can be readily released by staff within 2 minutes of the onset of a fire or similar emergency.
2. Staff is in sufficient proximity to the lockup so as to be able to cause the 2-minute release required by Item 1 of Section 425.2 whenever detainees occupy the lockup.
3. Staff is authorized to cause the release required by Item 1 of Section 425.2.
4. Staff is trained and practiced in effecting the release required by Item 1 of Section 425.2.
5. Where the release required by Item 1 of Section 425.2 is caused by means of remote release, detainees are not to be restrained from evacuating without the assistance of others.

425.2.1 Fire department notification. The fire department with responsibility for responding to a building that contains a lockup shall be notified of the presence of the lockup.

425.3 Lockup Option 2. Where the lockup does not comply with all the provisions of Section 425.2 the requirements of this Section shall be met.

425.3.1 Main occupancy. The requirements applicable to the main occupancy of the building in which the lockup is located shall be met.

425.3.2 Means of egress. Where security operations necessitate the locking of required means of egress, the following shall apply:

1. Detention-grade hardware meeting the requirements of ASTM F 1577 shall be provided on swinging doors within the required means of egress.
2. Sliding doors within the required means of egress shall be designed and engineered for detention and correctional use, and lock cylinders shall meet the cylinder test requirements of ASTM F 1577.

425.3.3 Smoke detection. The lockup shall be provided with a smoke detection system in accordance with Section 907.4.3.

425.3.4 Fire alarm system. Where the requirements applicable to the main occupancy of the building do not mandate a fire alarm system, the lockup shall be provided with a fire alarm system meeting all of the following criteria:

1. The fire alarm system shall be installed in accordance with Section 907.6.
2. Initiation of the fire alarm system shall be accomplished by all of the following:
   2.1. Manual fire alarm boxes in accordance with Section 907.4.2
   2.2. Smoke detection system in accordance with Section 425.3.3
   2.3. Automatic sprinkler system required by the provisions applicable to the main occupancy of the building.
3. Staff and occupant notification shall be provided automatically in accordance with Section 907.5.
4. Emergency force notification shall be provided in accordance with Section 907.6.5.

425.3.5 Fire department notification. The fire department with responsibility for responding to a building that contains a lockup shall be notified of the presence of the lockup.

Add new Standard to Chapter 35 as follows:

ASTM – F 1577-05 Standard Test Methods for Detention Locks for Swinging Doors

Reason: The intent of this code change proposal is to address the subject matter of 'lockups". A lockup is basically a holding area in which persons are detained with some degree of security imposed on them that are commonly located in different types of occupancies. For example, lockups are typically located in immigration and naturalization facilities at border crossings, customs facilities at international airports, prisoner holding facilities at courthouses, local police department holding areas, security offices at sports stadia, security offices at shopping mall complexes, etc. Currently, the requirements within the IBC require "lockups" to meet the rigorous defend in place requirements applicable for Group I-3 occupancies. This code change proposal provides requirements specifically for lockups located in other than Group I-3 occupancies and provide a reasonable set of safe guards applicable to the

main occupancy of the building in which the lockup is located. The subject provisions for lockups are meant to apply to holding areas of limited capacity in which no individual is detained for 24 or more hours.

New Section 425.1 establishes that if the holding area has the capacity for more than 50 detainees, it is classified as Group I-3 occupancy. Similarly, new Section 425.2 requires that, if an individual is detained for 24 or more hours, the holding area must be classified as Group I-3 occupancy.

Lockups subject to the provisions in Sections 425.3 are offered two options of compliance. Option #1 in Section 425.2 requires a system of safeguards, so that doors and physical restraints to free egress by detainees can be readily released by trained staff with the authority to cause such release, within 2 minutes of the onset of a fire or similar emergency. Option #1 will apply to holding areas that either (1) are staffed at all times when detainees are present or (2) have staff in close proximity and the detection and notification technology needed to summon such trained staff immediately upon the onset of an emergency. Option #2 provides alternate provisions for when all the criteria of the 2-minute release option in compliance Option #1 cannot be satisfied. This alternate set of provisions relies heavily on the presence of complete smoke detection within the lockup and its use to summon trained staff and emergency forces via the fire alarm system, which is required even if otherwise exempted for the main occupancy of the building. In addition, if the Code provisions applicable to the main occupancy of the building require sprinkler protection, the water flow in the sprinkler system must initiate the required alarm system. This option also imposes requirements for detention-grade doors hardware to address any reliability concerns by referencing ASTM F 1577-05, Standard Test Methods for Detention Locks for Swinging Doors. The subject standard's test methods will help ensure that detention locks perform at acceptable levels to control passage to unauthorized or secure areas, to confine detainees, and to delay escape attempts.

Please note that the subject code change proposal is based on the requirements for lockups in the National Fire Protection Association, Life Safety Code (2012 edition).

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

Analysis: A review of the standard proposed for inclusion in the code, ASTM F 1577-05 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2012.

202-LOCK UP (NEW)-G-FRABLE.doc

Public Hearing Results

For staff analysis of the content of ASTM F1577-05 relative to CP#28, Section 3.6, please visit: http://www.iccsafe.org:8888/cs/codes/Documents/2012-13cycle/Proposed-A/00a_updates.pdf

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon concern that such units would cause confusion with psychiatric, neonatal and dementia wards. Also the occupant load of 50 seems too high and inconsistent with other IBC criteria and further coordination with I-3 occupant loads should be made. Some type of built in systems were preferred over contacting the fire department as proposed in Section 425.3.5. There was some concern with the use of the terms "trained and practiced" in Section 425.2. It was noted that such requirements are needed within the IBC but the concerns noted above need to be addressed. Coordination with G37-12 was encouraged.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

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

Modify the proposal as follows:

SECTION 425
LOCKUPS

425.1 General. Lockups in occupancies, ~~other than Group I-3 occupancies,~~ where the holding area has capacity for more than ~~50~~ 5 detainees ~~or where any individual is detained for more than 24 hours~~, shall be classified as Group I-3 occupancies and shall comply with the requirements of Section 408. Lockups in occupancies, ~~other than Group I-3 occupancies,~~ where the holding area has capacity for not more than ~~50~~ 5 detainees, and where no individual is detained for more than 24 hours, shall comply with Section 425.2 or Section 425.3.

425.2 Lockup Option 1. The lockup shall comply with the requirements for the main occupancy of the building in which the lockup is located, and all of the following criteria:

1. Doors and other physical restraints to free egress by detainees can be readily released by staff within 2 minutes of the onset of a fire or similar emergency.
2. Staff is in sufficient proximity to the lockup so as to be able to cause the 2-minute release required by Item 1 of Section 425.2 whenever detainees occupy the lockup.
3. Staff is authorized to cause the release required by Item 1 of Section 425.2.
4. Staff is trained ~~and practiced~~ in effecting the release required by Item 1 of Section 425.2.
5. Where the release required by Item 1 of Section 425.2 is caused by means of remote release, detainees are not to be restrained from evacuating without the assistance of others.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent of this code change is to address the subject matter of 'lockups". A lockup is basically a holding area in which persons are detained with some degree of security imposed on them that are commonly located in different types of occupancies. For example, lockups are typically located in immigration and naturalization facilities at border crossings, customs facilities at international airports, prisoner holding facilities at courthouses, local police department holding areas, security offices at sports stadia, security offices at shopping mall complexes, etc.

Currently the requirements in the IBC are silent regarding what requirements should be used when detaining 5 or less individuals who are under restraint in a "lockup" area within a building. However, when a building has more than 5 persons under restraint or security, the "lockup" area must meet the rigorous defend in place requirements applicable for Group I-3 occupancies.

This code change provides requirements specifically for lockups located in other than Group I-3 occupancies and provides a reasonable set of safe guards applicable to the main occupancy of the building in which the lockup is located. The subject provisions for lockups are meant to apply to holding areas of limited capacity in which no individual is detained for 24 or more hours.

New Section 425.1 establishes that if the holding area has the capacity for more than 5 detainees, it is classified as Group I-3 occupancy. In addition, it requires that, if an individual is detained for 24 or more hours, the holding area must be classified as Group I-3 occupancy. Also, lockups subject to the provisions in Sections 425.1 are also offered two options of compliance.

Option #1 in Section 425.2 requires a system of safeguards, so that doors and physical restraints to free egress by detainees can be readily released by trained staff with the authority to cause such release, within 2 minutes of the onset of a fire or similar emergency. Option #1 will apply to holding areas that either (1) are staffed at all times when detainees are present or (2) have staff in close proximity and the detection and notification technology needed to summon such trained staff immediately upon the onset of an emergency.

Option #2 provides alternate provisions for when all the criteria of the 2-minute release option in compliance Option #1 cannot be satisfied. This alternate set of provisions relies heavily on the presence of complete smoke detection within the lockup and its use to summon trained staff and emergency forces via the fire alarm system, which is required even if otherwise exempted for the main occupancy of the building. In addition, if the Code provisions applicable to the main occupancy of the building require sprinkler protection, the water flow in the sprinkler system must initiate the required alarm system. This option also imposes requirements for detention-grade doors hardware to address any reliability concerns by referencing ASTM F 1577-05, Standard Test Methods for Detention Locks for Swinging Doors. The subject standard's test methods will help ensure that detention locks perform at acceptable levels to control passage to unauthorized or secure areas, to confine detainees, and to delay escape attempts.

Please note that the subject code change proposal is based on the requirements for lockups in the National Fire Protection Association, Life Safety Code (2012 edition).

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

G33-12

Final Action: AS AM AMPC____ D

G36-12
308.3.1, 308.4.1, 310.5.1(IFC [B] 202)

Proposed Change as Submitted

Proponent: Betsy Lease, representing Brown County Partnership

Revise as follows:

SECTION 308
INSTITUTIONAL GROUP I

308.3.1 Five or fewer persons receiving care. A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code*. ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.~~

308.4.1 Five or fewer persons receiving care. A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code*. ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.~~

SECTION 310
RESIDENTIAL GROUP R

310.5.1 Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code*. ~~provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.~~

Reason: The purpose of this proposal is to let the IRC determine if a sprinkler system is required in what it typically a single family home. The sprinkler system should not be 'hidden' within the IBC for homes constructed under the IRC. It is discriminatory to require only these homes to have sprinkler systems if the state has decided to not require sprinklers under IRC.

I am Chairman of a community-wide accessibility committee that works with and supports organizations that helps people with disabilities, often with limited mobility live in home in their community. These individuals may be temporarily physically disabled, or permanently disabled, or even in hospice. We advocate for them get custodial care and medical care on a regular basis – anywhere from a visit per day to a live-in helper. When it is a long term situation, we assist people to make modifications to their home to accommodate the care needs, or the client may choose to build a new home with what is commonly called a 'mother-in-law's suite' or nursery. Some of the officials I have talked to say this requirement is only for where home care is a business, but the text is not written that way. Therefore, this could be applicable to any home where one person needs custodial care or medical care. Was the intent was to apply this to foster care, or if someone I am taking care of in my home is not related? It is discriminatory under Fair Housing Act to define 'family' by blood or marriage. In addition, I am not aware of a state that licenses facilities with 5 or fewer residents.

Cost Impact: The proposed changes will not increase the cost of construction.

308.3.1-G-LEASE

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved as it was felt that sprinklers are necessary in such facilities. Additionally it was felt that removing this will take away clarity from the building official regarding the need to enforce sprinkler requirements when not required by the IRC when states have eliminated the residential sprinkler requirements. This may also change the type of sprinkler system allowed to be installed when constructed in accordance with the IBC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Stephen Thomas, Colorado Code Consulting, LLC, representing International Association of Building Officials (IABO), requests Approval as Submitted.

Commenter's Reason: The original reason for this proposal stated that the requirement may be discriminatory. Since the change was submitted, it has been brought to our attention that civil rights lawsuits have been threatened against several local jurisdictions that have enforced the provisions of these sections. The cases that we have reviewed have settled with the civil rights commissions and have not been tested in the courts. The lawsuits state that the additional requirement of fire sprinklers in these facilities is in violation of the Federal Fair Housing Act. By requiring sprinklers in a home serving disabled persons versus a home serving unrelated persons places a larger burden on the disabled persons. An example of this situation can be found in The State of Arizona Ex Rel. Thomas C. Horne, The Attorney General; And The Civil Rights Division Of The Arizona Department Of Law vs. City Of Avondale, AZ.

The building code should not set people up for being sued by their State or Federal Civil Rights Commission. It should be consistent with federal accessibility laws.

G36-12

Final Action: AS AM AMPC____ D

G37-12
202, 308.5, 308.5.6 (NEW) (IFC [B] 202)

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee

Revise as follows:

308.5 Institutional Group I-3. This occupancy shall include buildings and structures that are inhabited by more than five persons who are under restraint or security. An I-3 facility is occupied by persons who are generally *incapable of selfpreservation* due to security measures not under the occupants' control. This group shall include, but not be limited to, the following:

Correctional centers
Detention centers
Jails
Lockup facility
Prerelease centers
Prisons
Reformatories

Buildings of Group I-3 shall be classified as one of the occupancy conditions indicated in Sections 308.5.1 through 308.5.5 (see Section 408.1).

308.5.6 Lockup facilities. A *lockup facility* for five or less persons shall be classified as a Group B occupancy or as part of the primary occupancy provided they comply with the following provisions**:**

1. The area containing a lockup facility shall be separated from other rooms, spaces or areas by approved smoke barrier complying with Section 709.
2. The area containing a lockup facility shall be protected with an automatic fire sprinkler system complying with Section 903.
3. The area containing a lockup facility shall be provided with an automatic smoke detection system installed in accordance with Section 907.

Ad new definition as follows:

SECTION 202
DEFINITIONS

LOCKUP FACILITY. Buildings containing holding cells, rooms or areas where occupants are restrained or detained.

Reason: This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Part 1 of this code proposal is the revision of Section 308.5 and the addition of Section 308.5.6. The revision removes more than five persons, and adds buildings and structures containing a room, holding cell or cellblock used to place persons under restraint or security. The new section adds lockup facilities and also clarifies that an approved smoke barrier complying with Section 709 be provided, and also fire sprinkler and smoke detectors be installed.

Part 2 of this code proposal adds a definition for lockup facilities that is needed in the Code that clarifies the use occupancies for buildings/spaces that contain five or less occupants under restraint or detained.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both

the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: This proposal will increase the cost of construction of rooms or spaces used to restrain or detain occupants.

308.2-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: There were several concerns with the concept of lock-up facilities. There were no limitations on how many of these facilities could be located within a building. This could be used in some cases to replace Group I-3 occupancies. It was also felt that smoke barriers may make observation difficult. Another concern was that sprinklers are not required throughout the building only within the lockup facility smoke compartment. Finally it was felt a time limit needs to be placed upon the use of such facilities along with the need for specific monitoring requirements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Chuck Bajnai, Chesterfield County, VA, representing ICC Building Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

308.5.6 Lockup facilities. A *lockup facility* for five or less persons shall be classified ~~as a Group B occupancy or~~ as part of the primary occupancy ~~provided they~~ and shall comply with all of the following provisions**:**

1. The area containing a lockup facility shall be separated from other rooms, spaces or areas by approved smoke barrier complying with Section 709.
2. The ~~area~~ building containing a lockup facility shall be protected with an automatic fire sprinkler system complying with Section 903.
3. The area containing a lockup facility shall be provided with an automatic smoke detection system installed in accordance with Section 907.
4. There shall be not more than one lock-up facility within a building.
5. The restraint of individuals within the lock-up facility shall be for less than 24 hours.

(Portions of the proposal not shown to remain unchanged)

Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

This public comment addresses the Code Development Committee Reason as follows:

1. "*There were several concerns with the concept of lock-up facilities. There were no limitations on how many of these facilities could be located within a building."*

We have proposed to add an item 4 to Section 308.5.6 to clarify only one such lockup facility is permitted within a building.

2. "This could be used in some cases to replace Group I-3 occupancies."

We disagree. This proposal clearly plugs a hole in the current code: what do you do with smaller lock up facilities that have less than 6 people under restraint? This proposal tells you that when you have five or fewer people under restraint, the lock-up facility shall be classified the same as rest of the building. In other words, if the lock up facility is in a mall it would be Group B; if it is in a baseball stadium, it would be a Group A; if it is in a school, it would be a Group E.

3. "It was also felt that smoke barriers may make observation difficult."

Since it is permitted to have approved openings in smoke barriers including those constructed of glazing, we cannot understand where this concern emanates from.

4. “Another concern was that sprinklers are not required throughout the building, only within the lockup facility.”

We acknowledge this concern and have changed Item 2 under proposed Section 308.5.6 to apply to the building.

5. “Finally it was felt a time limit needs to be placed upon the use of such facilities along with the need for specific monitoring requirements.”

We reluctantly have addressed this concern by adding Item 5 under proposed Section 308.5.6 to clarify that the restraint of individuals is for less than 24 hours. This last constraint could be problematic in that the code has no control as to how the operator of the facility will ensure compliance to this requirement.

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

G37-12

Final Action: AS AM AMPC____ D

G40-12
202, 310.5, 310.5.2 (NEW) (IFC [B] 202), IPC Table 403.1 (IBC [P] Table 2902.1)

Proposed Change as Submitted

Proponent: Tim Nogler, Washington State Building Code Council, representing Washington Association of Building Officials Technical Code Development Committee (tim.nogler@des.wa.gov)

Revise as follows:

310.5 Residential Group 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*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (*transient*) with 10 or fewer occupants
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (*transient*) with 10 or fewer occupants
Lodging houses with five of fewer *guest rooms*

310.5.2 Lodging houses. Owner occupied *lodging houses* with five or fewer *guest rooms* shall be permitted to be constructed in accordance with the *International Residential Code.*

Add new definitions as follows:

SECTION 202
DEFINITIONS

GUEST ROOM. A room used or intended to be used by one or more guests for living or sleeping purposes.

LODGING HOUSE. A one family dwelling where one or more occupants are primarily permanent in nature, and rent is paid for guestrooms.

Revise as follows:

IPC TABLE 403.1 (IBC [P] TABLE 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]
(See IPC Sections 403.2 and 403.3)
(See IBC Sections 2902.2 and 2902.3)

No.	Classification	Occupancy	Description	WATER CLOSETS (Urinals see section 419.2 of the IPC)		LAVATORIES		BATHTUBS/SHOWERS	Drinking Fountains[e,f] (See Section 410.1 of the IPC)	OTHER
				MALE	FEMALE	MALE	FEMALE			
7	**Residential**	R-3	One-and two-family dwellings <u>and lodging houses with 5 or fewer guest rooms</u>	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	--	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit

(Portions of table not shown remain unchanged)

Reason: The purpose of this code change is to allow a small bed and breakfast or similar lodging to be classified as single family. The proposed definitions are from the 2012 IRC. This proposal makes the IBC consistent with the IRC in regulating "lodging houses". The 2012 IRC scope covers lodging house occupancies with five or fewer guestrooms, when equipped with a fire sprinkler system. In the previous cycle, the IBC General committee had concerns that adding the IRC definitions to the IBC would create conflict with chapter 29 required plumbing fixtures. The committee had concerns that a new Group R-3 occupancy would create confusion with how to determine minimum number of plumbing fixtures per chapter 29. To address that concern, this proposal adds "lodging house" to IPC Table 403.1 (IBC Table 2902.1) to be consistent with one-family dwellings.

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

310.5-NOGLER

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The concept addressed is similar to G41-12 but based upon number of rooms versus occupants. This does not work with the IBC construct of occupant load but is consistent with the IRC approach. A possible solution is using total number of occupants similar to G41-12. It was encouraged to coordinate with G41-12 and evaluate how this proposal works with the accessibility requirements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Clare Ray Allshouse AIA, CBO, City of Shoreline, WA, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Submitted.

Commenter's Reason: The Committee disapproved the original proposal in part due to a failure to work within the IBC construct of occupant load (number of occupants versus rooms) even though it was acknowledged that it is consistent with the IRC approach. The terms used in this proposal are identical to the terms currently used in the IRC. Since the expressed purpose of this proposal is to coordinate the IBC with the IRC, it would seem most appropriate to define it in IRC terms to reduce the potential for confusion in

its proper application. Furthermore, by making this scope clarification in the IBC that these occupancies are subject to the provisions of the IRC, the accessibility question raised by the Committee is resolved by definition.

G40-12

Final Action: AS AM AMPC____ D

G41-12
310.5, 310.5.2(NEW) (IFC [B] 202)

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee

Revise as follows:

310.5 Residential Group 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*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (*transient*) with 10 or fewer occupants
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (*transient*) with 10 or fewer occupants
Owner-occupied lodging houses (transient) with 16 or fewer occupants

310.5.1 Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.

310.5.2 Owner occupied lodging houses. Owner-occupied lodging houses with ten or fewer occupants shall be permitted to be constructed in accordance with the *International Residential Code* where equipped throughout with an automatic sprinkler system in accordance with Section P2904 of the *International Residential Code*.

Reason: This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

The purpose of this code change is to provide correlation between the International Residential Code and the International Building Code. During the previous code cycle provisions allowing the construction under the IRC for owner-occupied lodging houses for five or fewer guestrooms were approved. This proposal adds owner-occupied lodging houses to the list of R-3 Occupancy and provides a pointer to the IRC when the number of occupants falls to ten or fewer.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: This proposal will decrease the cost of construction by clarifying the relationship between the IRC and the IBC.

310.5-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the disconnect between the method of determining occupant load in 310.5, the method used in the IRC for lodging houses and also how the number 10 is used to allow construction in accordance with the IRC. A suggestion of both number of rooms and occupant load was suggested. Related to this concern it was unclear how this would work with the accessibility requirements in the IBC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Chuck Bajnai, Chesterfield County, VA, representing ICC Building Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

310.5 Residential Group 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*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (*transient*) with 10 or fewer occupants
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (*transient*) with 10 or fewer occupants
Owner-occupied lodging houses (transient) with 5 or fewer guestrooms ~~16 or fewer occupants~~

310.5.2 Owner occupied lodging houses. Owner-occupied lodging houses with 5 or fewer guestrooms ~~ten or fewer occupants~~ shall be permitted to be constructed in accordance with the *International Residential Code* where equipped throughout with an automatic sprinkler system in accordance with Section P2904 of the *International Residential Code*.

Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

The primary purpose of this code change has always been to have consistent thresholds for owner-occupied lodging houses in the IBC and IRC, thus allowing users of the I-Codes to be able to access the provisions of the IRC and be in compliance with the IBC. The code development committee's comment was that "16 or fewer occupants" in G41 was inconsistent with the IRC Section R101.2 exception #2 of "5 or fewer guestrooms", and also that this could have issues with compatibility with accessibility issues in the IBC. Therefore, this modification is offered, that uses the language of the IRC. This resolves issues that the code development committee raised related to the accessibility requirements in Chapter 11.

Public Comment 2:

Dominic Marinelli, United Spinal Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

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

Boarding houses (*transient*) with more than 10 occupants
Congregate living facilities (*transient)* with more than 10 occupants

Hotels (*transient*)
Motels (*transient*)
Owner-occupied lodging houses (transient) with more than 5 sleeping units

310.5 Residential Group 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*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (*transient*) with 10 or fewer occupants
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (*transient*) with 10 or fewer occupants
Owner-occupied lodging houses (transient) with 5 or fewer sleeping units for rent or hire ~~16 or fewer occupants~~

310.5.2 Owner occupied lodging houses. Owner-occupied lodging houses with 5 or fewer sleeping units ~~ten or fewer occupants~~ shall be permitted to be constructed in accordance with the *International Residential Code* where equipped throughout with an automatic sprinkler system in accordance with Section P2904 of the *International Residential Code*.

1103.2.11 ~~Residential Group R-1~~ Owner occupied lodging houses. ~~Buildings of Group R-1~~ Lodging houses containing ~~not more than~~ five or fewer *sleeping unit*s for rent or hire that are also occupied as the residence of the ~~proprietor~~ owner are not required to be *accessible*.

Commenter's Reason: The primary purpose of the G40 and G41 code changes are to have a consistent threshold for owner-occupied lodging houses in the IBC and IRC, thus allowing users of the I-Codes to be able to access the provisions of the IRC for small bed-and-breakfast type facilities and be in compliance with the IBC. While we agree with the intent, the original proposal did not coordinate with IBC Sections 310.3 and 1103.2.11.

In addition, the IBC removed the term 'guestroom' as part of the coordination effort with the Fair Housing Act during the 2001 code change cycle. The term 'sleeping unit' is used throughout the IBC and the rest of the family of codes. The term 'sleeping unit' is the same in the IRC as it is in the IBC, and is used in Section R320 for the reference back to IBC for accessibility.

SLEEPING UNIT. A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a *dwelling unit* are not sleeping units.

It is my intent to submit a code change to the IRC for the 2013 cycle to return it to consistent language compatible with the Fair Housing Act.

SECTION R320
ACCESSIBILITY

R320.1 Scope. Where there are four or more *dwelling* units or sleeping units in a single structure, the provisions of Chapter 11 of the *International Building Code* for Group R-3 shall apply.

United Spinal will be putting in a correlative code change for the IRC as follows. The definitions for 'guestroom' and 'lodging house' are not used anywhere else in the IRC, therefore, there is no reason for them to remain in the IRC. While the IRC is technically separate, it is one of the family of codes and should use consistent terms as much as possible.

R101.2 Scope. The provisions of the *International Residential Code for One- and Two-family Dwellings* shall apply to the construction, *alteration*, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures*.

Exceptions:

1. Live/work units complying with the requirements of Section 419 of the *International Building Code* shall be permitted to be built as one- and two-family *dwellings* or townhouses. Fire suppression required by Section 419.5 of the *International Building Code* when constructed under the *International Residential Code for One- and Two-family Dwellings* shall conform to Section P2904.
2. Owner-occupied lodging houses with five or fewer ~~guestrooms~~ sleeping units shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-family Dwellings* ~~when~~ where equipped with a fire sprinkler system in accordance with Section P2904.

~~**GUESTROOM.** Any room or rooms used or intended to be used by one or more guests for living or sleeping purposes.~~

~~**LODGING HOUSE**. A one-family dwelling where one or more occupants are primarily permanent in nature, and rent is paid for guestrooms.~~

G41-12
Final Action: AS AM AMPC____ D

G42-12
311.1.2 (New) (IFC [B] 202)

Proposed Change as Submitted

Proponent: Tod Connors, Arlington County (VA) Department of Community Planning, Housing, and Development/Division of Inspection Services, representing self

Revise as follows:

311.1.2 Accessory storage spaces. A room or space used for storage purposes that is less than 100 square feet (9.3 m^2) in area and accessory to another occupancy will be classified as part of that occupancy. The aggregate area of such rooms or spaces shall not exceed the allowable area limits of Section 508.2.

Reason: Storage rooms were removed from Incidental Uses, Table 509. Storage is now treated as a mixed use condition and must meet either the requirements of 508.2 Accessory occupancies, 508.3 Nonseparated occupancies, or 508.4 Separated occupancies. When applying these mixed use sections in B occupancy buildings of IIB or IIA construction, an S-I storage room cannot be placed on the highest floor allowed by Table 503 Allowable Building Heights and Areas and Section 504 Building Height. The 100 square foot lower limit would allow small storage rooms on upper floors. This area is the same lower limit used in the Incidental Use Table when storage rooms were last included. The statement limiting area to the limits under current Accessory occupancy requirements is to preclude a large number of small storage rooms in excess of what other code sections limit.

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

311.1.2 (NEW)-G-CONNORS

Public Hearing Results

Editorial revision

Modify proposal as follow:

311.1.2 Accessory storage spaces. A room or space used for storage purposes that is less than 100 square feet (9.3 m^2) in area and accessory to another occupancy ~~will~~ shall be classified as part of that occupancy. The aggregate area of such rooms or spaces shall not exceed the allowable area limits of Section 508.2.

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved based upon the proponent's reason. This is another way of gaining small storage areas on upper floors although G126-12 is the preferred approach. Editorial revision makes consistent with current code language.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing, City of San Diego Development Services Department, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

311.1.2 Accessory storage spaces. A room or space used for storage purposes that is less than 100 square feet (9.3 m^2) in area and accessory to another occupancy shall be classified as part of that occupancy. The aggregate area of such rooms or spaces on each story shall not exceed the allowable area limits of Section 508.2.

Commenter's Reason: The General Committee approved a code change submitted by Arlington County to address an issue we tried to also resolve in code change G124 that was not approved. We request the membership's support of our public comment for approval as modified.

We like the code change however it does not address the fact that there may be multiple accessory storage spaces on multiple upper levels above the second floor in buildings allowed to have non-rated construction. We suggest that code change be approved with the following modification. We request that the membership approve the proposed modification to the committee's action.

G42-12

Final Action: AS AM AMPC____ D

G48-12
403.1

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

Revise as follows:

403.1 Applicability. *High-rise buildings* shall comply with Sections 403.2 through 403.6.

Exception: The provisions of Sections 403.2 through 403.6 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.3.
2. *Open parking garages* in accordance with Section 406.5.
3. ~~Buildings with~~ The portion of a building containing a Group A-5 occupancy in accordance with Section 303.6. This exemption shall not apply to other uses that if on their own would have been considered as a high-rise building.
4. Special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with a Group H-1, H-2 or H-3 occupancy in accordance with Section 415.

Reason: As written, the wording exempts any building as long as part of the building is a Group A-5. If built as one building, it could be read to exempt high-rise office and/or condo's that are connected to or part of a sports stadium.

The commentary states:

> "Places of outdoor assembly (Group A-5) and stand alone open parking garages are exempted because of the free ventilation to the outside that exists in such structures,"

Many stadiums today, including at the college level, are built with uses such as sky boxes and restaurants that themselves qualify as a high rise. While exempting the open air stadium seems appropriate since its occupants can see everything, other uses should be protected as a high rise if any of those uses on their own exceed the high rise limitation.

Individuals in sky boxes do not have a clear vision of neighboring skyboxes. Exiting a sky box is not as simple as walking out into the open air seating and moving away from the hazard.

Cost Impact: This code change will increase the cost of construction if such other uses have been allowed to be exempt from high-rise provisions and are now required to comply.

403#1-G-GODWIN

Public Hearing Results

Committee Action: **Approved as Submitted**

Editorial revision

Modify proposal as follows:

403.1 Applicability. *High-rise buildings* shall comply with Sections 403.2 through 403.6.

Exception: The provisions of Sections 403.2 through 403.6 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.3.
2. *Open parking garages* in accordance with Section 406.5.
3. The portion of a building containing a Group A-5 occupancy in accordance with Section 303.6. This exemption shall not apply to other ~~uses~~ occupancies that if on their own would have been considered as a high-rise building.
4. Special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with a Group H-1, H-2 or H-3 occupancy in accordance with Section 415.

Committee Reason: This proposal was a good clean up and clarification that simply because a building contains a Group A-5 occupancy the entire building containing other occupancies should not be exempt from the high-rise requirements of Section 403. Note editorial correction to change the term "uses" to "occupancies" in the proposed language.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

403.1 Applicability. *High-rise buildings* shall comply with Sections 403.2 through 403.6.

Exception: The provisions of Sections 403.2 through 403.6 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.3.
2. *Open parking garages* in accordance with Section 406.5.
3. The portion of a building containing a Group A-5 occupancy in accordance with Section 303.6. ~~This exemption shall not apply to other occupancies that if on their own would have been considered as a high-rise building.~~
4. Special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with a Group H-1, H-2 or H-3 occupancy in accordance with Section 415.

Commenter's Reason: This modification is proposed to relieve some potentially unreasonable requirements imposed on small occupancies. Using the example from the proponent's reason statement, a restaurant or sky box in a large stadium would be considered a high-rise, which would require emergency power, and a fire command center, among other things, no matter how small the restaurant. By deleting the last sentence, the smallest uses could be considered accessory, and would be spared some onerous requirements. The language that remains in exception 3 addresses the proponent's concern about offices and residences connected to a stadium. While the occupant load of A-5 stadiums is high, the stadiums are occupied relatively infrequently for short periods, and the height of the high-rise portions of the building are at the lower end of the range for high-rise buildings. Stadiums have large exits, usually exceeding the required capacity, and most stadium designs include redundancies in the egress system.

G48-12

Final Action: AS AM AMPC____ D

G49-12
403.1

Proposed Change as Submitted

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

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

Revise as follows:

403.1 Applicability. *High-rise buildings* shall comply with Sections 403.2 through 403.6.

Exception: The provisions of Sections 403.2 through 403.6 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.3.
2. *Open parking garages* in accordance with Section 406.5.
3. Buildings with a Group A-5 occupancy in accordance with Section 303.6.
4. Special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with:
   5.1. A Group H-1 occupancy;~~,~~
   5.2. A Group H-2 occupancy in accordance with Sections 415.7.1, 415.8.1, 415.8.3 and 415.8.4; or,
   5.3. A Group H-3 occupancy in accordance with Section 415.7.1

Reason: The commentary states:
"Finally, buildings with occupancies in groups H-1, H-2 and H-3 are excluded from the provisions of this section because the fire hazard characteristics of such occupancies in a high-rise have not yet been considered."

However, the code does not prohibit these H occupancies from being in high-rise buildings. If that is the intent, then there are many sections of the code that need amending.

Are Group H occupancies allowed in high-rise buildings?
If not, this code change needs to go a different direction.

It is not uncommon to have Group H-2, flammable liquids, in a high rise building. And, high-rise labs often have H-2 flammable gases and H-3 oxidizing gases as well.

In accordance with Section 508.2.4, 508.3.3 and 415.8.2.1, specific H occupancies are required to be separated as separated mixed uses in accordance with Section 508.4. These Group H occupancies are not to be considered Accessory uses or non-separated mixed uses. They must always be separated mixed uses.

To exempt the entire building from high-rise provisions for complying with Section 415 does not seem reasonable since the provisions of that section do not compensate for the high rise provisions.

As listed, any high rise lab building that has a flammable gas H-2 room would be exempt from all of the high-rise provisions, including the fire service access elevator.

For example:
Section 415.8.2 provides provisions for the storage, handling, processing and transporting of flammable and combustible liquids in Groups H-2 and H-3 occupancies. There is a short list of requirements. However, compliance with that short list does not seem to compensate for the high-rise provisions of Section 403.

It does seem appropriate to exempt the occupancies only for the new sections listed. As proposed in this code change, only the following buildings would be exempt from the high rise provisions.

H-1 – required to be in a separate building and only allowed one story, Section 415.6.
H-2 and H-3 – when required to be in a separate building and only allowed one story, Section 415.7.
H-2 – special buildings:
Combustible dusts, grain processing and storage, Section 415.8.1
Liquefied petroleum gas facilities, Section 415.8.3.
Dry cleaning plants, Section 415.8.4.

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

403#2-G-GODWIN

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as submitted as it was a necessary clarification that H occupancies can be located within a high-rise building. The committee based this decision primarily on the proponent's reason. One concern was raised related to whether group H occupancies would be allowed the construction type reductions in Section 403.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Disapproval.

Commenter's Reason: The General Committee approved a code change submitted by AON fire protection to exempt buildings with H occupancies located in hi-rise buildings from compliance with the hi-rise requirements in Section 403.1. We request the memberships support for our public comment for disapproval of the code change.

We see no basis for this code change. An emergency generator room for required emergency or standby power or optional standby power may contain hazardous materials in excess of the amounts in Chapter 3 of the IBC. Group H occupancies located in hi-rise buildings should comply with both the hi-rise building requirements and the occupancy specific requirements. There are situations where laboratory spaces the include hazardous materials in excess of tabular limits are located in hi-rise buildings.

We urge the membership's disapproval of this code change. It does not appear that the code change as approved requires that H occupancies located in hi-rise buildings are also required to comply with the additional requirements in Section 403.

G49-12

Final Action: AS AM AMPC____ D

G53-12
403.6.1

Proposed Change as Submitted

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

Revise as follows:

403.6.1 Fire service access elevator. In buildings with an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access, no fewer than two fire service access elevators, or all elevators, whichever is less, shall be provided in accordance with Section 3007. Each fire service access elevator shall have a capacity of not less than 3500 pounds (1588 kg) and shall comply with Section 3002.4.

Reason: When Section 3002.4 was amended to require elevator cars that can accommodate an 84 inch (2134 mm) stretcher it increased the size of the elevator car to a 3500 pound minimum capacity. As Section 403.6.1 now requires all Fire Service Access elevators in a building to be this size, it makes sense to coordinate this requirement with the stretcher size requirement.

As firefighters use Fire Service Access elevators to stage to fight a fire, these elevators will often be occupied carrying equipment and personnel to the staging floor. If only one of these 3500 pound elevators can also accommodate a stretcher, there is no guarantee that it will be the one that is available to evacuate injured persons. Having all Fire Service Access elevators usable and available to serve both the staging and the evacuation functions is an efficient way of taking advantage of what may be the largest elevator cars in the building.

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

403.6.1-G-BLACK

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: It was felt that requiring the stretcher requirements to link with the fire service access elevator is not an undue burden. This proposal will make sure that the fire service access elevator is also large enough to accommodate a stretcher.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Dave Frable, U.S. General Services Administration, Public Buildings Service and Matt Archer, Douglas County, Colorado, representing Colorado Chapter, ICC, requests Disapproval.

Commenter's Reason: The intent of this comment is to reverse the action taken by the General Code Committee. The subject code change proposal was approved as submitted by the General Code Committee and will now require that ALL fire service access elevators accommodate a 24 inch by 84 inch ambulance stretcher. The proponent in the reason statement stated that ALL 3500 pound capacity fire service access elevators can accommodate this dimension ambulance stretcher. Technically, the proponent is correct. However, to our knowledge a 3500 pound elevator car can only accommodate a 24 inch by 84 inch ambulance stretcher when the door opening is from the side of the elevator car and not when the door opening is from the center of the elevator car. Please note that high-rise commercial office buildings typically to do not install elevator cars with side door openings. Only 4000 pound or more capacity elevator cars with an opening center door can accommodate a 24 inch by 84 inch ambulance stretcher. Therefore, to meet this new requirement, all fire service access elevator cars will now have to be 4000 pound or greater capacity elevator cars. In addition, the proponent also stated the subject code change will not increase costs. This is an incorrect statement since the costs associated with a 4000 pound elevator car will be more than a 3500 pound elevator car. Depending on the project, this change may increase the cost of construction to the point where it may become economically unrealistic for many high-rise projects to proceed.

In addition, please also note that the original intent of installing fire service access elevators in high-rise buildings was to improve fire fighter safety and the ability to move suppression equipment and personnel to the fire location expediently, not mandate all fire service access elevators large enough to accommodate ambulance stretchers. We also believe that a majority of designs to meet the current provisions in the 2009 code would chose to also make at least one fire service access elevator large enough to meet the required ambulance stretcher elevator requirements without a specific mandate, since access to each floor of the building must be provided by each type.

G53-12

Final Action: AS AM AMPC____ D

G54-12
404.5, 712.1.8

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare and Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Revise as follows:

404.5 Smoke control. ~~A~~ In other than Group I-2. smoke control system shall be installed in accordance with Section 909.

Exception: Smoke control is not required for *atriums* that connect only two *stories*.

712.1.8 Two-story openings. In other than ~~Groups I-2 and~~ Group I-3, a floor opening that is not used as one of the applications listed in this section shall be permitted if it complies with all of the items below.

1. Does not connect more than two stories.
2. Does not contain a stairway or ramp required by Chapter 10.
3. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
4. Is not concealed within the construction of a wall or a floor/ceiling assembly.
5. Is not open to a corridor in Group I and R occupancies.
6. Is not open to a corridor on nonsprinklered floors.
7. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

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

This proposal is intended to correct a misapplication of the intent of the code and coordinate with federal requirements. Currently the language in Section 404.5 and 404.6 would allow a two story atrium to be open to the floors without providing a smoke control system or any passive separation. While this may be appropriate for many occupancy groups, exposing patients who are incapable of self preservation to a large vertical opening is an unacceptable risk. Practically, this would never occur because federal requirements that fund and regulate these types of facilities would not allow an opening without either smoke control or passive separation.

Two story vertical openings are design features that hospitals typically employ to create a more calming and welcoming environment for the patients and their families. The intent of the code appears to allow multiple methods for dealing vertical openings. The AHC believed that a reasonable solution was to restrict the unprotected atrium language and concurrently add language to allow the use of two story openings in 712.1.8. This trade off would protect the corridor from the large opening between floors. It would also provide facilities and designers two options for dealing with these openings.

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

404.5-G-Williams-AdHocHealthcare

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

404.5 Smoke control. A ~~In other than Group I-2.~~ smoke control system shall be installed in accordance with Section 909.

Exception: In other than Group I-2 smoke control is not required for *atriums* that connect only two *stories*.

712.1.8 Two-story openings. In other than Groups I-2 and ~~Group~~ I-3, a floor opening that is not used as one of the applications listed in this section shall be permitted if it complies with all of the items below.

1. Does not connect more than two stories.
2. Does not contain a stairway or ramp required by Chapter 10.
3. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
4. Is not concealed within the construction of a wall or a floor/ceiling assembly.
5. Is not open to a corridor in Group I and R occupancies.
6. Is not open to a corridor on nonsprinklered floors.
7. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

Committee Reason: This proposal closes a loophole for a higher risk occupancy that would now be required smoke control for two story atriums. The spaces included in atriums in hospitals often become very large. The modification emphasizes what the original intent of the proposal was to be more restrictive for Group I-2 occupancies.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, Code Technologies Committee – Care facilities study group, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909.

Exception: In other than Group I-2 Condition 2 smoke control is not required for *atriums* that connect only two *stories*.

712.1.8 Two-story openings. In other than Groups I-2 Condition 2 and I-3, a floor opening that is not used as one of the applications listed in this section shall be permitted if it complies with all of the items below.

1. Does not connect more than two stories.
2. Does not contain a stairway or ramp required by Chapter 10.
3. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
4. Is not concealed within the construction of a wall or a floor/ceiling assembly.
5. Is not open to a corridor in Group I and R occupancies.
6. Is not open to a corridor on nonsprinklered floors.
7. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

Commenter's Reason: The original proposal limits requires two story atriums in all Group I-2 to have smoke control. The justification provided was only for hospitals. Therefore, the intent of this proposal is to allow nursing homes to follow the standard atrium provisions. Hospitals would be limited in accordance with the proposal.

The term "Condition 2' is utilized in place of 'hospital' in order to be consistent with G257-12. See G257-12 for the proposal regarding Condition 1 and Condition 2. During the hearings a floor modification passed the has Group I-2, Condition 1 as nursing homes and Group I-2, Condition 2 as hospitals. Use of this new term would not change the technical issues of this proposal.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public

comment is called “Care Facilities”. Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/CareFacilities.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

Staff analysis: Code change G257 was Approved as Modified at the Code Development Hearings and a public comment has not been submitted. Accordingly it has been placed on the consent agenda.

G54-12

Final Action: AS AM AMPC____ D

G55-12
404.5

Proposed Change as Submitted

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Revise as follows:

404.5 Smoke control. ~~A~~ In other than Group I-2 and Group I-1. Condition 2, smoke control system shall be installed in accordance with Section 909.

Exception: Smoke control is not required for *atriums* that connect only two *stories*.

Reason: The Adhoc Healthcare committee has a proposal to require smoke control for 2 story atriums in Group I-2 due to concerns about smoke compartmentation. The CTC care committee would like to include the new Group I-1, Condition 2 based on the same theory of protection.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

Cost Impact: The proposed changes will not increase the cost of construction.

404.5-G-BALDASSARRA-CTC

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

404.5 Smoke control. A ~~In other than Group I-2 and Group I-1. Condition 2,~~ smoke control system shall be installed in accordance with Section 909.

Exception: In other than Group I-2 and Group I-1. Condition 2 smoke control is not required for *atriums* that connect only two *stories*.

Committee Reason: This proposal enhances the safety in both hospitals and assisted living facilities with more occupants needing a higher level of care. This closes a loophole created with the exception for two story atriums that often get very large. The modification is similar to that made in G54-12 which is emphasizing the original intent of the proposal which was to be more restrictive.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, Code Technologies Committee – Care facilities study group, requests Disapproval

Commenter's Reason: This public comment is basically a parliamentary issue regarding coordination between G54 and G55. G54 originally asked that two story atriums require smoke control in all Group I-2, nursing homes and hospitals. G55 was a correlative change – basically asking for two story atriums to require smoke control for Group I-1, Condition 2 (i.e., assisted living facilities with smoke compartments).

There is a public comment in for G54 asking that only hospitals (Group I-2 Condition 2 - see code change G257 for change in terminology) be required to have smoke control in two story atriums. If G54 is successful and G55 was to remain as modified in the Report of Hearings, there were be a conflict between nursing home requirements (Group I-2 Condition 1) and assisted living facilities (Group I-1 Condition 2). A two story atrium would require smoke control in an assisted living, but not a nursing home. The intent of the CTC is that if the public comment to G54 is successful, we will be withdrawing this change totally. If the public comment to G54 is not accepted, we would like G55 to move forward into the 2015 IBC as currently modified.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Care Facilities". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/CareFacilities.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

G55-12

Final Action: AS AM AMPC____ D

G56-12
404.5

Proposed Change as Submitted

Proponent: Sarah A. Rice, C.B.O., The Preview Group (srice@preview-group.com)

Revise as follows:

404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909.

Exceptions:

1. A smoke control system is not required for *atriums* that connect only two *stories*.
2. A smoke control system is not required for atriums connecting more than two stories when all of the following are met:
   2.1. Only the 2 lowest stories shall be permitted to be open to the atrium. Unprotected openings shall be permitted.
   2.2. All stories above the lowest 2 stories must be separated from the atrium in accordance with Section 404.6.
   2.3 No operable openings shall be allowed in the walls of the atrium above the lowest 2 stories.

Reason: As stated in Section 909, the purpose of a smoke control systems is to provide a tenable environment for the evacuation or relocation of occupants. A smoke control system is NOT intended for the preservation of contents, the timely restoration of operations or for assistance in fire suppression or overhaul activities. Smoke control systems that are required and regulated by the IBC serve a different purpose than the smoke- and heat-venting provisions found in Section 910 and they are not considered exhaust systems under Chapter 5 of the International Mechanical Code.

In an atrium that connects more than 2 stories, the smoke control systems is intended to maintained the height of the lowest horizontal surface of the smoke layer interface to at least 6 feet above any walking surface that forms a portion of a required egress system within the smoke zone for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is less.

But what if the only walking surfaces in the atrium are on the 2 lowest stories of the atrium? What if all the walls above the 2 lowest stories are solid without operable openings? What purpose does the smoke control system then serve? We contend none. And if the smoke control system has no real value, then why install it?

This proposed change seeks to make exempt atriums that may connect more than 2 stories but which do not have any walking surfaces above the 2 lowest stories of the atrium when the walls of the atrium above the 2 lowest stories do not have any operable openings.

Cost Impact: The proposed changes will not increase the cost of construction. The cost of construction would be reduced by this proposal.

404.5-G-RICEE

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved as it was felt that 909 would already allow the design that depended upon smoke filling via passive means versus requiring a mechanical system.

Assembly Action: **None**

Individual Consideration Agenda

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

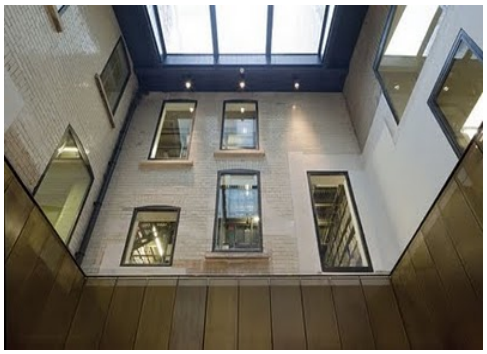
Public Comment:

Sarah A. Rice, C.B.O., The Preview Group, requests Approval as Submitted.

Commenter's Reason: This proposal seeks to recognize that there are atrium configurations which though "literally" connect more than 2 stories, in reality do not pose any greater hazard to the building occupants than an atrium which only connects 2 stories…

As the IBC is currently written, an atria that connect 2 stories is not required to have smoke control but once it "connects" more than 3 stories a smoke control system is required – regardless of the configuration of the atria, level of separation from adjacent spaces or the location of walking surfaces within the atria.

With the recognition that natural light creates a healthier environment, the use of light wells is becoming increasing common in building. We are seeing light wells extending through an entire 6-8 story building, and many of these light wells are provided with the sole intent to provide light. The walls of these light wells have no openings into the adjacent floors onto which they provide light (i.e., solid walls with nonoperable windows or doors) and there are no walking surfaces above the lowest levels.



But because these light wells are "connecting" more than 2 stories, smoke control systems are being required. But what benefit is he smoke control providing?

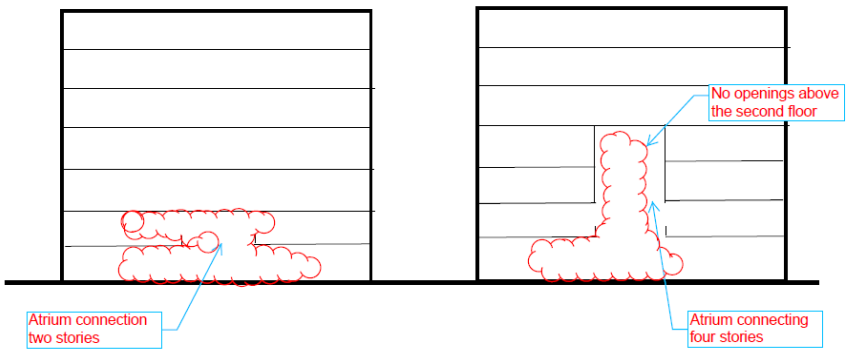
We ask you to consider this, if there are no operable openings in the walls of the atrium above the 2nd story, and there are no walking surfaces within the atria above the 2nd story, are the occupants on the 1st and 2nd story in more danger that if there were no light well, a.k.a., no atrium.

As we are so often reminded, the fundamental purpose of a smoke control system, as stated in Section 909 of the IBC, is to provide a tenable environment for the evacuation or relocation of occupants. And that a smoke control system is NOT intended for the preservation of contents, the timely restoration of operations nor for assistance in fire suppression or overhaul activities.

The code acknowledges that a 2-story atrium does not pose a hazard of such magnitude that a smoke control system is required. But how much more of hazard is there to the occupants if the atrium connects more than 2 stories but the only walking surfaces in the atrium are on the 2 lowest stories of the atrium and all the walls above the 2 lowest stories are solid without operable openings?

We contend that this configuration presents no more of hazard than a simple 2-story atria, if not a safer environment in some instances. In a simple 2-story atria smoke will migrate up through the atrium until it reaches the underside of the ceiling where then it will across the underside of the ceiling on the 2nd floor. By raising the "ceiling" of the atrium, a "smoke reservoir" is created where smoke will move into thus keeping the walking surfaces on the 1st, and more importantly the 2nd story, tenable for a longer period of time.

This proposed change seeks to make exempt atriums that may connect more than 2 stories but which do not have any walking surfaces above the 2 lowest stories of the atrium when the walls of the atrium above the 2 lowest stories do not have any operable openings.



G56-12

Final Action: AS AM AMPC____ D

G58-12
404.9.1 (NEW), 404.9.2 (NEW)

Proposed Change as Submitted

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

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Add new text as follows:

404.9 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 be not greater than 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 Section 1016.

404.9.1 Exit access across floor of atrium. Where the lowest level of the *atrium* is at the *level of exit discharge,* exit access travel distance shall be in accordance with Section 1016.2.

404.9.2 Interior exit stairways. A maximum of 50 percent of *interior exit stairways* are permitted to egress through the lowest level of an *atrium* where that level is the *level of exit discharge* in accordance with Section 1027.

Reason: The proposed language will clarify an otherwise vague permitted use of an atrium floor to be used as exit access to an exit from the atrium. This design is frequently encountered in healthcare and high-rise residential occupancies.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

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

404.9.1-G-BAJNAI-BCAC

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved because some members of the committee felt that allowing for 50% of the egress paths to move through an atrium is a safety hazard. However, other members felt that this was a clarification of what was already permitted where the atrium floor was also the lobby at the level of exit discharge.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Chuck Bajnai, Chesterfield County, VA, representing ICC Building Code Action Committee requests Approval as Modified by this Public Comment.

Replace the proposal with the following:

~~**404.9 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 be not greater than 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 Section 1016.~~

404.9 Exit access travel distance. Exit access travel distance for areas open to an atrium shall comply with the requirements of this section.

404.9.1 Egress not through the atrium. Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1016.

404.9.2 Exit access travel distance at the level of exit discharge. Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1016.

404.9.3 Exit access travel distance at other than the level of exit discharge. Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200 feet (60 960 mm).

404.10 Interior exit stairways. A maximum of 50 percent of interior exit stairways are permitted to egress through an atrium on the level of exit discharge in accordance with Section 1027.

Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Item G58-12 was intended to address two technical points. First, the proposal spoke to how exit access travel distance is measured within an atrium. Presently, Section 404.9 only addresses the design condition where the path of egress travel is at other than the lowest level of the atrium. This public comment creates a format where the various scenarios for paths of egress travel are individually addressed. Section 404.9.1 allows for conventional exit access travel distances where access to exits is not through the atrium. Sections 404.9.2 and 404.9.3 dictate exit access travel distances where exits are accessed through the atrium. Section 404.9.2 states that where exit access travel occurs at the level of exit discharge from the atrium, Section 1016 values apply. Section 404.9.3 clarifies the current Section 404.9 requirement where exit access travel occurs at other (above or below) than the level of exit discharge from the atrium, in the correct technical context. The current reference of "lowest level of the atrium" assumes that that level is at the level of exit discharge, which may or may not be the case. Accordingly, that language has been deleted in favor of a specific reference to the level of exit discharge.

The second point of the original proposal was to clarify that interior exit stairways could egress through an atrium where such area complies with the provisions of Section 1027. This public comment agrees with that interpretation. Section 1027 does not prohibit egress through atrium spaces where all applicable conditions are met. This proposal clarifies that issue.

This reformatting and editorial clarification will assist code practitioners in correctly determining exit access travel distance requirements in buildings having atriums. Approval of this proposal as modified will increase uniformity in interpretation and application of these important provisions. This change includes the changes approved in E90 to add "exit access" to the description of travel distances.

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

G58-12

Final Action: AS AM AMPC____ D

G59-12
202, 406.3, 406.3.1, 406.3.2, 406.3.3, 406.3.4

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Add new definition as follows:

PRIVATE GARAGE. A building or portion of a building in which motor vehicles used by the tenants of the building or buildings on the premises are stored or kept, without provisions for repairing or servicing such vehicles for profit.

Revise as follows:

406.3 Private garages and carports. Private garages and carports shall comply with Sections 406.3.1 through ~~406.3.5~~ 406.3.4.

406.3.1 Classification. ~~Buildings or parts of buildings~~ Private garages and carports shall be classified as Group U occupancies. ~~because of the use or character of the occupancy~~ Each private garage shall be ~~not greater than~~ a 1,000 square feet (93 m^2) in area. ~~or one *story* in height except as provided in Section 406.3.2. Any building or portion thereof that exceeds the limitations specified in this section shall be classified in the occupancy group other than Group U that it most nearly resembles.~~ Multiple private garages are permitted in a building when each private garage is separated from the other private garages by 1-hour fire barriers in accordance with Section 707, or 1-hour horizontal assemblies in accordance with Section 711, or both.

~~**406.3.2 Area increase.** Group U occupancies used for the storage of private or pleasure-type motor vehicles where no repair work is completed or fuel is dispensed are permitted to be 3,000 square feet (279 m^2) where the following provisions are met:~~

~~1. For a mixed occupancy building, the *exterior wall* and opening protection for the Group U portion of the building shall be as required for the major occupancy of the building. For such a mixed occupancy building, the allowable floor area of the building shall be as permitted for the major occupancy contained therein.~~
~~2. For a building containing only a Group U occupancy, the *exterior wall* shall not be required to have a *fire-resistance rating* and the area of openings shall not be limited where the *fire separation distance* is 5 feet (1524 mm) or more.~~

~~More than one 3,000-square-foot (279 m_2) Group U occupancy shall be permitted to be in the same structure, provided each 3,000-square-foot (279 m^2) area is separated by *fire walls* complying with Section 706.~~

~~**406.3.3**~~ **406.3.2 Garages ~~and carports~~ floor surfaces.** ~~Carports shall be open on no fewer than two sides. Carport~~ Garage floor surfaces shall be of *approved* noncombustible material. ~~Carports not open on at least two sides shall be considered a garage and shall comply with the provisions of this section for garages.~~ The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

~~**Exception:** Asphalt surfaces shall be permitted at ground level in carports.~~

~~The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.~~

~~406.3.4~~ **406.3.3 Separation.** The separation~~s~~ of private garages from other occupancies shall comply with Section 508. Separation of private garages from dwelling units shall comply with ~~the following:~~ Sections 406.3.3.1 through 406.3.3.3.

~~1.~~ **406.3.3.1 Dwelling unit separation.** The private garage shall be separated from the *dwelling unit* and its *attic* area by means of gypsum board, not less than ½ inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a $^5/_8$-inch (15.9 mm) Type X gypsum board or equivalent and ½-inch (12.7 mm) gypsum board applied to structures supporting the separation from habitable rooms above the garage. Door openings between a private garage and the *dwelling unit* shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than $1^3/_8$ inches (34.9 mm) in thickness, or doors in compliance with Section 716.5.3 with a fire protection rating of not less than 20 minutes. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Doors shall be *self-closing* and self-latching.

~~2.~~ **406.3.3.2 Ducts.** Ducts in a private garage and ducts penetrating the walls or ceilings separating the *dwelling unit,* including its *attic* area*,* from the garage shall be constructed of sheet steel of not less than 0.019 inches (0.48 mm), in thickness, and shall have no openings into the garage.

406.3.4 Carports. Carports shall be open on at least two sides. Carport floor surfaces shall be of approved noncombustible material. Carports not open on at least two sides shall be considered a garage and shall comply with the requirements for private garages.

Exception: Asphalt surfaces shall be permitted at ground level in carports.

The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

(~~406.3.4, item 3~~) 406.3.4.1 Carport separation. A separation is not required between a Group R-3 and U carport, provided the carport is entirely open on two or more sides and there are not enclosed areas above.

Reason: Consistency and coordination among the International Codes is one of the cornerstones of the ICC Code Development process. The ICC Board established the ICC Building Code Action Committee (BCAC) to act as a forum to deal with complex issues ahead of the Code Development Process, identify emerging issues and draft proposed code changes.
This proposed change is a result of the BCAC's work.

Part 1 of this code proposal adds a definition for private garage that is needed in the Code that clarifies the differences between a private garage, an open parking garage and an enclosed parking garage. This new definition for the IBC is modified from two of the legacy codes (1997 UBC Section 208 and 1999 BOCA Section 407.2. The SBC did not define a private garage.) and will serve well for the clarification of the Code that a private garage can be provided in other occupancies beside residential occupancies.

Part 2 of this code proposal is the revision of Section 406.3.1 and the deletion of Section 406.3.2 which were carry-overs from one of the legacy codes (1997 UBC Sections 312.2.1 & 312.2.2) that are really not applicable to the fire protection/life safety requirements in the IBC that address U occupancies in separated or mixed occupancies in a more defined manner than the previous legacy code from which these requirements were taken from. The retaining of a maximum size of 1000 square feet private garage (roughly a 20' x 50' floor area) is a reasonable limitation for a private garage before such a Group U occupancy would be required to be designed as a S-2 parking garage or a S-1 repair garage, as applicable. Such a maximum square footage for a private garage works out well when using IMC Section 402.2 requirement for natural ventilation in a private garage since the typical garage door is a minimum of 8' x 8' (64 sq. ft.), and the minimum natural ventilation required for ventilation is 4% of the floor area being ventilated (i.e. maximum 1000 sq. ft. x 0.04 = minimum 40 sq. ft. opening required < the minimum 64 sq. ft. overhead garage door). Such a garage door will provide an additional (24/40 =) 60% safety factor on the natural ventilation of the space under the Code.

Section 406.3.3 has been modified by breaking it into two sections and matching the language to the IRC language for clarity and correlation. (IRC Section R309 for reference).

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost: This proposal will decrease the cost of construction by clarifying the requirements for private garage separation and increasing coordination of the language with the IRC.

406.3.1-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Approved as Modified**

Modify the proposal as follows:

406.3.1 Classification. Private garages and carports shall be classified as Group U occupancies. Each private garage shall be not greater than ~~a~~ 1,000 square feet (93 m^2) in area. Multiple private garages are permitted in a building when each private garage is separated from the other private garages by 1-hour fire barriers in accordance with Section 707, or 1-hour horizontal assemblies in accordance with Section 711, or both.

(Portions of the proposal not shown remain the same)

Committee Reason: This proposal provided a good clean up of the private garage requirements. Some committee members still preferred the 3000 square feet allowed in the legacy codes. Concerns remain with the separation requirements. The modification clarifies that the 1000 square feet in Section 406.3.1 is meant as a maximum area. It should be noted that the BCAC would address concerns that Section 406.3.2(2) should be retained through reference in footnotes to Tables 602 and 705.8 during the public comment process.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC), requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, e, h]

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]
X < 5[c]	All	3	2	1
5 ≤ X < 10	IA Others	3 2	2 1	1 1
10 ≤ X < 30	IA, IB IIB, VB Others	2 1 1	1 0 1	1[d] 0 1[d]
X ≥30	All	0	0	0

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 406.3.~~ For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1524 mm) or more.
c. See Section 706.1.1 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 415.5.

g. For special requirements for Group S aircraft hangars, see Section 412.4.1.
h. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.

TABLE 705.8
MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA[a]
0 to less than 3[b, c]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[i]	Not Permitted
	Protected (P)	Not Permitted
3 to less than 5[d, e]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[i]	15%
	Protected (P)	15%
5 to less than 10[e, f, j]	Unprotected, Nonsprinklered (UP, NS)	10%[h]
	Unprotected, Sprinklered (UP, S)[i]	25%
	Protected (P)	25%
10 to less than 15[e, f, g, j]	Unprotected, Nonsprinklered (UP, NS)	15%[h]
	Unprotected, Sprinklered (UP, S)[i]	45%
	Protected (P)	45%
15 to less than 20[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)[i]	75%
	Protected (P)	75%
20 to less than 25[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
25 to less than 30[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)[i]	Not Required
	Protected (P)	Not Required

For SI: 1 foot = 304.8 mm.
UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.
a. Values indicated are the percentage of the area of the exterior wall, per story.
b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.
c. For openings in a fire wall for buildings on the same lot, see Section 706.8.
d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.
e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.

f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.
g. The area of openings in an open parking structure with a fire separation distance of 10 feet or greater shall not be limited.
h. Includes buildings accessory to Group R-3.
i. Not applicable to Group H-1, H-2 and H-3 occupancies.
j. ~~For special requirements for Group U occupancies, see Section 406.3.2.~~ The area of openings in a building containing only a Group U occupancy private garage or carport with a fire separation distance of 5 feet or greater shall not be limited.

(Portions of the proposal not shown to remain unchanged)

Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

This public comment resolves the concern noted in the Code Development Committee's reason statement. This code modification just places the requirements in the 2012 IBC Section 406.3.2(2) into the appropriate footnotes in Tables 602 & 705.8.

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

Public Comment 2:

Ali M. Fattah P.E., City of San Diego, City of San Diego Development Services Department , requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

PRIVATE GARAGE. A building or portion of a building ~~in~~ which ~~motor vehicles~~ is used for the storage of private or pleasure vehicles used by the tenants of the building or buildings on the premises ~~are stored or kept~~, without provisions for the commercial repairing or servicing such vehicles ~~for profit~~.

(Portions of the proposal not shown to remain unchanged)

Commenter's Reason: The General Committee approved this code change submitted by the ICC Building Code Action Committee with a modification to Section 406.3.1. We urge the membership in supporting our public comment for approval as modified.

We support the code change since the difference in requirements between the Group U and S-2 occupancy protection are numerous. We however believe that the code needs to make clear that for a garage to be private it needs to be connected to a unit and needs to have direct access. This will follow the philosophy the private garage user is familiar with the items stored and should not be concerned with the activities of an unrelated neighbor that may not even reside in the same building but is provided parking in a mixed occupancy building. Additionally determining whether vehicle repair is for profit is not practical since it is an operational constraint seeking to prohibit a commercial garage but to allow a homeowner to change the oil on a motor vehicle. We request that the membership approve the proposed modification to the committee's action.

G59-12

Final Action: AS AM AMPC____ D

G62-12
406.3.4

Proposed Change as Submitted

Proponent: Sarah A. Rice, C.B.O., The Preview Group (srice@preview-group.com)

Revise as follows:

406.3.4 Separation. ~~Separations shall comply with the following:~~ Private garages shall be separated from other occupancies in the same building in accordance with Section 508.

Exceptions:

1. ~~The~~ Where located adjacent to a dwelling unit, a private garage shall be separated from the *dwelling unit* and its *attic* area by means of gypsum board, not less than ½ inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board or equivalent and ½-inch (12.7 mm) gypsum board applied to structures supporting the separation from habitable rooms above the garage.
   1.1. Door openings between a private garage and the *dwelling unit* shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than $1^{3}/_{8}$ inches (34.9 mm) in thickness, or doors in compliance with Section 716.5.3 with a fire protection rating of not less than 20 minutes. Doors shall be *self-closing* and self-latching.
   1.2. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. ~~Doors shall be *self-closing* and self-latching.~~
   ~~2~~1.3. Ducts in a private garage and ducts penetrating the walls or ceilings separating the *dwelling unit,* including its *attic* area*,* from the garage shall be constructed of sheet steel of not less than 0.019 inches (0.48 mm), in thickness, and shall have no openings into the garage.
2. ~~3~~2. A separation is not required between a Group R-3 and U carport, provided the carport is entirely open on two or more sides and there are not enclosed areas above.

Reason: The code in Section 406 appears to be silent with respect to the separation requirements between a private garage and something other than a dwelling unit. Private garages are not limited be being accessory to residences, but could be accessory to other uses such as a small office building. The existing provisions of Section 406.3.4 only address the separations between a dwelling unit and a private garage or carport. This change directs the code user to the mixed occupancy section of the code to address the separations either as an accessory occupancy, non-separated or separated mixed occupancy. It then takes the existing text and changes it into an exception to sending people to Section 508.

The other change is to reformat what is currently Items 1 and 2 of Section 406.3.4. The current Item 1 has various sub-requirements applying to the wall separating the private garage from a dwelling unit. The provision for self-closing and self-latching doors is simply being moved to be adjacent to the remaining door requirements. The current item 2 would appear not to be a stand alone provision nor a distinct exception for the separation of private garage and dwelling unit, but is another element of the separation described in Item 1.

Cost Impact: The proposed changes will not increase the cost of construction.

406.3.4-G-RICE

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as it gives necessary guidance for private garages adjacent to other than Group R-3 Occupancies. It was suggested that this be correlated with G59-12 as necessary. Note that there was some concern with the term "adjacent."

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

406.3.4 Separation. Private garages shall be separated from other occupancies in the same building in accordance with Section 508.

Exceptions:

1. Where ~~located adjacent~~ attached to a dwelling unit, and where direct access is provided, a private garage shall be separated from the *dwelling unit* and its *attic* area by means of gypsum board, not less than ½ inch (12.7 mm) in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a 5/8 -inch (15.9 mm) Type X gypsum board or equivalent and ½-inch (12.7 mm) gypsum board applied to structures supporting the separation from habitable rooms above the garage.
   1.1. Door openings between a private garage and the *dwelling unit* shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than $1^3/_8$ inches (34.9 mm) in thickness, or doors in compliance with Section 716.5.3 with a fire protection rating of not less than 20 minutes. Doors shall be *self-closing* and self-latching.
   1.2. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted.
   1.3. Ducts in a private garage and ducts penetrating the walls or ceilings separating the *dwelling unit,* including its *attic* area*,* from the garage shall be constructed of sheet steel of not less than 0.019 inches (0.48 mm), in thickness, and shall have no openings into the garage.
2. A separation is not required between a Group R-3 and U carport, provided the carport is entirely open on two or more sides and there are not enclosed areas above.

Commenter's Reason: The General Committee approved this code change submitted by the Preview Group modifying the exceptions to Section 406.3.4 addressing the reduced occupancy separation between dwellings and private parking garages. We request that the membership approve the proposed modification to the committee's action.

We believe that the IBC needs to make clear that for the occupancy separation exception to allow reduced protection from a private garage and to allow protection similar protection to that for an individual dwelling and its own garage, the code needs to require that the dwelling unit be connected to garage and that it needs to have direct access to the garage. This will follow the philosophy that the private garage user is familiar with the items stored and should not be concerned with the activities of an unrelated neighbor that may not even reside in the same building but is provided parking in a mixed occupancy building.

We have seen developments where parking under two units is provided for other dwelling units and commercial tenant spaces on the same site and the project team interpreted the code to intend such a parking garage to be eligible for protection equivalent to that provided between a single family dwelling and the private garage. In fact the mixed occupancy building containing Group U and R-3 above should require a full one hour separation.

G62-12

Final Action: AS AM AMPC____ D

G63-12
406.4.3

Proposed Change as Submitted

Proponent: Donald R. Monahan, Walker Parking Consultants, representing Parking Consultants Council of the National Parking Association (don.monahan@walkerparking.com)

Revise as follows:

406.4.3 Vehicle barriers. *Vehicle barriers* not less than 2 feet 9 inches (835 mm) in height shall be placed ~~at the ends of drive lanes, and at the end of parking spaces~~ where the vertical distance to the ground or surface directly below is greater than 1 foot (305 mm). *Vehicle barriers* shall comply with the loading requirements of Section 1607.8.3.

Exception: *Vehicle barriers* are not required in vehicle storage compartments

Reason: The current language implies that only those walls at the end of parking spaces or at the end of a drive aisle need to comply with the vehicle barrier requirements. Sidewalls at parking spaces are also vulnerable to vehicle impact as the vehicle maneuvers into the stall. Similarly, the side walls of vehicle-only ramps are vulnerable to collision if a vehicle is out of control due to driver heart attack, slippery or wet surfaces, or obstacles on the ramp. All walls at vertical surface displacements need to meet these vehicle barrier requirements.

Cost Impact: We believe most responsible designers already provide vehicle barriers or ramped floors at all vertical transitions in floor surfaces, such that this relatively minor clarification will not have a significant cost impact.

406.4.3-G-MONAHAN

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as there may be other locations within a garage that should have vehicle barriers not addressed by the current specific requirements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

406.4.3 Vehicle barriers. *Vehicle barriers* not less than 2 feet 9 inches (835 mm) in height shall be placed where the vertical distance <u>from the floor of a drive lane or parking space</u> to the ground or surface directly below is greater than 1 foot (305 mm). *Vehicle barriers* shall comply with the loading requirements of Section 1607.8.3.

Exception: *Vehicle barriers* are not required in vehicle storage compartments.

Commenter's Reason: The original proposal was intended to expand the requirement for vehicle barriers to apply wherever there is a "vertical surface displacement" instead of only at the ends of drive lanes and parking spaces. However, as written, the section doesn't specify where the measurement is taken from. This proposed modification clarifies that the vertical distance is measured from the floor of the drive lane or parking space.

G63-12

Final Action: AS AM AMPC____ D

G65-12
407.2.5 (New)

Proposed Change as Submitted

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Add new text as follows:

407.2.5 Cooking facilities. In Group I-2 nursing homes, rooms or spaces that contain domestic cooking facilities shall be permitted to be open to the corridor where the number of sleeping units within the smoke compartment is limited to 30 residents and all of the following requirements are met:

1. Only one area with domestic cooking facilities is permitted within a smoke compartment.
2. The types of cooking appliances are are limited to ovens, cooktops, ranges, warmers and microwaves.
3. The corridor is a clearly identified space delineated by construction or floor pattern, material or color.
4. The space containing domestic cooking facilities shall be arranged so as not to obstruct access to the required exit.
5. A domestic cooking hood installed and constructed in accordance with Section 505 of the International Mechanical Code is provided over cooktops and ranges.
6. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.
7. A manual actuation device for the hood suppression system shall be installed in accordance with Section 904.11.1 and 904.11.2 of the International Fire Code.
8. A shutdown for the fuel and electrical power supply to the cooking equipment shall be provided and shall be accessible only to staff.
9. A portable fire extinguisher shall be installed within 30 feet (9144 mm) of domestic cooking appliances complying with Section 906.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other 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 April, 2005, the CTC has held twenty-two meetings – all open to the public.

As nursing homes move away from institutional models, it is critical to have a functioning kitchen that can serve as the hearth of the home. Instead of a large centralized, institutional kitchen where all meals are prepared and delivered to a central dining room or the resident's room, the new "household model" nursing home uses de-centralized kitchens and small dining areas to create the feeling and focus of home. For persons with dementia, it is particularly important to have spaces that look familiar, like the kitchen in their former home ,to increase their understanding and ability to function at their highest level.

Allowing kitchens, that serve a small, defined group of residents, to be open to common spaces, and in some instances corridors, are critically important to enhancing the feeling and memories of home for older adults. This allows residents to see and smell the food being prepared, which can enhance their appetites and evoke positive memories. Some residents, based on their abilities and cognition level may even be able to participate in food preparation activities such as stirring, measuring ingredients, peeling vegetables, or folding towels. This becomes a social activity, where they can easily converse with the staff member cooking, as well as a way for the resident to maintain their functional abilities and to feel that they are still an important contributing member of society.

We know that unattended cooking equipment is the leading cause of fires. However, allowing the kitchen to be open also allows the nursing home staff to more carefully supervise the space so that if an incident were to occur, it would be spotted and dealt with faster than if the kitchen was completely behind closed doors. Health care facilities have the benefit of having awake-staff 24 hours a day. These staff members know the building layout and the residents well, and are trained to handle emergencies. The locked fuel shut-off switch will prevent cooking activities occurring without staff knowledge.

Moreover, studies have shown that a single low-flow residential sprinkler head is effective "to control both [a] cooking oil fire and [an] appliance fire, despite shielding by the cabinets, while extinguishing the fire spread to the cabinets and walls." [ref: NIST special publication 1066: Residential kitchen fire suppression research needs, Madrzykowski, Hamins & Mehta, Feb. 2007] As all

nursing homes are already required to have quick-response sprinklers throughout, we believe that more than adequate safety is being provided when preparing food up to 16 residents, and by adding the automatic chemical suppression in the hood, we are also providing more than adequate safety for up to 30 residents. The volume of meals prepared in both of these cases are much more similar to a single-family home rather than a commercial restaurant setting.

The fire safety record for nursing homes is one of the lowest of any occupancy in the United States based on NFPA fire data. The number of fire deaths from multiple death fires has averaged 1.7 deaths/year for the last 20 years. The number of single fire deaths in nursing averages 3-5 deaths/ year. The population of nursing homes is 1.7 million. Compared to the number of residents 65 or over living in residential occupancies (32 million) and the number of fire deaths/year of this population, a resident over 65 in a nursing home is 12 times less likely to die in a fire than a resident over 65 living in a private residential occupancy.

All new nursing homes have been required to be sprinklered since 2003, and currently 95% of all existing nursing homes are sprinklered. All existing nursing homes are required by federal regulations to be fully sprinklered by August 13, 2013. There has never been a multiple death fire in a fully sprinklered nursing home based on 15 years of NFPA fire data. A review of nursing home fire data from 1970 (41 years) not a single multiple death nursing home fire resulted from a fire originating in a kitchen. The majority of single death fires are the result of a resident smoking while on oxygen or the ignition of their clothing or bedding from smoking material. We could find no fire data of any resident of a nursing home, single or multiple death fire, dying from a fire that originated in a kitchen.

In nursing home occupancies, the strategy is to defend in place, taking advantage of the smoke compartments to move residents away from smoke and fire. The smaller size of the household units that would contain these open kitchens, rather than the larger institutional style nursing homes many of us know, means that evacuations to an adjacent compartment or to the exterior is faster and the smaller size of any one of these units limits the number of people at risk.

An additional safety feature, in this proposal, is the inclusion of a deactivation switch that is locked and only accessible to staff. This will prevent unauthorized use of the cooking appliance without staff supervision. Staff members would need to be trained not only in basic food handling precautions but also in basic fire safety and extinguisher use. A fire extinguisher would be required in each kitchen area in addition to the suppression required in the hood and the sprinklers in the facility. These are all additional levels of safety that are being added to this application and will help to protect the residents.

The choice of thirty or fewer residents as the limiting number of residents that could be housed within a single unit with an open kitchen was based on a requirement from the Veterans Administration to serve the needs in their facilities, as well as current trends in the design of these types of facilities. These small nursing homes or nursing home “household” units generally range in size from 10 to 30 residents. The committee that drafted this proposal included providers, industry representatives, code and design professionals who are familiar with this design model and its operation. This group’s conclusion was that 30 residents allowed this open kitchen application for the overwhelming majority of facilities in the industry because staffing for thirty is widely considered an economical staffing ratio for the majority of organizations. Yet the designs for this number are still relatively small in size. These designs range from around 6,000 square feet for the smallest 10 person units to around 17,000 square feet even for units housing as many as 30. In general, at these unit sizes, the distances to exits, either to the exterior or to other compartments is much shorter than commonly seen in traditional nursing homes. This committee felt that in combining the added safety features proposed along with the improved evacuation distances and reduced number of people at risk, the limitation of 30 people maintained good safety, yet met the needs of a majority of the industry.

If this proposal is approved, there will be a reference in Table 906.1 for fire extinguishers.

Example of Kitchen open to Corridor.

Example of shutdown

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

407.2.5#1-G-BALDASSARRA-CTC

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved for several reasons. First the scoping of such requirements needs to be clearer to avoid the main food preparation for such facilities using these requirements. Also the need for increased supervision was a concern. Concepts such as timers for the appliances should be considered. Generally allowing kitchens such as these open to the corridor caused some concerns. Terminology used does not seem consistent with IMC which uses "domestic cooking appliances" versus "domestic cooking facilities."

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, Code Technologies Committee – Care facilities study group, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

407.2.5 Cooking facilities. In Group I-2 ~~nursing homes~~ Condition 1, rooms or spaces that contain ~~domestic~~ a cooking ~~facilities~~ facility with domestic cooking appliances shall be permitted to be open to the corridor where ~~the number of sleeping units within the smoke compartment is limited to 30 residents and~~ all of the following requirements are met:

1. The number of care recipients housed within the smoke compartment is not greater than 30.
2. The number of care recipient served by the cooking facility is not greater than 30.
3. Only one ~~area with domestic~~ cooking ~~facilities~~ facility area is permitted within a smoke compartment.
4. ~~2.~~ The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.
5. ~~3.~~ The corridor is a clearly identified space delineated by, construction or floor pattern, material or color.
6. ~~4.~~ The space containing the domestic cooking ~~facilities~~ facility shall be arranged so as not to obstruct access to the required exit.
7. ~~5.~~ A domestic cooking hood installed and constructed in accordance with Section 505 of the *International Mechanical Code* is provided over the cooktop or range.
8. ~~6.~~ The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall

be installed in accordance with this code, its listing and the manufacturer's installation instructions.

9.~~7.~~ A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.11.1 and 904.11.2 of the *International Fire Code*.

10. An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.

~~8.~~11. A shut ~~down~~ off for the fuel and electrical power supply to the cooking equipment, shall be provided in a location that is accessible only to staff.

12. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.

~~9.~~13. A portable fire extinguisher shall be installed in accordance with Section 905 of the *International Fire Code*.

Commenter's Reason: Based on the feedback from the Committee and the Opponents of the proposal, The CTC has revised some of the language to be more specific and more stringent.

The charging paragraph has been modified to more clearly define the space and the number of occupants has been moved to the requirements for greater clarity. The Condition 1 is an editorial coordination with G257-12.

- **Item #1** (new) states the maximum number of residents that may live within the same smoke compartment as the cooking facility. This limits the number of residents that could be at risk from an incident.
- **Item #2** (new) this clarifies that the cooking facility that is open to the corridor may only serve a maximum of 30 residents. This prohibits the central kitchen, serving the whole facility, from being open to the corridor. Further, this limits the number of meals that are being prepared in this facility which limits time of cooking duration, grease production and risk.
- **Item #3** The language was clarified to be clearer that only one cooking facility is permitted in a smoke compartment and for consistency with the other requirements.
- **Item #4** Added the word "domestic" to be consistent with the terminology contained within the Mechanical Code.
- **Item #6** Clarification for correlation.
- **Item #10** (new) added the requirement for an interlock that shuts off the power source/fuel supply if the hood suppression system activates.
- **Item #11** (previous #8) Terminology changed from shutdown to shutoff to correlate to the IMC and to be clear on its purpose. Also clarified that the switch is located in a location accessible only to staff.
- **Item #12** (new) Adds the requirement for a timer to deactivate the appliance in the event staff forgets to turn off the appliance. This adds a belt and suspenders level of safety which does not solely rely on human action.

In Skilled Nursing and Assisted Living care settings across the country, there are hundreds of similar kitchens, open to the corridor and common spaces, in operation today (see notes below). The ones in existence have been the result of varied negotiations with the AHJ and have resulted in a very inconsistent application/interpretation of the code. This code change is needed to create more consistency in the construction of these open kitchens and to standardize the level of safety features provided.

This proposal was originally brought forward by a group representing all of the major stakeholder groups in the Long-Term Care industry. This group worked closely with the CTC, along with Fire Marshals and other Code Officials to craft the language you see here to ensure an appropriate level of safety while providing a great benefit to the quality of life for the care recipients.

A similar proposal to what is contained here has already been approved by the Life Safety Code, and the Center for Medicare and Medicaid (CMS) endorses the use of open kitchens for small groups of residents.

Please bear in mind that all new nursing homes have been required to be fully sprinkled since 2003. All existing nursing homes have been mandated, by CMS, to be fully sprinkled by August of 2013. In the last 15 years of NFPA fire data, there has **never been a multiple death fire in a fully sprinkled nursing home.** The majority of the single death fires are the result of a resident smoking while on oxygen.

A NIST study* found that a single, low-flow residential sprinkler was able to control a cooking oil fire and extinguish any fire spread to the cabinets and walls. Because the nursing homes are sprinkled, combined with the small number of meals, hood suppression system, and automatic shut off features contained in this proposal, along with the 24/7 staffing in a nursing home create a high level of safety and will protect the residents when the kitchen is open to other spaces.

NIST Special publication 1066 "Overview of NIST/USFA Localized Residential Suppression System Project",** PG 5 & 6 Daniel Madrzykowski, Anthony Hamins, Shivani Mehta*

Open kitchen settings in operation currently (varied requirements)

- **The Green House**® project = 127 "houses" - each with an open kitchen - in operation in19 states and several more in planning or construction. States include AL, AK, AZ, AR, GA, KS, MD, MA, MS, MI, MT, NE, NJ, NY, PA, TN, TX, WA, WI
- Edgewater, West Des Moines, IA – 4 skilled nursing households, each with an open kitchen.
- Concordia Village in Springfield, IL
- Three Crowns Park in Evanston, IL – 2 households, each with an open kitchen.
- Masonic Home in Louisville, KY - 3 open kitchens
- An estimated 30 – 40 open kitchens are in operation in OR
- Landis Homes in Lititz, PA
- Garden Spot Village, in New Holland PA has 4 Nursing households, each with an open kitchen. Their sister project, Maple Farm, in Akron, PA has 2 nursing households, each with an open kitchen.
- Lutheran Home at Telford, PA
- Covenant Oaks at Oakwood Village University Woods, in Madison, WI has 4 Assisted Living households, each with an open kitchen.
- St. Mary's Center in Madison, WI – 16 households, each with an open kitchen
- St. John's Home in Milwaukee, WI – One open kitchen

- Creekview at Evergreen, OshKosh, WI – 8 skilled nursing households, each with an open kitchen

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Care Facilities". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/CareFacilities.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

Pictures of Nursing Homes currently in operation, with open plan kitchens

13 Resident Nursing Household
w/ open cooking facility

Staff analysis: Code change G257-12 was Approved as Modified at the Code Development Hearings and a public comment has not been submitted. Accordingly it has been placed on the consent agenda.

G65-12

Final Action: AS AM AMPC____ D

G66-12
407.2.5 (NEW)

Proposed Change as Submitted

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

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Add new text as follows:

407.2.5 Nursing home housing units. In Group I-2 nursing homes, within areas where nursing home residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces shall be permitted to be open to the *corridor*, where all of the following criteria are met:

1. The walls and ceilings of the space are constructed as required for *corridors*.
2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.
3. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
4. The *corridors* onto which the spaces open, in the same *smoke compartment*, are protected by an automatic fire detection system installed in accordance with Section 907, or the *smoke compartment* in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
5. The space is arranged so as not to obstruct access to the required *exits*.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other 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 April, 2005, the CTC has held twenty-two meetings – all open to the public.

In nursing home occupancies, residents are encouraged to spend time outside of their rooms. Wayfinding and orientation problems are common in nursing homes residents, and research has shown that direct visibility to a desired location is more effective for cuing than signage. Therefore, having a variety of shared living spaces open to the corridor encourages socialization, encourages interaction, and is important to resident well-being. Further, being able to preview activities that are occurring helps to encourage joining and allows reluctant participants to join at their own pace. Finally, a more open plan allows staff to more easily see residents throughout the course of the day.

Adhoc Health has a proposal to limit storage to containers with 10 cubic feet or greater in Table 509. This would address the issue of storage within areas open to the corridor.

Example of Living room

Example of Dining Room

Cost Impact: The proposed changes will not increase the cost of construction. There will be a reduction in cost.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as submitted as the proposal provides added value to these facilities with appropriate safety requirements. Note that this proposal will apply only to Group I-2 condition 1 occupancies based upon G257-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, Code Technologies Committee – Care facilities study group, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

407.2.5 Nursing home housing units. In Group I-2 ~~nursing homes~~ Condition 1, within areas where nursing home residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces shall be permitted to be open to the *corridor*, where all of the following criteria are met:

1. The walls and ceilings of the space are constructed as required for *corridors*.
2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.
3. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
4. The *corridors* onto which the spaces open, in the same *smoke compartment*, are protected by an automatic fire detection system installed in accordance with Section 907, or the *smoke compartment* in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
5. The space is arranged so as not to obstruct access to the required *exits*.

Commenter's Reason: Code change G66 is a technical change which included new text dealing with areas open to the corridors of nursing homes. The purpose of this public comment is limited to the editorial coordination of terminology with the approval of Code change G257 which revised the terminology for Group I-2 occupancies into two use conditions, similar to the way the current code addresses Group I-3. In this case, nursing homes fall under Group I-2, Condition 1. Since G257 deals only with terminology, this public comment is being submitted to G66 in order to focus the attention on the coordination of terminology issue.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Care Facilities". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/CareFacilities.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

Staff analysis: Code change G257-12 was Approved as Modified at the Code Development Hearings and a public comment has not been submitted. Accordingly it has been placed on the consent agenda.

G66-12

Final Action: AS AM AMPC____ D

G70-12
202, 407.4.2, 407.4.3.3, 407.4.3.4, 407.4.3.5, 407.4.3.5.1, 407.4.3.5.3

Proposed Change as Submitted

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

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

CARE SUITE. In Group I-2 occupancies, a group of treatment rooms, care recipient sleeping rooms and ~~their associated~~ the support rooms or spaces and circulation space within the suite ~~Group I-2 occupancies~~ where staff are in attendance for supervision of all care recipients within the suite, and the suite is in compliance with the requirements of Section 407.4.3.

Revise as follows:

407.4.2 Travel distance. The travel distance between any point in a Group I-2 occupancy sleeping room, not located in a *care suite,* and an *exit access* door in that room shall be not greater than 50 feet (15 240 mm).

407.4.3 Group I-2 care suites. *Care suites* in Group I-2 shall comply with Section 407.4.3.1 through 407.4.3.4 and either Section 407.4.3.5 or 407.4.3.6.

407.4.3.1 Exit access through care suites. *Exit access* from all other portions of a building not classified as a *care suite* shall not pass through a *care suite*. In a *care suite* required to have more than one *exit*, one *exit access* is permitted to pass through an adjacent *care suite* provided all of the other requirements of Sections 407.4 and 1014.2 are satisfied.

407.4.3.2 Separation. *Care suites* shall be separated from other portions of the building by a smoke partition complying with Section 710.

~~**407.4.3.3 One intervening room.** For rooms other than sleeping rooms located within a *care suite*, *exit access* travel from the *care suite* shall be permitted through one intervening room where the travel distance to the *exit access* door from the *care suite* is not greater than 100 feet (30 480 mm).~~

407.4.3.3 Access to Corridor. Movement from habitable rooms shall not require passage through no more than 3 doors and 100 feet (30 480 mm) travel distance within the suite.

> **Exception:** The travel distance shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

~~**407.4.3.4 Two intervening rooms.** For rooms other than sleeping rooms located within a *care suite*, *exit access* travel within the *care suite* shall be permitted through two intervening rooms where the travel distance to the *exit access* door from the *care suite* is not greater than 50 feet (15 240 mm).~~

~~**407.4.3.5**~~ **407.4.3.4 Care suites containing sleeping room areas.** Sleeping rooms shall be permitted to be grouped into *care suites* ~~with one intervening room~~ if one of the following conditions is met:

1. The ~~intervening room within~~ the *care suite* is not used as an *exit access* for more than eight care recipient beds.
2. The arrangement of the *care suite* allows for direct and constant visual supervision into the sleeping rooms by care providers.
3. An automatic smoke detection system is provided in the sleeping rooms and installed in accordance with NFPA 72.

~~407.4.3.5.1~~ 407.4.3.4.1 Area. *Care suites* containing sleeping rooms shall be not greater than ~~5,000~~ 7,500 square feet (~~465~~ 696 m^2) in area.

Exception: *Care suites* containing sleeping rooms shall be permitted to be not greater than 10,000 sq feet (929 m^2) in area where automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

~~407.4.3.5.2~~ 407.4.3.4.2 Exit access. Any sleeping room, or any *care suite* that contains sleeping rooms, of more than 1,000 square feet (93 m2) shall have no fewer than two *exit access* doors from the *care suite* located in accordance with Section 1015.2.

~~**407.4.3.5.3 Travel distance.** The travel distance between any point in a *care suite* containing sleeping rooms and an *exit access* door from that *care suite* shall be not greater than 100 feet (30 480 mm).~~

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx.
In relation to the code change proposal dealing with size and configuration of care suites, the definition is being proposed with changes to address the scope of which the suites are used. Suites are recognized to be an effective tool to provide some flexibility in reaching an exit access, due to functional considerations. Use of suites is a particularly useful tool at Intensive Care Units and Emergency Departments in patient treatment areas. The ability to have full visual wall systems that have a breakaway function is extremely beneficial during any type of emergency situation, including defend-in-place, evacuation as well as day-to-day care. These systems allow for observation while providing a level of privacy for the patient. These systems are also flexible enough to handle multiple levels of acuity in the same space.

It is not the intent to broaden the definition so widely as to effectively eliminate the use of corridors as exit access. This change attempts to clarify that associated support spaces of care suites, such as pharmacies, laboratories, linen rooms and storage rooms which are not located within the care suite are not required to be classified as care suites.

The proposal relaxes several requirements due to providing additional fire protection features and clarifies code intent on requirements. The 5,000 square ft limitation for care suites was in legacy building codes before sprinkler protection was required in Group I-2 occupancies. Sprinkler protection provides additional life safety to building occupants which justifies the care suite containing sleeping rooms area increase to 7,500 square ft. Providing an automatic smoke detection system throughout a care suite containing sleeping rooms or constant staff supervision into the sleeping rooms further justifies increasing the area to 10,000 square ft.

The proposal also removes the intervening room from the travel distance requirements as an intervening room is difficult to define and conflicts with industry practice for design of certain units. For example does a pair of “cross corridor” doors within a suite constitute an intervening room? A provision was added to limit the number of doors required for a patient sleeping bed to reach the exit access corridor which addresses concerns regarding patient evacuation of the suite. Current requirements make it difficult to plan the sleeping portion of the suite in under 5,000 square feet, primarily because of the required size of the patient sleeping room. In the past, a sixteen bed area could get under the space requirement, with support spaces such as clean and soiled utilities falling outside that portion of the suite. However, the Intensive Care Unit programming data supports the need for the basic patient room / staff space elements of the program can be accommodated in under 7,500 square feet, but not less than 5,000 square feet. In order to properly staff a unit, the need for unobstructed view from a nurses station to a patient room is needed. This cannot be done with the barrier to form a suite down the middle of the unit, and therefore the staff area. The proposed change enables removal of that barrier while optimizing operational efficiency of the unit, including the fire safety watch of the unit by staff.

To achieve a 7,500 square foot suite, the program becomes very limited to the spaces that are involved in the direct care of the patient, as demonstrated on the Intensive care Suite program developed for this proposal (see the “IntensiveCareUnit-7500” tab in the noted programming file). Key spaces such as the break room and utility spaces are outside of the suite, which is workable from an operational standpoint, but not ideal. Key spaces such as staff support and utility spaces are outside of the suite. Increasing to 10,000 square feet allows inclusion of staff more staff and support spaces within the suite. Operationally, this is a key factor because the staff will not need to leave the suite on their break time, when retrieving supplies, or to access the staff toilet because it improves the response time of the staff during a medical emergency, or a fire / safety situation.

The proposal clarifies the 50 ft travel distance limitation from a patient sleeping room to an exit access door does not apply in care suites. The provision of crossing through three doors is also being introduced to help clarify what is now called out as 'intervening spaces.' Use of three doors is much clearer to a reviewer and designer, rather than defining what is an intervening space on a project-by-project basis.

The proposal also permits smoke detection to be provided in sleeping rooms of care suites where direct supervision of patients by staff is not possible. Smoke detection in the patient room provides equivalent early detection of a fire. The proposal attempts to maintain the level of life safety in care suites while providing more options to health care design professionals to facilitate excellent patient experience and treatment.

The travel distance provisions in care suites with sleeping rooms was increased to 125 ft to reach an exit access corridor based on the additional level of protection provided by direct and constant supervision into sleeping rooms by care providers or complete smoke detection throughout the suite as well as limiting the number of doors permitted for a patient sleeping bed to reach the exit access corridor.

This committee also has a correlative change to IFC with proposed language in IBC 407.8 and 907.2.6.2 coordinates with the proposed language automatic smoke detection system requirements in IBC 407.4.3.

Refer to attached "ICC_AHCHC Programming_10-10-2011.xlsx" for programming data as it relates to Intensive Care Units. This program is based on the noted version of the AIA or FGI Guidelines for Planning of Healthcare Facilities, for the support of the 7,500 square foot increases as noted above. A copy of the programming document can be found at www.iccsafe.org.

Cost Impact: The proposed changes will not increase the cost of construction.

407.4.2-G-Williams-Adhoc

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

The following errata were not posted to the ICC website.

Modify proposal as follows:

407.4.3.3 Access to Corridor. Movement from habitable rooms shall not require passage through ~~no~~ more than 3 doors and 100 feet (30 480 mm) travel distance within the suite.

Exception: The travel distance shall be permitted to be increased to 125 feet (38 100 mm) where an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

Committee Action: Approved as Submitted

Committee Reason: The erratum is editorial to remove a double negative. The use of 'doors' instead of 'intervening rooms' provides for a more uniform enforcement when determining egress from a suite. Intervening rooms are inconsistently interpreted when dealing with anti-rooms, patient bathrooms or corridors/vestibules within the suite. The proposal will provide appropriate separation requirements for suites. The increased suite size will coordinate with what is permitted by 2012 NFPA 101.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment:

Vickie Lovell, Intercode Incorporated, representing Alliance for Fire and Smoke Containment and Control, requests Disapproval.

Reason: The Alliance for Fire and Smoke Containment and Control (AFSCC) requests disapproval of this code change, which increases the allowable area of hospital care suites containing sleeping rooms from 5,000 sq feet to 7,500 sq ft in sprinklered buildings, and up to 10,000 sq ft if a smoke detection system is provided.

The AFSCC promotes the concept of balanced fire protection, which includes the prudent integration of compartmentation, detection and suppression into fire protection designs. The request for disapproval is based the conspicuous lack of supporting documents or technically justifiable rationale by the proponent or the committee, for any of these changes to care suites. There is more justification for disapproval of this code change than for approval.

The specific size increases (7,500 and 10,000) in this proposal are random, not based on any persuasive statement other than these are the numbers used in the NFPA 101. On what basis were these numbers selected, and how were they evaluated? In reading through the NFPA 101 Annual 2011, Report on Proposals, NFPA 101, Committee member and Maryland State Fire Marshal Ken Bush stated the very same concern in his vote against the change in NFPA 101. He stated, "This proposal increases the sizes

of sleeping suites in excess of the original proponent's submittal and associated substantiation with no technical justification. Nothing has been provided to indicate an equal level of protection for increased sizes in suites without supervision or smoke detection. The sizes of suites had been increased in recent past editions of the Code and should not be increased without additional technical justification."

The proposal also permits materials and products to be stored in the support areas of a care suite that may have been previously stored in areas separated from sleeping patients.

The proponent of G70 stated that, "providing an automatic smoke detection system throughout a care suite containing sleeping rooms or constant staff supervision into the sleeping rooms further justifies increasing the area to 10,000 sq ft". The intent of this proposal is inconsistent with the IBC 2012 commentary for Section 407, that states in hospitals: *the first level of protection established is the individual room (typically a patient sleeping room). Horizontal evacuation to an adjacent smoke compartment provides the second level of protection. If necessary, the third level of protection involves evacuation of the floor or entire building.* In this proposal the supposed "first level of protection" is completely undermined within a suite that has doubled in size and maintains sleeping patients with no compartmentation at all between any of the rooms or spaces that exist within the suite.

The use of care suites is explained in the IBC commentary as follows: *Traditionally, suites are used when patients require direct observation and immediate access as a component of their medical care.* If a suite is allowed to be 10,000 square feet in size (more than 4 times the area of a typical single family home), then it has grown far larger than the original reason and justification for the existence of suites, and the viability of '"direct observation and immediate care" must be called into question. It should be noted that NFPA 101 mandates "Direct visual supervision" as a precondition for increasing the size of a suite to larger than 5000 sq. ft. (2009 edition) and 7500 sq. ft. (2012 edition). This proposal aims to increase suite size to 10,000 sq. ft. without a requirement for "Direct visual supervision", which would be yet another way that the IBC is proposed to be made less safe than any edition of NFPA 101.

Additionally, the MOE committee further modified the proposal to increase travel distance to 125 feet without any justification. NFPA 101 allows only a 100 ft. maximum travel distance within a suite, so this reduction in safety could complicate or eliminate the possibility of the adoption of the IBC as an equivalently-safe alternative to NFPA 101 by CMS (Center for Medicare and Medicaid Services) for its facilities accreditation program. The proponent did not offer any research, report or investigation to quantify the impact of a fire detection system on Required Safe Egress Time (RSET) and Available Safe Egress Time (ASET), which are the usual benchmarks when doing a performance based study on the adequacy of an egress arrangement. As such, stating that we can double the size of a suite simply because of the presence of a smoke detection system is nothing more than a hunch as to what the impacts on ASET and RSET could be. Given the constant staffing within a suite, the presence of the smoke detection system may have no impact at all on the RSET or ASET, in which case tying the increased suite size to the smoke detection system is completely without merit.

Full scale fire testing indicates that smoke in a sprinklered fire can still be a formidable problem in a patient sleeping area, according to the National Research Council of Canada, report NRCC-43138, "Smoke Movement for Sprinklered Fires", by D. G. Lougheed, C., McCartney, and B.C Taber.

As part of an extended study on fires in patient rooms of health care facilities, 21 full-scale fire tests were conducted at the U.S. National Institute of Standards and Technology. These tests involved either a mattress with bedding or a clothing wardrobe. Under nonsprinklered conditions, the combustible clothing wardrobe fire resulted in room flashover in 120 seconds and rapid development of a smoke layer in the room and adjoining corridor with smoke obscuration and CO concentrations exceeding tenability levels throughout the test area (O'Neill et al. 1980).

In subsequent tests with standard 71°C pendent sprinklers arranged to provide a 6.9 (L/min)/m2 application density, the ceiling gas temperature was lowered. However, the fire could still be seen burning inside the wardrobe until smoke obscured visibility 60 seconds after the activation of the sprinkler. Also, very high concentrations of CO were measured at the 1.5 m height throughout the test area with the instantaneous hazardous threshold of 1% exceeded in the patient room, the corridor, and the remote lobby area. Clothing wardrobes may not be permitted in care suites, but the storage of other materials may now be allowed.

This proposal is also counter to the findings in the 2011 report on "The Performance of Smoke Detectors and Sprinklers in Residential and Health-Care Occupancies", by James A. Milke, Ph.D., P.E., A.J. Campanella, Cathleen T. Childers, and Brittany D. Wright of the Department of Fire Protection Engineering at the University of Maryland. This report considered the response of smoke detectors and sprinklers in fire incidents occurring from 2003-2007 in one and two, and multi-family residential dwellings, commercial residential facilities, and health-care facilities using NFIRS data. Approximately 197,000 fire incidents were included in the analysis. In all of these occupancy groups, the proportion of fires judged to be too small for the operation of the smoke detectors was appreciably fewer than those for sprinklers.

However, the report states, "The fact that fewer fires are judged to be too small for smoke detector operation than for sprinklers reflects the fact that smoke detectors are capable of responding to smaller fires than sprinklers. Those fires which are "too small" for smoke detector or sprinkler response still pose a significant hazard as indicated in casualty rates (fatal and non-fatal) in such fires."

Neither detection nor suppression eliminates the development of fire or smoke. A properly installed, carefully maintained sprinkler system can often help control a fire and a detection system can provide early notification. This proponent has offered no evidence to support the specific changes in this proposal. Fire testing and credible research confirms that fires too small to activate the sprinkler or smoke detection system can generate enough smoke and toxic gases to pose a considerable hazard. Given the condition of the occupants in care suites it is obvious that the proposal and the reason statement are deficient.

This proposal has yet to be satisfactorily justified and should be disapproved by the ICC membership.

G70-12

Final Action: AS AM AMPC____ D

G71-12, Part I
407.4.2, 407.4.3.3, 407.4.3.4, 407.4.3.5, 407.5, 408.6.1, 408.8.1, 422.3

Proposed Change as Submitted

Proponent: Philip Brazil. PE, Reid Middleton, Inc., representing Washington Association of Building Officials, Technical Code Development (pbrazil@reidmiddleton.com)

THIS IS A 3 PART PROPOSAL AND ALL THREE PARTS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE.

PART I – IBC MEANS OF EGRESS

Revise as follows:

407.4.2 ~~Travel distance~~ Distance of travel. The ~~travel~~ distance of travel between any point in a Group I-2 occupancy sleeping room and an *exit access* door in that room shall be not greater than 50 feet (15 240 mm).

407.4.3.3 One intervening room. For rooms other than sleeping rooms located within a *care suite*, *exit access* travel from the *care suite* shall be permitted through one intervening room where the ~~travel~~ distance of travel to the *exit access* door from the *care suite* is not greater than 100 feet (30 480 mm).

407.4.3.4 Two intervening rooms. For rooms other than sleeping rooms located within a *care suite*, *exit access* travel within the *care suite* shall be permitted through two intervening rooms where the ~~travel~~ distance of travel to the *exit access* door from the *care suite* is not greater than 50 feet (15 240 mm).

407.4.3.5.3 ~~Travel distance~~ Distance of travel. The ~~travel~~ distance of travel between any point in a *care suite* containing sleeping rooms and an *exit access* door from that *care suite* shall be not greater than 100 feet (30 480 mm).

407.5 Smoke barriers. *Smoke barriers* shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m^2) and the ~~travel~~ distance of travel from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

408.6.1 Smoke compartments. The number of residents in any *smoke compartment* shall be not more than 200. The ~~travel~~ distance of travel to a door in a *smoke barrier* from any room door required as *exit access* shall be not greater than 150 feet (45 720 mm). The ~~travel~~ distance of travel to a door in a *smoke barrier* from any point in a room shall be not greater than 200 feet (60 960 mm).

408.8.1 Occupancy Conditions 3 and 4. Each sleeping area in Occupancy Conditions 3 and 4 shall be separated from the adjacent common spaces by a smoke-tight partition where the ~~travel~~ distance of travel from the sleeping area through the common space to the *corridor* exceeds 50 feet (15 240 mm).

422.3 Smoke compartments. Where the aggregate area of one or more *ambulatory care facilities* is greater than 10,000 square feet (929 m^2) on one *story*, the *story* shall be provided with a *smoke barrier* to subdivide the *story* into no fewer than two *smoke compartments*. The area of any one such *smoke compartment* shall be not greater than 22,500 square feet (2092 m^2). The ~~travel~~ distance of travel from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be installed in accordance with Section 709 with the exception that *smoke*

barriers shall be continuous from outside wall to an outside wall, a floor to a floor, or from a *smoke barrier* to a *smoke barrier* or a combination thereof.

Reason: The change from "travel distance" to "distance of travel" more clearly distinguishes between "exit access travel distance" as specified in Section 1016 and a travel distance that is other than an exit access travel distance for which the provisions of Section 1016 do not apply. Note that Section 1016.3 specifies the measurement of exit access travel distance as being from "the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit," except for open parking garages and outdoor facilities with open access components where it is measured as specified therein. The sections in this proposal, however, specify the measurement of travel distance between points within the exit access (i.e., to an exit access door in Sections 407.4.2, 407.4.3.3, 407.4.3.4 and 407.4.3.5.3; to a smoke barrier door in Sections 407.5, 408.6.1 and 422.3; to an extinguisher in Section 906.2 and Tables 906.3(1) and 906.3(2); etc.).

Changing from "travel distance" to "distance of travel" in these cases is considered to be clarifying and does not change the meaning or the intent of the language. The changes will also be consistent with "distance of travel" in 2012 IBC Sections 402.8.3, 402.8.5 and 415.10.3.3. The other change in Section 2902.5 is grammatical. Based on our analysis of the 2012 IBC, all instances of "travel distance" in the 2012 IBC where a change to "distance of travel" is warranted are included in this proposal.

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

407.4.2-G-BRAZIL

Public Hearing Results

All three parts of this code change was heard by the IBC Means of Egress code development committee.

PART I – IBC MEANS OF EGRESS
Committee Action: **Approved as Submitted**

Committee Reason: The proposal clarifies within Group I-2, Group I-3 and ambulatory care facilities where a distance is not 'exit access travel distance' as the term is used in Section 1016, but is a distance utilized for other elements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

John Williams, Adhoc Health Care – MOE study group, requests Disapproval.

Commenter's Reason: Code change G70 has rewritten this Section 407 for clarity, however, the sections continue to deal with exit access travel distance to exit a room or suite, not distance to a specific object (as indicated in Part II and III of G71). The same holds true for the smoke compartments in Group I-3 and ambulatory care facilities (Sections 408 and 422). Therefore, the Adhoc Health Care committee is asking for disapproval of Part 1 only.

The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 7 open meetings and over 100 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx

G71-12, Part I
Final Action: AS AM AMPC____ D

NOTE: PART II AND III REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

PART II – IFC
906.2, Table 906.3(1), Table 906.3(2), 907.2.6, 907.2.10.1 (IBC [F] 906.2, Table 906.3(1), Table 906.3(2), 907.2.6, 907.2.10.1)
PART III – IPC
403.3, 403.3.4, 403.5 (IBC [P] 2902.3.2, 2902.3.3, 2902.5)

PART II – IFC

Revise as follows:

IFC 906.2 (IBC [F] 906.2) General requirements. Portable fire extinguishers shall be selected and installed in accordance with this section and NFPA 10.

Exceptions:

1. The ~~travel~~ distance <u>of travel</u> to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

TABLE 906.3(1) [IBC [F] TABLE 906.3(1)]
FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS

	LIGHT (low) HAZARD OCCUPANCY	ORDINARY (moderate) HAZARD OCCUPANCY	EXTRA (high) HAZARD OCCUPANCY
Minimum Rated Single Extinguisher	2-A [c]	2-A	4-A [a]
Maximum Floor Area per Unit of A	3,000 square feet	1,500 square feet	1,000 square feet
Maximum Floor Area for Extinguisher [b]	11,250 square feet	11,250 square feet	11,250 square feet
Maximum ~~Travel~~ Distance <u>of Travel</u> to Extinguisher	75 feet	75 feet	75 feet

(Portions to table not shown remain unchanged)

TABLE 906.3(2) [IBC [F] TABLE 906.3(2)]
FIRE EXTINGUISHERS FOR FLAMMABLE OR COMBUSTIBLE LIQUIDS WITH DEPTHS LESS THAN OR EQUAL TO 0.25 INCH

TYPE OF HAZARD	BASIC MINIMUM EXTINGUISHER RATING	MAXIMUM ~~TRAVEL~~ DISTANCE <u>OF TRAVEL</u> TO EXTINGUISHERS (feet)
Light (Low)	5-B 10-B	30 50
Ordinary (Moderate)	10-B 20-B	30 50
Extra (High)	40-B 80-B	30 50

(Portions to table not shown remain unchanged)

907.2.6 (IBC [F] 907.2.6) Group I. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in accordance with Sections 907.2.6.1, 907.2.6.2 and 907.2.6.3.3.

Exceptions:

1. Manual fire alarm boxes in sleeping units of Group I-1 and I-2 occupancies shall not be required at *exits* if located at all care providers' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that ~~travel~~ <u>the</u> distances <u>of travel</u> required in Section 907.4.2.1 are not exceeded.
2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is *approved* by the fire code official.

907.2.10.1 (IBC [F] 907.2.10.1) Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-4 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not more than two *stories* in height where all individual *sleeping units* and contiguous *attic* and crawl spaces to those units are separated from each other and public or

common areas by at least 1-hour *fire partitions* and each individual *sleeping unit* has an *exit* directly to a *public way*, *egress court* or *yard*.

2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
   2.1. The building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2;
   2.2. The notification appliances will activate upon sprinkler waterflow; and 2.3. At least one manual fire alarm box is installed at an *approved* location.
3. Manual fire alarm boxes in resident or patient sleeping areas shall not be required at *exits* where located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that ~~travel~~ the distances of travel required in Section 907.4.2.1 are not exceeded.

PART III – IPC

Revise as follows:

403.3 (IBC [P] 2902.3.2) Location of toilet facilities in occupancies other than malls. In occupancies other than covered and open mall buildings, the required *public* and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

Exception: The location and maximum ~~travel~~ distances of travel to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum ~~travel~~ distance of travel are *approved*.

403.3.4 (IBC [P] 2902.3.3) Location of toilet facilities in malls. In covered and open mall buildings, the required *public* and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 300 feet (91 440 mm). In mall buildings, the required facilities shall be based on total square footage within a covered mall building or within the perimeter line of an open mall building, and facilities shall be installed in each individual store or in a central toilet area located in accordance with this section. The maximum ~~travel~~ distance of travel to central toilet facilities in mall buildings shall be measured from the main entrance of any store or tenant space. In mall buildings, where employees' toilet facilities are not provided in the individual store, the maximum ~~travel~~ distance of travel shall be measured from the employees' work area of the store or tenant space.

403.5 (IBC [P] 2902.5) Drinking fountain location. Drinking fountains shall not be required to be located in individual tenant spaces provided that public drinking fountains are located within a ~~travel~~ distance of travel of 500 feet of the most remote location in the tenant space and not more than one story above or below the tenant space. Where the tenant space is in a covered or open mall, such distance shall not exceed 300 feet. Drinking fountains shall be located on an accessible route.

Reason: The change from "travel distance" to "distance of travel" more clearly distinguishes between "exit access travel distance" as specified in Section 1016 and a travel distance that is other than an exit access travel distance for which the provisions of Section 1016 do not apply. Note that Section 1016.3 specifies the measurement of exit access travel distance as being from "the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit," except for open parking garages and outdoor facilities with open access components where it is measured as specified therein. The sections in this proposal, however, specify the measurement of travel distance between points within the exit access (i.e., to an exit access door in Sections 407.4.2, 407.4.3.3, 407.4.3.4 and 407.4.3.5.3; to a smoke barrier door in Sections 407.5, 408.6.1 and 422.3; to an extinguisher in Section 906.2 and Tables 906.3(1) and 906.3(2); etc.).

Changing from "travel distance" to "distance of travel" in these cases is considered to be clarifying and does not change the meaning or the intent of the language. The changes will also be consistent with "distance of travel" in 2012 IBC Sections 402.8.3, 402.8.5 and 415.10.3.3. The other change in Section 2902.5 is grammatical. Based on our analysis of the 2012 IBC, all instances of "travel distance" in the 2012 IBC where a change to "distance of travel" is warranted are included in this proposal.

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

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

Committee Reason: The proposal clarifies where a distance is not 'exit access travel distance' as the term is used in Section 1016, but is a distance utilized for other types of elements. The IFC deals with distance of travel to items such as fire extinguishers and fire alarm pulls.

Assembly Action: **None**

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

Committee Reason: The proposal clarifies where a distance is not 'exit access travel distance' as the term is used in Section 1016, but is a distance utilized for other types of elements. The IPC deals with distance of travel to items such as toilet rooms and drinking fountains.

Assembly Action: **None**

G73-12
407.4.3 (New), 1005.7.1.2; (IFC [B] 1005.7.1.2)

Proposed Change as Submitted

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

THIS CODE CHANGE WILL BE HEARD BY THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE.

Add new text as follows:

407.4.3 Projections in corridors. In Group I-2 nursing homes, where the *corridor* width is a minimum of 96 inches (2440 mm), projections shall be permitted for furniture where all of the following conditions are met:

1. The furniture is attached to the floor or to the wall.
2. The furniture does not reduce the clear width of the *corridor* to less than 72 inches (1830 mm) except where other encroachments are permitted in accordance with Section 1005.7.
3. The furniture is positioned on only one side of the *corridor*.
4. Each arrangement of furniture is 50 square feet (4.6 square meters) maximum in area.
5. Furniture arrangements are separated by 10 feet (3050 mm) minimum.
6. Placement of furniture is considered as part of the fire and safety plans in accordance with Section 1001.4.

Revise as follows:

1005.7.2 (IFC [B] 1005.7.2) Other projections. *Handrail* projections shall be in accordance with the provisions of Section 1012.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.

Exception: Projections are permitted in corridors within Group I-2 nursing homes in accordance with Section 407.4.3.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other 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 April, 2005, the CTC has held twenty-two meetings – all open to the public.

Many nursing homes have long corridors that residents must traverse. Current interpretation of the IBC precludes the provision of resident seating in nursing home hallways/corridors to assure that egress is unobstructed in the event of an emergency. Residents who are physically unable to traverse the distance without being able to rest periodically have little recourse but use a wheelchair, an outcome counter to maintaining their ambulatory skills.

In addition, changes to facility operations in health care facilities no longer require staff to routinely move residents in beds, coupled with the relatively low occupant load in healthcare facilities, makes 8 ft of clear corridor width often unnecessary.

The primary substantiation to the proposal is as follows:

1. Furniture appropriately placed at defined intervals along hallways/corridors can promote a resident's ability to maintain his/her highest practical level of functioning and maintain independence. Allowing rest areas (small chairs, benches or grouped seating placed at different points) affords residents the opportunity to walk a distance, rest and then continue independently to their destination, and can enhance resident quality of life and help prevent resident falls and preventable decline in function.
2. In addition to promoting resident independence and mobility, seating placed in hallways/corridors may help to foster social opportunities and create a more homelike environment. Prohibiting such seating areas could diminish opportunities for socialization, and independence. The use of such seating areas will allow resident and staff greater flexibility in choosing safe places to rest.

3. This provision would require that furniture located within the corridor be fixed in place to eliminate the risk that the furniture could be moved into needed egress path. Furniture could be fixed to the floor or wall using a bracket, which would allow removal for maintenance and cleaning purposes.
4. For the fixed furniture, this provision maintains a minimum clear egress width of 6 feet. It also limits the frequency of such furniture groupings so that the 8 ft width is otherwise maintained.
5. This provision also requires that all of the groupings be located to one side of the corridor, so that in an emergency event, the path of travel would be clear on one side of the corridor and zig zagging the corridor would not be required.

Cost Impact: The proposed changes will not increase the cost of construction. There will be a reduction

407.4.3-G-BALDASSARRA-CTC

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Approved as Submitted**

Committee Reason: Allowance in Group I-2 nursing homes for limited furniture located along the corridor will increase the quality of life for residents without a decrease in safety. This allowance is already permitted by the certification requirements and NFPA 101. Concerns for zig-zag egress paths and non-fixed furniture have been addressed.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, Code Technologies Committee – Care facilities study group, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

407.4.3 Projections in corridors. In Group I-2 ~~nursing homes~~ Condition 1, where the *corridor* width is a minimum of 96 inches (2440 mm), projections shall be permitted for furniture where all of the following conditions are met:

1. The furniture is attached to the floor or to the wall.
2. The furniture does not reduce the clear width of the *corridor* to less than 72 inches (1830 mm) except where other encroachments are permitted in accordance with Section 1005.7.
3. The furniture is positioned on only one side of the *corridor.*
4. Each arrangement of furniture is 50 square feet (4.6 square meters) maximum in area.
5. Furniture arrangements are separated by 10 feet (3050 mm) minimum.
6. Placement of furniture is considered as part of the fire and safety plans in accordance with Section 1001.4.

1005.7.2 (IFC [B] 1005.7.2) Other projections. *Handrail* projections shall be in accordance with the provisions of Section 1012.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.

Exception: Projections are permitted in corridors within Group I-2 ~~nursing homes~~ Condition 1 in accordance with Section 407.4.3.

Commenter's Reason: Code change G73 is a technical change which included new text dealing with projections into corridors of nursing homes. The purpose of this public comment is limited to the editorial coordination of terminology with the approval of Code change G257 which revised the terminology for Group I-2 occupancies into two use conditions, similar to the way the current code addresses Group I-3. In this case, nursing homes fall under Group I-2, Condition 1. Since G257 deals only with terminology, this public comment is being submitted to G73 in order to focus the attention on the coordination of terminology issue.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Care Facilities". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/CareFacilities.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings

– all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

Staff analysis: Code change G257-12 was Approved as Modified at the Code Development Hearings and a public comment has not been submitted. Accordingly it has been placed on the consent agenda.

G73-12

Final Action: AS AM AMPC____ D

G76-12
407.5

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare

Revise as follows:

407.5 Smoke barriers. *Smoke barriers* shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m^2)in Group I-2 occupancies and not more than 40,000 square feet in Group I-2 hospitals and the travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

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

This code change addresses outdated code material. Historically, smoke compartment size has been driven by the allowable travel distance within the smoke compartment. Past code changes have increased the travel distance without a corresponding change in smoke compartment size. Secondly, the size of the functional patient areas has increased, but the occupant load has remained the same or has been reduced. Therefore, we are asking for an increase in smoke compartment size to accommodate the operational needs of the modern hospital.

A summary of the history of smoke compartment requirements is as a requirement is as follows:

- October 1984 BCMC – Maximum length and width equals 150 feet.
- 1987 BOCA – 610.5 – Maximum length and width equals 150 feet
- 1992 BOCA Supplement – 610.4 – 22,500 uare feet, with maximum travel distance of 150 feet.
- Code Change No. B20-95 – 22,500 square feet, with maximum travel distance proposed to be increased to 200 feet.
- 1996 BOCA – 409.4 - 22,500 square feet, with maximum travel distance of 200 feet.
- 2000 IBC – 407.4 - 22,500 square feet, with maximum travel distance of 200 feet.

Originally, there was no limit to smoke compartment size, other what was imposed by travel distance. The 22,500 square foot requirement was based on the old travel distance requirement of 150 feet, and used it to extrapolate an area (150ft x150ft = 22,500 square feet). This proposal uses the same logic and applies the current 200 foot travel distance maximum (200ft x200ft), resulting in a 40,000 square foot smoke compartment. This proposal would maintain the existing requirement that each floor be divided into two smoke compartments. Practically the requirement for 200' travel distance within smoke compartments will still drive smaller smoke compartment sizes in some cases.

Over the past 20 years, there has been a steady increase in the size of patient treatment rooms in hospitals. The primary reason for the increase is the equipment and utilities necessary for the treatment of a patient, such as patient monitoring, gases, and diagnostics equipment, while maintaining space for staff access to the patient. In response, the widely adopted and enforced "*Guidelines for the Design and Construction of Health Care Facilities"* from the FGI Institute have also increased, making these operational considerations actual code requirements. In the case of the inpatient units, the adoption of a single bed in a patient room has had the largest impact on square footage, while not significantly increasing the number of occupants on the unit.

The concept of an "individual patient space" is becoming the standard design in other types throughout the hospital. Many emergency departments are opting for private patient exam spaces with hard walls, primarily for infection control and patient privacy considerations. Similarly, radiology areas are being driven by technology and clearance issues which go beyond the required minimums, and have impacts on square footages to achieve clearances. In some units, there has also been an increase in the types of required support spaces, including ratios of equipment storage per treatment room, the increased importance of computer equipment rooms, and various staff areas. However, support spaces have remained largely the same, while the main increases have been in the size of the patient treatment areas themselves. While these spaces have been increasing in size, the smoke compartment size requirements have been left unchanged in the building codes.

When studying the contemporary sizes of functions such as emergency departments, radiology operations, and bed units, the larger size allows for greater visualization from the staff to the patient, which is a crucial aspect of planning a patient area. This operational consideration could more easily be achieved before the increase in patient areas, but the same operational

considerations require an increase to the smoke zone size to match contemporary requirements, delivery of care and technologies. Attached is a study of space programs which compare the 2010 Guideline requirements with the 1996-97 Guidelines. In short, today's hospital takes more square footage to care for the same amount of patients. These programs demonstrate the need to increase to 40,000 square foot smoke compartment. See program analysis at the following link.
http://www.iccsafe.org/cs/AHC/Pages/WG-General.aspx

Cost Impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionately decrease.

407.5-G-Williams-Adhoc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon lack of technical justification. Travel distance was not felt to be a sufficient justification for the increase. Also the increase was seen as too large and perhaps can be accomplished in an incremental fashion. Also there was concern that this increase was being made without revising the occupant loads in Chapter 10. There was also concern with the size of refuge areas based upon a potential increase in occupant load.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

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

Modify the proposal as follows:

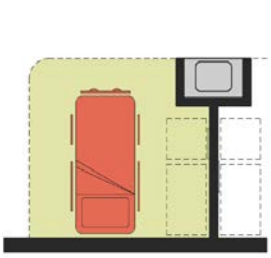
407.5 Smoke barriers. *Smoke barriers* shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m^2) in Group I-2 ~~occupancies~~ nursing homes and not more than 40,000 square feet in Group I-2 hospitals and the travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

Commenter's Reason: The revised smoke compartment size was specifically intended only to apply to hospitals. This public comment is being submitted to respond to the concerns of the General Committee.

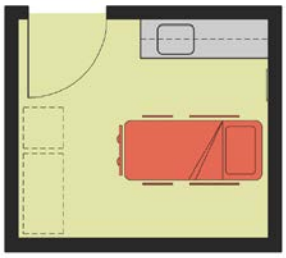
To clarify the practical application of smoke compartments in Group I-2 hospitals, they are routinely unable to consistently be maximized at the current 22,500 square feet. Due to programmatic concerns, the average compartment is between 14,000 and 18,000 square feet. When planning space, and the 22,500 square foot limit is reached, the programmatic needs of the functional area are subdivided to respond to the required limit. For example, an emergency department that has 50 bays, which may be able to exist in a 28,000 square foot area with proper staffing, would be divided into two areas of 14,000 square feet to satisfy the code requirement, sacrificing needed visual by installing the barrier down the middle.

The reason that our sample ED can exist in 28,000 square feet is because other regulatory issues cause the spaces to be larger. Exam bays have gone from 80 square feet to 100 square feet, imaging rooms have gone from 120 square feet to 180 square feet because the equipment and their servers have gotten bigger, and new medical/surgical rooms are mandated to have one bed in them, when two beds was acceptable prior to these new regulations. As these requirements have caused spaces to become larger, the smoke zone size has not followed in kind. What used to fit comfortably within the 22,500 square foot area can no longer fit, while treating the same number of patients and accommodating the same number of staff.

The same logic caused the need for larger suite sizes, which was recommended for approval in this code cycle. The supporting programming documentation was intended to describe and compare how the same spaces have grown as described above. Below are graphic representations of examples of spaces that have grown, and demonstrate that the same number of occupants are working and being treated in the space as before, which does not increase the occupant load.

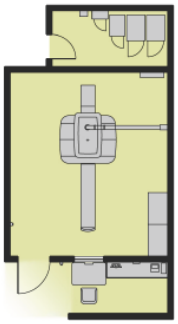


1996
80 square feet

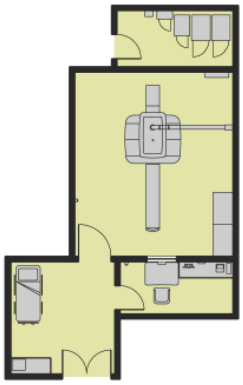


2010
100 square feet

The sketch above describes an emergency department patient bay. What used to be able to be constructed in 80 square feet now requires 100 square feet.



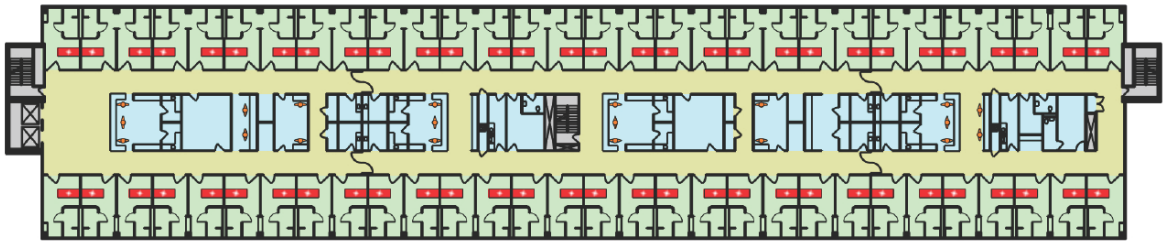
1996 Guideline



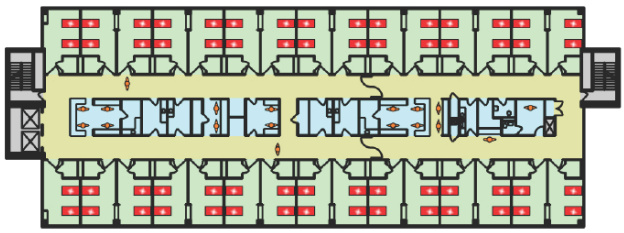
2010 Guideline

Similarly, the sketch above shows a typical MRI suite. In past years, the zoning of the equipment space was more flexible. The requirement is now based on the American College of Radiology's "Guidance Document for Safe MR Practices," 2007 version, page 3, Figure 1. The four-zone approach requires the use of more buffer spaces, increasing the square footage needed to configure the suite.

In terms of occupant load, increasing the square foot per occupant would have no effect. All aspects of egress are set via travel distance and functional need to move beds and stretchers through the facility doors and corridors. For example, corridors are required to be 96 inches, doors a minimum of 32 inches, etc. If these widths were calculated from the occupancy load, they would be drastically smaller, which serves no functional purpose and are not desired. Increasing the square foot per occupant only makes this discrepancy greater.



2010 Guideline



1996 Guideline

= patient bed

= staff member

The sketch above demonstrates the impact of occupants on the increased space needed to treat the same number of patients as well as house the same number of staff. Increased requirements for support spaces, such as computer server closets, soiled utility, increased storage per room and staff support spaces has cause the support "core" to increase. This in addition to patient rooms that are allowed to only have one bed, rather than the past allowance for two beds per patient room.

The previously submitted packages also demonstrate various functional programs within the hospital, with compliant space requirements. For example, a medical/surgical bed unit can fit into approximately 34,000 square feet, an emergency department can fit into about 30,000 square feet, and a radiology imaging area into 38,000 square feet. This demonstrates that a hospital would not go to maximize the compartment size, as is the case now, but to allow the functional and staffing considerations drive the size of the compartment, and not for the sake of the 22,500 number.

The problem of zone barriers occurs mostly on the lower floors, which is why having this increase occur in only areas that do not contain patient sleeping beds. The bed floors are subject to the requirement of a minimum of two smoke zones per floor, which is key to the defend in place concept and horizontal bed movement if needed. A floor plate of two 22,500 square foot smoke zones is still a workable in terms of planning a floor. This issue rises in emergency departments, radiology areas, observation units, which routinely occur on the lower floors of the hospital, and have much larger floor plates.

The varying size of the program square footages also make it difficult to establish an incremental smoke zone size, as suggested by the committee at the Code Action Hearings. This leads us to the logical next step of using the currently allowed 200 foot travel distance to exits as the limiting factor for the zone size. This is not the primary reason for seeking the increase in smoke size, but the figure that makes the most sense given where the original 22,500 was derived: from the 150 smoke zone distance as described in the original reason statement. For support of the concept that the travel distance set the original smoke zone size, please see IEBC, paragraph 803.3.1, allows unlimited travel distance in buildings of 150 feet by 150 feet.

Therefore, using 200 foot travel distance as the basis for the zone increase is the most logical approach to allow the needed planning flexibility to maximize visual to patients, and have staffing and care delivery set the size of the compartment in the building.

This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 7 open meetings and over 100 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx .

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Cost Impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionately decrease.

Public Comment 2:

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

Modify the proposal as follows

407.5 Smoke barriers. *Smoke barriers* shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m^2) in Group I-2 ~~occupancies~~ Condition 1 and not more than ~~40,000~~ 22,500 square feet in Group I-2 ~~hospitals~~ Condition 2 and the travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

Commenter's Reason: Code change G76 is a technical change which proposes to revise the smoke compartment thresholds for hospitals. The purpose of this public comment is limited to the editorial coordination of terminology with the approval of Code change G257 (see below). In this case, nursing homes fall under Group I-2, Condition 1 and hospitals are Group I-2 Condition 2. Since G257 deals only with terminology, this public comment is being submitted to G76 in order to focus the attention on the coordination of terminology issue. This public comment reinstates the current smoke compartment size of 22,500 for all Group I-2 in order for the comment to focus only on the issue of coordination with G257. In addition to this public comment, the Ad Hoc committee on Healthcare has also submitted a separate public comment which addresses the technical aspects of G76.

At the Code Development Hearing, the IBC - General committee approved as modified G257-12 which created two occupancy conditions for Group I-2, similar to what is currently in the IBC for Group I-3. The end result is that where warranted based on the type of occupancy, the code would designate Group I-2 nursing homes as Group I-2 Condition 1 and Group I-2 hospitals as Group I-2 Condition 2. As indicated in the reason statement for G257, the benefit of the condition concept, when compared to creating new use groups, (i.e. Group I-5 or I-6) is that a majority of code requirements would still apply to all Group I-2 occupancies.

Following the successful action on G257, the ICC Ad Hoc Committee for Healthcare (AHC) did a word search of the IBC along with a review of code changes submitted in the 2012 Cycle which are unique to hospitals and nursing homes to determine whether or not the condition designation was necessary in order to distinguish between the two typical Group I-2 occupancies. As noted above, the majority of the code requirements do not differentiate based on these two types of Group I-2 and as such the number of instances where the Group I-2 condition designation is necessary is kept to a minimum. Code change G76 is one such application where the Group I-2 Condition 1 and 2 designation is warranted and therefore this public comment is being submitted by the AHC.

The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 7 open meetings and over 100 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx

Staff analysis: Code change G257 was Approved as Modified at the Code Development Hearings and a public comment has not been submitted. Accordingly it has been placed on the consent agenda.

Public Comment 3:

Wade Rudolph, CBET, CHFM, Sacred Heart Hospital, representing Wisconsin Healthcare Engineers Association Codes & Standards Committee, requests Approval as Submitted

Commenter's Reason: The proposal as submitted by John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare should be accepted as proposed. If the reasoning provided by the original comment or is reviewed again, the committee can see that there are valid reasons to accept this proposal.

The rationale of the ICC committee to reject the proposal is invalid. There are many proposals that are accepted without technical justification.

In today's hospitals with quick response fire sprinkler systems, staff training to close door to the room of origin, and low hazards, there is no reason presented that the smoke compartment size must be limited to a magical 22,500 square feet. I am not aware of any fire situation where the size of the compartment was an issue.

The second reason for rejecting the proposal stated by the committee was there was a concern with the size of the refuge area. This concern is invalid as the area of refuge size is not determined by smoke compartment size.

In I2 occupancy the smoke barriers have been demonstrated to be very effective in limiting the transfer of smoke and providing a safe area for patients to be staged while fire event is being addressed. I recently witnessed a fire event and in this event the hospital employees had completely evacuated a wing of the building in the amount of time it took me to climb four floors (less than 2 minutes). Based on my observation of this real event, I am convinced that larger smoke compartments are not a concern for the following reasons: 1. Hospitals are predominately low hazard areas which are slow to burn and support combustion. 2. The buildings constructed under the current code are fully sprinkler protected and the fire will be contained in the room of origin. 3. The employees in hospitals are trained and practice this training at least quarterly to efficiently move patients to the next smoke compartment immediately upon activation of the fire alarm system. 4. The originally defined area of 22,500 was not justified with any "technical justification" and was a very conservative number. In the fire events that I have witnessed, there was always ample time to move patients to very remote locations with no issue of harm to the patient.

The entire country is concerned about healthcare pricing. If healthcare construction costs can be reduced with no increase in potential harm to the patient, this proposal should be accepted. Every patient room is protected by smoke walls and fire sprinkler systems already. These systems have demonstrated effectiveness time and time again. The fire loss in buildings with current code construction is limited to the room of origin. There is no justifiable need for more than two smoke compartments on a given floor when buildings are constructed to the current code.

I am submitting this request on behalf of the Wisconsin Healthcare Engineers Association Codes & Standards committee representing over 700 members in the State of Wisconsin.

Thank you for your time and consideration of my comments.

G76-12

Final Action: AS AM AMPC____ D

G77-12
IBC 407.9 (New), IFC 604.2.16 (New) [IBC [F] 2702.2.17 (New)]

Proposed Change as Submitted

Proponent: Robert W. Jenkins, Chesterfield Fire & EMS, representing self (jenkinsr@chesterfield.gov)

Add new text as follows:

407.9 Emergency power. A minimum of 96-hours of emergency power shall be provided to the essential electrical systems in Group I-2 hospitals and nursing homes. Emergency power shall be connected to the life safety branch and the critical branch defined in NFPA 70, and further defined as emergency power supply systems in Chapter 4 of NFPA 110.

Add new text as follows:

IFC 604.2.16 (IBC [F] 2702.2.17) Group I-2 Occupancies. Emergency power shall be provided in Group I-2 hospitals and nursing homes in accordance with Section 407.9 of the *International Building Code*.

Reason: Group I-2 facilities are defend in place occupancies where occupants are usually not relocated. NFPA 110, Chapter 5 requires 96-hours of fuel supply for a Level 1 EPSS Class X system when located in seismic design category C, D, E or F. Time frames for emergency power supplies need to be adjusted to allow facilities adequate time to maintain fuel supplies to secondary power sources. Our jurisdiction has had a power loss for several days due primarily to hurricane remnants on the east coast, such as hurricane Isabel in 2003. Power was not restored to several areas from as little as five days to a maximum of 30-days.

Cost Impact: The code change proposal will increase the cost of construction. Cost increase will be incurred due to additional fuel storage requirements and/or type of secondary sources.

2702.2.17 (NEW)-G-JENKINS.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal brings emergency power directly into the IBC instead of depending on the requirement found within NFPA 70. There was concern that 96 hours of emergency power may be too excessive for some areas and it was encouraged that the risk based approach offered in NFPA 99 be utilized.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

John Williams, Adhoc Health Care – MOE study group, requests Disapproval.

Commenter's Reason: The committee requests disapproval of this proposal based on the following three reasons. In addition, the committee feels that the proposed revisions to G80 will address at least a portion of the concerns in this proposal.

First reason: G77 requires a 96 hour fuel supply. NFPA only requires this for Level 1 systems (not necessarily all nursing facilities) in a seismic risk area. This proposal would greatly increase the scope of that requirement counter to the intent of the NFPA standards. The reason statement from the committee says they would rather use a risk based approach in NFPA 99.

Secondly, G77 makes a statement that technically flawed. It says that emergency power should only be connected to the critical or life safety branches – it could be read to disallow the third branch of the traditional essential electrical system: the equipment branch. This is in direct conflict with NFPA 99.

Thirdly, the reference to NFPA 110 for emergency -power connection to branches is incorrect as well – NFPA 110 does not address the division of branches of emergency-power it addresses the performance of the system, components and switches. Chapter 4 in the 2010 version only deals with the classification of the emergency-power system.

The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 7 open meetings and over 100 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx

G77-12

Final Action: AS AM AMPC____ D

G80-12
407.11(New), IFC 604.2.15 (New) [IBC [F] 2702.2.16 (New)]

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Add new text as follows:

407.11 Electrical systems. In Group I-2 occupancies, the essential electrical power for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

Add new text as follows:

IFC 604.2.15 (IBC [F] 2702.2.16) Group I-2 Occupancies. Essential electrical power for Group I-2 occupancies shall be in accordance with Section 407.11.

Reason: Currently emergency power systems are required to comply with NFPA 99 by the Center for Medicare/Medicaid Services (CMS) in order for a facility to receive federal reimbursement funds. Providing the code language requiring compliance with NFPA 99 will ensure the required power system is provided in Group I-2 occupancies. While there is a reference to NFPA 99 in NFPA 70, there is no direct reference. This closes up a gap in the requirements. A reference to Chapter 27 will comprehensively address electrical systems including references to NFPA 70, 110 and 111.

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

Cost Impact: The proposed changes will not increase the cost of construction.

407.11-G-Williams-Adhoc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was consistent with G77-12 which was Approved as Submitted. This proposal references NFPA 99 which provides a method of understanding the particular risks of a facility. This proposal adds additional clarification as to what is required for Group I-2 occupancies. G77-12 should be coordinated with G80-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

John Williams, Adhoc Health Care – MOE study group, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

407.11 Electrical systems. In Group I-2 occupancies, the essential electrical ~~power~~ system for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

IFC 604.2.15 (IBC [F] 2702.2.16) Group I -2 Occupancies. Essential electrical ~~power~~ systems for Group I-2 occupancies shall be in accordance with Section 407.11.

Commenter's Reason: The intent of the modification would be to revise the term "essential electrical power" to use the NFPA defined term as defined by NFPA 99-2012, as follows:

3.3.48 Essential Electrical System. A system comprised of alternate sources of power and all connected distribution systems and ancillary equipment, designed to ensure continuity of electrical power to designated areas and functions of a health care facility during disruption of normal power sources, and also to minimize disruption within the internal wiring system.

Appendix commentary: A.3.3.48 Essential Electrical System. The essential electrical system can be comprised of three branches: life safety branch, critical branch, and equipment branch.

In addition, the intent is to coordinate this proposal with G77. Chapter 27 has a reference to NFPA 110 for the review of the system. NFPA 99 allows the use of the risk based approach for analysis of the fuel and water supply needs.

The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 7 open meetings and over 100 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: http://www.iccsafe.org/cs/AHC/Pages/default.aspx

G80-12

Final Action: AS AM AMPC____ D

G81-12
408.3.9 (New)

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

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

Add new text as follows:

408.3.9 Door penetrations. When cell walls are also the corridor walls, cell doors are permitted to have openings necessary to observe, communicate, feed or otherwise interact with the inmate.

Reason: In the case of maximum security confinement or medical security confinement, with individual cells, an access opening through the door is not uncommon. To require such opening to be protected and/or self closing is not realistic.

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

408.3.9 (NEW)-G-GODWIN

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Approved as Submitted**

Committee Reason: Some jail facilities may have corridors that are required to be rated, therefore, allowances for access through the door to service prisoners is appropriate to balance security concerns and fire safety concerns.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

William E. Koffel, P.E., Koffel Associates, Inc., requests Disapproval.

Commenter's Reason: Due to a schedule conflict, I was not available to testify regarding G81-12 in Dallas. However, the proposed new language is not necessary. The issue is already addressed, and better addressed in Section 408.8.

The submitter's intent seems to be corridors in Group I-3. However, Table1018.1 sends the user of the Code to Section 408.8 for reductions in corridor ratings. Section 408.8 indicates when a corridor is required to be either smoke-tight. Under no circumstances does Section 408.8 require the corridor to have a fire-resistance rating.

When the room face is required to be smoke-tight, Section 408.8.3 provides the requirements for openings in the room face. The area of openings is restricted to 120 square inches (not covered by G81 language), openings shall not be more than 36 inches above the floor (not covered by G81 language), and in Occupancy Condition 5, the openings shall be closable from within the room (not covered by G81 language).

Not only is the issue addressed by Section 408.8 but adding this new paragraph will add subjective language ("openings necessary to….") which could be interpreted to override the prescriptive requirements of Section 408.8.

G81-12
Final Action: AS AM AMPC____ D

G83-12
410.3.5

Proposed Change as Submitted

Proponent: William E. Koffel, P.E., Koffel Associates, Inc., representing Won-Door Corporation (wkoffel@koffel.com)

Revise as follows:

410.3.5 Proscenium curtain. Where a proscenium wall is required to have a fire-resistance rating , the stage opening shall be provided with a fire curtain complying with NFPA 80, a horizontal sliding doors having a fire protection rating of at least one hour, or an approved water curtain complying with Section 903.3.1.1 or, in facilities not utilizing the provisions of smoke-protected assembly seating in accordance with Section 1028.6.2, a smoke control system complying with Section 909 or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress

Reason: Horizontal sliding doors can be used to protect proscenium openings without interfering with the operational considerations of the proscenium opening. A horizontal sliding door with a fire protection rating of at least one hour offers a level of protection greater than that provided by a fire curtain which is tested for a fire exposure of 30 minutes and the acceptance criteria does not include either the hose stream (included in the fire test for horizontal sliding doors or temperature rise criteria which is also not included in a fire protection rating).

Cost Impact: The proposed changes will not increase the cost of construction.

410.3.5-G-KOFFEL

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved as it is a viable design option for the protection of stages.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

William E. Koffel, P.E., Koffel Associates, Inc., representing Won-Door Corporation, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

410.3.5 Proscenium curtain. Where a proscenium wall is required to have a fire-resistance rating , the stage opening shall be provided with a fire curtain complying with NFPA 80, horizontal sliding doors complying with Section 716.5.2 and having a fire protection rating of at least one hour, or an approved water curtain complying with Section 903.3.1.1 or, in facilities not utilizing the provisions of smoke-protected assembly seating in accordance with Section 1028.6.2, a smoke control system complying with Section 909 or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress.

Commenter's Reason: Although not noted in the Committee Report during the Dallas hearings it was noted that a reference to Chapter 7 should be included in the new text concerning horizontal sliding doors. As such, a reference to Section 716.5.2 has been proposed.

G83-12

Final Action: AS AM AMPC____ D

G86-12
412.3, 412.3.1, 412.3.2, Table 412.3.2, 412.3.3, 412.3.4, 412.3.5

Proposed Change as Submitted

Proponent: Eric Rosenbaum, Hughes Associates, Inc., representing Air Traffic Control Tower Fire Life Safety Task Group (erosenbaum@haifire.com)

Revise as follows:

412.3 Airport traffic control towers. The provisions of Sections 412.3.1 through 412.3.~~5~~11 shall apply to airport traffic control towers ~~not exceeding 1,500 square feet (140 m^2) per floor~~ occupied only for the following uses:

1. Airport traffic control cab.
2. Electrical and mechanical equipment rooms.
3. Airport terminal radar and electronics rooms.
4. Office spaces incidental to the tower operation.
5. Lounges for employees, including sanitary facilities.

412.3.1 Type of construction. Airport traffic control towers shall be constructed to comply with the height ~~and area~~ limitations of Table 412.3.2.

TABLE 412.3.2
HEIGHT ~~AND AREA~~ LIMITATIONS FOR AIRPORT TRAFFIC CONTROL TOWERS

TYPE OF CONSTRUCTION	HEIGHT[a] (feet)	~~MAXIMUM AREA (square feet)~~
IA	Unlimited	~~1,500~~
IB	240	~~1,500~~
IIA	100	~~1,500~~
IIB	85	~~1,500~~
~~IIIA~~	~~65~~	~~1,500~~

a. Height to be measured from grade plane to cab floor

412.3.2 Stairway Stairways in Airport traffic control towers shall conform to the requirements of Section 1009. Such *stairways* shall be a smokeproof enclosure in accordance with Section 909.20. The stair pressurization alternative in accordance with Section 909.20.5 shall be permitted to be used. *Stairways* shall not be required to extend to the roof as specified in Section 1009.11.

412.3.3 Exit access. From observation levels, airport traffic control towers shall be permitted to have a single means of exit access for a distance of travel not exceeding 100 ft (30 m). This means of egress shall be permitted to include exit access utilizing an unenclosed stair at the observation level.

~~**412.3.2**~~ **412.3.4 Single means of egress.** Not less than one *exit stairway* shall be permitted for airport traffic controls towers of any height provided that the *occupant load* per floor is not greater than 15 and the area per floor does not exceed 1,500 square feet (140 m^2). ~~The *stairway* shall conform to the requirements of Section 1009. The *stairway* shall be separated from elevators by a minimum distance of one-half of the diagonal of the area served measured in a straight line. The *exit stairway* and elevator hoist-way are permitted to be located in the same shaft enclosure, provided they are separated from each other by a 4-hour *fire barrier* having no openings. Such *stairway* shall be pressurized to a minimum of 0.15 inch of water column (43 Pa) and a maximum of 0.35 inch of water column (101 Pa) in the shaft relative to the building with stairway doors closed. *Stairways* need not extend to the roof as specified in Section 1009.11. The provisions of Section 403 do not apply.~~

~~**Exception:** Smokeproof enclosures as set forth in Section 1022.9 are not required where required *stairways* are pressurized.~~

412.3.4.1 Arrangement of single means of egress. Airport traffic control towers permitted a single exit and located above another building shall be provided with one of the following:

1. Exit enclosure separated from the other building with no door openings to or from the other building
2. Exit enclosure leading directly to an exit enclosure serving the other building, with walls and door separating the exit enclosures from each other, and another door allowing access to the top floor of the building that provides access to a second exit serving that floor.

412.3.4.2 Interior Finish. Airport traffic control towers permitted a single exit in accordance with Section 412.3.4 shall be restricted to interior wall and ceiling finishes of Class A or Class B.

~~**412.3.3**~~ **412.3.5 Automatic fire detection systems.** Airport traffic control towers shall be provided with an automatic fire detection system installed in accordance with Section 907.2.

412.3.6 Automatic sprinkler system. Airport traffic control towers shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

~~**412.3.4**~~ **412.3.7 Standby power.** A standby power system that conforms to Chapter 27 shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

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

412.3.8 Elevator Protection. Wires or cables that provide normal and standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire-detecting systems to elevators shall be protected by construction having a minimum 1-hour *fire resistance rating* or shall be circuit integrity cable having a minimum 1-hour *fire-resistance rating*.

~~**412.3.5**~~ **412.3.9 Accessibility.** Airport traffic control towers need not be *accessible* as specified in the provisions of Chapter 11

Reason: All of the proposed changes are the recommendation of the Air Traffic Control Tower Fire Life Safety Task Group, and reflect the current approach to fire protection and life safety in airport traffic control towers (ATCT). The fire safety criteria applicable to ATCTs are originally based on an agreement between the operator of and controllers utilizing the ATCTs. Many of the changes relate to reformatting the Section with the intent of clarifying its application.

ATCTs create a unique hazard. ATCTs typically have a limited number of occupants. In addition, occupants must be awake and alert. The hazard associated with ATCTs is affected by the building's limited uses, height, and the potential delay in evacuation because of the handoff of flights .

Section 412.3-The provision of a maximum area per floor of 1,500 square feet limits the usage of the facility without providing significant Fire/Life Safety benefit in Airport Traffic Control Towers with multiple exits. The 1,500 square foot maximum area provisions are proposed to be relocated to restrict the floor size only for single exit towers. It is proposed that facilities in excess of 1,500 square feet per floor would be considered a ATCT only if the uses are limited to those listed in Section 412.3. Facilities with uses other than those listed in Section 412.3 would need to be designed as a typical building as addressed by the remainder of the IBC.

Table 412.3.1-The proposed provisions to limit construction to non-combustible types is presented because the use of combustible construction for a new ATCT allows the introduction of a potential unnecessary hazard developing within the construction without observation. We are not aware of new ATCT utilizing combustible construction.

Section 412.3.2-This change creates a new section containing criteria applicable to stairways for clarity. Most of the criteria were relocated from the existing Section 412.3.2, **Egress**. The current specified pressure differential required by Section 412 does not coordinate with Chapter 9 and the current approaches, a pressure differential of a minimum of 0.10 inches of water. In addition, instead of requiring a smoke proof enclosure by stair pressurization all options are identified as acceptable for providing a smoke proof enclosure.

Section 412.3.3-This section provides new criteria applicable to egress from observation levels. Obstruction related to enclosed stairs would eliminate the ability to provide sightlines. In addition, the reduction in area to allow two stairs to this level would affect operations. The proposed maximum exit access travel distance provision is intended to address exit access from the cab, where a single access stair is provided to allow maximum floor usage and maintain 360 degree line-of-sight requirements. A

single exit access stair is typically provided from the observation level with the exit originating on the floor below the observation level. The proposed provision limits travel distance before reaching an exit/exits and is based on the common path of travel limitations established under Chapter 10.

Section 412.3.4- Many of the changes relate to relocations to or from other sections. In addition, the separation distance criteria of the stair to an elevator and fire resistance rating of the shafts is proposed to be removed. Elevators are not typically utilized as a means of egress unless specifically design such as Occupant Evacuation Elevators, Section 3008. If designed as a means of egress the criteria for separation distance of exits in Chapter 10 would potentially apply. Shaft enclosure criteria in Chapter 7 addresses fire resistance rated separation of shafts sufficiently.

Section 412.3.4.1-The proposed provision limiting single stair exit arrangement is intended to provide increased Fire/Life Safety when Airport Traffic Control Towers are built above other buildings. In this scenario, separated exit enclosures are required to protect occupants from the Airport Traffic Control Tower where delayed evacuation of the cab may be required.

Section 412.3.4.2-The proposed restriction on interior finish in a single exit stair Airport Traffic Control Tower is intended to increase Fire/Life Safety by limiting flame spread and smoke production which have a higher probability of impinging on the means of egress in single stair facilities.

Section 412.3.6-The proposed provision requiring sprinkler protection in all Airport Traffic Control Towers is intended to increase life safety and property protection. Life safety is positively affected by limiting the chance of smoke/fire spread and flashover in the facility where delayed evacuation of the cab may be required. In addition, property protection to allow sooner reuse of the structure would be provided.

Section 412.3.8-The proposed provision requiring protection of elevator wiring and cabling is to increase the probability of a functioning elevator to aid firefighters in the event of a fire and to increase the probability that the facility can be rapidly returned back to service after a minor fire incident.

Section 412.3.9 - No change from current criteria. ATCTs are exempt from accessibility criteria in Section 412.3.5.

Cost Impact: This code change will increase the cost of construction from the current code requirements; however, reflects current building practices of ATCTs.

412.3-G-ROSENBAUM

Public Hearing Results

The following errata were not posted to the ICC website.

Underline all of Section 412.3.3 as follows:

412.3.3 Exit access. From observation levels, airport traffic control towers shall be permitted to have a single means of exit access for a distance of travel not exceeding 100 feet (30 m). This means of egress shall be permitted to include exit access utilizing an unenclosed stair at the observation level.

(Portions of proposal not shown remain unchanged)

Committee Action: Disapproved

Committee Reason: The proposal was disapproved as the committee felt that it was inappropriate to remove Type IIIA construction. Also, less restrictive requirements for smaller buildings were necessary with regard to sprinklers and pressurized stairways. In Section 412.3.4.1 as proposed should not restrict all openings. Additionally, terminology with regard to stairways should be revised to be consistent with E5-09/10.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment:

Eric Rosenbaum, Hughes Associates, Inc., representing Air Traffic Control Tower Fire Life Safety Task Group, requests Approval as Modified by this Public Comment.

Replace proposal as follows:

412.3 Airport traffic control towers. The provisions of Sections 412.3.1 through ~~412.3.5~~ 412.3.9 shall apply to airport traffic control towers ~~not exceeding 1,500 square feet (140 m^2) per floor~~ occupied only for the following uses:

1. Airport traffic control cab.
2. Electrical and mechanical equipment rooms.
3. Airport terminal radar and electronics rooms.

4. Office spaces incidental to the tower operation.
5. Lounges for employees, including sanitary facilities.

412.3.1 Type of construction. Airport traffic control towers shall be constructed to comply with the height ~~and area~~ limitations of Table 412.3.2.

TABLE 412.3.2
HEIGHT ~~AND AREA~~ LIMITATIONS FOR AIRPORT TRAFFIC CONTROL TOWERS

TYPE OF CONSTRUCTION	HEIGHT[a] (feet)	~~MAXIMUM AREA (square feet)~~
IA	Unlimited	~~1,500~~
IB	240	~~1,500~~
IIA	100	~~1,500~~
IIB	85	~~1,500~~
IIIA	65	~~1,500~~

a. Height to be measured from grade plane to cab floor

412.3.2 Stairways. Stairways in airport traffic control towers shall be in accordance with Section 1009. Stairways shall be smokeproof enclosures complying with one of the alternatives provided in Section 909.20.

Exception: Stairways in airport traffic control towers are not required to comply with Section 1009.16.

412.3.3 Exit access. From observation levels, airport traffic control towers shall be permitted to have a single means of *exit access* for a travel distance not greater than 100 feet (30480 mm). Exit access stairways from the observation level need not be enclosed.

~~**412.3.2 Egress**~~ **412.3.4 Number of exits.** Not less than one *exit stairway* shall be permitted for airport traffic controls towers of any height provided that the *occupant load* per floor is not greater than 15 and the area per floor does not exceed 1,500 square feet (140 m^2). ~~The *stairway* shall conform to the requirements of Section 1009. The *stairway* shall be separated from elevators by a minimum distance of one-half of the diagonal of the area served measured in a straight line. The *exit stairway* and elevator hoist-way are permitted to be located in the same shaft enclosure, provided they are separated from each other by a 4-hour *fire barrier* having no openings. Such *stairway* shall be pressurized to a minimum of 0.15 inch of water column (43 Pa) and a maximum of 0.35 inch of water column (101 Pa) in the shaft relative to the building with stairway doors closed. *Stairways* need not extend to the roof as specified in Section 1009.11. The provisions of Section 403 do not apply.~~

~~**Exception:** Smokeproof enclosures as set forth in Section 1022.9 are not required where required *stairways* are pressurized.~~

412.3.4.1 Interior finish. Where an airport traffic control tower is provided with only one exit stairway, interior wall and ceiling finishes shall be either Class A or Class B.

~~**412.3.3**~~ **412.3.5 Automatic fire detection systems.** Airport traffic control towers shall be provided with an automatic fire detection system installed in accordance with Section 907.2.

412.3.6 Automatic sprinkler system. Where an occupied floor is located more than 35 feet (10 668 mm) above the lowest level of fire department vehicle access, airport traffic control towers shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1

~~**412.3.4**~~ **412.3.7 Standby power.** A standby power system that conforms to Chapter 27 shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

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

412.3.8 Elevator protection. Wires or cables that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to elevators shall be protected by construction having a *fire-resistance rating* of not less than 1 hour, or shall be circuit integrity cable having a *fire-resistance rating* of not less than 1 hour.

412.3.8.1 Elevators for occupant evacuation. Where provided in addition to an exit stairway, occupant evacuation elevators shall be in accordance with Section 3008.

~~**412.3.5**~~ **412.3.9 Accessibility.** Airport traffic control towers need not be *accessible* as specified in the provisions of Chapter 11

909.20 Smokeproof enclosures. Where required by Section 412.3.2 or Section 1022.10, a smokeproof enclosure shall be constructed in accordance with this section. A smokeproof enclosure shall consist of an enclosed interior exit stairway that conforms to Section 1022.2 and an open exterior balcony or ventilated vestibule meeting the requirements of this section. Where access to the roof is required by the International Fire Code, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

1009.3 Exit access stairways. Floor openings between stories created by exit access stairways shall be enclosed.

Exceptions:

(Exceptions 1 through 10 not shown remain unchanged)

11. Stairways serving observation levels of airport traffic control towers complying with Section 412 are not required to be enclosed.

Commenter's Reason: All of the proposed changes are the recommendation of the Air Traffic Control Tower Fire Life Safety Task Group, and reflect the current approach to fire protection and life safety in airport traffic control towers (ATCT). The existing IBC criteria is unclear, difficult to interpret how it applies, does not address all of the concerns associated with ATCTs and does not correlate with other sections in the IBC, The fire safety criteria identified in the proposal are originally based on an agreement between the operator of and controllers utilizing the ATCTs. Many of the changes relate to reformatting the Section with the intent of clarifying its application.

The original proposal was revised based on the committee comments as follows:

1. The Committee thought it was inappropriate to remove Type IIIA construction. Type IIIA construction has been reinserted.
2. The Committee thought less restrictive requirements for smaller buildings were necessary with regard to automatic sprinklers. For automatic sprinklers, height requirements for the installation of automatic sprinklers have been added to provide a basis for applying the more restrictive requirements, similarly to that as required by Section 903.2.11.3. The selection of 35 feet was chosen based on the heights of ground ladders typical found at smaller, rural fire departments and airports. Due to the absence of aerial ladders or means to reach higher elevations at these locations, additional levels of fire protection are required to protect the life safety of the tower occupants in towers that exceed 35 feet.
3. The Committee thought less restrictive requirements for smaller buildings were necessary with regard to pressurized stairways. The current IBC/IFC requirements of Section 412.3.2 requires all stairways to be a smoke proof enclosure. Due to the potential delayed response of occupants to allow hand-off of air traffic to controllers not in the building, a smoke proof enclosure is felt to be an appropriate level of safety for all stairways located in new ATCTs by the Air Traffic Control Tower Fire Life Safety Task Group. Providing smoke proof enclosures is common design practice in ATCTs.

Changes to the sections addressing sprinkler protection and Type IIIA construction were made based on committee feedback. The original intent was to provide a superior level of life safety for the building occupants but based on the Committee response the requirements were made too restrictive for smaller ATCTs.

Section 412.3.4.1 was removed due to concerns regarding the restrictions of openings. IBC Chapter 10 is considered to appropriately address these life safety aspects.

The Committee also commented that terminology with regards to stairways should be revised to be consistent with E5-09/10. Revisions were made to the terminology to bring it in line with other ICC terminology.

In addition, criteria for using elevators as a means of egress, including elevator lobbies, has been addressed by referencing section 3008. This addresses a comment received during the meeting to address elevator lobbies if elevators are used as a means of egress. The intent is that elevators used as a means of egress would require compliance with Section 3008, Occupant Evacuation Elevators.

Additional changes to Sections 909.20 and 1009.3 were added to coordinate with proposed changes to Sections 412.3.2 and 412.3.3.

All of the proposed changes are the recommendation of the Air Traffic Control Tower Fire Life Safety Task Group, and reflect the current approach to fire protection and life safety in airport traffic control towers (ATCT). The fire safety criteria applicable to ATCTs are originally based on an agreement between the operator of and controllers utilizing the ATCTs. Many of the changes relate to reformatting the Section with the intent of clarifying its application.

ATCTs create a unique hazard. ATCTs typically have a limited number of occupants. In addition, occupants must be awake and alert. The hazard associated with ATCTs is affected by the building's limited uses, height, and the potential delay in evacuation because of the handoff of flights.

The proposed changes address the following issues:

a. Change addresses the Section has been ignored since 2000 IBC.
b. Recommendations are based on designers and users input and agreement.
c. Reflect current design approaches.
d. Addresses issues not currently addressed by code.
e. Clarifies application.
f. Correlates IBC with other enforcement criteria.
g. Reformats for usability.
h. Take changes as a package.
i. Reflect some increase and decreases in safety.

Provides a practical, designable approach to fire safety that the current requirements do not.

G86-12

Final Action: AS AM AMPC____ D

G90-12
402.1, 402.2, 420.3, 420.6 (New)

Proposed Change as Submitted

Proponent: Jason Thompson, P.E., National Concrete Masonry Association, representing Masonry Alliance for Codes and Standards (jthompson@ncma.org)

Revise as follows:

420.1 General. Occupancies in Groups I-1, R-1, R-2 and R-3 shall comply with the provisions of Sections 420.1 through ~~420.5~~ 420.6 and other applicable provisions of this code.

420.2 Separation walls. Walls separating *dwelling units* in the same building, 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. For buildings more than two stories in height or that have dwelling or sleeping units located on a floor level that is more than 25 feet above the grade plane, see Section 420.6.

420.3 Horizontal separation. Floor assemblies separating *dwelling units* in the same buildings, 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. For buildings more than two stories in height or that have dwelling or sleeping units located on a floor level that is more than 25 feet above the grade plane, see Section 420.6.

420.6 Special requirements for Group I-1, R-1 and R-2 occupancies. Buildings classified as a Group I-1, R-1 or R-2 occupancy that are more than two stories in height or that have dwelling or sleeping units located on a floor level that is more than 25 feet above the grade plane shall comply with all of the following requirements:

1. The separation walls specified in Section 420.2 shall be constructed of noncombustible materials to provide a fire resistance rating of not less than 2 hours and shall comply with the requirements for fire barriers in accordance with Section 707.
2. The floor assemblies specified in Section 420.3 shall be constructed of noncombustible materials to provide a fire resistance rating of not less than 2 hours and shall comply with the requirements for horizontal assemblies in accordance with Section 711.
3. Load bearing walls shall meet the requirements of Section 1604 without the use of sheathing.
4. The materials used for construction of walls shall be of a type that is not adversely affected by moisture.

Reason: Though the loss of life from fires affecting Group I-1, R-1 and R-2 occupancies is not high with the changing construction methods and the noticeable shift to light weight construction methods, and the continued national trend in reducing fire department staffing numbers, the proposed code language provides for two distinct safety provisions. The first is the increased compartmentalization of the building to reduce fire spread and damage using passive fire protection methods. The second safety provision is the ability of the structure to be constructed in such a way that it retains its structural integrity after being subject to a fire. The provisions of **Section 101.3 Intent**, state:

"The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations."

Currently many of these load bearing walls are constructed in such a way that the wall sheathing is a critical part of the structural integrity of the wall. The sheathing is used for localized member stability, global stability, and in many cases the lateral load resisting system for the entire building. During an adverse event, such as a fire this sheathing can be compromised by fire damage,

mechanical damage, and water damage compromising the overall structural integrity of the building. Where the current standard test used for fire resistance is the ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials, in practice this test does not account for the reduction in strength and stiffness that results from fire and water damage. It is not practical to think that every assembly would be tested at designed load levels and the resulting strength and stiffness data used in design, as a result the proposed provisions would provide for the structure to rely on the sheathing only as a fire resistive element and would allow the structure to maintain its design strength after the sheathing was compromised or removed for any reason.

The proposed story level and floor height is based on the ability for a fire department to make a rescue from the exterior of the structure using the equipment commonly found on an NFPA 1901 equipped motorized fire engine, this using the most common extension ladder size, being a 24 foot long extension ladder which can easily reach a second floor window. In addition, for structures three stories or greater in height, the level of vertical load and potential lateral load on these walls increases and as a result an additional level of safety is needed.

While we acknowledge the success in NFPA 13 & 13R sprinkler systems to manage and control fire, the provisions of this code change are designed the assist those systems in effectively doing their job and to provide structural stability and strength that is dictated under the provisions of Section 101.3.

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

420.1-G-THOMPSON

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Proper justification was not provided for this proposal. Changing 2 hour fire partitions to 2 hour fire barriers was seen as overly restrictive. The origins of the 2 story criteria seem unclear.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jason Thompson, National Concrete Masonry Association, representing, Masonry Alliance for Codes and Standards; J. Timothy Schreffler, Bellefonte Borough, Centre County, Pennsylvania, representing Bellefonte Fire Department; requests Approval as Submitted

Commenter's Reason (Thompson): The General Code Development Committee missed one of the main fire safety reasons for proposed change G90 when they recommended disapproval. That reason is to protect the fire service during firefighting operations when Group I-1, R-1 and R-2 experience a fire event. The risk to the fire service from collapse of a structure increases significantly for buildings that are more than two stories (e.g. over 25 feet) above ground. This is especially notable when structural stability under fire conditions depends on the combination of light framing and structural sheathing for support. If the strength of the sheathing materially is reduced or eliminated due to damage from a fire or water during the event the structure becomes unstable and a risk to the responding fire service.

Section 101.3, of the IBC specifically states the intent of the code is "*to provide safety to fire fighters and emergency responders during emergency operations".* This proposal is to provide a proper degree of safety and reliability for structural stability for the fire service for I-1, R-1, and R2 occupancies that are more than 2 stories in height by requiring that the stability of the bearing walls be provided independent of the sheathing material used and that the sheathing material used be resistant to damage from moisture. This proposal provides the necessary degree of protection for the emergency responders in these types of structures.

The proposal also increases the fire safety of the building provided to the occupants by increasing the fire resistance of the separations between dwelling units from 1-hour to 2-hours. It also increases the stability of these fire separations under fire conditions by requiring the supporting walls be constructed as fire barriers instead of fire partitions. G90 is recommended for approval as submitted.

Commenter's Reason(Schreffler): In my professional opinion, the proposed code change is a critical step in addressing the structural stability of a building that may have been damaged due to a fire or water condition. With the publication of the 2006 International Building Code, the code recognized the need to maintain the structural stability and protect the firefighters and emergency responders working in the building. In light frame type construction both in wood and steel, this stability and strength can be quickly compromised if the sheathing that is typically used for bracing is removed or compromised. The result could be the

loss of enough capacity to cause structural collapse while the responders are in the building. This proposed code change addresses these concerns in I-1, R-1, and R2 occupancies that are more than 2 stories in height by requiring that the stability of the bearing walls be provided independent of the sheathing material and that the sheathing is not moisture sensitive. This is an important step forward in protecting the occupants and our emergency responders in these types of structures.

G90-12

Final Action: AS AM AMPC____ D

G92-12
422.3

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare

Revise as follows:

422.3 Smoke compartments. Where the aggregate area of one or more *ambulatory care facilities* is greater than 10,000 square feet (929 m^2) on one *story*, the *story* shall be provided with a *smoke barrier* to subdivide the *story* into no fewer than two *smoke compartments*. The area of any one such *smoke compartment* shall be not greater than ~~22,500~~ 40,000 square feet (~~2092 m^2~~ 3719 m^2). The travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be installed in accordance with Section 709 with the exception that *smoke barriers* shall be continuous from outside wall to an outside wall, a floor to a floor, or from a *smoke barrier* to a *smoke barrier* or a combination thereof.

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

Intent and Summary

This code change addresses outdated code material. Historically, smoke compartment size has been driven by the allowable travel distance within the smoke compartment. Past code changes have increased the travel distance without a corresponding change in smoke compartment size. Secondly, the size of the functional patient areas has increased, but the occupant load has remained the same or has been reduced. Therefore, we are asking for an increase in smoke compartment size to accomodate the operational needs of these facilities.

A summary of the history of smoke compartment requirements is as follows:

- October 1984 BCMC – No area limitations. Maximum length and width equals 150 feet.
- 1987 BOCA – 610.5 – No area limitations. Maximum length and width equals 150 feet
- 1992 BOCA Supplement – 610.4 – 22,500 square feet, with maximum travel distance of 150 feet.
- Code Change No. B20-95 – 22,500 square feet, with maximum travel distance proposed to be increased to 200 feet.
- 1996 BOCA – 409.4 - 22,500 square feet, with maximum travel distance of 200 feet.
- 2000 IBC – 407.4 - 22,500 square feet, with maximum travel distance of 200 feet.

Originally, there was no limit to smoke compartment size, other what was imposed by travel distance. The 22,500 square foot requirement was based on the old travel distance requirement of 150 feet, and used it to extrapolate an area (150ft x150ft = 22,500 square feet). This proposal uses the same logic and applies the current 200 foot travel distance maximum (200ft x200ft), resulting in a 40,000 square foot smoke compartment. This proposal would maintain the existing requirement that each floor be divided into two smoke compartments. Practically the requirement for 200' travel distance within smoke compartments will still drive smaller smoke compartment sizes in some cases.

The application of the smoke compartment size for Ambulatory Care facilities was taken from the hospital requirement in Section 407. There was no specific reason given for using 22,500 square feet as a threshold other than mirroring the hospital requirement.

When studying the contemporary sizes of functions within ambulatory surgery areas, the area provided has increased. Attached is a study of space programs which compare the 2010 Guideline requirements with the 1996-97 Guidelines. In short, today's ambulatory surgery facility takes more square footage to care for the same amount of patients. These programs demonstrate the need to increase to 40,000 square foot smoke compartment. See program analysis at the following link. **http://www.iccsafe.org/cs/AHC/Pages/WG-General.aspx**

Cost impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionally decrease.

422.3-G-WILLIAMS-ADHOC.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the previous action on G76-12. The main focus of the concern focused upon occupant load, travel distance and refuge areas.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

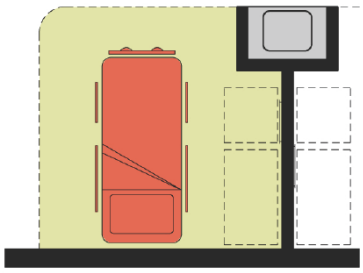
John Williams, Adhoc Health Care – MOE study group, requests Approval as Submitted.

Commenter's Reason: This public comment is being submitted to respond to the concerns of the General Committee.

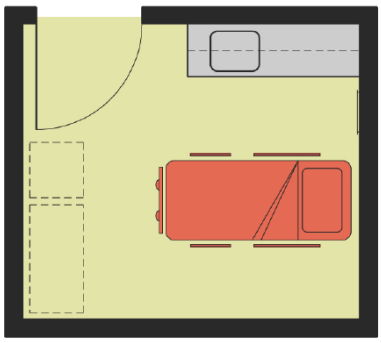
To clarify the practical application of smoke compartments in ambulatory healthcare facilities, they are routinely unable to consistently be maximized at the current 22,500 square feet. Due to programmatic concerns, the average compartment is between 14,000 and 18,000 square feet. When planning space, and the 22,500 square foot limit is reached, the programmatic needs of the functional area are subdivided to respond to the required limit. For example, an emergency department (which are increasingly appearing in an ambulatory setting) with 50 bays, which may be able to exist in a 28,000 square foot area with proper staffing, would be divided into two areas of 14,000 square feet to satisfy the code requirement, sacrificing needed visual by installing the barrier down the middle.

The reason that our sample ED can exist in 28,000 square feet is because other regulatory issues cause the spaces to be larger. Exam bays have gone from 80 square feet to 100 square feet, imaging rooms have gone from 120 square feet to 180 square feet because the equipment and their servers have gotten bigger, and new medical/surgical rooms are mandated to have one bed in them, when two beds was acceptable prior to these new regulations. As these requirements have caused spaces to become larger, the smoke zone size has not followed in kind. What used to fit comfortably within the 22,500 square foot area can no longer fit, while treating the same number of patients and accommodating the same number of staff.

The same logic caused the need for larger suite sizes, which was recommended for approval in this code cycle. The supporting programming documentation was intended to describe and compare how the same spaces have grown as described above. Below are graphic representations of examples of spaces that have grown, and demonstrate that the same number of occupants are working and being treated in the space as before, which does not increase the occupant load.

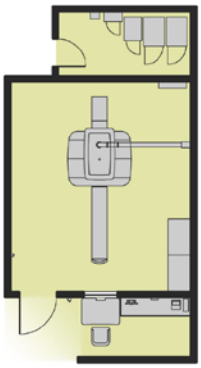


1996
80 square feet

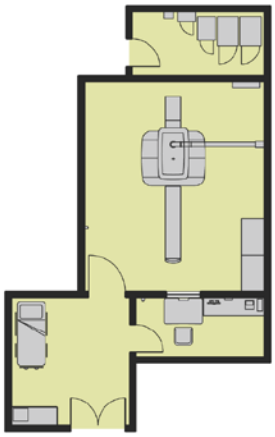


2010
100 square feet

The sketch above describes a typical emergency room patient bay configuration. What used to be able to be constructed in 80 square feet now requires 100 square feet.



1996 Guideline



2010 Guideline

Similarly, the sketch above shows a typical MRI suite. In past years, the zoning of the equipment space was more flextible. The requirement is now based on the American College of Radiology's "Guidance Document for Safe MR Practices," 2007 version, page 3, Figure 1. The four-zone approach requires the use of more buffer spaces, increasing the square footage needed to configure the suite.

In terms of occupant load, increasing the square foot per occupant would have no effect. All aspects of egress are set via travel distance and functional need to move beds and stretchers through the facility doors and corridors. For example, corridors are required to be 96 inches, doors a minimum of 32 inches, etc. If these widths were calculated from the occupancy load, they would be drastically smaller, which serves no functional purpose and are not desired. Increasing the square foot per occupant only makes this discrepancy greater.

The previously submitted packages also demonstrate various functional programs within the ambulatory care facility, with compliant space requirements. For example, an MRI suite typically built in an outpatient setting has increased from about 800 square feet to about 1,400 square feet, due to the zoning. This demonstrates that an ambulatory facility would not go to maximize the compartment size, as is the case now, but to allow the functional and staffing considerations drive the size of the compartment, and not for the sake of the 22,500 number.

The varying size of the program square footages also make it difficult to establish an incremental smoke zone size, as suggested by the committee at the Code Action Hearings. This leads us to the logical next step of using the currently allowed 200 foot travel distance to exits as the limiting factor for the zone size. This is not the primary reason for seeking the increase in smoke size, but the figure that makes the most sense given where the original 22,500 was derived: from the 150 smoke zone distance as described in the original reason statement. For support of the concept that the travel distance set the original smoke zone size, please see IEBC, paragraph 803.3.1, allows unlimited travel distance in buildings of 150 feet by 150 feet.

Therefore, using 200 foot travel distance as the basis for the zone increase is the most logical approach to allow the needed planning flexibility to maximize visual to patients, and have staffing and care delivery set the size of the compartment in the building.

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

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Cost impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionally decrease.

G92-12

Final Action: AS AM AMPC____ D

G99-12
425 (New), Chapter 35

Proposed Change as Submitted

Proponent: Jane Malone, National Center for Healthy Housing (jmalone@nchh.org)

Revise as follows:

SECTION 425
RADON REDUCING CONSTRUCTION FEATURES FOR EDUCATIONAL BUILDING USES

425.1 General. Occupancies classified as Group E shall comply with the provisions of this section where the building is located in an area of High (Zone 1) Radon Potential as determined by Figure AF101 of Appendix F of the *International Residential Code*.

Exception. Buildings complying with the radon resistant construction techniques for new construction in accordance with Chapter 2 of EPA 625-R-92-016.

425.2 Radon Reducing Construction Features. Buildings shall be equipped with the radon reducing features in Section 425.2.1 through 425.2.12.

425.2.1 Vapor Retarder. A continuous vapor retarder meeting ASTM E1745 Class A, B or C, with any seams overlapped not less than 12 inches (305 mm) and sealed, shall be installed under the slab in basement and slab-on-grade construction and on top of the soil in crawl space construction.

425.2.2 Base Course. Floors of basements and slab-on-grade construction shall be placed over a stone base course, not less than 4 inches (102 mm) in thickness. The stone base course shall have a void ratio of not less than 35 percent, or Size Number 4, 5 or 6 shall be used and shall meet the specifications of ASTM C33.

425.2.3 Solid Vent Pipe. Solid vent pipe shall be installed as follows:

1. Basement slabs with interior foundation pipe drains installed shall have solid 6 inch (153 mm) minimum diameter vent pipe sections installed in conjunction with this drainage system. One independent vent stack pipe shall be installed for every contiguous 15,000 square feet (1392 sq. m), or portion thereof, of slab area, terminating at an approved location, as prescribed in Section 425.2.9, on the exterior of the building. Basement slabs with french drains or channel drains shall not be permitted unless interior foundation pipe drains as described in this section are installed.
2. Excluding non-habitable spaces such as garages, basement slabs that do not have an interior foundation pipe drain, and slab-on-grade construction, shall be provided with one 6 inch (153 mm) minimum diameter solid vent pipe section with a "T" pipe fitting or equivalent for every contiguous 15,000 square feet (1392 sq. m), or portion thereof, of slab area, with this vent pipe section to be installed into the sub-slab aggregate. Each of the horizontal openings of the "T" pipe fitting shall be connected to a minimum of 10 feet (3 m) of 6 inch (153 mm) diameter perforated pipe or equivalent area soil gas collection plenum and placed in the sub-slab aggregate. The vertical portion of the "T" pipe fitting shall be connected to an independent solid vent stack pipe terminating at an approved location, as prescribed in Section 425.2.9, on the exterior of the building. Where more than one vent pipe section is provided, interconnection of these sections into a single independent vent stack is permitted for coverage up to a total area of 15,000 square feet (1392 sq. m) to permit use of a single in-line vent pipe fan when activation of the system is desired.
3. Crawl spaces shall be provided with one 6 inch (153 mm) minimum diameter solid vent pipe section with a "T" pipe fitting or equivalent for every contiguous 15,000 square feet (1392 sq. m),

or portion thereof, of crawl space area. Each of the horizontal openings of the "T" pipe fitting shall be connected to a minimum of 10 feet (3 m) of 6 inch (153 mm) diameter perforated pipe or equivalent area soil gas collection plenum and installed upon the soil. The vertical portion of the "T" pipe fitting shall be connected to an independent solid vent pipe terminating at an approved location on the exterior of the building.

4. In combination basement/crawl space or slab-on-grade/crawl space buildings, a 6 inch (153 mm) minimum diameter solid vent pipe is permitted to be provided between the areas and interconnected into the independent vent stack, for coverage up to a total area of 15,000 square feet (1392 sq. m) to permit use of a single in-line vent pipe fan where activation of the system is desired. Slabs areas divided by internal footings shall be permitted to be joined with piping into a single independent vent stack for coverage up to a total area of 15,000 square feet (1392 sq. m).

425.2.4 Joint and Penetration Sealing. Except for french drains or channel drains, joints in foundation walls and floors, including, without limitation, control joints between slab sections poured separately, and between foundation wall and floor, as well as all other openings and penetrations of the foundation walls and floor including, but not limited to, utility penetrations, shall be substantially sealed by utilizing a caulk complying with ASTM C920 class 25 or greater, in order to close off the soil gas entry routes. Prior to sealing, backer rods shall be used to fill gaps greater than one inch. Any openings or penetrations of the floor over the crawl space shall be substantially sealed in order to close off the soil gas entry routes.

425.2.5 Floor drains. Floor drains shall substantially close off the soil gas entry routes with a water-seal trap or other mechanical means.

425.2.6 Sump Cover. A sump cover which substantially closes off the soil gas entry routes shall be provided for all sump installations. Sump covers shall not be used as a vent pipe location.

425.2.7 Sealing. The following measures shall be provided:

1. No ductwork for supply or return air shall be routed through a crawl space or beneath a slab. Where ductwork passes through or beneath a slab, all openings and joints shall be seamless or properly taped or sealed water-tight.
2. Sealant materials that substantially close off the soil gas entry routes shall be installed on any doors or other openings between basements and adjoining crawl spaces that are vented to the exterior.
3. The tops of foundation walls, including, without limitation, interior ledges, that are constructed of hollow masonry units shall be capped or the voids shall be completely filled.
4. The vapor retarder in a crawlspace shall turn up onto the foundation walls not less than 12 inches (153 mm) and shall be sealed to the wall with a caulk complying with ASTM C920 class 25 or higher or equivalent method.

425.2.8 Vent Stack Installation. The independent vent stack pipe provided in accordance with this section shall be an adequately supported, gas tight, 6 inch (153 mm) minimum diameter solid pipe, through any enclosed portions of the building. Excluding a basement or crawl space, the pipe shall be routed in a manner that makes it accessible for the installation of a future in-line vent pipe fan in a non-conditioned space, and installed in a configuration, and supported in a manner, that will ensure that rain water or condensate accumulation within the pipes will drain downward into the ground beneath the slab or vapor retarder.

425.2.9 Vent Stack Termination. The vent stack pipe shall meet the following termination requirements:

1. Vent pipes shall terminate at least 24 inches (610 mm) above the roof, measured from the highest point where the vent intersects the roof. When a vent pipe extension terminates on an occupiable roof the vent pipe shall extend at least 10 feet (3 m) above the roof surface.

Exception: Buildings more than three stories in height shall be allowed to extend vent pipe terminals through a wall provided that the termination is at least 20 feet (6 m) above grade and is effectively screened.

2. *N*o vent terminal shall be located directly beneath any door, window, or other ventilating opening into the conditioned space of the building or of an adjacent building nor shall any such vent terminal be within 25 feet (7620 mm) horizontally of such an opening unless it is at least 2 feet (610 mm) above the top of such opening.
3. No vent terminal shall be closer than 25 feet (7620 mm) horizontally from any lot line.

425.2.10 Labeling. Radon vent pipes shall be identifiable and clearly labeled as a radon reduction system at intervals of at least every 10 feet (7620 mm) and at least once in every room or space. The radon reduction system label of any section of vent pipe above the roof shall caution against placement of air intake valves within 10 feet (7620 mm) of the vent pipe discharge.

425.2.11 Electrical Connection for Fan. A dedicated electrical branch circuit terminating in an electrical box shall be installed proximate to each vent stack where a future in-line vent pipe fan and system failure alarms is likely to be installed.

425.2.12 Air Passages. In order to reduce stack effect, air passages that penetrate the conditioned envelope of the building, such as openings installed in top-floor ceilings, shall be closed, gasketed or otherwise sealed with materials approved for such applications.

Add new standard to Chapter 35 as follows:

ASTM
ASTM E 1745-11 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

US EPA Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

EPA 625-R-92-016-1994 Radon Prevention in the Design and Construction of Schools and Other Large Buildings.

Reason: The purpose of this requirement is to protect students, faculty, and other staff from exposure to radon gas in the educational environment. This proposed change will reduce radon exposure risk for humans in educational buildings that are constructed in known areas[1] of high radon potential.

The rate of exposure for children and staff in school buildings is second only to exposure in the home. [2] In the current ICC family of codes, provision for radon control, commonly known as radon-resistant new construction, is contained only in the optional Appendix F for the International Residential Code.

Epidemiological studies confirm that radon increases the risk of lung cancer in the general population. Radon is the second leading cause of lung cancer – second only to smoking – and more significant than secondhand smoke. In the US alone, 21,000 lung cancer deaths each year are caused by radon exposure. [3] The World Health Organization estimates that between 3% and 14% of all lung cancer cases worldwide are caused by radon exposure. [4] The Surgeon General of the United States issued a Health Advisory in 2005 warning Americans about the health risk from exposure to radon in indoor air. Dr. Richard Carmona, the Nation's Chief Physician, urged Americans find out how much radon they might be breathing. Dr. Carmona also stressed the need to remedy the problem as soon as possible when the radon level is 4 pCi/L or more.

Radon is a colorless and odorless gas that is a decay product of uranium and occurs naturally in soil and rock. The main source of high-level radon pollution in buildings is surrounding uranium-containing soil such as granite, shale, phosphate and pitchblende. Radon enters a building through cracks in walls, basement floors, foundations and other openings. There is no known threshold concentration below which radon exposure presents no risk. Even low concentrations of radon can result in a small increase in the risk of lung cancer. EPA recommends that all homes and schools be tested for radon. EPA recommends mitigation if radon is above 4 pCi/L (equivalent to EPA Radon Zone 1) and consideration of mitigation if radon is 2-4 pCi/L (equivalent to Zone 2).[5] In 2009, the World Health Organization released a report indicating that 100 Bq/m^{3}or 2.7 pCi/L should be the reference level for radon.[6]

This proposal consists of the subchapter 10 "Radon Hazard Sub-code of the New Jersey Uniform Construction Code" – which applies to all residential and educational uses – combined with revisions consistent with provisions that were accepted for the IGCC 2012. These provisions improve upon the New Jersey standard by improving the cost-efficiency and effectiveness of this existing radon standard.

[1] "Zone Maps," US EPA, http://www.epa.gov/radon/zonemap.html
[2] "Radon in Schools," US EPA, http://www.epa.gov/radon/pubs/schoolrn.html
[3] "Health Risks," US EPA, http://www.epa.gov/radon/healthrisks.html
[4] "Radon and Cancer," World Health Organization, http://www.who.int/mediacentre/factsheets/fs291/en/index.html
[5] "Health Risks," US EPA, http://www.epa.gov/radon/healthrisks.html
[6] "WHO Handbook on Radon," http://www.who.int/entity/ionizing_radiation/env/9789241547673/en/index.html

Cost Impact: This code change will increase the cost of construction. This change will also save lives.

Analysis: A review of the standard proposed for inclusion in the code, ASTM E 1745 and EPA 625-R-92-016 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2012.

426 (NEW)-G-MALONE.doc

Public Hearing Results

For staff analysis of the content of ASTM E1745-11 and US EPA 625-R-92-016-1994 relative to CP#28, Section 3.6, please visit: http://www.iccsafe.org:8888/cs/codes/Documents/2012-13cycle/Proposed-A/00a_updates.pdf

Committee Action: **Disapproved**

Committee Reason: There was still concern on the need for such provisions and it was felt that perhaps an appendix would be a better location for the requirements. Also, it was noted that the map should be placed within the provisions versus simply referencing the IRC. The presentation of the requirements could be simplified.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jane Malone, National Center for Healthy Housing requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

SECTION 425
RADON REDUCING CONSTRUCTION FEATURES FOR GROUP E OCCUPANCIES.

425.1 General. Buildings containing Group E Occupancies shall comply with the provisions of this section where the building is located in a Zone 1 radon potential area as determined by Figure 425.1 and Table 425.1.

Exception: Where approved, radon zone designations or maps adopted by a state agency shall supersede Figure 425.1 and Table 425.1.

425.2 Radon reducing construction features. Buildings, including garages below occupiable space, shall be equipped with radon reducing features in accordance with Sections 425.2.1 through 425.2.6.

425.2.1 Gravel. A layer of clean aggregate that meets the specifications of Size Number 4, 5, 56, or 6 of ASTM C33 shall be installed below the foundation slab. The depth of gravel shall be not less than the diameter of the pipe provided in accordance with Section 425.2.3.

425.2.2 Vapor retarder. A continuous vapor retarder of Class A, B or C complying with ASTM E1745 shall be installed under the slab in basement, crawl space slab, and slab-on-grade construction, and over the soil in crawl space construction. Seams of the vapor retarder shall be overlapped not less than 12 inches (305 mm). Seams shall be sealed with a caulk of not less than Class 25 complying with ASTM C920, or by tape specified by the vapor retarder manufacturer's instructions. The vapor retarder in a crawl

space shall turn up onto the foundation walls not less than 12 inches (153 mm) and shall be continuously sealed to the wall with a caulk of not less than Class 25 complying with ASTM C920. Openings or penetrations in the retarder shall be sealed.

425.2.3 Vent stack pipe. A solid, rigid, gas tight, non-perforated, ABS or PVC vent stack pipe shall be installed in a continuous vertical stack, from the tee pipe fitting for each suction point in accordance with Section 425.2.3.6 within the interior of the building, to the termination point installed in accordance with Section 425.2.6. The vent stack pipe shall be without dips or sags and shall slope upward toward the vent or chimney at least 1/8 inch per foot (21 mm per 305 mm).

425.2.3.1 Pipe dimensions. Vent stack pipe shall be not less than 4 inches (102 mm) nominal inside diameter. Pipe wall thickness shall be Schedule 40.

425.2.3.2 Pipe joints. The joint surfaces for ABS or PVC pipe shall be prepared with a primer and solvent welded in accordance with the pipe manufacturer's instructions.

425.2.3.3 Pipe support. Above ground piping shall be supported by the structure of the building in accordance with the International Plumbing Code.

425.2.3.4 Coverage area. Where 4-inch (102 mm) nominal inside diameter pipe is used, not less than one independent vent stack shall be installed for vent coverage for each 5,000 square feet (464 m^2) area of slab or crawlspace. Where 6-inch (152 mm) nominal inside diameter pipe is used, not less than one independent vent stack shall be installed for each 15,000 square feet (1,392 m^2) area of slab or crawlspace.

425.2.3.5 Interconnected coverage areas. Where a 4-inch (102 mm) nominal inside diameter solid piping located above the slab interconnects the pipes from separate areas in combination basement and crawl space buildings, separate areas in combination slab-on-grade and crawl space buildings, or separate areas under slabs divided by internal footings, the coverage area shall not be greater than 5,000 square feet (464 m^2). Where a 4-inch (102 mm) nominal inside diameter perforated piping interconnects areas separated by interior footings in a pipe loop located along the perimeter of the foundation under the slab, the coverage area shall not be greater than 5,000 square feet (464 m^2). Where 6-inch (152 mm) nominal inside diameter pipe is used, the piping shall serve a total coverage area not greater than 15,000 square feet (1,392 m^2).

425.2.3.6 Suction point. A suction point consisting of a tee pipe fitting or saddle fitting shall be installed o connect horizontal piping below the structure and an independent solid vent stack in accordance with sections 425.3.6.1 through 425.3.6.3.

425.2.3.6.1 Suction points in basement slabs, crawl space slabs and slab on grade foundations. For basement slab, crawl space slab and slab on grade foundations, a tee pipe fitting or saddle fitting shall be installed in the sub-slab aggregate for each coverage area. Each of the horizontal openings of the tee pipe fitting or saddle fitting shall be connected to not less than 10 feet (?? mm) of perforated pipe having not less than 1 square inch (645 mm^2) of opening for each lineal foot of pipe. The perforated pipe shall be covered by the sub-slab aggregate. The vertical portion of the tee pipe fitting or saddle fitting shall be connected to an independent solid vent stack.

425.2.3.6.2 Suction points in crawl spaces with soil floors. Crawl spaces with soil floors shall be provided with a tee pipe fitting or saddle fitting for each coverage area. Each of the horizontal openings of the tee pipe fitting or saddle fitting shall be connected to not less than 10 feet (3048 mm) of perforated pipe having not less than 1 square inch (645 mm^2) of opening for each lineal foot of pipe. The perforated pipe shall be installed on top of the soil. The vertical portion of the tee pipe fitting or saddle fitting shall be connected to an independent solid vent stack.

425.2.3.6.3 Sump cover. A sump cover shall not be used as a suction point location**.**

425.2.3.7 Vent stack termination. The independent vent stack pipe shall discharge outside of the building and be installed in accordance with Sections 426.2.3.7.1 and 425.2.3.7.2.

425.2.3.7.1 Rooftop termination. Vent stack pipes shall terminate at least not less than 2 feet (610 mm) above the roof surface, measured from the highest point where the pipe intersects the roof surface. Where a vent stack pipe terminates on an occupiable roof, the pipe shall extend at least not less than 10 feet (3048 mm) above the roof surface.

> **Exception:** In a building more than three stories in height, the vent stack pipe shall not be required to terminate above the roof surface provided that it terminates through an exterior wall at a point at least not less than 20 feet (6096 mm) above grade and at least not less than 10 feet (3048 mm) in any direction from any operable window, door, or other gravity intake opening into the building.

425.2.3.7.2 Clearance from other buildings and lots. Vent terminals shall not be closer than 25 feet (7620 mm), measured horizontally, from any adjacent building or lot line.

425.2.4. Sealing. Openings and penetrations shall be sealed in accordance with Sections 425.2.4.1 through 452.2.4.5.

425.2.4.1 Foundation walls and floors. Joints, openings and penetrations in foundation walls and floors, that are in contact with the soil shall be sealed by a caulk of not less than Class 25 complying with ASTM C920. Prior to sealing, backer rods shall be used to fill openings greater than ½ inch (12.7 mm) in width.

425.2.4.1.1 Hollow masonry unit walls. The top course of hollow block masonry foundation walls shall be made of solid masonry units or the top course shall be fully grouted. The top course under the full width of door and window openings shall be made of solid masonry units or the hollow masonry units shall be fully grouted. Where a brick veneer or other masonry ledge is installed, the course immediately below the ledge shall be made of solid masonry units or the top course shall be fully grouted. Other penetrations through walls shall be sealed.

425.2.4.2 Floor drains. Floor drains and condensate drains shall not be open to the soil.

425.2.4.3 Sump cover. A solid sump cover, equipped with a seal or gasket, shall be provided for sump installations.

425.2.4.4 Ductwork. Where ductwork passes through a crawl space, or through or beneath a slab, all openings and joints shall be seamless or taped or sealed water-tight.

425.2.4.5. Top floor ceilings. Openings in top-floor ceilings shall be closed, gasketed or otherwise sealed with materials approved for such applications.

425.2.5 Provision for depressurization fan. A section of the vent stack pipe that is located outside of the building or in a non-conditioned space above the basement or crawl space shall be accessible for the future installation of an in-line depressurization fan. Where provided, the fan shall not be mounted in any location where pipe positively pressurized by the fan is located inside of a conditioned or occupiable space.

425.2.5.1 Accessible fan installation location. A space having a vertical height of not less than 48 inches (1220 mm) and a diameter of not less than 21 inches (530 mm) shall be provided in the area designated for a depressurization fan.

425.2.5.2 Electrical connection for fan. An outlet box for an electrical connection, supplied by a branch circuit ,shall be installed within 6 feet (1829 mm) of the area designated for a depressurization fan.

425.2.6 Labeling. Radon vent pipes shall be identifiable and labeled as a component of a radon reduction system at intervals of not less than 10 feet (3048 mm) and not less than once in every room or space. The section of vent pipe above the roof shall have a label that cautions against placement of air intake openings within 10 feet (3048 mm) of the vent pipe discharge.

Add new standard to Chapter 35 as follows:

ASTM
ASTM E 1745-11 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

Figure 425.1 EPA Map of Radon Zones

The United States Environmental Protection Agency and the United States Geological Survey have evaluated the radon potential in the United States and developed this map of radon zones. The map assigns each of the 3,141 counties in the United States to one of three zones based on radon potential. Zone 1 areas have a predicted average indoor radon screening level greater than 4 pCi/L (picocuries per liter). Table 425.1 lists the Zone 1 counties illustrated on the map.

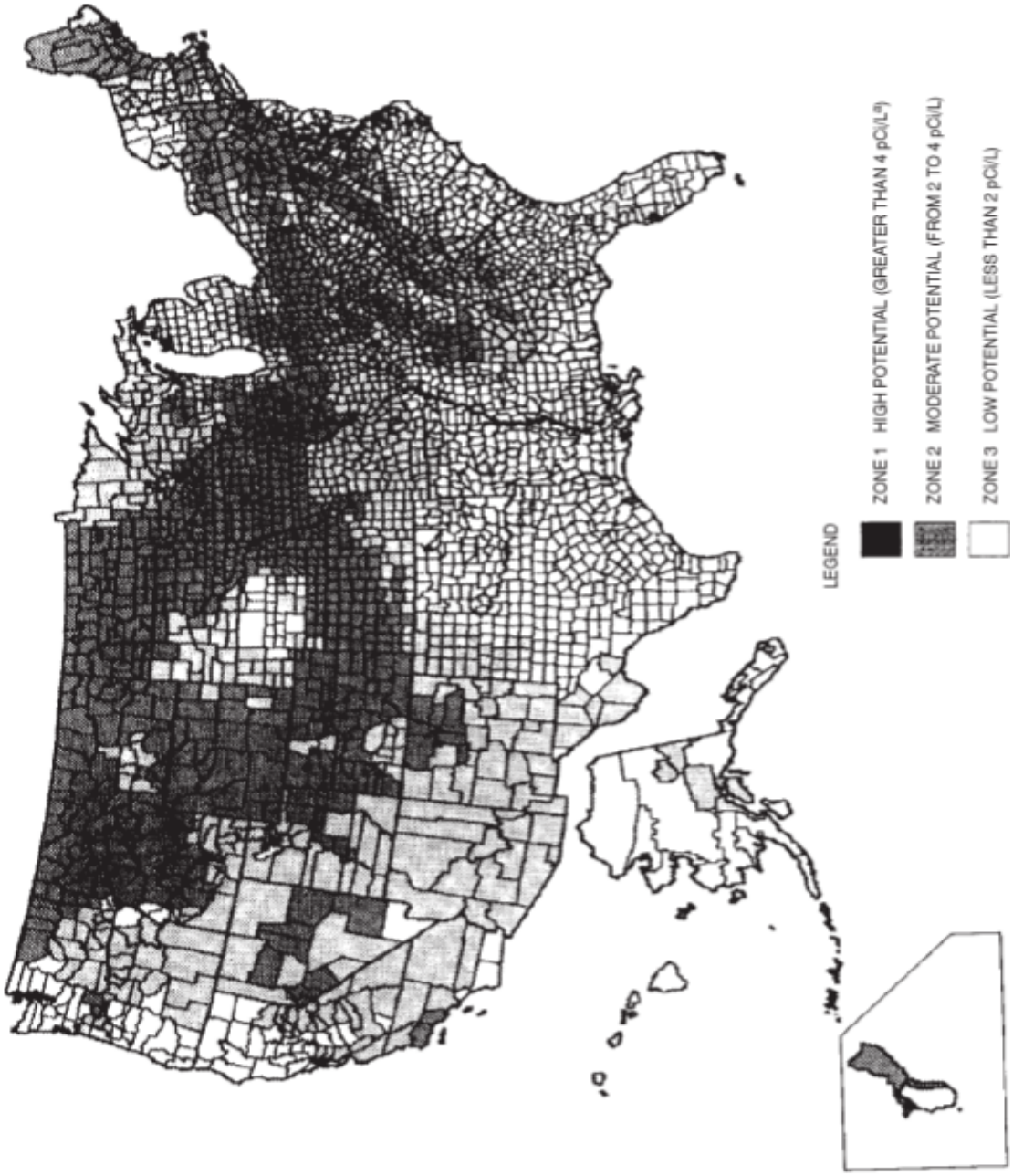


Table 425.1
List of Counties with High Radon Potential (Zone 1)

ALABAMA
Calhoun
Clay
Cleburne
Colbert
Coosa
Franklin
Jackson
Lauderdale
Lawrence
Limestone
Madison
Morgan
Talladega

CALIFORNIA
Santa Barbara
Ventura

COLORADO
Adams
Arapahoe
Baca
Bent
Boulder
Chaffee
Cheyenne
Clear Creek
Crowley
Custer
Delta
Denver
Dolores
Douglas
El Paso
Elbert
Fremont
Garfield
Gilpin
Grand
Gunnison
Huerfano
Jackson
Jefferson
Kiowa
Kit Carson
Lake
Larimer
Las Animas
Lincoln
Logan
Mesa
Moffat
Montezuma
Montrose
Morgan
Otero
Ouray
Park
Phillips
Pitkin
Prowers
Pueblo
Rio Blanco
San Miguel
Summit
Teller
Washington
Weld
Yuma

CONNECTICUT
Fairfield
Middlesex
New Haven
New London

GEORGIA
Cobb
De Kalb
Fulton
Gwinnett

IDAHO
Benewah
Blaine
Boise
Bonner
Boundary
Butte
Camas
Clark
Clearwater
Custer
Elmore
Fremont
Gooding
Idaho
Kootenai
Latah
Lemhi
Shoshone
Valley

ILLINOIS
Adams
Boone
Brown
Bueau
Calhoun
Carroll
Cass
Champaign
Coles
De Kalb
De Witt
Douglas
Edgar
Ford
Fulton
Greene
Grundy
Hancock
Henderson
Henry
Iroquois
Jerse
Jo Daviess
Kane
Kendall
Knox
La Salle
Lee
Livingston
Logan
Macon
Marshall
Mason
McDonough
McLean
Menard
Mercer
Morgan
Moultrie
Ogle
Peoria
Piatt
Pike
Putnam
Rock Island
Sangamon
Schuyler
Scott
Stark
Stephenson
Tazewell
Vermilion
Warren
Whiteside
Winnebago
Woodford

INDIANA
Adams
Allen
Bartholomew
Benton
Blackford
Boone
Carroll
Cass
Clark
Clinton
De Kalb
Decatur
Delaware
Elkhart
Fayette
Fountain
Fulton
Grant
Hamilton
Hancock
Harrison
Hendricks
Henry
Howard
Huntington
Jay
Jennings
Johnson
Kosciusko
Lagrange
Lawrence
Madison
Marion
Marshall
Miami
Monroe
Montgomery
Noble
Orange
Putnam
Randolph
Rush
Scott
Shelby
Steuben
St. Joseph
Tippecanoe
Tipton
Union
Vermillion
Wabash
Warren
Washington
Wayne
Wells
White
Whitley

IOWA
All Counties

KANSAS
Atchison
Barton
Brown
Cheyenne
Clay
Cloud
Decatur
Dickinson
Douglas
Ellis
Ellsworth
Finney
Ford
Geary
Gove
Graham
Grant
Gray
Greeley
Hamilton
Haskell
Hodgeman
Jackson
Jewell
Johnson
Keary
Kingman
Kiowa
Lane
Leavenworth
Lincoln
Logan
Marion
Marshall
McPherson
Meade
Mitchell
Nemaha
Ness
Norton
Osborne
Ottawa
Pawnee
Phillips
Pottawatomie
Pratt
Rawlins
Republic
Rice
Riley
Rooks
Rush
Russell
Saline
Scott
Sheridan
Sherman
Smith
Stanton
Thomas
Trego
Wallace
Washington
Wichita
Wyandotte

KENTUCKY
Adair
Allen
Barren
Bourbon
Boyle
Bullitt
Casey
Clark
Cumberland
Fayette
Franklin
Green
Harrison
Hart
Jefferson
Jessamine
Lincoln
Marion
Mercer
Metcalfe
Monroe
Nelson
Pendleton
Pulaski
Robertson
Russell
Scott
Taylor
Warren
Woodford

MAINE
Androscoggin
Aroostook
Cumberland
Franklin
Hancock
Kennebec
Lincoln
Oxford
Penobscot
Piscataquis
Somerset
York

MARYLAND
Baltimore
Calvert
Carroll
Frederick
Harford
Howard
Montgomery
Washington

MASS.
Essex
Middlesex
Worcester

MICHIGAN
Branch
Calhoun
Cass
Hillsdale
Jackson
Kalamazoo
Lenawee
St. Joseph
Washtenaw

MINNESOTA
Becker
Big Stone
Blue Earth
Brown
Carver
Chippewa
Clay
Cottonwood
Dakota
Dodge
Douglas
Faribault
Fillmore
Freeborn
Goodhue
Grant
Hennepin
Houston
Hubbard
Jackson
Kanabec
Kandiyohi
Kittson
Lac Qui Parle
Le Sueur
Lincoln
Lyon
Mahnomen
Marshall
Martin
McLeod
Meeker
Mower
Murray
Nicollet
Nobles
Norman
Olmsted
Otter Tail
Pennington
Pipestone
Polk
Pope
Ramsey
Red Lake
Redwood
Renville
Rice
Rock
Roseau
Scott
Sherburne
Sibley
Stearns
Steele
Stevens
Swift
Todd
Traverse
Wabasha
Wadena
Waseca
Washington
Watonwan
Wilkin
Winona
Wright
Yellow Medicine

MISSOURI
Andrew
Atchison
Buchanan
Cass
Clay
Clinton
Holt
Iron
Jackson
Nodaway
Platte

MONTANA
Beaverhead
Big Horn
Blaine
Broadwater
Carbon
Carter
Cascade
Chouteau
Custer
Daniels
Dawson
Deer Lodge
Fallon
Fergus
Flathead
Gallatin
Garfield
Glacier
Granite
Hill
Jefferson
Judith Basin
Lake
Lewis and Clark
Liberty
Lincoln
Madison
McCone
Meagher
Mineral
Missoula
Park
Phillips
Pondera
Powder River
Powell
Prairie
Ravalli
Richland
Roosevelt
Rosebud
Sanders
Sheridan
Silver Bow
Stillwater
Teton
Toole
Valley
Wibaux

Table 425.1 (continued)
List of US Counties with High Radon Potential (Zone 1)

Yellowstone National Park

NEBRASKA
Adams
Boone
Boyd
Burt
Butler
Cass
Cedar
Clay
Colfax
Cuming
Dakota
Dixon
Dodge
Douglas
Fillmore
Franklin
Frontier
Furnas
Gage
Gosper
Greeley
Hamilton
Harlan
Hayes
Hitchcock
Hurston
Jefferson
Johnson
Kearney
Knox
Lancaster
Madison
Nance
Nemaha
Nuckolls
Otoe
Pawnee
Phelps
Pierce
Platte
Polk
Red Willow
Richardson
Saline
Sarpy
Saunders
Seward
Stanton
Thayer
Washington
Wayne
Webster
York

NEVADA
Carson City
Douglas
Eureka
Lander
Lincoln
Lyon
Mineral
Pershing
White Pine

NEW HAMPSHIRE
Carroll

NEW JERSEY
Hunterdon
Mercer
Monmouth
Morris
Somerset
Sussex
Warren

NEW MEXICO
Bernalillo
Colfax
Mora
Rio Arriba
San Miguel
Santa Fe
Taos

NEW YORK
Albany
Allegany
Broome
Cattaraugus
Cayuga
Chautauqua
Chemung
Chenango
Columbia
Cortland
Delaware
Dutchess
Erie
Genesee
Greene
Livingston
Madison
Onondaga
Ontario
Orange
Otsego
Putnam
Rensselaer
Schoharie
Schuyler
Seneca
Steuben
Sullivan
Tioga
Tompkins
Ulster
Washington
Wyoming
Yates

N. CAROLINA
Alleghany
Buncombe
Cherokee
Henderson
Mitchell
Rockingham
Transylvania
Watauga

N. DAKOTA
All Counties

OHIO
Adams
Allen
Ashland
Auglaize
Belmont
Butler
Carroll
Champaign
Clark
Clinton
Columbiana
Coshocton
Crawford
Darke
Delaware
Fairfield
Fayette
Franklin
Greene
Guernsey
Hamilton
Hancock
Hardin
Harrison
Holmes
Huron
Jefferson
Knox
Licking
Logan
Madison
Marion
Mercer
Miami
Montgomery
Morrow
Muskingum
Perry
Pickaway
Pike
Preble
Richland
Ross
Seneca
Shelby
Stark
Summit
Tuscarawas
Union
Van Wert
Warren
Wayne
Wyandot

PENNSYLVANIA
Adams
Allegheny
Armstrong
Beaver
Bedford
Berks
Blair
Bradford
Bucks
Butler
Cameron
Carbon
Centre
Chester
Clarion
Clearfield
Clinton
Columbia
Cumberland
Dauphin
Delaware
Franklin
Fulton
Huntingdon
Indiana
Juniata
Lackawanna
Lancaster
Lebanon
Lehigh
Luzerne
Lycoming
Mifflin
Monroe
Montgomery
Montour
Northampton
Northumberland
Perry
Schuylkill
Snyder
Sullivan
Susquehanna
Tioga
Union
Venango
Westmoreland
Wyoming
York

RHODE ISLAND
Kent
Washington

S. CAROLINA
Greenville

S. DAKOTA
Aurora
Beadle
Bon Homme
Brookings
Brown
Brule
Buffalo
Campbell
Charles Mix
Clark
Clay
Codington
Corson
Davison
Day
Deuel
Douglas
Edmunds
Faulk
Grant
Hamlin
Hand
Hanson
Hughes
Hutchinson
Hyde
Jerauld
Kingsbury
Lake
Lincoln
Lyman
Marshall
McCook
McPherson
Miner
Minnehaha
Moody
Perkins
Potter
Roberts
Sanborn
Spink
Stanley
Sully
Turner
Union
Walworth
Yankton

TENNESSEE
Anderson
Bedford
Blount
Bradley
Claiborne
Davidson
Giles
Grainger
Greene
Hamblen
Hancock
Hawkins
Hickman
Humphreys
Jackson
Jefferson
Knox
Lawrence
Lewis
Lincoln
Loudon
Marshall
Maury
McMinn
Meigs
Monroe
Moore
Perry
Roane
Rutherford
Smith
Sullivan
Trousdale
Union
Washington
Wayne
Williamson
Wilson

UTAH
Carbon
Duchesne
Grand
Piute
Sanpete
Sevier
Uintah

VIRGINIA
Alleghany
Amelia
Appomattox
Augusta
Bath
Bland
Botetourt
Bristol
Brunswick
Buckingham
Buena Vista
Campbell
Chesterfield
Clarke
Clifton Forge
Covington
Craig
Cumberland
Danville
Dinwiddie
Fairfax
Falls Church
Fluvanna
Frederick
Fredericksburg
Giles
Goochland
Harrisonburg
Henry
Highland
Lee
Lexington
Louisa
Martinsville
Montgomery
Nottoway
Orange
Page
Patrick
Pittsylvania
Powhatan
Pulaski
Radford
Roanoke
Rockbridge
Rockingham
Russell
Salem
Scott
Shenandoah
Smyth
Spotsylvania
Stafford
Staunton
Tazewell
Warren
Washington
Waynesboro
Winchester
Wythe

WASHINGTON
Clark
Ferry
Okanogan
Pend Oreille
Skamania
Spokane
Stevens

W. VIRGINIA
Berkeley
Brooke
Grant
Greenbrier
Hampshire
Hancock
Hardy
Jefferson
Marshall
Mercer
Mineral
Monongalia
Monroe
Morgan
Ohio
Pendleton
Pocahontas
Preston
Summers
Wetzel

WISCONSIN
Buffalo
Crawford
Dane
Dodge
Door
Fond du Lac
Grant
Green
Green Lake
Iowa
Jefferson
Lafayette
Langlade
Marathon
Menominee
Pepin
Pierce
Portage
Richland
Rock
Shawano
St. Croix
Vernon
Walworth
Washington
Waukesha
Waupaca
Wood

WYOMING
Albany
Big Horn
Campbell
Carbon
Converse
Crook
Fremont
Goshen
Hot Springs
Johnson
Laramie
Lincoln
Natrona
Niobrara
Park
Sheridan
Sublette
Sweetwater
Teton
Uinta
Washakie

Commenter's Reason: This modification is presented as a substitute for this code change proposal. It is not entirely new, rather it is the original with several modifications. It is more readily understood without strikethrough. The proposed language addresses the IBC Committee's reasons for declining the proposal as follows:

(1) "There was still concern on the need for such provisions, and it was felt that perhaps an appendix would be a better location for the requirements." Response: This extremely modest approach to reduce radon exposure risk in only buildings in the highest risk localities belongs in the body of the code. Radon is a life, safety issue and is responsible for 21,000 lung cancer deaths each year. The public deserves radon protection in high risk areas.

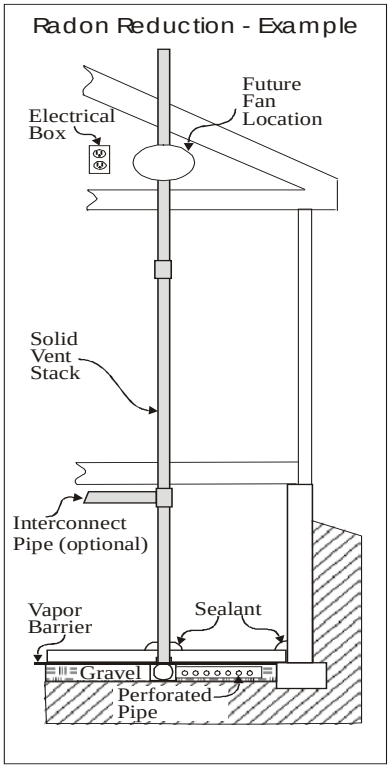
(2) "The map should be placed within the provisions versus simply referencing the IRC." Response: The EPA Radon Map and county list are included in the proposal as modified, and we have added a provision allowing the code official to approve the use of state and local data to supersede the older EPA information.

(3) "The presentation of the requirements could be simplified." Response: The requirements have gone through extensive editing and review to deliver this modified version. Text has been converted to code language and ambiguous terminology has been deleted. The section on sealing has been streamlined. The most complex section pertaining to piping has been broken down into distinct elements such as pipe dimensions, pipe support, coverage areas, interconnected coverage areas, and suction points.

During the IBC hearing, arguments were raised that are addressed briefly here:

- *Data is old:* The earth is old and progeny of radium have been finding their way into structures for a long time. The EPA maps from 1993 have withstood the test of time in the sense that they have provided a solid baseline of information for counties. New York, New Jersey, Nebraska, and other states collected additional data that have identified additional high risk counties beyond those that the EPA maps indicate. Some have compiled radon data below the county level to the zip code and municipal levels. This comment adds a provision to permit approval of the use of state and local data to supersede the EPA map and list.
- *Building tightness:* As buildings have become more tight to improve energy efficiency, the risk of radon entry into the building has grown.
- *Relation to other sections of the code:* These provisions complement but do not conflict with other segments of the building code.
- *Multiple proposals for different occupancies:* The proposals for G99 and G100, as revised by the comments, are the same. They could be combined in a single new section 425 covering both occupancies.

For reference, the figure below shows an example of how the radon-reducing features are installed.



G99-12

Final Action: AS AM AMPC____ D

G100-12
425 (New), Chapter 35

Proposed Change as Submitted

Proponent: Jane Malone, National Center for Healthy Housing (jmalone@nchh.org)

Add new text as follows:

SECTION 425
RADON REDUCING CONSTRUCTION FEATURES FOR GROUP R-2 OCCUPANCIES.

425.1. General. Group R-2 Occupancies shall comply with the provisions of this section if the building is located in an area of High (Zone 1) Radon Potential as determined by Figure AF101 of Appendix F of the *International Residential Code*.

Exception. Buildings complying with Chapter 2 of EPA 625-R-92-016.

425.2. Radon Reducing Construction Features. Buildings shall be equipped with radon reducing features in accordance with Sections 425.2.1 through 425.2.12.

425.2.1 Vapor Barrier. A continuous vapor barrier meeting ASTM E1745 Class A, B or C, with any seams overlapped not less than 12 inches (305 mm) and sealed, shall be installed under the slab in basement and slab-on-grade construction and on the soil in crawl space construction.

425.2.2 Base Course. Floors of basements and slab on grade construction shall be placed over a stone base course, not less than 4 inches (102 mm) in thickness. The stone base course shall have a void ratio of not less than 35 percent, or Size Number 4, 5 or 6 shall be used and shall meet the specifications of ASTM C33.

425.2.3 Solid Vent Pipe. Solid vent pipe shall be installed as follows:

1. Basement slabs with interior foundation pipe drains installed shall have solid 6 inch (153 mm) minimum diameter vent pipe sections installed in conjunction with this drainage system. One independent vent stack pipe shall be installed for every contiguous 15,000 square feet (1392 sq. m), or portion thereof, of slab area, terminating at an approved location, as prescribed in 425.2.9, on the exterior of the building. Basement slabs with French drains or channel drains shall not be allowed unless interior foundation pipe drains as described in this section are installed.
2. Basement slabs which do not have an interior foundation pipe drain, and slab on grade construction (excluding non-habitable spaces such as garages), shall be provided with one 6 inch (153 mm) minimum diameter solid vent pipe section with a "T" pipe fitting or equivalent for every contiguous 15,000 square feet (1392 sq. m), or portion thereof, of slab area, with this vent pipe section to be installed into the sub-slab aggregate. Each of the horizontal openings of the "T" pipe fitting shall be connected to a minimum of 10 feet (3 m) of 6 inch (153 mm) diameter perforated pipe or equivalent area soil gas collection plenum and placed in the sub-slab aggregate. The vertical portion of the "T" pipe fitting shall be connected to an independent solid vent stack pipe terminating at an approved location, as prescribed in 425.2.9, on the exterior of the building. Where more than one vent pipe section is provided, interconnection of these sections into a single independent vent stack is permitted for coverage up to a total area of 15,000 square feet (1392 sq. m) to permit use of a single in-line vent pipe fan if activation of the system is desired.
3. Crawl spaces shall be provided with one 6 inch (153 mm) minimum diameter solid vent pipe section with a "T" pipe fitting or equivalent for every contiguous 15,000 square feet (1392 sq. m), or portion thereof, of crawl space area. Each of the horizontal openings of the "T" pipe fitting shall

be connected to a minimum of 10 feet (3 m) of 6 inch (153 mm) diameter perforated pipe or equivalent area soil gas collection plenum and installed upon the soil. The vertical portion of the "T" pipe fitting shall be connected to an independent solid vent pipe terminating at an approved location on the exterior of the building.

4. In combination basement/crawl space or slab-on-grade/crawl space buildings, a 6 inch (153 mm) minimum diameter solid vent pipe may be provided between the areas and interconnected into the independent vent stack, for coverage up to a total area of 15,000 square feet (1392 sq. m) to permit use of a single in-line vent pipe fan if activation of the system is desired. Slabs areas divided by internal footings may be joined with piping into a single independent vent stack for coverage up to a total area of 15,000 square feet (1392 sq. m).

425.2.4 Joint and Penetration Sealing. Joints in foundation walls and floors, including, without limitation, control joints between slab sections poured separately, and between foundation wall and floor (except for French drains or channel drains), as well as all other openings and penetrations of the foundation walls and floor including, but not limited to, utility penetrations, shall be substantially sealed by utilizing a caulk complying with ASTM C920 class 25 or greater, in order to close off the soil gas entry routes. Prior to sealing, backer rods shall be used to fill gaps greater than one inch. Any openings or penetrations of the floor over the crawl space shall be substantially sealed in order to close off the soil gas entry routes.

425.2.5 Floor drains. Floor drains shall substantially close off the soil gas entry routes with a water-seal trap or other mechanical means.

425.2.6 Sump Cover. A sump cover which substantially closes off the soil gas entry routes shall be provided for all sump installations. Sump covers shall not be used as a vent pipe location.

425.2.7 Sealing. The following measures shall be provided:

1. No ductwork for supply or return air shall be routed through a crawl space or beneath a slab. Where ductwork passes through or beneath a slab, all openings and joints shall be seamless or properly taped or sealed water-tight.
2. Sealant materials that substantially close off the soil gas entry routes shall be installed on any doors or other openings between basements and adjoining crawl spaces that are vented to the exterior.
3. The tops of foundation walls, including, without limitation, interior ledges, that are constructed of hollow masonry units shall be capped or the voids shall be completely filled.
4. The vapor barrier in a crawlspace shall turn up onto the foundation walls not less than 12 inches (153 mm) and shall be sealed to the wall with a caulk complying with ASTM C920 class 25 or higher or equivalent method.

425.2.8 Vent Stack Installation. The independent vent stack pipe provided in accordance with this section shall be an adequately supported, gas tight, 6 inch (153 mm) minimum diameter solid pipe, through any enclosed portions of the building. The pipe shall be routed in a manner that makes it accessible for the installation of a future in-line vent pipe fan in a non-conditioned (not heated or cooled) space excluding a basement or crawl space, and installed in a configuration, and supported in a manner, that will ensure that rain water or condensate accumulation within the pipes will drain downward into the ground beneath the slab or vapor barrier.

425.2.9 Vent Stack Termination. The vent stack pipe shall meet the following termination requirements:

1. Vent pipes shall terminate at least 24 inches (610 mm) above the roof, measured from the highest point where the vent intersects the roof. When a vent pipe extension terminates on an occupiable roof the vent pipe shall extend at least 10 feet (3 m) above the roof surface.

   Exception: Buildings more than three stories in height shall be allowed to extend vent pipe terminals through a wall provided that the termination is at least 20 feet (6 m) above grade and is effectively screened.

2. No vent terminal shall be located directly beneath any door, window, or other ventilating opening into the conditioned space of the building or of an adjacent building nor shall any such vent terminal be within 25 feet (7620 mm) horizontally of such an opening unless it is at least 2 feet (610 mm) above the top of such opening.
3. No vent terminal shall be closer than 25 feet (7620 mm) horizontally from any lot line.

425.2.10 Labeling. Radon vent pipes shall be identifiable and clearly labeled as a radon reduction system at intervals of at least every 10 feet (7620 mm) and at least once in every room or space. The radon reduction system label of any section of vent pipe above the roof shall caution against placement of air intake valves within 10 feet (7620 mm) of the vent pipe discharge.

425.2.11 Electrical Connection for Fan. A dedicated electrical branch circuit terminating in an electrical box shall be installed proximate to each vent stack where a future in-line vent pipe fan and system failure alarms may be installed.

425.2.12 Air Passages. In order to reduce stack effect, air passages that penetrate the conditioned envelope of the building, such as openings installed in top-floor ceilings, shall be closed, gasketed or otherwise sealed with materials approved for such applications.

Add new standard to Chapter 35 as follows:

ASTM
ASTM E 1745-11 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

US EPA Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

EPA 625-R-92-016-1994 Radon Prevention in the Design and Construction of Schools and Other Large Buildings.

Reason: The purpose of this requirement is to protect occupants from deadly exposure to radon gas in the multifamily residential environment. This proposed change will reduce radon exposure risk for occupants of multifamily residential buildings that are constructed in known areas[1] of high radon potential.

In the current ICC family of codes, provision for radon control, commonly known as radon-resistant new construction, is contained only in the optional Appendix F for the International Residential Code. We intend to propose changes to the IRC in 2013 to require radon resistant new construction in the next code change cycle.

Epidemiological studies confirm that radon increases the risk of lung cancer in the general population. Radon is the second leading cause of lung cancer – second only to smoking – and more significant than secondhand smoke. In the US alone, 21,000 lung cancer deaths each year are caused by radon exposure. [2] The World Health Organization estimates that between 3% and 14% of all lung cancer cases worldwide are caused by radon exposure. [3] The Surgeon General of the United States issued a Health Advisory in 2005 warning Americans about the health risk from exposure to radon in indoor air. Dr. Richard Carmona, the Nation's Chief Physician, urged Americans find out how much radon they might be breathing. Dr. Carmona also stressed the need to remedy the problem as soon as possible when the radon level is 4 pCi/L or more.

Radon is a colorless and odorless gas that is a decay product of uranium and occurs naturally in soil and rock. The main source of high-level radon pollution in buildings is surrounding uranium-containing soil such as granite, shale, phosphate and pitchblende. Radon enters a building through cracks in walls, basement floors, foundations and other openings. There is no known threshold concentration below which radon exposure presents no risk. Even low concentrations of radon can result in a small increase in the risk of lung cancer. EPA recommends that all homes and schools be tested for radon. EPA recommends mitigation if radon is above 4 pCi/L (equivalent to EPA Radon Zone 1) and consideration of mitigation if radon is 2-4 pCi/L (equivalent to Zone 2). [4] In 2009, the World Health Organization released a report indicating that 100 Bq/m^3or 2.7 pCi/L should be the reference level for radon.[5]

This proposal consists of the subchapter 10 "Radon Hazard Sub-code of the New Jersey Uniform Construction Code" – which applies to all residential and educational uses – combined with revisions consistent with provisions that were accepted for the IGCC 2012. These provisions improve upon the New Jersey standard by improving the cost-efficiency and effectiveness of this existing radon standard.

[1] "Zone Maps," US EPA, http://www.epa.gov/radon/zonemap.html
[2] "Health Risks," US EPA, http://www.epa.gov/radon/healthrisks.html
[3] "Radon and Cancer," World Health Organization, http://www.who.int/mediacentre/factsheets/fs291/en/index.html

[4] "Health Risks," US EPA, http://www.epa.gov/radon/healthrisks.html
[5] "WHO Handbook on Radon," http://www.who.int/entity/ionizing_radiation/env/9789241547673/en/index.html

Referenced Standards - New
ASTM E 1745 (attached)

Referenced Standards – Existing
ASTM C 33
ASTM C 920

Cost Impact: This code change will increase the cost of construction. This change will also save lives.

Analysis: A review of the standard proposed for inclusion in the code, ASTM E 1745 and EPA 625-R-92-016 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2012.

425 (NEW) #2-G-MALONE

Public Hearing Results

For staff analysis of the content of ASTM E1745-11 and US EPA 625-R-92-016-1994 relative to CP#28, Section 3.6, please visit: http://www.iccsafe.org:8888/cs/codes/Documents/2012-13cycle/Proposed-A/00a_updates.pdf

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the action taken in G99-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jane Malone, National Center for Healthy Housing requests Approval as Modified by this Public Comment.

Replace proposal asfollows:

SECTION 425
RADON REDUCING CONSTRUCTION FEATURES FOR GROUP R-2 OCCUPANCIES.

425.1 General. Buildings containing Group R-2 Occupancies shall comply with the provisions of this section where the building is located in a Zone 1 radon potential area as determined by Figure 425.1 and Table 425.1.

> **Exception:** Where approved, radon zone designations or maps adopted by a state agency shall supersede Figure 425.1 and Table 425.1.

425.2 Radon reducing construction features. Buildings, including garages below occupiable space, shall be equipped with radon reducing features in accordance with Sections 425.2.1 through 425.2.6.

425.2.1 Gravel. A layer of clean aggregate that meets the specifications of Size Number 4, 5, 56, or 6 of ASTM C33 shall be installed below the foundation slab. The depth of gravel shall be not less than the diameter of the pipe provided in accordance with Section 425.2.3.

425.2.2 Vapor retarder. A continuous vapor retarder of Class A, B or C complying with ASTM E1745 shall be installed under the slab in basement, crawl space slab, and slab-on-grade construction, and over the soil in crawl space construction. Seams of the vapor retarder shall be overlapped not less than 12 inches (305 mm). Seams shall be sealed with a caulk of not less than Class 25 complying with ASTM C920, or by tape specified by the vapor retarder manufacturer's instructions. The vapor retarder in a crawl space shall turn up onto the foundation walls not less than 12 inches (153 mm) and shall be continuously sealed to the wall with a caulk of not less than Class 25 complying with ASTM C920. Openings or penetrations in the retarder shall be sealed.

425.2.3 Vent stack pipe. A solid, rigid, gas tight, non-perforated, ABS or PVC vent stack pipe shall be installed in a continuous vertical stack, from the tee pipe fitting for each suction point in accordance with Section 425.2.3.6 within the interior of the building,

to the termination point installed in accordance with Section 425.2.6. The vent stack pipe shall be without dips or sags and shall slope upward toward the vent or chimney at least 1/8 inch per foot (21 mm per 305 mm).

425.2.3.1 Pipe dimensions. Vent stack pipe shall be not less than 4 inches (102 mm) nominal inside diameter. Pipe wall thickness shall be Schedule 40.

425.2.3.2 Pipe joints. The joint surfaces for ABS or PVC pipe shall be prepared with a primer and solvent welded in accordance with the pipe manufacturer's instructions.

425.2.3.3 Pipe support. Above ground piping shall be supported by the structure of the building in accordance with the International Plumbing Code.

425.2.3.4 Coverage area. Where 4-inch (102 mm) nominal inside diameter pipe is used, not less than one independent vent stack shall be installed for vent coverage for each 5,000 square feet (464 m^2) area of slab or crawlspace. Where 6-inch (152 mm) nominal inside diameter pipe is used, not less than one independent vent stack shall be installed for each 15,000 square feet (1,392 m^2) area of slab or crawlspace.

425.2.3.5 Interconnected coverage areas. Where a 4-inch (102 mm) nominal inside diameter solid piping located above the slab ~~that~~ interconnects the pipes from separate areas in combination basement and crawl space buildings, separate areas in combination slab-on-grade and crawl space buildings, or separate areas under slabs divided by internal footings, the coverage area shall not be greater than 5,000 square feet (464 m^2). Where a 4-inch (102 mm) nominal inside diameter perforated piping interconnects areas separated by interior footings in a pipe loop located along the perimeter of the foundation under the slab, the coverage area shall not be greater than 5,000 square feet (464 m^2). Where 6-inch (152 mm) nominal inside diameter pipe is used, the piping shall serve a total coverage area not greater than 15,000 square feet (1,392 m^2).

425.2.3.6 Suction point. A suction point consisting of a tee pipe fitting or saddle fitting shall be installed o connect horizontal piping below the structure and an independent solid vent stack in accordance with sections 425.3.6.1 through 425.3.6.3.

425.2.3.6.1. Suction points in basement slabs, crawl space slabs and slab on grade foundations. For basement slab, crawl space slab and slab on grade foundations, a tee pipe fitting or saddle fitting shall be installed in the sub-slab aggregate for each coverage area. Each of the horizontal openings of the tee pipe fitting or saddle fitting shall be connected to not less than 10 feet (?? mm) of perforated pipe having not less than 1 square inch (645 mm^2) of opening for each lineal foot of pipe. The perforated pipe shall be covered by the sub-slab aggregate. The vertical portion of the tee pipe fitting or saddle fitting shall be connected to an independent solid vent stack.

425.2.3.6.2 Suction points in crawl spaces with soil floors. Crawl spaces with soil floors shall be provided with a tee pipe fitting or saddle fitting for each coverage area. Each of the horizontal openings of the tee pipe fitting or saddle fitting shall be connected to not less than 10 feet (3048 mm) of perforated pipe having not less than 1 square inch (645 mm^2) of opening for each lineal foot of pipe. The perforated pipe shall be installed on top of the soil. The vertical portion of the tee pipe fitting or saddle fitting shall be connected to an independent solid vent stack.

425.2.3.6.3 Sump cover. A sump cover shall not be used as a suction point location**.**

425.2.3.7 Vent stack termination. The independent vent stack pipe shall discharge outside of the building and be installed in accordance with Sections 426.2.3.7.1 and 425.2.3.7.2.

425.2.3.7.1 Rooftop termination. Vent stack pipes shall terminate at least not less than 2 feet (610 mm) above the roof surface, measured from the highest point where the pipe intersects the roof surface. Where a vent stack pipe terminates on an occupiable roof, the pipe shall extend at least not less than 10 feet (3048 mm) above the roof surface.

> **Exception:** In a building more than three stories in height, the vent stack pipe shall not be required to terminate above the roof surface provided that it terminates through an exterior wall at a point at least not less than 20 feet (6096 mm) above grade and at least not less than 10 feet (3048 mm) in any direction from any operable window, door, or other gravity intake opening into the building.

425.2.3.7.2 Clearance from other buildings and lots. Vent terminals shall not be closer than 25 feet (7620 mm), measured horizontally, from any adjacent building or lot line.

425.2.4. Sealing. Openings and penetrations shall be sealed in accordance with Sections 425.2.4.1 through 452.2.4.5.

425.2.4.1 Foundation walls and floors. Joints, openings and penetrations in foundation walls and floors, that are in contact with the soil shall be sealed by a caulk of not less than Class 25 complying with ASTM C920. Prior to sealing, backer rods shall be used to fill openings greater than ½ inch (12.7 mm) in width.

425.2.4.1.1 Hollow masonry unit walls. The top course of hollow block masonry foundation walls shall be made of solid masonry units or the top course shall be fully grouted. The top course under the full width of door and window openings shall be made of solid masonry units or the hollow masonry units shall be fully grouted. Where a brick veneer or other masonry ledge is installed, the course immediately below the ledge shall be made of solid masonry units or the top course shall be fully grouted. Other penetrations through walls shall be sealed.

425.2.4.2 Floor drains. Floor drains and condensate drains shall not be open to the soil.

425.2.4.3 Sump cover. A solid sump cover, equipped with a seal or gasket, shall be provided for sump installations.

425.2.4.4 Ductwork. Where ductwork passes through a crawl space, or through or beneath a slab, all openings and joints shall be seamless or taped or sealed water-tight.

25.2.4.5. Top floor ceilings. Openings in top-floor ceilings shall be closed, gasketed or otherwise sealed with materials approved for such applications.

425.2.5 Provision for depressurization fan. A section of the vent stack pipe that is located outside of the building or in a non-conditioned space above the basement or crawl space shall be accessible for the future installation of an in-line depressurization fan. Where provided, the fan shall not be mounted in any location where pipe positively pressurized by the fan is located inside of a conditioned or occupiable space.

425.2.5.1 Accessible fan installation location. A space having a vertical height of not less than 48 inches (1220 mm) and a diameter of not less than 21 inches (530 mm) shall be provided in the area designated for a depressurization fan.

425.2.5.2 Electrical connection for fan. An outlet box for an electrical connection, supplied by a branch circuit ,shall be installed within 6 feet (1829 mm) of the area designated for a depressurization fan.

425.2.6 Labeling. Radon vent pipes shall be identifiable and labeled as a component of a radon reduction system at intervals of not less than 10 feet (3048 mm) and not less than once in every room or space. The section of vent pipe above the roof shall have a label that cautions against placement of air intake openings within 10 feet (3048 mm) of the vent pipe discharge.

Add new standard to Chapter 35 as follows:

ASTM
ASTM E 1745-11 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

Figure 425.1 EPA Map of Radon Zones

The United States Environmental Protection Agency and the United States Geological Survey have evaluated the radon potential in the United States and developed this map of radon zones. The map assigns each of the 3,141 counties in the United States to one of three zones based on radon potential. Zone 1 areas have a predicted average indoor radon screening level greater than 4 pCi/L (picocuries per liter). Table 425.1 lists the Zone 1 counties illustrated on the map.

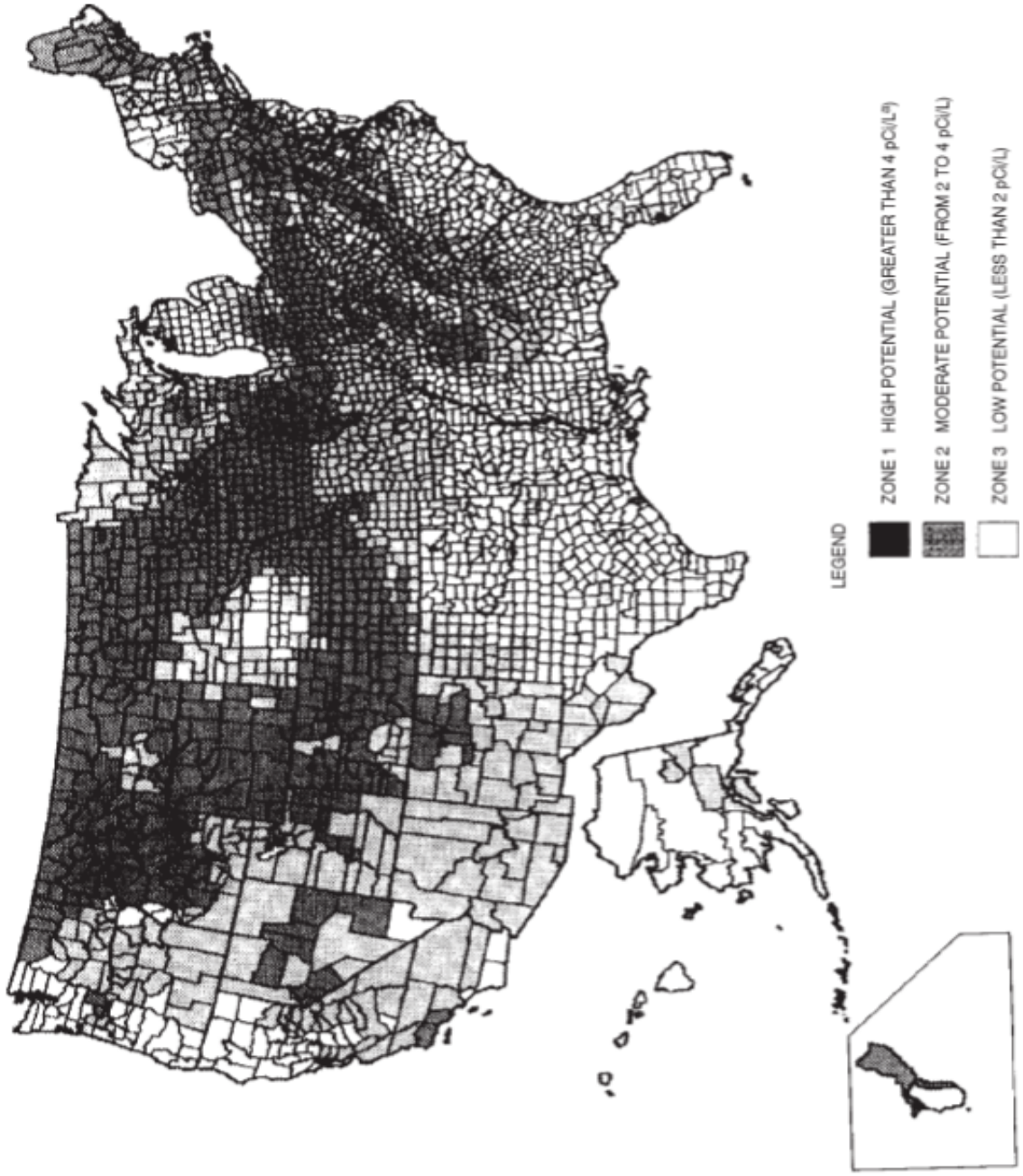


Table 425.1
List of Counties with High Radon Potential (Zone 1)

ALABAMA
Calhoun
Clay
Cleburne
Colbert
Coosa
Franklin
Jackson
Lauderdale
Lawrence
Limestone
Madison
Morgan
Talladega

CALIFORNIA
Santa Barbara
Ventura

COLORADO
Adams
Arapahoe
Baca
Bent
Boulder
Chaffee
Cheyenne
Clear Creek
Crowley
Custer
Delta
Denver
Dolores
Douglas
El Paso
Elbert
Fremont
Garfield
Gilpin
Grand
Gunnison
Huerfano
Jackson
Jefferson
Kiowa
Kit Carson
Lake
Larimer
Las Animas
Lincoln
Logan
Mesa
Moffat
Montezuma
Montrose
Morgan
Otero
Ouray
Park
Phillips
Pitkin
Prowers
Pueblo
Rio Blanco
San Miguel
Summit
Teller
Washington
Weld
Yuma

CONNECTICUT
Fairfield
Middlesex
New Haven
New London

GEORGIA
Cobb
De Kalb
Fulton
Gwinnett

IDAHO
Benewah
Blaine
Boise
Bonner
Boundary
Butte
Camas
Clark
Clearwater
Custer
Elmore
Fremont
Gooding
Idaho
Kootenai
Latah
Lemhi
Shoshone
Valley

ILLINOIS
Adams
Boone
Brown
Bueau
Calhoun
Carroll
Cass
Champaign
Coles
De Kalb
De Witt
Douglas
Edgar
Ford
Fulton
Greene
Grundy
Hancock
Henderson
Henry
Iroquois
Jerse
Jo Daviess
Kane
Kendall
Knox
La Salle
Lee
Livingston
Logan
Macon
Marshall
Mason
McDonough
McLean
Menard
Mercer
Morgan
Moultrie
Ogle
Peoria
Piatt
Pike
Putnam
Rock Island
Sangamon
Schuyler
Scott
Stark
Stephenson
Tazewell
Vermilion
Warren
Whiteside
Winnebago
Woodford

INDIANA
Adams
Allen
Bartholomew
Benton
Blackford
Boone
Carroll
Cass
Clark
Clinton
De Kalb
Decatur
Delaware
Elkhart
Fayette
Fountain
Fulton
Grant
Hamilton
Hancock
Harrison
Hendricks
Henry
Howard
Huntington
Jay
Jennings
Johnson
Kosciusko
Lagrange
Lawrence
Madison
Marion
Marshall
Miami
Monroe
Montgomery
Noble
Orange
Putnam
Randolph
Rush
Scott
Shelby
Steuben
St. Joseph
Tippecanoe
Tipton
Union
Vermillion
Wabash
Warren
Washington
Wayne
Wells
White
Whitley

IOWA
All Counties

KANSAS
Atchison
Barton
Brown
Cheyenne
Clay
Cloud
Decatur
Dickinson
Douglas
Ellis
Ellsworth
Finney
Ford
Geary
Gove
Graham
Grant
Gray
Greeley
Hamilton
Haskell
Hodgeman
Jackson
Jewell
Johnson
Keary
Kingman
Kiowa
Lane
Leavenworth
Lincoln
Logan
Marion
Marshall
McPherson
Meade
Mitchell
Nemaha
Ness
Norton
Osborne
Ottawa
Pawnee
Phillips
Pottawatomie
Pratt
Rawlins
Republic
Rice
Riley
Rooks
Rush
Russell
Saline
Scott
Sheridan
Sherman
Smith
Stanton
Thomas
Trego
Wallace
Washington
Wichita
Wyandotte

KENTUCKY
Adair
Allen
Barren
Bourbon
Boyle
Bullitt
Casey
Clark
Cumberland
Fayette
Franklin
Green
Harrison
Hart
Jefferson
Jessamine
Lincoln
Marion
Mercer
Metcalfe
Monroe
Nelson
Pendleton
Pulaski
Robertson
Russell
Scott
Taylor
Warren
Woodford

MAINE
Androscoggin
Aroostook
Cumberland
Franklin
Hancock
Kennebec
Lincoln
Oxford
Penobscot
Piscataquis
Somerset
York

MARYLAND
Baltimore
Calvert
Carroll
Frederick
Harford
Howard
Montgomery
Washington

MASS.
Essex
Middlesex
Worcester

MICHIGAN
Branch
Calhoun
Cass
Hillsdale
Jackson
Kalamazoo
Lenawee
St. Joseph
Washtenaw

MINNESOTA
Becker
Big Stone
Blue Earth
Brown
Carver
Chippewa
Clay
Cottonwood
Dakota
Dodge
Douglas
Faribault
Fillmore
Freeborn
Goodhue
Grant
Hennepin
Houston
Hubbard
Jackson
Kanabec
Kandiyohi
Kittson
Lac Qui Parle
Le Sueur
Lincoln
Lyon
Mahnomen
Marshall
Martin
McLeod
Meeker
Mower
Murray
Nicollet
Nobles
Norman
Olmsted
Otter Tail
Pennington
Pipestone
Polk
Pope
Ramsey
Red Lake
Redwood
Renville
Rice
Rock
Roseau
Scott
Sherburne
Sibley
Stearns
Steele
Stevens
Swift
Todd
Traverse
Wabasha
Wadena
Waseca
Washington
Watonwan
Wilkin
Winona
Wright
Yellow Medicine

MISSOURI
Andrew
Atchison
Buchanan
Cass
Clay
Clinton
Holt
Iron
Jackson
Nodaway
Platte

MONTANA
Beaverhead
Big Horn
Blaine
Broadwater
Carbon
Carter
Cascade
Chouteau
Custer
Daniels
Dawson
Deer Lodge
Fallon
Fergus
Flathead
Gallatin
Garfield
Glacier
Granite
Hill
Jefferson
Judith Basin
Lake
Lewis and Clark
Liberty
Lincoln
Madison
McCone
Meagher
Mineral
Missoula
Park
Phillips
Pondera
Powder River
Powell
Prairie
Ravalli
Richland
Roosevelt
Rosebud
Sanders
Sheridan
Silver Bow
Stillwater
Teton
Toole
Valley
Wibaux

Table 425.1 (continued)
List of US Counties with High Radon Potential (Zone 1)

Yellowstone National Park

NEBRASKA
Adams
Boone
Boyd
Burt
Butler
Cass
Cedar
Clay
Colfax
Cuming
Dakota
Dixon
Dodge
Douglas
Fillmore
Franklin
Frontier
Furnas
Gage
Gosper
Greeley
Hamilton
Harlan
Hayes
Hitchcock
Hurston
Jefferson
Johnson
Kearney
Knox
Lancaster
Madison
Nance
Nemaha
Nuckolls
Otoe
Pawnee
Phelps
Pierce
Platte
Polk
Red Willow
Richardson
Saline
Sarpy
Saunders
Seward
Stanton
Thayer
Washington
Wayne
Webster
York

NEVADA
Carson City
Douglas
Eureka
Lander
Lincoln
Lyon
Mineral
Pershing
White Pine

NEW HAMPSHIRE
Carroll

NEW JERSEY
Hunterdon
Mercer
Monmouth
Morris
Somerset
Sussex
Warren

NEW MEXICO
Bernalillo
Colfax
Mora
Rio Arriba
San Miguel
Santa Fe
Taos

NEW YORK
Albany
Allegany
Broome
Cattaraugus
Cayuga
Chautauqua
Chemung
Chenango
Columbia
Cortland
Delaware
Dutchess
Erie
Genesee
Greene
Livingston
Madison
Onondaga
Ontario
Orange
Otsego
Putnam
Rensselaer
Schoharie
Schuyler
Seneca
Steuben
Sullivan
Tioga
Tompkins
Ulster
Washington
Wyoming
Yates

N. CAROLINA
Alleghany
Buncombe
Cherokee
Henderson
Mitchell
Rockingham
Transylvania
Watauga

N. DAKOTA
All Counties

OHIO
Adams
Allen
Ashland
Auglaize
Belmont
Butler
Carroll
Champaign
Clark
Clinton
Columbiana
Coshocton
Crawford
Darke
Delaware
Fairfield
Fayette
Franklin
Greene
Guernsey
Hamilton
Hancock
Hardin
Harrison
Holmes
Huron
Jefferson
Knox
Licking
Logan
Madison
Marion
Mercer
Miami
Montgomery
Morrow
Muskingum
Perry
Pickaway
Pike
Preble
Richland
Ross
Seneca
Shelby
Stark
Summit
Tuscarawas
Union
Van Wert
Warren
Wayne
Wyandot

PENNSYLVANIA
Adams
Allegheny
Armstrong
Beaver
Bedford
Berks
Blair
Bradford
Bucks
Butler
Cameron
Carbon
Centre
Chester
Clarion
Clearfield
Clinton
Columbia
Cumberland
Dauphin
Delaware
Franklin
Fulton
Huntingdon
Indiana
Juniata
Lackawanna
Lancaster
Lebanon
Lehigh
Luzerne
Lycoming
Mifflin
Monroe
Montgomery
Montour
Northampton
Northumberland
Perry
Schuylkill
Snyder
Sullivan
Susquehanna
Tioga
Union
Venango
Westmoreland
Wyoming
York

RHODE ISLAND
Kent
Washington

S. CAROLINA
Greenville

S. DAKOTA
Aurora
Beadle
Bon Homme
Brookings
Brown
Brule
Buffalo
Campbell
Charles Mix
Clark
Clay
Codington
Corson
Davison
Day
Deuel
Douglas
Edmunds
Faulk
Grant
Hamlin
Hand
Hanson
Hughes
Hutchinson
Hyde
Jerauld
Kingsbury
Lake
Lincoln
Lyman
Marshall
McCook
McPherson
Miner
Minnehaha
Moody
Perkins
Potter
Roberts
Sanborn
Spink
Stanley
Sully
Turner
Union
Walworth
Yankton

TENNESSEE
Anderson
Bedford
Blount
Bradley
Claiborne
Davidson
Giles
Grainger
Greene
Hamblen
Hancock
Hawkins
Hickman
Humphreys
Jackson
Jefferson
Knox
Lawrence
Lewis
Lincoln
Loudon
Marshall
Maury
McMinn
Meigs
Monroe
Moore
Perry
Roane
Rutherford
Smith
Sullivan
Trousdale
Union
Washington
Wayne
Williamson
Wilson

UTAH
Carbon
Duchesne
Grand
Piute
Sanpete
Sevier
Uintah

VIRGINIA
Alleghany
Amelia
Appomattox
Augusta
Bath
Bland
Botetourt
Bristol
Brunswick
Buckingham
Buena Vista
Campbell
Chesterfield
Clarke
Clifton Forge
Covington
Craig
Cumberland
Danville
Dinwiddie
Fairfax
Falls Church
Fluvanna
Frederick
Fredericksburg
Giles
Goochland
Harrisonburg
Henry
Highland
Lee
Lexington
Louisa
Martinsville
Montgomery
Nottoway
Orange
Page
Patrick
Pittsylvania
Powhatan
Pulaski
Radford
Roanoke
Rockbridge
Rockingham
Russell
Salem
Scott
Shenandoah
Smyth
Spotsylvania
Stafford
Staunton
Tazewell
Warren
Washington
Waynesboro
Winchester
Wythe

WASHINGTON
Clark
Ferry
Okanogan
Pend Oreille
Skamania
Spokane
Stevens

W. VIRGINIA
Berkeley
Brooke
Grant
Greenbrier
Hampshire
Hancock
Hardy
Jefferson
Marshall
Mercer
Mineral
Monongalia
Monroe
Morgan
Ohio
Pendleton
Pocahontas
Preston
Summers
Wetzel

WISCONSIN
Buffalo
Crawford
Dane
Dodge
Door
Fond du Lac
Grant
Green
Green Lake
Iowa
Jefferson
Lafayette
Langlade
Marathon
Menominee
Pepin
Pierce
Portage
Richland
Rock
Shawano
St. Croix
Vernon
Walworth
Washington
Waukesha
Waupaca
Wood

WYOMING
Albany
Big Horn
Campbell
Carbon
Converse
Crook
Fremont
Goshen
Hot Springs
Johnson
Laramie
Lincoln
Natrona
Niobrara
Park
Sheridan
Sublette
Sweetwater
Teton
Uinta
Washakie

Commenter's Reason: This modification is presented as a substitute for this code change proposal. It is not entirely new, rather it is the original with several modifications. It is more readily understood without strikethrough. The proposed language addresses the IBC Committee's reasons for declining the proposal as follows:

(1) "There was still concern on the need for such provisions, and it was felt that perhaps an appendix would be a better location for the requirements." Response: This extremely modest approach to reduce radon exposure risk in only buildings in the highest risk localities belongs in the body of the code. Radon is a life, safety issue and is responsible for 21,000 lung cancer deaths each year. The public deserves radon protection in high risk areas.

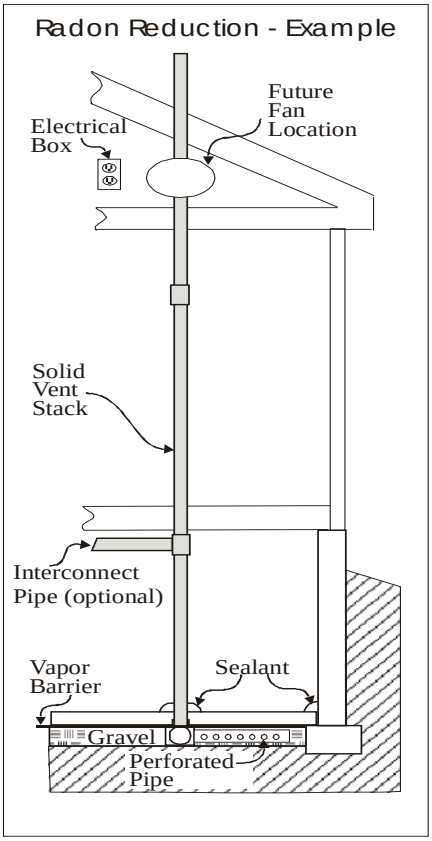
(2) "The map should be placed within the provisions versus simply referencing the IRC." Response: The EPA Radon Map and county list are included in the proposal as modified, and we have added a provision allowing the code official to approve the use of state and local data to supersede the older EPA information.

(3) "The presentation of the requirements could be simplified." Response: The requirements have gone through extensive editing and review to deliver this modified version. Text has been converted to code language and ambiguous terminology has been deleted. The section on sealing has been streamlined. The most complex section pertaining to piping has been broken down into distinct elements such as pipe dimensions, pipe support, coverage areas, interconnected coverage areas, and suction points.

During the IBC hearing, arguments were raised that are addressed briefly here:

- *Data is old:* The earth is old and progeny of radium have been finding their way into structures for a long time. The EPA maps from 1993 have withstood the test of time in the sense that they have provided a solid baseline of information for counties. New York, New Jersey, Nebraska, and other states collected additional data that have identified additional high risk counties beyond those that the EPA maps indicate. Some have compiled radon data below the county level to the zip code and municipal levels. This comment adds a provision to permit approval of the use of state and local data to supersede the EPA map and list.
- *Building tightness:* As buildings have become more tight to improve energy efficiency, the risk of radon entry into the building has grown.
- *Relation to other sections of the code:* These provisions complement but do not conflict with other segments of the building code.
- *Multiple proposals for different occupancies:* The proposals for G99 and G100, as revised by the comments, are the same. They could be combined in a single new section 425 covering both occupancies.

For reference, the figure below shows an example of how the radon-reducing features are installed.



G100-12

Final Action: AS AM AMPC____ D

G103-12
503.1, 706.1

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Revise as follows:

503.1 General. The *building height and area* 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. For the purposes of determining area limitations, height limitations and type of construction, each portion of a building separated by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.

Revise as follows:

706.1 General. For the purposes of determining area limitations, height limitations and type of construction, each portion of a building separated by one or more *fire walls* that comply with the provisions of this section shall be considered a separate building. The extent and location of such *fire walls* shall provide a complete separation. Where a *fire wall* also separates occupancies that are required to be separated by a *fire barrier* wall, the most restrictive requirements of each separation shall apply.

Reason: Consistency and coordination among the International Codes is one of the cornerstones of the ICC Code Development process. The ICC Board established the ICC Building Code Action Committee (BCAC) to act as a forum to deal with complex issues ahead of the Code Development Process, identify emerging issues and draft proposed code changes.
This proposed change is a result of the BCAC's work.

Clarifies the intent of the these sections of the Code that the requirement for a fire wall in Sections 503.1 and 706.1 is predicated on the determination of the maximum allowable height and area calculations under Chapter 5. Using these sections of Code to control other building features or elements such as means of egress, building systems or building utilities is not intended or implied by these sections of the Code. There are no requirements in the I Codes that mandate that the placement of fire walls create a separate building such that its building features need to be separated from other like building features in adjacent buildings.

Cost Impact: The proposed changes will not increase the cost of construction.

503.1-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon concerns on how it would affect the use of fire walls in place of fire barriers. Generally, the concern related to the possible limitations created by the revisions to Section 706.1.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Chuck Bajnai, Chesterfield County, VA, representing ICC Building Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

706.1 General. ~~For the purposes of determining area limitations, height limitations and type of construction,~~ Each portion of a building separated by one or more *fire walls* that comply with the provisions of this section shall be considered a separate building. The extent and location of such *fire walls* shall provide a complete separation. Where a *fire wall* also separates occupancies that are required to be separated by a *fire barrier* wall, the most restrictive requirements of each separation shall apply.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

The revised wording in this public comment is consistent with the requirements of NFPA 221, "Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls", that we referenced in IBC Section 706.2 for the design of double fire walls. NFPA 221 definition of a "fire wall" and its Annex note state:

"3.3.14.6* Fire Wall. A wall separating buildings or subdividing a building to prevent the spread of fire and having a fire resistance rating and structural stability.

This public comment is only intended to clarify the existing code requirements relating to the application of fire walls and no technical changes are intended by this public comment to the existing 2012 IBC.

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

G103-12

Final Action: AS AM AMPC____ D

G104-12
503.1

Proposed Change as Submitted

Proponent: Gene Boecker, Code Consultants, Inc., representing self

Revise as follows:

503.1 General. ~~The~~ Unless otherwise specifically modified in Chapter 4, *building height and area* 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 706 shall be considered to be a separate building.

Reason: Section 503.1 needs to include this provision to make it clear that Chapter 4 also contains height and area requirements which may be more or less restrictive than those in Chapter 5. The problem is that except as a footnote to Table 503, no reference is made in the code to the fact that Chapter 4 contains specific language that modifies the allowable heights and areas for various structures based on their unique conditions. This occurs in 402.4, 403.2, 405.2, 406.5.1, 406.5.5, 406.7.2, 410.3.1, 410.3.2, 410.4, 412.3.1, 412.4.2, 412.4.6, 412.6.2, 415.8.1.1, 415.8.1.6.

Numerous sections of the IBC as well as other codes in the ICC family refer back to the limiting the height and area based on the requirements in Chapter 5 of the IBC. Without this reference, these other sections in Chapter 4 are not tied in; and, the IBC itself is more complete. For example, the IEBC refers to allowing building height and area based on the Chapter 5 but makes no reference to Chapter 4. Essentially, any modification to a covered mall, high-rise building, open parking garage and various High Hazard occupancies could be literally interpreted to require compliance with Table 503, rendering the initial construction noncompliant. This proposal closes a gap 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: Although starting the section with an exception seemed awkward the concept was acceptable based upon the proponents justification. Chapter 4 has various specific allowances and limitations on height and area of special uses.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Gene Boecker, AIA, Code Consultants, Inc (CCI) requests Approved as Modified by this Public Comment.

Modify the proposal as follows:

503.1 General. Unless otherwise specifically modified in Chapters 4 and 5, *building height and area* 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 706 shall be considered to be a separate building.

Commenter's Reason: *Reason:* As proponent of G104-12 it was noted to me that I had left out also referring to IBC Section 510, "Special Provisions", that also contains numerous requirements that differ from the limits in Table 503 and for consistency with the intent of this code proposal should be included in this code proposal. Therefore, to resolve this omission that was certainly not my intent for this code proposal that was intended only to clarify the Code, I am proposing to provide a more general reference in

Section 503.1 to resolve my original concerns. This code comment will not change the code requirements in the Code; it will only provide the code user additional information on how to apply the requirements under Section 503. Numerous modifications take place in Sections 402, 403, 405, 406, 410, 412, 415, 504, 506, 507, 508 and 510. There are 41 locations in all, 20 in Chapter 4 and 21 in Chapter 5. Rather than list all the Sections, this is a reasonable method for addressing the external modifications to the height and area provisions of Section 503.

Public Comment 2:

Marshall A. Klein, P.E., Marshall A. Klein & Associates, Inc., representing National Multi-Housing Council (NMHC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

503.1 General. Unless otherwise specifically modified in Chapter 4 and Section 510, *building height and area* 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 706 shall be considered to be a separate building.

Commenter's Reason: IBC Section 510, "Special Provisions", contains numerous requirements that differ from the limits in Table 503 and for consistency with the intent of this code proposal should be included in this code proposal. This code proposal and this code comment will not change the code requirements in the Code, it will only provide the code user additional information on how to apply the requirements under Section 503.

G104-12

Final Action: AS AM AMPC____ D

G108-12
Table 503

Proposed Change as Submitted

Proponent: Dennis Richardson, P.E., CBO, City of Salinas, Tri-Chapter (Peninsula, East Bay and Monterey Chapters, ICC) (dennisrichardsonpe@yahoo.com)

Revise as follows:

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS[a, b]
Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
Building area limitations shown in square feet, as determined by the definition of "Area, building," per story

Group		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	HEIGHT (feet)	UL	160	65	55	65	55	65	50	40
	STORIES(S) AREA (A)									
R-2	S A	UL UL	11 UL	~~4~~ 5 24,000	4 16,000	4 24,000	4 16,000	4 20,500	~~3~~ 4 12,000	2 7,000

(Portions of table not shown remain unchanged)

Reason: This code change encourages the use of light-frame one hour rated construction for a greater portion of the construction of apartment buildings. Not only is this a sustainable practice reducing greenhouse gas emissions, but by utilizing more light-frame construction for this type of project, costs are reduced making rental housing more viable on difficult urban infill projects. The City of Seattle has utilized a similar code modification for type VA construction for years with excellent safety results. Construction over 4 stories requires the use of an NFPA 13 sprinkler system throughout instead of the NFPA 13R system permitted for projects 4 stories and under. R-2 apartment construction is highly compartmentalized and fully sprinklered one hour construction has an excellent track record. Structural systems and construction methods to allow this type of multi level light frame construction continues to evolve and improve.

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

T503-G-RICHARDSON

Public Hearing Results

The following errata were not posted to the ICC website.

Replace the reason statement as follows:

Reason: This code change encourages the use of light-frame one hour rated construction for a greater portion of the construction of apartment buildings. Not only is this a sustainable practice reducing greenhouse gas emissions, but by utilizing more light-frame construction for this type of project, costs are reduced making rental housing more viable on difficult urban infill projects. The City of Seattle has utilized a similar code modification for type VA construction for years with excellent safety results. Construction over 4 stories requires the use of an NFPA 13 sprinkler system throughout instead of the NFPA 13R system permitted for projects 4 stories and under. R-2 apartment construction is highly compartmentalized and fully sprinklered one hour construction has an excellent track record. Structural systems and construction methods to allow this type of multi level light frame construction continues to evolve and improve.

Currently a type VA, R-2 apartment can be constructed up to 4 stories with an NFPA 13R sprinkler system. This code change would not change that but would allow a type VA R-2 apartment to be constructed up to 5 stories if an NFPA 13 sprinkler system is provided in lieu of the 13R sprinkler system required for 4 stories.

It is important to note this code change would not allow the height of the building to be increased with either change so the volume of the fire compartment would be smaller as more floors could be fit into the same height.

In summary this code change encourages the sustainable practice of utilizing light frame construction on infill projects, results in a smaller fire compartment volume and when a wood frame apartment is increased to 5 stories, this code change requires an upgrade to an NFPA 13 sprinkler system.

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon concern that Group R buildings, where people sleep, should not be afforded the same height as storage occupancies. Additionally, there was concern that this would encourage more wood framed construction. Generally, more substantiation was needed to make this change.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Dennis Richardson, P.E., CBO, City of Salinas, Tri-Chapter (Peninsula, East Bay and Monterey Chapters, ICC) requests Approval as Submitted.

Commenter's Reason: G108-12 as submitted encourages the use of light frame wood and steel construction for infill apartment projects by increasing (by one) the number of stories that can be constructed for Type II A and Type VA construction with the same height limitations. This proposal does not increase the allowed building height!

The maximum # and stories and height is currently: 4 stories and 70 ft. for VA and: 5 stories and 85 ft. for type IIA, both with a NFPA 13 sprinkler system. If the architect is trying to maximize density for an infill project, utilizing light frame construction, within these current limitations there is height for at least three mezzanine levels to be installed in each type of construction.

When trying to maximize density and contrasting maximum build-out under this proposal (with that is allowed by the current code) the architect is could replace one mezzanine level with a story to reach the maximum density keeping the same maximum height. Since this proposal neither changes the height or the total floor area, the individual floor area between fire-walls actually decreases 20% to keep the total floor area the same. Since the total floor area is the same and because there is one less mezzanine and the maximum mezzanine size is smaller, the fire area is smaller between fire walls as are the number of occupants in each 2 hour compartment.

In the maximum build-out in order to get a greener building there is the unintended benefit of a safer building because the number of occupants per one hour compartment is also reduced. Since the height above grade plane for the highest mezzanine remains unchanged and the footprint is smaller between fire walls, the exit access travel distance decreases and the highest occupant in the structure has the same number of stair steps in the two hour stair enclosure. From an engineering standpoint the maximum number of levels (or load) per square foot is no different between the maximum build-out areas with mezzanines.

The only argument heard against this proposal is: "there is a lot of wood"….but actually there is less wood per compartment and no height increase.

In summary: when comparing the maximum build-out before and after this proposal, the maximum height is the same, the individual story area between fire walls is smaller, the maximum fire area is the less, the total combined sum of mezzanine levels and floors is limited by height and is the same, protection of stairs is the same, the exit access travel distance is less, the maximum number of steps the highest occupant must travel down exit stairs is the same, the maximum structural load per square foot is the same, the number of complete one hour compartments in each fire area goes up by one……..by every objective measure this change in the maximum state does not decrease the safety of the building and overall it increases safety….and results in greener construction.

Two examples are attached with a summary of information comparing maximum conditions that may be built under current code with maximum build-out utilizing this proposed code change.

G108-12/13 Maximum build-out example:

Type IIA Apartment, NFPA 13 Sprinkler throughout

Maximum build-out assuming 8. 5' floor to floor dimension and 17' floor to floor at type IA podium floor (IBC section 510.2)

	IIA const on grade		IIA const on podium	
code provision	2012 IBC	w/ G108	2012 IBC	w/G108
number of IIA levels	10	10	8	8
max total height	85'	85'	85'	85'
# IIA stories	5	6	5	6
area per story	14,400 sf	12,000 sf	14,400 sf	12,000 sf
allowable area	72,000 sf	72,000 sf	72,000 sf	72,000 sf
# mezzanines (# of levels - # of stories)	5	4	3	2
area per mezzanine	4,800 sf	4,000 sf	4,800 sf	4,000 sf
total mezzanine area	24,000 sf	16,000 sf	14,400 sf	8,000 sf
total fire area	96,000 sf	88,000 sf	86,400 sf	76,000 sf
total occupants per fire area	480	440	432	380
footprint	14,400	12,000	14,400	12,000
sf per occupant gross	30.0	27.3	33.33	31.6
stairway rating	2 hour	2 hour	2 hour	2 hour
exit access travel *	120 ft	110 ft	120 ft	110 ft
maximum number of stair steps (7" rise)	132	132	132	132

* Exit access travel is assumed to be calculated based on a square floor area with a corridor down the middle and 2 hour fire walls on each end

G108-12/13 Maximum build-out example:

Type VA Apartment, NFPA 13 Sprinkler throughout

Maximum build-out assuming 8. 75' floor to floor dimension and 17.5' floor to floor at type IA podium floor (IBC section 510.2)

	VA const on grade		VA const on podium	
code provision	2012 IBC	w/ G108	2012 IBC	w/G108
number of VA levels	8	8	6	6
max total height	70'	70'	70'	70'
# VA stories	4	5	4	5
area per story	9,000 sf	7,200 sf	9,000 sf	7,200 sf
allowable area	36,000 sf	36,000 sf	36,000 sf	36,000 sf
# mezzanines (# of levels - # of stories)	4	3	2	1
area per mezzanine	3,000 sf	2,400 sf	3,000 sf	2,400 sf
total mezzanine area	12,000 sf	7,200 sf	6,000 sf	2,400 sf
total fire area	48,000 sf	43,200 sf	42,000 sf	38,400 sf
total occupants per fire area	240	216	210	192
footprint	9,000 sf	7,200 sf	9,000 sf	7,200 sf
sf per occupant gross	37.5	33.3	42.9	37.5
stairway rating	2 hour	2 hour	2 hour	2 hour
exit access travel *	95 ft	85 ft	95 ft	85 ft
maximum number of stair steps (7" rise)	105	105	105	105

* Exit access travel is assumed to be calculated based on a square floor area with a corridor down the middle and 2 hour fire walls on each end.

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

Public Comment 2:

Ali Fattah, City of San Diego, representing City of San Diego Development Services Department, requests Approval as Submitted.

Commenter's Reason: This public comment is to urge the membership to vote in support of overturning the General Committee's action of disapproving the code change submitted by the Tri Chapter. We request approval of the code change as submitted.

At first we were opposed to the code change as submitted since it seems to blur the transition between type V and Type III construction, both of which can be entirely of wood construction.

If approved this code change provides another option that provides a safer building when constructed as Type V A construction. We agree with the following reasons to support the proposed code change:

a. The fifth story will result in better compartmentation since the floor will fully separate the story whereas the permitted mezzanine will not.
b. By including a story in lieu of a mezzanine the total area of the 5 story building will be less than the 4 story building with three mezzanines.
c. The overall height allowable for Type VA will limit the design as will the total floor area.
d. The total allowable area for the Type VA 5 story building will be almost 50% less since the tabular area is less and no increases for sprinklers can be taken.
e. A Type IIIA building can include one hour exterior walls that are not constructed of fire retardant treated wood simply by changing the direction of roof and floor framing so as to have exterior non-bearing walls. This will result what in essence is a taller and larger Type VA building.
f. This will solve many of the arguments that jurisdictions have with developers and designers that do not wish to redesign their buildings by reversing the framing.

We respect the work of the committee, and some of the comments made at the code development hearing, however, we believe this code change will provide for an equivalent level of safety without impacting fire fighting access nor occupant safety. Furthermore, exposure hazard to adjacent properties will be less than that for Type IIIA due to the smaller bulk and scale. We urge approval of the code change as submitted.

G108-12

Final Action: AS AM AMPC____ D

G109-12
505.2.4 (New)

Proposed Change as Submitted

Proponent: Jonathan Siu, City of Seattle Dept of Planning & Development, representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov)

Add new text as follows:

505.2.4 Construction. Mezzanines and their supporting construction shall be of not less than one-hour fire-resistance-rated construction.

Exception: Mezzanines in buildings of Types IIB, IIIB and VB construction shall be permitted to be of unprotected construction, provided the materials used are allowed for the building type of construction.

Reason: The purpose of this code change is to provide clear guidance to the code user as to what is required for mezzanine and equipment platform construction. This is a companion to a code change proposal being submitted by the WABO Technical Code Development Committee relating to construction requirements for equipment platforms (Section 505.3).

The 2012 IBC is silent on the type of construction and fire resistance rating requirements for mezzanines. This can be interpreted to mean that any materials can be used—for example, unprotected wood construction would be allowed in a Type VA or even a Type IA building. This code change proposal seeks to clarify the requirement by requiring 1-hour protected construction for mezzanines, but has an exception for non-rated construction types.

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

505.2.4 (NEW)-G-SIU

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: There was concern with trying to recreate Section 601 in Section 505. This would also exclude heavy timber which did not seem appropriate. The mezzanine would be considered a floor and the structure would be regulated currently.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jonathan Siu, City of Seattle, Department of Planning & Development, representing the Washington Association of Building Officials, Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

505.2.4 Construction. Mezzanines and their supporting construction shall comply with the fire-resistance ratings for floor construction in Table 601.

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A[d]	B	A[d]	B	HT	A[d]	B
(No change)									
(No change)									
(No change)									
(No change)									
Floor construction and associated secondary members (see Section 202)	2[h]	2[h]	1	0	1	0	HT	1	0
(No change)									

a – g. *(no change)*

h. The fire-resistance rating for mezzanines constructed in accordance with Section 505.2 need not exceed 1 hour.

Commenter's Reason: The code is ambiguous as to the requirements for fire-resistance rated construction for mezzanines. In buildings of Types I and II construction, interpreting the code to require mezzanines to meet the floor construction requirements appropriately provides non-combustible construction, but the 2-hour rating for Types IA and IB seems to be onerous for a mezzanine.

The Fire Safety Committee disapproved the originally submitted proposal because they felt there should be a better relationship to Section 601 (rather than reproducing Section 601 in the mezzanine section), and because the original proposal did not deal with heavy timber construction.

In response to the committee comments, we are now proposing the allowance for the 1-hour fire resistance rating for mezzanines be placed in a footnote to Table 601. The footnote only applies to Types IA and IB construction, since they are the only types of construction that need the allowance. The result is mezzanines in types of construction other than Types IA and IB merely conform to the requirements for that particular type of construction. This will accomplish the intent of the original proposal in a simpler, more direct manner.

It is to be noted that the cross-reference in the proposed new Section 505.2.4 is still necessary because the definition for "mezzanine" does not indicate they are to be treated as floors for the purposes of type of construction.

Note to ICC staff: if G109-12 and G110-12 are both approved as modified by public comment (AMPC), footnote h on each proposal could be editorially combined into one footnote as follows:

h. The fire-resistance rating for mezzanines and equipment platforms constructed in accordance with Section 505.2 or 505.3, respectively, need not exceed 1 hour.

G109-12

Final Action: AS AM AMPC____ D

G110-12
505.3

Proposed Change as Submitted

Proponent: Jonathan Siu, City of Seattle Department of Planning & Development, representing Washington Association of Building Officials Technical Code Development Committee (jon.siu@seattle.gov)

Revise as follows:

505.3 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. Equipment platforms and their supporting construction shall be of not less than one-hour fire-resistance-rated construction

Exceptions:

1. Equipment platforms in buildings of Types IIB, IIIB and VB construction are permitted to be of unprotected construction provided the materials used are allowed for the building type of construction.
2. Equipment platforms with no occupied space below are permitted to be of unprotected construction provided the materials used are allowed for the building type of construction.

Reason: The purpose of this code change is to provide clear guidance to the code user as to what is required for equipment platform construction. This is a companion to a code change proposal being submitted by the WABO Technical Code Development Committee relating to construction requirements for mezzanines (Section 505.2).

The 2012 IBC is silent on the type of construction requirements for equipment platforms. This can be interpreted to mean that any materials can be used—for example unprotected wood construction would be allowed in a Type VA or even a Type IA building. This code change proposal seeks to clarify the requirement by requiring 1-hour protected construction for equipment platforms with an exception for non-rated construction types. Where there is no occupied space below a platform (i.e., where the platform is close to the floor), the proposal gives the option of using unprotected construction, as long as the materials used are consistent with the type of construction for the building.

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

505.3-G-SIU

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: G110-12 was disapproved based upon action taken on G109-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jonathan Siu, City of Seattle, Department of Planning & Development, representing the Washington Association of Building Officials, Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

505.3 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. Equipment platforms and their supporting construction shall comply with the fire-resistance rating requirements for floor construction in Table 601.

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A[d]	B	A[d]	B	HT	A[d]	B
(No change)									
(No change)									
(No change)									
(No change)									
Floor construction and associated secondary members (see Section 202)[i]	2[h]	2[h]	1	0	1	0	HT	1	0
(No change)									

a – g. *(no change)*

h. The fire-resistance rating for equipment platforms constructed in accordance with Section 505.3 need not exceed 1 hour.

i. Equipment platforms with no occupied space between the platform and the floor/ceiling assembly immediately below are permitted to be of unprotected construction.

Commenter's Reason: The code is ambiguous as to the requirements for fire-resistance rated construction for equipment platforms. Interpreting the code to require them to meet the floor construction requirements would mean they would need a 2-hour rating in Types IA and IB construction, which seems to be onerous.

The Fire Safety Committee disapproved the originally submitted proposal consistent with their action on a related proposal for mezzanines (G109-12). The implication is they felt there should be a better relationship to Section 601 (rather than modifying Section 601 in the equipment platform section), and because the original proposal did not deal with heavy timber construction.

In response to the committee comments, we are now proposing the allowances for the 1-hour fire resistance rating for equipment platforms be placed in footnote to Table 601. The footnote only applies to Types IA and IB construction, since they are the only types of construction that need the allowance. The result is equipment platforms in types of construction other than Types IA and IB merely conform to the requirements for that particular type of construction. In addition, a second footnote applying to all types of construction is added to allow unprotected construction, if there is no occupiable space immediately below the equipment platform. This allows equipment to be placed on raised platforms without requiring them to be fire-resistance rated, if the platforms are not overhead. This will accomplish the intent of the original proposal in a simple, direct manner.

It is to be noted that the cross-reference to Table 601 in the proposed new text in Section 505.3 is necessary because the current code is not clear that equipment platforms are to be treated as floors for the purposes of type of construction. This proposal does not define equipment platforms as floors—it just says they must have a fire-resistance rating consistent with floor construction.

Note to ICC staff: if G109-12 and G110-12 are both approved as modified, footnote h on each proposal could be editorially combined into one footnote as follows:

h. The fire-resistance rating for mezzanines and equipment platforms constructed in accordance with Section 505.2 or 505.3, respectively, need not exceed 1 hour.

G110-12

Final Action: AS AM AMPC____ D

G115-12
507.1

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Revise as follows:

507.1 General. The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited. Basements not more than one story below grade plane shall be permitted.

Exception: Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.

Where Sections 507.2 through 507.12 require buildings to be surrounded and adjoined by *public ways* and *yards,* those open spaces shall be determined as follows:

1. *Yards* shall be measured from the building perimeter in all directions to the closest interior *lot lines* or to the exterior face of an opposing building located on the same *lot*, as applicable.
2. Where the building fronts on a *public way*, the entire width of the *public way* shall be used.

Reason: Intended to clarify the existing provision that is currently silent on whether or not a basement is permitted under any of the unlimited area building provisions. However, the code is a permissive code, i.e. either the code provisions explicitly prohibit or provide specific requirements that control the construction of buildings and conditions. If the Code does not prohibit a particular building design or process, or the Code does not control the building design or process with specific requirements, then it is permitted by Code. Therefore, since the Code is silent on whether or not an unlimited area building can have a basement, the Code therefore permits a basement, or for that matter, multiple basements.

This issue had been discussed in the past at one of the legacy code development cycles back in 1985 (BOCA Code Proposal B23-85). That code proposal attempted to add to the unlimited one story sprinklered building provisions that such building "…do not contain a basement…". It should be noted that the legacy BOCA & SBCCI Codes did not have unlimited area provisions for 2 story sprinklered buildings like the legacy UBC or the present IBC do permit. BOCA Code Proposal B23-85 was denied by the BOCA Code Development Committee with the following reason: "A total prohibition of basement areas would be unnecessarily restrictive. Certain industrial processes require the use of below-floor areas by nature of the process. Some amount of basement area would be acceptable if limited in size."

Through discussion between the BCAC and FCAC Committee it was agreed that the basement conditions should be codified similar to what is now permitted for buildings designed under the general height and area requirements of the Code (See Section 506.4 Exception and Section 506.5). Any sprinkler provisions in Section 507 would also be applicable to the basement as well. In addition, the sprinkler provisions of Section 903.2.11.1 would also be applicable to unlimited area nonsprinklered buildings designed under Section 507.2 (Group F-2 or S-2).

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: The proposed changes will not increase the cost of construction.

507.1#1-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved as it clarifies the intent that the code would allow a single basement in unlimited area buildings.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jason Thompson, National Concrete Masonry Association, representing Masonry Alliance for Codes and Standards, requests Disapproval.

Commenter's Reason: This proposal adds a statement to the general provisions for unlimited area buildings in Section 507.1 to permit these unlimited area buildings to have a single basement below ground whose size is also unlimited in area. The proponent's reason is to clarify the code because the code is silent on whether basements are permitted beneath unlimited area buildings. However, allowing single level basements that are unlimited in area ignores the safety factors in the code to protect the fire service and occupants and should be disapproved for the following reasons.

First, one of the criteria all buildings permitted to have unlimited area are required to meet is having an open space around the building perimeter of at least 60 feet. This open space allows the fire service to stage firefighting tactics as they attack fires that may be located far into the interior of very large buildings. Though this open space can also help with fighting fires far into the interior of the basement in an unlimited area building, the capability for the fire service is significantly hampered because the basement story is below ground. The risk to the safety of the fire service increases because of the difficult access to the interior of the building below ground.

Second, when code provisions are modified to permit alternative requirements, the alternatives commonly require increased fire safety features to offset some of the basic provisions. Area modifications to the allowable building areas in Section 506 are a good example. The basic code limits the size of buildings based on the occupancy group and type of construction through the allowable heights and areas of Table 503. However, when additional fire safety features such as wider open space around the perimeter of the building in 506.2 or sprinkler protection in 506.3 are provided the code allows these buildings to be larger in area than that regulated by Table 503. This proposal requires no additional fire safety features in the code to permit these unlimited area basements.

Finally, the provisions will permit some circumstances where large numbers of people can be placed at a higher safety risk from fire if located on a floor above an unlimited area basement of unlimited area buildings with combustible materials used for the construction of the floor assembly. For example, assembly occupancies with large occupant loads, such as Group A4, skating rinks and tennis courts with spectator seating, or Group A-3, community halls, courtrooms, lecture halls and places of worship, can be on the ground level of an unlimited area building and be located over a basement of equal size with combustible materials stored below ground. Per Section 507.3 for the Group A-4 assembly occupancy and Section 507.7 for the Group A-3 assembly occupancy, Type IIIB construction which includes combustible framing for the floor system is permitted. Assuming the unlimited area basement is used for storage of combustibles the non-separated occupancy provisions in Section 508.3 would permit high occupant load assembly functions to be placed on a floor over the combustible materials stored below in the unlimited area basement with no fire separation. There is no justification to increase the risk of injury or death to persons in an unlimited area building by allowing an unlimited area basement.

Permitting the use of unlimited area basements in buildings which meet the provisions for unlimited area buildings, without specifying additional fire safety requirements or placing some limitations on their use to protect the fire service or large numbers of occupants, is not warranted.

G115-12

Final Action: AS AM AMPC____ D

G116-12
507.1, 507.1.1 (New)

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Revise as follows:

507.1 General. The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited.

~~**Exception:** Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.~~

Where Sections 507.2 through 507.12 require buildings to be surrounded and adjoined by *public ways* and *yards,* those open spaces shall be determined as follows:

1. *Yards* shall be measured from the building perimeter in all directions to the closest interior *lot lines* or to the exterior face of an opposing building located on the same *lot*, as applicable.
2. Where the building fronts on a *public way*, the entire width of the *public way* shall be used.

507.1.1 Accessory occupancies. Accessory occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2, otherwise the requirements of Sections 507.2 through 507.12 shall be applied, where applicable.

Reason: Intended to be editorial to provide better understanding and clarify the existing provision. The exception was deleted and placed as a subsection of Section 507.1. As a subsection, the requirement for accessory occupancies permitted in unlimited area buildings is clarified that if such occupancies do not meet the Section 508.2 (and its subsections) requirements, then the requirements for unlimited area buildings in Section 507.2 through 507.12 would be applied to any such occupancy.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: The proposed changes will not increase the cost of construction..

507.1#2-G-BAJNAI-BCAC

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This new section addressing accessory occupancies was not felt necessary. Professionals using the code should be able to use the current exception to Section 507.1 to allow accessory occupancies. It was felt that this new section would actually cause confusion.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Eirene Oliphant, MCP, BRR Architecture, requests Approval as Submitted.

Commenter's Reason: In the report of the public hearing, the committee stated that "professionals using the code should be able to use the current exception to Section 507.1 to allow accessory uses". In a perfect world, yes professionals who understand how to apply the code correctly would allow the exception to apply. However, this is not a perfect world and not every code official applies the exception the way it was intended. As a design firm that does work all over the United States, we have on a number of occasions, received plan review comments back which do not recognize the application of an accessory use in an unlimited building of which the accessory use is not a B, F, M or S use group. We had a project for a sprinklered, one story retail store which was approximately 150,000 total square feet. There was an employee breakroom which amounted to approximately 1,500 square feet. This employee breakroom, along with some office space amounted to well under ten percent of the total square footage and met all of the requirements to be considered accessory uses. The code official performing the plan review insisted that the "assembly area" meet the requirements of Section 507.3.1, which required a two-hour occupancy separation between the break room (A-2 use group) and all other uses as well as having the exits discharge directly to the exterior of the building. Even with reference to the IBC Commentary, the code official would not recognize the exception for the accessory use.

In spite of the committee's opinion that this new section would cause confusion, based on my experience, it will help avoid confusion.

G116-12

Final Action: AS AM AMPC____ D

G117-12
507.1

Proposed Change as Submitted

Proponent: Ali M. Fattah City of San Diego, Development Services Department, representing San Diego Area Chapter of ICC (afattah@sandiego.gov)

Revise as follows:

507.1 General. The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited.

Exceptions:

1. Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.
2. Accessory occupancies classified as Group A, B, E, F, M, or S shall be permitted in unlimited area buildings when they exceed the limits in Section 508.2 where the most restrictive requirements in Sections 507.2 through 507.7 are satisfied and where the occupancies are separated in accordance with Section 508.4.

Where Sections 507.2 through 507.12 require buildings to be surrounded and adjoined by *public ways* and *yards,* those open spaces shall be determined as follows:

1. *Yards* shall be measured from the building perimeter in all directions to the closest interior *lot lines* or to the exterior face of an opposing building located on the same *lot*, as applicable.
2. Where the building fronts on a *public way*, the entire width of the *public way* shall be used.

Reason: This code change is necessary to allow two unlimited area buildings to in essence be combined into one building. The permitted occupancies allowed in buildings not limited in area have been expanded since the legacy codes were combined into the IBC. Exception 1 permits accessory occupancies to be located in unlimited area buildings complying with Section 508.2 that limits the area of all accessory occupancies in the building to 10%.

The Section as published in the 2012 IBC limits the area of an accessory occupancy with a lower fire loading to that of the main occupancy for example a group E accessory to a group M. Strip shopping centers can include unlimited area buildings that house in the same building Group M, B, A-2, A-3, E occupancies.

- An existing multi-tenant unlimited area building complying with Section 507.7 can include a fitness center classified as Group A-3 however a mercantile occupancy cannot be permitted in the building since it is not accessory to the Group A. Even if the mercantile occupancy were accessory it would be limited to 10% of the floor area.
- An existing multi-tenant unlimited area building complying with Section 507.3 can include unlimited areas of Group S, F and M as well as Group B. however if a remodel changes a portion to Group A-3 such as a fitness center the group A would not be permitted even though it will include a fire load that is substantially less than group S storage or potentially more hazardous Group F.
- The reverse could be true where a large amusement facility such as a bowling alley cannot be included in a building that includes restaurants and mercantile occupancies however independently these uses can be in unlimited area buildings.

Section 507.3 includes B, F, M and S and allows limited A and E accessory uses. Section 507.3.1, 507.6, 507.7 and 507.10 allow Group A or E to be the primary occupancy and Group B, F, M and S or A or E to be accessory.

The proposed new exception 2 allows any combination of the occupancies other than Group H that area addressed in Section 507 to be located in combination with any of the other occupancies in the Section if the most restrictive requirements are satisfied.

Section 508.3 addresses non separated uses and is less restrictive than Section 508.2 in that it does not limit the aggregate area to 10% as the accessory uses occupancies and allows them to be located in a building not however unlike accessory occupancies the occupancies do not go away notwithstanding the type of construction limitation in Section 508.3.2 require

Cost Impact: None. The code change proposal will not increase the cost of construction.

507.1-G-FATTAH

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The language in the proposal is confusing. Additionally, there was concern that this new exception will cause confusion with the application of the current exception to Section 507.1 allowing accessory occupancies in unlimited area buildings. Potentially separations would be required that were not intended by the current provisions.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

507.1 General. The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited.

Exceptions:

1. Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.
2. Occupancies classified as Group A, B, E, F, M, or S shall be permitted in combination in unlimited area buildings where the most restrictive requirements in Sections 507.2 through 507.7 are satisfied.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: We request the membership consider approval of the proposed modification to our original code change. As we have stated in the original submittal the IBC, since the drafting of the 2000 edition, has been changed to allow a variety of occupancies in unlimited area buildings that did not exist in the legacy code my jurisdiction enforced. Furthermore, Section 508.2.3 can limit the size of an occupancy combined with another occupancy permitted to be not limited in area even though it may pose a lesser hazard than the main occupancy not limited in area. The accessory use is not permitted increases to the tabular area so are not permitted to be unlimited in area. We request that the membership approve the proposed modification based on this public comment. Please refer to the justification provided in the original code change. We had sought input from other stakeholders during the development of the code change and have decided to revert to the code change to the form it was initially develop prior to submittal.

In many cases the limited occupancy cannot be considered an accessory occupancy since it is located in a different tenant space.

For example the IBC would not permit a large Group A-3 fitness center to be located in an existing multi-tenant building not limited in area containing Group B and M since the A-3 is not an accessory occupancy and in many cases will exceed the limits placed on the size of the accessory occupancy. This limitation makes no sense when consideration is given to the larger fire load in a mercantile occupancy when compared to the fitness center and possibly the business occupancy.

G117-12

Final Action: AS AM AMPC____ D

G118-12
507.4, 507.4.1 (New), 507.4.2 (New)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., The American Institute of Architects (dcollins@preview-group.com)

Revise as follows:

507.4 ~~Two story~~ Group B, F, M or S. The area of a Group B, F, M or S ~~building no more than two *stories above grade plane*~~ shall not be limited where the building is equipped throughout with an *automatic sprinkler system* 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.

507.4.1 Two Story. Unlimited area buildings of Group B, F, M or S occupancies shall be limited to two stories in height if of Type V construction.

507.4.2 Three Story. Unlimited area buildings of Group B, E, F, M or S occupancies shall be limited to three stories in height if of Type I, II, III or IV construction.

Reason: The mall criteria in Section 402 are nothing more than a detailed description of another unlimited area building that includes many of the same occupancies that are already permitted to be unlimited based on various heights and types of construction. It isn't clear that there are special provisions within the mall

This change will allow a two story unlimited area building of B, F, M or S of any type of construction (Type V), but will also allow a three story building if of Types I, II, III or IV construction as permitted for mall buildings or anchor buildings in Section 402.

Cost Impact: The increased understanding of what the code intends regarding unlimited area buildings will significantly reduce the cost of design and review.

507.4-G-COLLINS

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Sufficient technical justification was not provided to allow a 3 story unlimited building. In addition these provisions are essentially like a mall but without all the special provisions for malls such as smoke control.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, Greg Nicholls, AIA and Carroll Pruitt, AIA, The Preview Group, Inc., The City of Mason Ohio and Pruitt Consulting, Inc., representing The American Institute of Architects, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

507.4 ~~Group B, F, M or S~~ Two or three story. The area of a ~~Group B, F, M or S~~ building of two or three stories in height above grade plane shall not be limited where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width and which comply with either Sections 507.4.1 or Section 507.4.2.

507.4.1 Two Story. Unlimited area buildings of Group B, F, M or S shall be limited to be two stories in height ~~if~~ where the building is of Type V construction.

507.4.2 Three Story. Unlimited area building of Group B, E, F, M or S occupancies shall be limited to three stories in height ~~if~~ where the building is of Types I, II, III and IV construction.

Commenter's Reason: The committee was concerned that while a mall does allow there occupancies to be three stories in height and unlimited in area that other safeguards that are a part of the requirements for malls provide the necessary additional safety for these occupancies.

In reality, Section 402 of the IBC includes nothing that establish a higher level of safety in a mall, it only addresses the potential use of a mall as a portion of the means of egress. Egress isn't required through the mall, no special provisions for smoke control is part of the mall except if it should include an atrium and that applies to all buildings whether they are malls or not.

The occupancies included in these two new provisions are very low risk and have excellent records of fire safety. Malls have a similarly low risk and these occupancies are frequently included in malls. With the inclusion of full fire suppression and a 60 foot open perimeter they would not provide any additional risk if they were independent of a mall building.

G118-12

Final Action: AS AM AMPC____ D

G119-12
507.4

Proposed Change as Submitted

Proponent: Joel Bringhurst, CH2M Hill Engineers, representing IM Flash Technologies (joel.bringhurst@ch2m.com)

Revise as follows:

507.4 Two story. The area of a Group B, F, H-5 M or S building no more than two *stories above grade plane* shall not be limited where the building is equipped throughout with an *automatic sprinkler system* 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.

Reason: History of H-5 Occupancy

Semiconductor fabrication facilities were first constructed as B-2 occupancy prior to the 1985 Uniform Building Code (UBC). In the 1985 UBC the occupancy group of H-6 was first introduced. It was a new classification for semiconductor fabrication facilities and related support uses. The H-6 occupancy ultimately became the H-5 occupancy in the 2000 International Building Code (IBC).

The definitive guide for the introduction of the H-6 occupancy in the 1985 UBC was the book *H-6 Design Guide to the Uniform Codes for High Tech Facilities* written by Alfred Goldberg, P.E., H.A.I.A. (Consulting Engineer) and Larry Fluer (Technical Consultant – Hazardous Materials) . On page 3-2 the authors state the following:

> "For the new Group H, Division 6 class, the original use of most of the existing fabrication facilities was classified as Group B, Division 2. The new H-6 class has virtually the identical code provisions in Table Nos. 5-C and 5-D as does the B-2 class. The intent of the H-6 code change is to consider that there is no change in use involved where the present and prior use was as a semiconductor fabrication facility. The intent is simply to assign a new name or designation to the existing use (see Section 104(c))."
>
> "However, any future alterations or changes will require compliance with the applicable provisions of the new H-6 classification. As provided in Section 104(c), in no case should an existing fabrication facility be made to conform to the new H-6 provisions simply as a result of a jurisdiction adopting or utilizing the new code provisions, except for those portions where alterations or changes are undertaken."

At the inception of the H-6 occupancy, this statement established an equivalent relative hazard level between H-6 and B-2 occupancies. In their discussion of relative hazards of occupancies Goldberg and Fluer further state on page 3-4 that "these determinations are made based on Table Nos. 5-C and 5-D allowable for each of the occupancies being compared."

Table 5-C is "Basic Allowable Area for Buildings One Story in Height" and Table 5-D is "Maximum Height of Buildings." The allowable areas in Table 5-C for B-2 and H-6 occupancies for all construction types are exactly the same. The maximum heights in Table 5-D for B-2 occupancy are the same except for one story more than H-6 occupancy for all but the Type I-FR and Type II-FR construction types, which are somewhat higher than for H-6 occupancy.

The basic method for comparison of relative hazard of occupancies has long been established as being relative to allowable area and maximum height. On the basis of allowable area the B-2 and H-6 occupancies have the same hazard level. On the basis of height H-6 would be more hazardous than B-2 occupancy in a taller building.

Comparison of H-5 to Groups B, F, M, and S in IBC Section 507.4.

H-5 occupancy has the same allowable areas as B occupancy per IBC Table 503 for all construction types. IBC Table 503 now contains the information previously contained in Tables 5-C and 5-D in the 1985 UBC. The relationship between B and H-5 occupancies are unchanged from the relationship established between B-2 and H-6 occupancies in the 1985 UBC. This unchanged relationship is reinforced in the *2009 IBC Handbook: Fire and Life Safety Provisions*, page 84, which states:

> **"415.8 Group H-5.** The Group H-5 occupancy category was created to standardize regulations for semiconductor manufacturing facilities. This section provides the specific regulations for these occupancies. The H-5 category requires engineering and fire-safety controls that reduce the overall hazard of the occupancy to a level thought to be equivalent to a moderate hazard Group B occupancy. Accordingly, the areas permitted for Group H-5 occupancies are the same as for Group B occupancies."

H-5 occupancy has equal or greater allowable areas than F-1, M and S-1 occupancies for all construction types per IBC Table 503. As F-1, M and S-1 occupancies are included in the existing provisions for the unlimited area building, this could even be interpreted to indicate that H-5 occupancy, with all of its code-required mitigating features, is less hazardous than F-1, M and S-1 occupancies.

The maximum height in stories for H-5 occupancy is less than or equal to the maximum height for B occupancy in IBC Table 503, however, in no case is the maximum height of H5 occupancy less than 2 stories. The relative maximum height relationship between B and H-5 occupancies are relatively unchanged from the relationship established between B-2 and H-6 occupancies in the 1985 UBC. When it comes to height in stories it is acknowledged that H5 is more hazardous than B occupancy as the number of

stories in the B is higher. This proposal for unlimited area per IBC Section 507.4 is within a provision that is conditional upon a two-story limitation; therefore this proposal is limited to the hazard comparison to allowable area provisions only from IBC Table 503.

H-5 occupancy has a significant number of IBC requirements that mitigate the hazards of H-5 compared to B occupancy in general. These mitigating requirements have effectively equalized the two occupancies in terms of relative hazard, which is demonstrated by the equal allowable areas of the two occupancies within IBC Table 503, which has remained consistent over time. Again from the *2009 IBC Handbook*, p84:

> "The code requires that special ventilation systems be installed in fabrication areas that will prevent explosive fuel to air mixtures from developing. The ventilation system must be connected to an emergency power system. Furthermore, buildings containing Group H-5 occupancies are required to be protected throughout by an automatic fire-sprinkler system and fire and emergency alarm systems. Fire and emergency alarm systems are intended to be separate and distinct systems, with the emergency-alarm system providing a signal for emergencies other than fire. This section also provides requirements for piping and tubing that transport hazardous materials that allow piping to be located in exit corridors and above other occupancies subject to numerous, stringent protection criteria. The provisions for Group H-5 occupancies are correlated with companion provisions in Chapter 18 of the IFC."

Any hazards introduced by the inclusion of an unlimited area H5 occupancy in an unlimited area building per IBC Section 507.4 would be mitigated by sprinklers, side yards, and limits in story height the same as Groups B, F, M and S occupancies, which as compared in previous paragraphs, have equal or more hazard based on a relative allowable area comparison to H-5 occupancy.

Group H occupancies are currently allowed in unlimited area buildings per IBC Section 507.8. The occupancies specifically addressed are H-2, H-3, and H-4. These three occupancies are restricted to an area of 10 percent of the unlimited area building or the Table 503 limits. This establishes that specific uses of H occupancies with more hazard than H-5 are permitted in an unlimited area building. However, the restrictions in these provisions to H occupancies in IBC Section 507.8 are limited to H2, H3 and H4 and do not apply to H-5 occupancy, which is relatively less hazardous.

Differences between H-5 and Groups B, F, M and S

H-5 occupancy contains Hazardous Production Materials (HPMs). The B, F, M, and S occupancies are also permitted to have hazardous materials, but the quantity cannot exceed the Maximum Allowable Quantizes (MAQ) in Tables 307.1 (1) and 307.1 (2). H-5 occupancy has numerous code-required mitigating features that effectively address the hazards of H5 and will not be impacted or reduced by this requested code change. The requirements of IBC Section 415.8 and other areas of the code relating to H-5 occupancy will remain in effect in their entirety with this proposal.

If H-5 occupancy is added to IBC Section 507.4 the H-5 occupancy will still be regulated relative to construction type and building height by IBC Chapter 5.

Conclusion

H-5 occupancy has a relative hazard based on allowable area per IBC Table 503 that is equal to or better than B, F, M, and S occupancies. Adding H-5 occupancy to the occupancies that are allowed to have unlimited area per IBC Section 507.4 would be consistent with the permitted level of hazard and mitigation established by this section. The code-required mitigating features of H-5 occupancy have been demonstrated for over 25 years to be effective since the introduction of the semiconductor fabrication facility occupancy in the 1985 UBC.

Cost Impact: Cost savings from Type I Construction, which is required for unlimited H-5 in Table 503

507.4-G-BRINGHURST

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The proposal was disapproved as it was felt that having an unlimited area H-5 occupancy in unprotected construction was inappropriate. The differences in Group H-5 and Group B occupancies were felt to be too great to provide this allowance even if much of the building area provisions were based originally on group B occupancies.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment 1:

Joel Bringhurst, AIA, CH2M HILL Engineers, Inc., representing IM Flash Technologies and CH2M HILL Engineers, Inc. requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

507.4 Two story. The area of a Group B, F, H-5, M or S building no more than two *stories above grade plane* shall not be limited when the building is equipped throughout with an *automatic sprinkler system* 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. Buildings containing Group H-5 occupancy shall be of Type I or II construction.

Commenter's Reason:

G119-12 Objections Put Forward in the Public Hearings in Dallas

- As initially submitted, the proposal would allow unlimited quantities of Group H-5 in Unlimited Area Buildings of any type of construction, including wood frame.
- Hazardous materials found in semiconductor fabrication areas provide undue exposure to the building occupants and to the public at large.

G119-12 Proposed Modifications

1. Limits building construction to Types I and II.
2. The H-5 occupancy is the primary occupancy for semiconductor facilities. This is similar to F occupancy for factory, B occupancy for business, S occupancy for storage and M occupancy for mercantile uses.

G119-12 Inherent Safety of Semiconductor Fabrication Facilities

1. IM Flash Technologies in Lehi, Utah, is a factory not unlike other industrial sites; we have the actual factory floor, a central plant, a substation, a hazardous material warehouse, a regular warehouse, an office building, and a water treatment plant among others. The largest part of the factory resides in an unlimited area, Type IB building with multiple occupancy groups: F-1, F-2, H-2, H-3, H-4, and H-5. We also have an unlimited area building of Type IIB construction with multiple occupancy groups: A-2, A-3, B, F-1, F-2, S-1, H-2, H-3, H-4, and H-5.
2. The hazardous rooms of Group H-2, H-3, and H-4 occupancies are similar to common bulk storage chemical and gas rooms in other factories; they have tanks and cabinets, storage racks, special fire suppression systems when required, blast panels when required, fire-rated separations, higher ventilation/exhaust requirements, exterior exits, and so forth. These rooms have limited access: the rooms are locked, accessed only by the few dozen trained facilities operators, engineers, technicians, and security personnel who are familiar with the hazards. Personal Protective Equipment (PPE) is a requirement for all people accessing these areas. The general population – office and fab personnel and their visitors – have no need to access these hazardous chemical and gas rooms, nor do they have any desire or inclination to access them.
3. The H-5 fabrication facility is very different in several ways from the standard H-2, H-3, H-4 occupancies often grouped together per Section 415 and the International Fire Code. The H-5 fabrication facility is home to hundreds of technicians, operators, engineers, office staff, and any number of invited guests from talkshow hosts to government officials to architects and engineering consultants from all over the world. The levels of protection are much more relaxed; except for specific infrequent production-oriented tasks, the PPE is simply cleanroom garb and safety glasses. The space is occupied every hour of every day of every month of every year. As such it must be made to be a safe working environment for these hundreds of people.
4. The inherent safety of the H-5 fabrication facility is specifically achieved through the existing provisions of the International Codes, which are fundamentally based on principles of health, safety and welfare. These provisions protect the building occupants and the public through the following specialized systems and requirements:
    - Fabrication area aggregate quantities of hazardous materials are limited below other H occupancy limits [IBC 415.10.1.2 & IFC 2704.2.2].
    - Fabrication area compartmentalization from remainder of the building [IBC 415.10.1.2].
    - Fabrication area occupied levels are at or above grade plane [IBC 415.10.1.3].
    - Fabrication mechanical ventilation is a minimum of 1 CFM/SF with an increase of 4 times this amount for relief of electrical hazard classification [IBC 415.10.1.6 & 415.1.8 & IFC 2703.14.1].
    - Workstation ventilation [IBC 415.10.1.8.1 & IFC 2703.14.1].
    - Service corridors separate chemical delivery from egress paths [IBC 415.10.2, & 415.10.3 & IFC 2705.3.3].
    - Service corridor mechanical ventilation meet fabrication area requirements and additionally meet 6 air changes per hour [IBC 415.10.3.2].
    - Fabrication area hazardous materials are contained within cabinets or workstations [IBC 415.10.4 & IFC 2704.2.1].
    - Fabrication building hazardous material production storage and use rooms are separated from each other and other parts of the building with 2-hour fire barriers [IBC 415.10.5.1].
    - Fabrication area, HPM room, gas cabinets and service corridor gas detection with gas shut off [IBC 415.7.2 & IFC 2703.13]

- Emergency power for HPM exhaust ventilation, HPM gas cabinet ventilation, HPM exhaust enclosure ventilation, HPM gas room ventilation, HPM gas detection, emergency alarm, manual fire alarm and automatic sprinkler system monitoring and alarm system, electrically operated systems for HPM use, storage or handling [IBC 415.10.10.1 & IFC 2703.15]
- Automatic sprinkler system protection in exhaust duct for HPM [IBC 415.10.11 & IFC 2703.10.4.4]
- An increase in numbers of exits by basing numbers on an occupant load of 10 [IBC Table 1015.1]
- Exit access travel distances limited to 200 feet and the common path of egress travel limited to 75 feet [IBC Table 1016.2 & IBC Table 1014.3].

5. As stated in the 2009 IBC Handbook of Fire and Life Safety Provisions, the inherent safe nature of Group H-5 occupancy is achieved because the "H-5 category requires engineering and fire-safety controls that reduce the overall hazard of the occupancy to a moderate hazard Group B occupancy. Accordingly, the areas permitted for Group H-5 occupancies [IBC Table 503] are the same as for Group B occupancies" [2009 IBC Handbook, Section 415.8, p 84]. Group H-5 occupancies are classified as hazardous because of the use of hazardous materials in the semiconductor fabrication process. However, H-5 becomes safe through the extensive provisions found in the International Codes to remediate the hazards. These provisions protect our staff and our guests and our communities.

Public Comment 2:

Eric Sandoval, CH2M HILL Engineers, Inc., representing IM Flash Technologies and CH2M HILL Engineers, Inc. requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

507.9 Mixed occupancy buildings with Group H-5. Group H-5 occupancies shall not be limited within mixed-occupancy buildings of unlimited area complying with Section 507.4, provided all of the following criteria are met:

1. Buildings containing Group H-5 occupancy shall be of Type I or II construction.
2. Group H-5 occupancies are separated from other occupancies as required for separated occupancies in Sections 508.4.4 and 415.10.
3. Each area of the portions of the building used for Group H-5 occupancies shall not exceed the maximum allowable area permitted for such occupancies in Section 503.1 including modifications of Section 506.

Commenter's Reason:

G119-12 Original Intent

Address and clarify the use of Group H-5 Occupancy in Section 507 – Unlimited Area Buildings

1. Currently Group H-5 occupancy is not specifically addressed in Section 507.
2. Table 503 is interpreted as the area limitation for H-5 within Unlimited Area Buildings.
3. For clarity, the Code should specifically address Group H-5 within Section 507.

G119-12 Objections Put Forward in the Public Hearings in Dallas

1. As initially submitted, the proposal would allow unlimited quantities of Group H-5 in Unlimited Area Buildings of any type of construction, including wood frame.
2. Hazardous materials found in semiconductor fabrication areas provide undue exposure to the building occupants and to the public at large.
3. The proposal is heavy on historical perspective but lacks technical justification.
4. An unlimited quantity of Group H-5 occupancy without compartmentalization creates additional hazards for fire containment, for fire department access, and for the community at large.
5. A comparison of several occupancy separations and travel distances suggests that H-5 occupancies are less safe than other occupancies. This comparison broadens the original proposal's argument that a comparison of Table 503 Allowable Building Areas also demonstrates the relative hazards among occupancy classifications.

G119-12 Proposed Modifications

1. Creates a new section for Group H-5 occupancy within unlimited area buildings instead of modifying Section 507.4.
2. Limits building construction to Types I and II.
3. Addresses specific concerns surrounding Group H-5 occupancies in conventional unlimited area buildings (UABs) by controlling fire intensity and volume, by providing safer fire department access, and by limiting fire exposure effects to the public through compartmentalization. Specifically, these measures are:
   a. Each Group H-5 occupancy within the UAB is limited to the tabular quantities of Section 503.1 or to the requirements of Section 415.8.2 Fabrication Areas.
   b. Each Group H-5 occupancy within the UAB is separated from adjacent occupancies per Sections 508.4.4 and Table 508.4.

G119-12 Reasons for Modifications to the Original Proposal

1. Addresses several unintended consequences by removing the possibility of using combustible construction for Group H-5 occupancy in unlimited area buildings.

2. The proposal addresses hazardous materials found in semiconductor fabrication areas through the use of existing provisions for health safety and welfare. These include protection of building occupants and the public through the use of the following systems:
   a. Fabrication area aggregate quantities of hazardous materials are limited below other H occupancy limits [IBC 415.10.1.2 & IFC 2704.2.2].
   b. Fabrication area compartmentalization from remainder of the building [IBC 415.10.1.2].
   c. Fabrication area occupied levels are at or above grade plane [IBC 415.10.1.3].
   d. Fabrication mechanical ventilation is a minimum of 1 CFM/SF with an increase of 4 times this amount for relief of electrical hazard classification [IBC 415.10.1.6 & 415.1.8 & IFC 2703.14.1].
   e. Workstation ventilation [IBC 415.10.1.8.1 & IFC 2703.14.1].
   f. Service corridors separate chemical delivery from egress paths [IBC 415.10.2, & 415.10.3 & IFC 2705.3.3].
   g. Service corridor mechanical ventilation meet fabrication area requirements and additionally meet 6 air changes per hour [IBC 415.10.3.2].
   h. Fabrication area hazardous materials are contained within cabinets or workstations [IBC 415.10.4 & IFC 2704.2.1].
   i. Fabrication building hazardous material production storage and use rooms are separated from each other and other parts of the building with 2-hour fire barriers [IBC 415.10.5.1].
   j. Fabrication area, HPM room, gas cabinets and service corridor gas detection with gas shut off [IBC 415.7.2 & IFC 2703.13]
   k. Emergency power for HPM exhaust ventilation, HPM gas cabinet ventilation, HPM exhaust enclosure ventilation, HPM gas room ventilation, HPM gas detection, Emergency alarm, Manual fire alarm and automatic sprinkler system monitoring and alarm system, electrically operated systems for HPM use, storage or handling [IBC 415.10.10.1 & IFC 2703.15]
   l. Automatic sprinkler system protection in exhaust duct for HPM [IBC 415.10.11 & IFC 2703.10.4.4]
3. This section allows Group H-5 occupancies in mixed occupancy, two-story unlimited area buildings under limited conditions. A typical example of a practical application of this would be the construction of a fabrication building that is used primarily for multiple cleanrooms and may contain laboratories, offices, conference rooms, fan coil unit filter storage, etc. Group H-5 would not be permitted as stand-alone unlimited area buildings. Dissimilar to the requirement in Section 507.4 for Group B, F, M and S buildings, unlimited area buildings that contain a Group H-5 occupancy are permitted to be built of only Type I or II.
   The restrictions on the use of Group H-5 occupancies in mixed occupancy, unlimited area buildings include: (1) type I or II construction; (2) required separation; (3) limited size of each Group H-5 occupancy to the area allowed in Section 503.1 with modifications per 506.

   Item 1. States that the building be constructed of Type I or II construction.
   Item 2. States that the Group H-5 occupancy is required to be separated from the rest of the unlimited area building by fire barriers in accordance with Section 508.4.4. For example, if a fabrication area contains cleanroom facilities next to a lunch room (Group A-2), the lunch room would need to be separated from the cleanroom facilities by a 2-hour fire barrier, as determined from Table 508.4.
   Item 3. Requires each Group H-5 area to be limited to that allowed by Section 503.1 with modifications based on 506. For example, if the fabrication cleanroom mentioned above were Type IIB construction, the allowable area of cleanroom per floor would be 69,000 square feet (6,410 m2) [tabular value of 23,000 square feet (2,136 m2) × 3]. This is a total of 138,000 square feet (12,820 m2) total for each area of the building. Note that the allowable area is increased by 200 percent as permitted by Section 506.3 for multi-story buildings equipped with fire sprinklers. The allowable area could also be increased for frontage in accordance with Section 506.2, depending upon the amount of frontage that the Group H-5 portion has, relative to its own perimeter. The important point is that the area limits for each Group H-5 occupancy area based upon Section 503.1, not the tabular values of Table 503. Thus, because Section 503.1 states that the allowable area is limited to the values in Table 503.1 except as modified hereafter, the allowable increases given in Section 506 would be applicable.

   Also note that each Group H-5 occupancy is evaluated on its own and not as an aggregate (i.e., the area of the Group H-5 occupancies would not have to be added together). When other occupancies are integrated into the area such as F, S, M or B, the rated separation between the H-5 occupancies can be located in a place such that the total area of H-5 in each area is less than the area limits for each H-5 based on Section 503.1. Therefore the other occupancies can be on either side of the rated separation as described in fire barrier provisions of Section 707.3.10 as long as the H-5 occupancy does not exceed the area limits. In occupancies not listed, areas would be limited to provisions of Section 503.1.

Public Comment 3:

Kevin Wright PE, SE, IM Flash Technologies requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

507.9 Unlimited mixed occupancy buildings with Group H-5. The area of a Group B, F, H-5, M or S building no more than two *stories above grade plane* shall not be limited where the building is equipped throughout with an *automatic sprinkler system* 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, provided all of the following criteria are met:

1. Buildings containing Group H-5 occupancy shall be of Type I or II construction.
2. Each area used for Group H-5 occupancy shall be separated from other occupancies as required in Sections 508.4 and 415.10.
3. Each area used for Group H-5 occupancy shall not exceed the maximum allowable area permitted for such occupancies in Section 503.1 including modifications of Section 506.

Exception: When the Group H-5 occupancy exceeds the maximum allowable area, the Group H-5 shall be subdivided into areas that are separated by 2-hour fire barriers.

Commenter's Reason:

G119 Intent

- Address and clarify the area of H-5 occupancy as a part of an unlimited area building (UAB) described in 507.
  - Currently H-5 is not specifically addressed in section 507.
  - As a primary occupancy, H-5 occupancy shall be compartmentalized when the type of construction warrants.
  - Confusion exists when H5 is viewed as a accessory use within the UAB.
  - Table 503 with modifications per 506 is interpreted as the area limitation for H-5 in type II construction within a UAB.
  - For clarity, section 507 should specifically address the H-5 occupancy as well as the allowable area of H-5 within mixed occupancy of an UAB.

G119 Deficiencies as Indicated in the Public Hearing in Dallas, TX

- As written, proposed code change G119 would have allowed unlimited area H-5 buildings of any type of construction, including wood frame.
- The proposal is heavy in historical points but is lacking in technical justification.

This Public Comment Proposes the Following Modifications

- Construction limited to Type I & II.
  - Table 503 limits the area of S occupancy in Type I construction and therefore Type I would be included in the UAB with this proposal.
- This proposal is intended to address single and multiple H-5 occupancies as primary occupancies within an unlimited area building. This is similar to another UAB for A1 and A2 occupancies, Section 507.3.1
- Provide current code equivalency to fire intensity & volume, fire department personnel access and exposure to community of H-5 occupancy through the use of compartmentalization.
  - This proposal provides a method for allowable area for H-5 occupancy within mixed occupancy buildings per 503 including increases per 506. H-5 area modifications allowed by Section 506 can be used.
  - This proposal provides clarification for separation of mixed occupancies by use of 508.4 and 415.10. There are provisions specific to 415.10 with require separation of H-5 to HPM rooms, service corridors and other fabrication areas which are based on the program requirements which may be greater than Section 508.4. It is the intent of this proposal to continue to have these provisions remain in effect.
  - This proposal provides a means similar to table 707.3.10 to compartmentalize when multiple H-5 occupancies are used. As a primary occupancy, H-5 would be compartmentalized by the 2-hour wall to limit the areas to the Table 503 with 506 increases when the type of construction dictates. When the Table 503 is unlimited as is the case with Type IA, the 2-hour compartment would not be required

G119-12 Reasons for Modifications to the Original Proposal

- This section allows Group H-5 occupancies in mixed occupancy, two-story unlimited area buildings under limited conditions. A typical example of a practical application of this would be the construction of a fabrication building that is used primarily for multiple cleanrooms and may contain laboratories, offices, conference rooms, fan coil unit filter storage, etc. Group H-5 would not be permitted as stand-alone unlimited area buildings. Dissimilar to the requirement in Section 507.4 for Group B, F, M and S buildings, unlimited area buildings that contain a Group H-5 occupancy are permitted to be built of only Type I or II.

  The restrictions on the use of Group H-5 occupancies in mixed occupancy, unlimited area buildings include: (1) type I or II construction; (2) required separation; (3) limited size of each Group H-5 occupancy to the area allowed in Section 503.1 with modifications per 506; and (3- Exception) additional Group H-5 occupancy areas are separated from each other by a 2-hour rated fire barrier.

  - Item 1. States that the building be constructed of Type I or II construction.
  - Item 2. States that the Group H-5 occupancy is required to be separated from the rest of the unlimited area building by fire barriers in accordance with Section 508.4.4. For example, if a fabrication area contains cleanroom facilities next to a lunch room (Group A-2), the lunch room would need to be separated from the cleanroom facilities by a 2-hour fire barrier, as determined from Table 508.4.
  - Item 3. Requires each Group H-5 area to be limited to that allowed by Section 503.1 with modifications based on 506. For example, if the fabrication cleanroom mentioned above were Type IIB construction, the allowable area of cleanroom per floor would be 69,000 square feet (6,410 m2) [tabular value of 23,000 square feet (2,136 m2) × 3]. This is a total of 138,000 square feet (12,820 m2) for each area of the building. Note that the allowable area is increased by 200 percent as permitted by Section 506.3 for multi-story buildings equipped with fire sprinklers. The allowable area could also be increased for frontage in accordance with Section 506.2, depending upon the amount of frontage that the Group H-5 portion has, relative to its own perimeter. The important point is that the area limits for each Group H-5 occupancy area based upon Section 503.1, not the tabular values of Table 503. Thus, because

Section 503.1 states that the allowable area is limited to the values in Table 503.1 except as modified hereafter, the allowable increases given in Section 506 would be applicable.

- Item 3, Exception. Requires that each Group H-5 occupancy is evaluated on its own and not as an aggregate (i.e., the area of the Group H-5 occupancies would not be added together). When other occupancies are integrated into the area such as F, S, M or B, the rated separation between the H-5 occupancies can be located in a place such that the total area of H-5 in each area is less than the area limits for each H-5 based on Section 503.1. Therefore the other occupancies can be on either side of the 2-hour fire barrier as long as the H-5 occupancy does not exceed the area limits. In occupancies not listed, areas would be limited to provisions of Section 503.1, with increases as allowed.

G119-12

Final Action: AS AM AMPC____ D

G120-12
507.5.1 (New)

Proposed Change as Submitted

Proponent: David Scott, Target (David.Scott@target.com)

Add new text as follows:

507.5.1 Property Lines. Multiple, contiguous, individual buildings may be considered as one building for the purpose of determining allowable area if the following conditions are met:

1. Permanent open space on all sides as required by Section 507.1, 507.2, 507.3, 507.4, or 507.5: and

2. Proper legal agreements recorded with the deed for each of the separate properties. These recorded agreements shall require that the buildings as divided by property lines, be in conformance with the applicable provisions of this code, as if the buildings were a single building on a single piece of property. In addition, the agreement must state that no individual building or property owner may modify any portion of the building in any way that would not be in compliance with this code.

Reason: This allows individual building owners to purchase the land under their building within an overall development. Previously, a strip center type development could have a lease line between individual tenants. Replacing a lease line with a property line does not create any further hazard.

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

507.5.1 (NEW)-SCOTT

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Disapproved with concern that this allowance depends upon legal issue related to property ownership. Such issues need to be dealt with by state and local government. This can be accomplished locally with the application of Section 104.11.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Scott, AIA, Target Corporation requests Approval as Modified by this public comment.

Replace the proposal as follows:

507.5.1 Lot Lines. For the purpose of determining building area, multiple, contiguous, individual buildings shall be considered as one building provided all of the following conditions are met:

1. A legal agreement between the owners of the individual buildings shall be recorded against the deed of each property. The agreement shall contain the following:
   1.1. The recorded description of each property.
   1.2. A statement that for the purposes of complying with the unlimited area provisions of the *International Building Code*, the listed properties shall be considered a single property;

1.3. A site plan or other description identifying the permanent open space being provided in compliance with Section 507.1, 507.2, 507.3, 507.4, or 507.5:

1.4. A statement that the permanent open spaces identified shall be maintained and shall not be modified in any manner in violation of the *International Building Code*

2. The agreement shall not be amended or terminated without the approval of the building official.

Reason: This allows individual building owners to purchase the land under their building within an overall development. Previously, a strip center type development could have a lease line between individual tenants. Replacing a lease line with a property line does not create any further hazard.

It was stated at the committee hearings that such agreements cannot be enforced by local officials. The intent is that local officials are not enforcing the document. However, violations of the idea of a clear yard around the collection of buildings would be considered a building code violation which can be enforced by the local official.

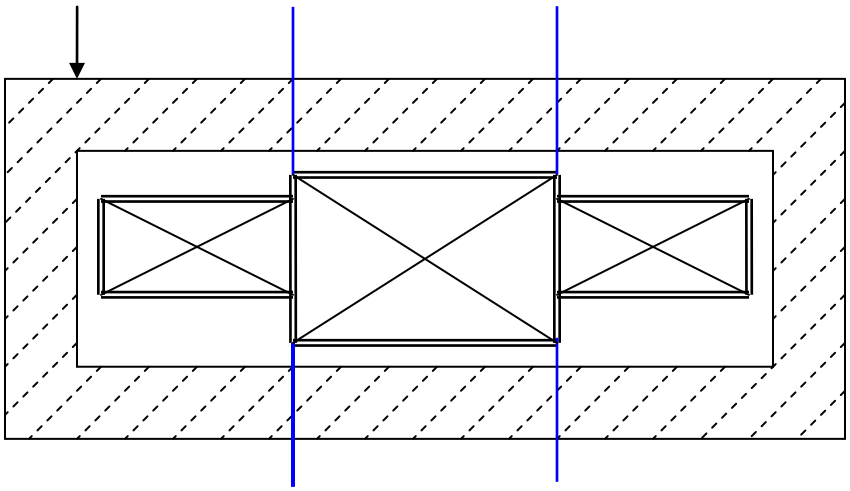
The committee stated that this could be handled under Section 104.11. However, many code officials would prefer some form of standard guidance before using this authority. The adoption of this provision will provide such guidance.

Another comment was the use of the word “Property lines”, which we have revised to “Lot lines” to coincide with terminology within the code.

The purpose of this proposal is to catch up with modern development processes. Retail strip centers used to be divided by lease lines. However, current development may have each property divided by lot lines. This affects the legal design of the same retail strip centers as show in the following examples:

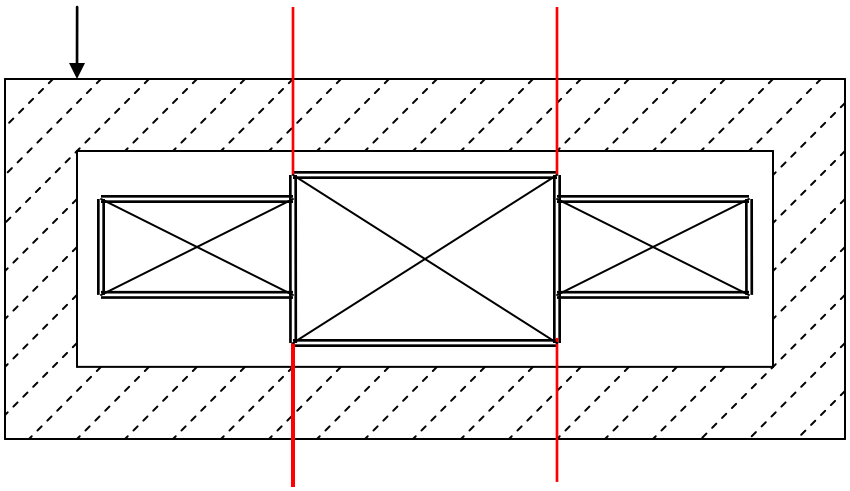
Example 1: A former strip center with the middle anchor retail divided only by lease lines. As a collection of buildings, surrounded by a 60’ yard, each separate owner was permitted unlimited area. The surrounding yard was usually a shared drive lane and fire lane.

Surrounded by 60’ yard, shared drive lane and fire lane



Example 2: The same collection of buildings, but now divided by a lot line between individual properties. As such, they are no longer permitted unlimited area.

Surrounded by the same 60’ yard, shared drive and fire lane



G120-12
Final Action: AS AM AMPC____ D

G123-12
508.1, 508.2, 508.2.1, 508.2.3, 508.3, 508.3.1, 508.3.2, 508.4, 508.4.1, 508.4.2, 508.4.3

Proposed Change as Submitted

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company (grkeith@keith@mac.com)

Revise as follows:

508.1 General. Each portion of a building shall be individually classified in accordance with Section 302.1. Where a building contains more than one occupancy classification ~~group~~, each story containing mixed occupancies shall comply with one of the design options specified in Section 508.2, 508.3 or 508.4. All stories within the same building are not required to use the same mixed occupancy design option. ~~the building or portion thereof shall comply with the applicable provisions of Section 508.2, 508.3 or 508.4, or a combination of these sections.~~

Exceptions:

1. Accessory occupancies shall be permitted in conjunction with the non-separated design option where remainder of the story complies with Section 508.3.2.
   ~~1~~ 2. Occupancies separated in accordance with Section 510.
   ~~2~~ 3. Where required by Table 415.3.2, areas of Group H-1, H-2 and H-3 occupancies shall be located in a detached building or structure.
   ~~3~~ 4. Uses within live/work units, complying with Section 419, are not considered separate occupancies.

508.2 Accessory ~~occupancies~~ occupancy design option. Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portion thereof. Accessory occupancies shall comply with the provisions of Sections 508.2.1 through 508.2.4.

~~**508.2.1 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.~~

~~**508.2.2**~~ **508.2.1 Occupancy classification.** Accessory occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the building based on the occupancy classification of that space.

~~**508.2.3**~~ **508.2.2 Allowable building area and height.** In each *story*, 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. 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. 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.~~

~~**508.2.4**~~ **508.2.3 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. 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 in accordance with the requirements of Section 420.

508.3 Nonseparated ~~occupancies~~ occupancy design option. Buildings or portions of buildings that comply with the provisions of this section shall be considered as nonseparated occupancies.

508.3.1 Occupancy classification. Non-separated occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the story ~~building~~ based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 that ~~which~~ apply to the non-separated occupancies shall apply to the total story ~~non-separated occupancy area~~. Where non-separated occupancies occur in a high-rise building, the most restrictive requirements of Section 403 that ~~which~~ apply to the non-separated occupancies shall apply throughout the high-rise building.

508.3.2 Allowable building area and height. In each *story*, the allowable *building area and height*, in feet and number of stories, ~~of the building or portion thereof~~ shall be based on the most restrictive allowances for the occupancy classifications ~~groups~~ under consideration for the type of construction of the building in accordance with Section 503.1.

508.3.3 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 508.4.
2. 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 420.

508.4 Separated ~~occupancies~~ occupancy design option. Buildings or portions of buildings that comply with the provisions of this section shall be considered as separated occupancies.

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

(No change to table or footnotes)

508.4.1 Occupancy classification. Separated occupancies shall be individually classified in accordance with Section 302.1. ~~Each separated space shall comply with this code based on the occupancy classification of that portion of the building.~~ The requirements of this code shall apply to each portion of the story based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 that apply to occupancies not required to have an occupancy separation in accordance with Table 508.4, shall apply to the total un-separated occupancy area. Where such un-separated occupancies occur in a high-rise building, the most restrictive requirements of Section 403 that apply to the un-separated occupancies shall apply throughout the high-rise building.

508.4.2 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 1.

508.4.3 Allowable height. Each ~~separated~~ occupancy shall comply with the *building height* and number of story limitations based on the type of construction of the building in accordance with Section 503.1.

Exception: Special provisions permitted by Section 510 shall permit occupancies at *building heights* other than provided in Section 503.1.

508.4.4 Separation. Individual occupancies shall be separated from adjacent occupancies in accordance with Table 508.4.

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies.

Reason: Section 508, which specifies the provisions applicable to mixed occupancies, has evolved over the relatively short life of the IBC. Most of these changes resolved inconsistencies between the legacy codes in this fundamental technical area and have resulted in a rational system of viable and relative design options based on relative risk. Some organizational or formatting changes were included in the previous revisions. This proposal is intended to correct lingering technical inconsistencies and offer final improvements to the organization and intent of mixed occupancy requirements.

The most important feature of this proposal is to clarify that individual design options (accessory, non-separated and separated) apply to an entire story; however, different design options can be used for various individual stories within a building. This is necessary so as to maintain the integrity of the IBC system for allowable area determination. Each design option specifies a method for allowable area determination. The allowable area of accessory occupancies is based on the allowable building area for the main occupancy (Section 508.2.3). The allowable area of non-separated occupancies is based on the most restrictive allowances for the occupancy classifications under consideration for the type of construction of the building (Section 508.3.2). The allowable area of separated occupancies is based on a unity formula calculation (Section 508.4.2). It should be noted that a new Exception 1 to Section 508.1 permits accessory occupancies (those occupancies occupying no more than 10% of the area of the story nor more that the tabular allowable area for such occupancy) to occur in conjunction with the non-separated mixed occupancy design option. This is a traditional interpretation based on some legacy codes and does no harm. Since neither the accessory occupancy nor the non-separated design options generally require a physical occupancy separation and the allowable area is reasonably controlled based on the most restrictive allowances of the occupancies not qualifying as accessory, a combination of these two mixed occupancy design options is acceptable.

Otherwise, if different mixed occupancy design options are used within a given story, the resulting gross floor level could be much larger than intended based on Table 503 and relative risk. For instance:

GIVEN:

A sprinklered, two story building of Type IIA construction.
A building story having a floor area of 79,500 square feet and containing three individual occupancies:
A Group A-2 occupancy having a floor area of 5,500 square feet
A Group B occupancy having a floor area of 14,000 square feet
A Group F-1 occupancy having a floor area of 60,000 square feet

DETERMINE:

Is the building area for the story under consideration acceptable?

SOLUTION:

Examine the occupancies under consideration to determine if the story qualifies for the non-separated mixed occupancy design option. The occupancy classification requiring the most restrictive allowable area allowance is Group A-2. The floor area of the story (79,500 sf) is greater than that permitted for the most restrictive occupancy (46,500 sf). Therefore, the story does not qualify for the non-separated occupancy design option. Determine if the story qualifies for the accessory mixed occupancy design option. The floor area of the aggregate accessory occupancies of the story (19,500 sf) is greater than 10 percent of the building area of the story in which they are located (24.5 %). Therefore, the story does not qualify for the accessory occupancy design option. Determine if the story qualifies for the separated mixed occupancy design option. The sum of the ratios of the actual building area of each occupancy divided by the allowable building area of each occupancy exceeds 1: [(5,500 ÷ 46,500) + (14,000 ÷ 112,500) + (60,000 ÷ 75,000)] = 1.042. Therefore, the story does not qualify for the separated occupancy design option. Accordingly, the building does not comply with any of the three mixed occupancy design options. Therefore, the building must be redesigned by upgrading the type of construction, reconfiguring the occupancies, including building frontage, etc.

Combining design options within a given story is not permitted. Creativity may erroneously determine that such combination is acceptable. Such logic might follow:

Consider the Group A-2 occupancy as being accessory to the Group F-1 occupancy (9.2 %). Then consider the accessory occupancy portion of the story as an individual occupancy and evaluate the resultant Group F-1 and B occupancies as separated occupancies [(65,500 ÷ 75,000) + (14,000 ÷ 112,500)] = .997, therefore OK. This is an unacceptable practice for two reasons. First, Section 508.3.2 states that, "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." What is not the main occupancy (Group F-1), is regarded as the accessory occupancy(s) (Groups A-2 and B). In this case, the accessory occupancies comprise 24.5 percent of the building area of the story in which they are located (current Section 508.2.1). Secondly, Section 508.4.1 states, "Separated occupancies shall be individually classified in accordance with Section 302.1." Additionally, Section 508.4.2 states that when determining the allowable area using the separated occupancy design option, "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 1. The consolidation of occupancies is not recognized. When design options are combined, the technical assumptions and relationships are lost.

The concept of mixed occupancy allowable area determination is based on limiting the area based on relative risk and the degree of occupancy separation. Therefore, it is critical that the allowable area based on fuel load or occupancy related concerns be balanced so as not to exceed acceptable levels of risk.

From a logical point of view, it makes no sense to allow for a building area greater than that allowed by any of the three design methods. The concept of mixed occupancy allowable area determination is based on limiting the area based on relative risk and the degree of occupancy separation. Each of the methods weighs the required occupancy separation with the relative size of the story under consideration. Generally speaking, occupancy separations are not required when using the accessory occupancy or non-separated occupancy design options. The accessory occupancy option assumes that the percentage or size of the ancillary occupancies is sufficiently small so as to not to create an unacceptable level of relative risk without formal occupancy separations. The non-separated option assumes that since the proportion is not regulated, using the most restrictive requirements of the occupancies under consideration mitigates the need for formal occupancy separations. The separated option requires the performance of the sum of the ratios calculation to balance the relative risk and fuel load to no more than would ordinarily be experienced in single occupancy buildings. Additionally, where the occupancies under consideration are of dissimilar risk, formal occupancy separations are required with the separated design option.

In the original example, assuming that the building qualified for the separated occupancy design option, a one-hour fire-resistance rated occupancy separation would be required between the Group A-2 and the Group F-1 occupancies. The incorrect method of combining the design options within a given story allows an area greater than that allowed by the separated mixed occupancy design option and eliminates the required occupancy separation.

This issue also impacts the determination of the total allowable area in multistory mixed occupancy buildings. Section 506.5.2 requires that, "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 3." The divisor necessarily needs to comply with one of the three mixed occupancy design options so as not to skew the overall building area calculation.

It is unfortunate that this rationale could not have been incorporated into previous modifications to Section 508. The nature of the code development process does not generally embrace comprehensive code changes, especially for contentious subject areas. The recommended modifications to Section 508 clarify the intent and introduce additional balance into IBC mixed occupancy procedures.

It is proposed that the sections applicable to allowable building area determination for the accessory and non-separated design options be revised to include identical charging language, "In each story, …" as is the case with the separated design option in Section 508.4.2. Additionally, Section 508.1 has been reworded to specify that, "…each story containing mixed occupancies shall comply with one of the design options specified in Section 508.2, 508.3 or 508.4.

Some additional housekeeping changes are also included. Section 508.2.1 has been deleted and included in current Section 508.2.3. This move is consistent with the format of each of the design option subsections and technically consistent with the section heading, "Allowable building area and height." Additional editorial corrections have been made so as to be consistent with intent.

During discussion of mixed occupancy provisions during the previous code development cycle, it was noted that the provisions of Section 508.3.1 applicable to non-separated occupancies should also be made applicable to those occupancies not requiring an occupancy separation based on Table 508.4 for the separated design option. Section 508.4.1 has been modified to reflect that technical concern.

In summary, mixed occupancy provisions have continually evolved since the publication of the inaugural 2000 Edition of the IBC. The fundamental system of three mixed occupancy design options in Section 508 and incidental uses in Section 509 is contained in the 2012 IBC. This proposal intends to provide final adjustment and clarification to this system. Approval of this proposal will enhance consistency in the application of these very fundament provisions.

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

508.1-G-KEITH

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The current code provisions on mixed occupancies appear adequate. Additionally there is concern that the proposal makes some technical changes.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Gregory R. Keith, Professional heuristic Development, representing The Boeing Company, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

508.1 General. Each portion of a building shall be individually classified in accordance with Section 302.1. Where a building contains more than one occupancy classification, each story ~~containing mixed occupancies shall comply with one of the design options specified in Section 508.2, 508.3 or 508.4. All stories within the same building are not required to use the same mixed occupancy design option.~~ shall comply with the applicable provisions of Section 508.2, 508.3 or 508.4, or a combination of these sections in accordance with Section 508.5.

Exceptions:

~~1. Accessory occupancies shall be permitted in conjunction with the non-separated design option where remainder of the story complies with Section 508.3.2.~~

1 ~~2~~. Occupancies separated in accordance with Section 510.

2 ~~3~~. Where required by Table 415.3.2, areas of Group H-1, H-2 and H-3 occupancies shall be located in a detached building or structure.

3 ~~4~~. Uses within live/work units, complying with Section 419, are not considered separate occupancies.

508.3.1 Occupancy Classification: Non-separated occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the story based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 that apply to the non-separated occupancies shall apply to the total ~~story~~ non-separated occupancy area. Where non-separated occupancies occur in a high-rise building, the most restrictive requirements of Section 403 that apply to the non-separated occupancies shall apply throughout the high-rise building.

508.3.2 Allowable building area and height. ~~In each *story*,~~ The allowable *building area and height*, in feet and number of stories, shall be based on the most restrictive allowances for the occupancy classifications under consideration for the type of construction of the building in accordance with Section 503.1.

508.4.1 Occupancy classification. Separated occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the story based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 that apply to those occupancies not required to have an occupancy separation (N) in accordance with Table 508.4, shall apply to all such unseparated portions of the total ~~un-~~separated occupancy area. Where such ~~un-separated~~ occupancies not required to have an occupancy separation (N) in accordance with Table 508.4 occur in a high-rise building, the most restrictive requirements of Section 403 that apply to such ~~the un-separated~~ occupancies shall apply throughout the high-rise building.

508.5 Combining design options. Combined mixed occupancy design options within a given story shall be permitted in accordance with the provisions of this section.

508.5.1 Allowable area. The allowable area of the story shall be such that the sum of the ratios of the actual area of each design option used divided by the respective allowable area for each design option used shall not exceed 1.

Exception: Accessory occupancies shall be permitted to be included in the allowable area of the nonseparated or separated occupancies to which they are accessory provided that the aggregate area of all accessory occupancies shall not exceed 10 percent of the building area of the story under consideration.

508.5.2 Occupancy separation. No occupancy separation is required between the accessory occupancy portion and the non-separated portion of a story, except as required by Sections 508.2.4 and 508.3.3. Where the separated occupancy design option is used in conjunction with the accessory occupancy design option or the non-separated occupancy design option on a given story, such separated occupancy portion of a story shall be separated from the remainder of the story in accordance with the requirements of Table 508.4 based on the most restrictive provision for any occupancy in the remainder of such story.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Section 508, which specifies the provisions applicable to mixed occupancies, has evolved over the relatively short life of the IBC. To this point in time, there are no specific procedures for the determination of allowable area for stories containing mixed occupancies employing different mixed occupancy design options. Section 508.1 of the 2012 IBC simply states, "the building or portion thereof shall comply with the applicable provisions of Section 508.2, 508.3 or 508.4, or a combination

of these sections." That vague language leads to numerous and varied interpretations of how to calculate mixed occupancy allowable areas.

The original submittal of FS123-12 took a simplistic approach that stated that within a given story, mixed occupancy design options were not to be combined, the accessory occupancy and non-separated occupancy design options not withstanding. Several people spoke in opposition stating that they had combined the three methods in the past. Unfortunately, some of their approaches differed in detail achieving varying degrees of compliance.

Based on the opposing testimony and the General Code Committee's stated reason for disapproval, this public comment creates a system for the determination of allowable areas for stories combining mixed occupancy design options. The revised format is very user friendly in that it simply describes how to determine the allowable area and what occupancy separations are required. Additionally, the last sentence of Section 508.2.2 has been deleted so a to be consistent with the General Code Committee's recommendation for approval as submitted on Item FS126-12.

Section 506 provides an absolute limit for the allowable area for single occupancy buildings. It is important from a legal/technical point of view, that the IBC delineates a system to prescribe upper limits for allowable areas in mixed occupancy buildings. The committee has spoken and a logical, combination based system has been created. Given the current three-year code development cycle, it is imperative that a system be approved for inclusion in the 2015 Edition of the IBC. As has been previously stated, there is no prescribed system for combined mixed occupancy story allowable area determination currently in the IBC. This system should be included in the 2015 IBC and if necessary, refined in subsequent code development cycles.

In summary, mixed occupancy provisions have continually evolved since the publication of the inaugural 2000 Edition of the IBC. The fundamental system of three mixed occupancy design options in Section 508 and incidental uses in Section 509 is contained in the 2012 IBC. Approval of this public comment will enhance consistency in the application of these very fundament provisions.

G123-12

Final Action: AS AM AMPC____ D

G126-12
508.2.3

Proposed Change as Submitted

Proponent: Sarah A. Rice, C.B.O., The Preview Group (srice@preview-group.com)

Revise as follows:

508.2.3 Allowable building area and height. The allowable *building area and height* of the building containing accessory occupancies 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.

Reason: The current text of 508.2.3 literally limits the location of an accessory occupancy in a building to the tablular height in Table 503 for the occupancy of the accessory occupancy. Imposing this limit is a total contradiction to what the accessory occupancy design option was intended to allow. When literally applied, an office building of Type IIC construction that is allowed to be 4 stories in height with sprinklers, could not have closets or storage rooms above the 2nd story as they are a Group S-1 (storage) occupancy and the tabular height limit in Table 503 is 2 stories.

And I emphasize "tabular" height limit because as the code is currently written, no height increase can be taken for a fully sprinklered building used when determining the vertical location of an accessory occupancy.

Another example would be linen storage rooms (Group S-1) in hotels of Type IIB construction. Based on Table 503 the tabular building height limit (in stories) for a Group S-1 occupancy is 2 stories, where the hotel (Group R-2) is allowed to be up to 5 stories when sprinklered. Because Group S-1 occupancies are not allowed above the 2nd story, linen storage closets would not be allowed above the 2nd story – a hotel cannot literally function without those storage spaces.

Without this code change many building designs as we know them today would continue to literally not be allowed.

Cost Impact: The proposed changes will not increase the cost of construction.

508.2.3-G-RICE sar comments.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved based upon the proponent's reason and since it provides flexibility to accessory occupancies to the location within the building due to the removal of height restrictions.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

508.2.3 Allowable building area and height. The allowable *building area and height* of the building containing accessory occupancies other than Group H, I and E shall be based on the allowable *building area and height* for the main occupancy in accordance with Section 503.1. The *building area* of the accessory occupancies shall be in accordance with Section 508.2.1.

Commenter's Reason: The General Committee approved this code change submitted by the Preview Group modifying Section 508.2.3 to eliminate the accessory use area limits for height. As proponents of G124, which was not approved, we agree with the

overall concept of this change however we are concerned that the change is too broad. We request that the membership consider approval of the proposed modification to the approved code change to limit its scope by excluding Groups H, I and E. These occupancies have special requirements and should be limited along the height of the building.

We request that the membership approve the proposed modification to the committee's action.

G126-12

Final Action: AS AM AMPC____ D

G128-12
Table 508.4

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-1[a], I-3, I-4		I-2		R[a]		F-2, S-2[b], U		B[e], 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	S	NS
B[e], F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2	1	NP

(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. See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.3.4.
d. Separation is not required between occupancies of the same classification.
e. See Section 422.2 for ambulatory care facilities.

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

This footnote reminds the reader that although there is no separation required for many B occupancy to other occupancies that Section 422.2 would still require a 1 hour fire partition between other group B occupancies and F-1, M and S-1 occupancies.

Cost Impact: None

T508.4-G-WILLIAMS-ADHOC

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This provides a helpful clarification that ambulatory care facilities have specific and more restrictive separation requirements even though they are Group B occupancies.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

John Williams, Adhoc Health Care – MOE study group, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

407.5 Smoke barriers. TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-1[a], I-3, I-4		I-2		R[a]		F-2, S-2[b], U		B[e], 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	S	NS
B[e], F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2	1	NP

(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. See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.3.4.
d. Separation is not required between occupancies of the same classification.
e. See Section 422.2 for ambulatory care facilities.

508.2.4 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. 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 in accordance with the requirements of Section 420.
3 Ambulatory care facilities shall be separated in accordance with Section 422.2

508.3.3 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 508.4.
2. 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 420.
3. Ambulatory care facilities shall be separated in accordance with Section 422.2

Commenter's Reason: G128-12 does adds a footnote to the occupancy separation table to remind code users that for Ambulatory Care Facilties a 1-hour separation is required between an ambulatory care facility and any other tenant space. That requirement is going to apply regardless of which Section of 508 is in use. To be consistent, exceptions are proposed to Sections 508.2 and 508.3. The pointer sends the user to a more restrictive requirement that would otherwise be overlooked.

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

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Cost Impact: None

G128-12

Final Action: AS AM AMPC____ D

G131-12
509.3

Proposed Change as Submitted

Proponent: Steve Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter ICC (sthomas@coloradocode.net)

Delete without substitution:

~~**509.3 Area limitations.** Incidental uses shall not occupy more than 10 percent of the *building area* of the *story* in which they are located.~~

Reason: Incidental uses have been revised in every edition of the code. The original incidental uses did not have any area limitation and there were no reported issues through the 2006 edition of the IBC. When the uses were incorporated into accessory occupancies in the 2009 IBC, the 10 percent limitation was introduced. As the incidental uses were removed from the accessory occupancies, the 10 percent limitation was carried over. History has shown that the 10 percent limitation is not needed for incidental uses. This requirement is problematic in buildings where most if not all of the building is dedicated to uses listed in Table 509. For example a high school may have several classrooms that are classified as laboratories or vocational classrooms. These classrooms and labs typically exceed 10 percent of the story that they are located in. There is no guidance in the IBC to direct the user on how to address these situations. By eliminating the 10 percent limitation, the classrooms would still be required to be separated or protected with automatic sprinklers. However, they would not be limited. This would also address the condition where a large campus style project has a building that serves as a central heating plant as well.

Cost Impact: The proposed changes will not increase the cost of construction.

509.3-G-THOMAS.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The deletion of the section in its entirety was seen as inappropriate as some threshold is necessary for incidental uses otherwise such incidental uses will get too large. See G132-12 committee reason.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

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

Modify the proposal as follows:

509.1 General. Incidental uses located within single occupancy or mixed occupancy buildings shall comply with the provisions of this section. Incidental uses are ancillary functions associated with a given occupancy that occupy less than 10 percent of the building area of the story in which they are located. Such uses generally pose a greater level of risk to that occupancy and are limited to those uses listed in Table 509.

Exception: Incidental uses within and serving a dwelling unit are not required to comply with this section.

~~**509.3 Area limitations.** Incidental uses shall not occupy more than 10 percent of the building area of the story in which they are located.~~

Commenter's Reason: The purpose of this proposal is to provide direction to the user of the code that incidental uses are ancillary to the major use. The intent of this change is to address the condition where a use that is listed in Table 509 that exceeds the 10%

threshold cannot be designated as an incidental use. The use should then be classified as an occupancy and be designed as outlined in Chapter 5.

For example, a vocational school would obviously have more than 10% of the floor area. The code does not provide direction on how this kind of building should be designed. By moving the 10% threshold into the section that describes what an incidental use is, it clarifies the intent of the code. The vocational school would be designated as a Group E Occupancy. The same would apply to a heating plant building, where the entire building is dedicated to boilers or refrigeration equipment. This change would change the provisions to classify the building as a Group F occupancy.

Public Comment 2:

Al Godwin, CBO, CPM, Aon Fire Protection Engineering Corporation, requests Approval as Submitted.

Commenter Reason: The Committee stated that it is important to maintain a limit on Incidental Use area to prevent them from getting too large. However, I have to ask the question as to when has anyone ever installed extra Mechanical equipment, extra boilers, extra laundry rooms, extra hydrogen cut-off rooms, etc. People only install what is needed for that building and use.

A warehouse may have a small mechanical room to condition the office; whereas, a warehouse used as an AT&T switching center may have a huge mechanical room to keep the equipment cooled. If this room goes over 10% of the floor area, why does it have to be reclassified?

The 10% was added at the Final Action hearings under G107-09/10.There is no justification for a 10% limit. There has been no presentation of a need for this limitation.

G131-12

Final Action: AS AM AMPC____ D

G132-12
509.3

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering (al.godwin@aon.com)

Revise as follows:

509.3 Area limitations. Incidental uses shall not occupy more than 10 percent of the *building area* ~~of the *story*~~ in which they are located.

Reason: In the last code cycle, this provision was added at the Final Action to code change G107-09/10. While it mirrors the requirement for Accessory occupancies, Section 508.2.1, and may have made since at the time, when actually put into practice it creates a problem.

It is not uncommon for high rise buildings to dedicate a full floor, either basement or 5th floor, to mechanical equipment. To expect them to allocate 10% per floor to such incidental uses is impractical.

In such designs, those floors can no longer be considered incidental and require the assignment of an occupancy classification. What is the occupancy classification of a boiler? Is it an F for making hot water or an S for storing hot water? What is the occupancy of refrigeration equipment?

What is the classification of a Group I-3 padded cells when the number of padded cells exceeds the limitation of Incidental Uses? Isn't it still an I-3? Is the 1-hour separation of Table 509 still required between I-3 padded cells exceeding 10% in area and the other I-3 cells on the floor? It would appear that they could use the non-separated mixed use provisions and avoid any separation. In that case, adding more padding eliminates the 1-hour separation.

And once a floor is classified as a Group S-1 or F-1, the building can no longer take the high-rise reduction from IB to IIA of Section 403.2.1.1(2).

Another example of a problem is "Laboratory and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy." If such labs and/or vocational shops cannot be less than 10% of the floor, or with this proposal, 10% of the building, they are no longer an incidental use. They must be classified as something else.

No justification has been presented to show that full floor incidental uses are a problem. It may not be appropriate to limit the area at all, and the entire section should be deleted. However, deleting the "per floor" limitation may solve the problem and still meet the committees concerns of limiting the square footage.

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

509.3-G-GODWIN

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Concerned that although this was a better fix than G131-12 that it is focusing only on high-rise buildings and not on low rise buildings with large building areas. The proposal fixes one building type but creates problems in others. It was suggested that perhaps an exception for high-rise buildings could be provided to address this problem.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Al Godwin, CBO, CPM, Aon Fire Protection Engineering Corporation, requests Approval as Submitted.

Commenter Reason: The Committee stated on G131-12 that it is important to maintain a limit on Incidental Use area to prevent them from getting too large. However, I have to ask the question as to when has anyone ever installed extra Mechanical equipment, extra boilers, extra laundry rooms, extra hydrogen cut-off rooms, etc. People only install what is needed for that building and use.

A warehouse may have a small mechanical room to condition the office; whereas, a warehouse used as an AT&T switching center may have a huge mechanical room to keep the equipment cooled. If this room goes over 10% of the floor area, why does it have to be reclassified?

The 10% was added at the Final Action hearings under G107-09/10.There is no justification for a 10% limit. There has been no presentation of a need for this limitation.

If Public Comment on G131-12 is not successful, then here is an alternate. Instead of 10% of the floor, at least reduce it to 10% of the building. All of the comments in the Reason statement are still applicable.

G132-12

Final Action: AS AM AMPC____ D

G133-12
510.2

Proposed Change as Submitted

Proponent: Marshall Klein, P.E., Marshall A. Klein & Associates, Inc., representing (NMHC) (makleinfpe@comcast.net) and Jason Thompson, P.E., National Concrete Masonry Association, representing Masonry Alliance for Codes and Standards

Revise as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours.
2. ~~The building below the *horizontal assembly* is not greater than one *story above grade plane*.~~

(Portions of text not shown remain unchanged)

Reason: (Klein) Item #2 of Section 510.2 is an antiquated section of the Code that was a carryover from the legacy 1997 UBC Section 311.2.2.1, **"Group S, Division 3 with Group A, Division 3; Group B, Group M or R, Division 1 Occupancy above"**. Under this section of the UBC the occupancies permitted below the 3 hour fire rated horizontal separation (i.e. parking garage, B, M and A-3 occupancies) were ***not*** required to be sprinklered. In the 2009 IBC, we revised the requirements under this Section of Code to **require** the building below the 3 hour fire rated horizontal separation to be sprinklered per Section 903.3.1.1 (NFPA 13) (See 2012 IBC Section 510.2(6)). Therefore, to limit the building under Section 510.2 that is of Type 1A Construction Type and sprinklered makes no sense anymore, and limits the use of this section of Code in major urban renewal areas of the US.

From a life safety/fire protection standpoint, permitting the Type 1A portion under the 3 hour horizontal separation to go to any number of stories, is an equal or better type of construction that is permitted by this section of code under Section 510.2(7). Section 510.2(7) permits the building(s) above the Type IA portion to be a maximum height in feet not to exceed the height limits set forth in Section 503 for the "…building having the smaller allowable height as measured from the grade plane…". Therefore, a project built under Section 510.2 can presently have above the Type IA portion an R-2 occupancy, sprinklered per NFPA 13R, 4 story, Type 5A, maximum of 60' above grade plane (or an R-2 occupancy, sprinklered per NFPA 13, 4 story, Type 5A, maximum of 70' above grade plane). However, if Item #2 is deleted, then as the Type IA portion is increased in its number of stories above grade plane, the portion above is still limited by Item #7's height limitation and its "height footprint" is being reduced. The net effect is that because this section of the Code will not permit more stories for the Type IA Construction Type, sprinklered portion of the project, the net effect is the reduction of the height of the portion of the project that is of a lesser construction type that is above the Type IA portion. Therefore, from a life safety/fire protection standpoint, we have an equal or better code requirement that is more flexible to provide for the needs of our urban needs to bring people back into our major cities to live and work.

(Thompson) Section 510.2 of the IBC has requirements to allow buildings with certain occupancies to be constructed with mixed construction types by using what is commonly referred to as pedestal construction where a building of a lesser type of construction is permitted to be built on top of a building of Type IA construction and the different types of construction are allowed to be considered separate buildings. This method of construction is allowed provided specific criteria are met including the installation of a 3 hour horizontal assembly that acts as a de facto "fire wall" separating the two buildings from vertical fire exposure (Item 1) and by limiting the total building height to the maximum height permitted in Table 503 for the lesser construction type (Item 7). However, the present code limits the height of the Type IA portion of the building below the 3 hour horizontal assembly to a single story above grade plane (Item 2).

Type IA is the most stringent construction type in the IBC from a fire resistance and noncombustibility point of view. According to Table 503, except for Group H-1 and H-2 occupancies, all other occupancies in buildings of Type IA construction are permitted to be of unlimited height and area due to the inherent fire safety provided by the most fire resistive construction type. However, Item 2 in Section 510.2 limits the Type IA building serving as the base of the pedestal construction to one story in height. This code change proposes to delete the one story limitation for the Type IA building portion of the pedestal construction. This will allow the Type IA building serving as the base of the pedestal construction to be multiple stories while still maintaining the total building height limit in Item 7 of Section 510.2 which is based on the construction type of the lesser type of construction built on top of the Type IA pedestal. This makes good sense since the more stories of Type IA construction allowed above the grade plane, the less potential stories of combustible construction with less fire resistance there will be in the building above.

Cost Impact: (Klein) The construction will cost more because of the additional cost of Type IA construction, but without the additional story or stories of Type IA podium for commercial development the project would not be cost effective to build to promote urban development.

(Thompson) This will not increase the cost of construction.

510.2-G-KLEIN-COMBINED.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal solves a problem for urban areas. The revision provides flexibility without changing the overall height of such structures.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Brad Emerick, Denver Fire Department, representing Colorado Chapter of the ICC, requests Disapproval.

Commenter's Reason: Building height is regulated in the code in 2 ways: in feet above grade plane and in number of stories. The proposed amendment retains the height-in-feet limitation but removes the height-in-stories limitation. At the code development hearings all testimony to the committee on this proposal and all subsequent committee discussion focused on height in feet. Height in stories was not analyzed. If the limitation on the number of stories is to be removed, technical discussion should recognize and consider the intended and unintended consequences, and some reasonable mitigating features need to be included to offset the increase in hazards described below.

The requirements allowing for this type of building were carried over from the UBC. Under the UBC the height of these structures was limited in feet to that allowed for the lesser construction type. If sprinklered throughout, the UBC permitted one additional story but no increase in feet-height. When the provisions for this type of building were brought into the IBC they were essentially duplicated – but the corresponding restrictions were not. The IBC allowed for an increase in height of 20 feet plus an allowable area increase in addition to the added story. The only limitation retained from the original concept was the cap on overall height in stories corresponding to the lesser construction type. The proposed change removes this cap.

For ease of discussion, the typical building constructed under the current provisions will be compared to one constructed under the proposed changes. Under current provisions, the typical building is comprised of 1-story of Type 1 construction with 4-stories of Type 5A above. Type 5A construction is combustible and usually houses an R2 occupancy. Though this building is permitted to be 70 feet in height (60 feet with a 13R system in some jurisdictions), under current code, there's a financial disincentive and it's unusual for developers to build them this tall as the average floor-to-floor height would be 14 feet. So typical buildings constructed under these provisions are 5-stories tall with the first story of combustible construction located 10 feet above grade plane, and the roof of the combustible construction close to 50 feet above grade plane (as a sidelight 50 feet was the height limit imposed under the UBC).

Under the proposed change, there is no limit on the overall number of stories. So in 70 feet, 3 stories of Type 1 could be constructed under 4 stories of Type 5A. This is a 7-story building with the first floor of combustible construction located 30 feet above grade plane and the roof of the combustible construction located 70 feet above grade plane. The primary consequence of this is raising the combustible stories – and from a fire-safety perspective, the riskier occupancy – higher off the ground, complicating firefighting and rescue efforts.

Elevating and consolidating the fuel load in taller combustible framed buildings creates an operationally more challenging fire for firefighters. Most of the higher risk occupancy is located beyond the reach of ground ladders. In jurisdictions without high rise apparatus, firefighters would be forced to attack from the stair enclosures – that are only required to be 1-hour rated. In jurisdictions that permit NFPA 13R sprinkler systems in these types of structures, the attic and the interstitial spaces between floors are permitted to be unsprinklered. In the typical building constructed under the current code, these spaces are located 20, 30, and 40 feet above grade. Under the proposed change they would be located 40, 50 and 60 feet above grade.

Under current code if someone had to be rescued (or worse, jump) from the 2nd story of combustible construction, the operation would occur on the 2nd story above grade plane. Under the proposed change the operation would occur on the 4th story above grade plane.

Finally, several building definitions and requirements are tied to height measured above the lowest level of fire department access which is different than height measured to grade plane. On a sloping site, the issues identified above are exacerbated. Depending on the steepness of the grade, the lowest level of fire department access could easily be facing 8 stories of building height without reaching high rise criteria.

G133-12

Final Action: AS AM AMPC____ D

G134-12
510.2

Proposed Change as Submitted

Proponent: C. Ray Allshouse AIA, CBO, City of Shoreline, WA, representing the Washington Association of Building Officials Technical Code Development Committee (rallshouse@shorelinewa.gov)

Revise as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours.
2. The building below the *horizontal assembly* is not greater than one *story above grade plane*.
3. The building below the *horizontal assembly* is of Type IA construction.
4. *Shaft*, *stairway*, *ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5.

   Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided:

   1. The building above the *horizontal assembly* is not required to be of Type I construction;
   2. The enclosure connects fewer than four *stories*; and
   3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.

5. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any ~~of the following occupancies:~~ occupancy allowed by this code except Group H.
   - ~~6.1. Group S-2 parking garage used for the parking and storage of private motor vehicles;~~
   - ~~6.2. Multiple Group A, each with an *occupant load* of less than 300;~~
   - ~~6.3. Group B;~~
   - ~~6.4. Group M;~~
   - ~~6.5. Group R; and~~
   - ~~6.6. Uses incidental to the operation of the building (including entry lobbies, mechanical rooms, storage areas and similar uses).~~
7. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 503 for the building having the smaller allowable height as measured from the *grade plane*.

Reason: Current code language unnecessarily limits occupancy types under the building separation allowances in the case of horizontal separation assemblies when compared with vertical assemblies. Since a building is considered separate and distinct provided that all seven conditions listed in Section 510.2 are met, noting that these conditions specifically include Type IA construction below the 3-hour fire resistance rated horizontal assembly and the maximum building height shall not exceed Section 503 limits above the grade plane, why does the code also restrict Group E, I and F occupancies from consideration? Such occupancies could exist immediately next to these buildings limited by precisely the same height limitations with a less restrictive fire separation rating.

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

510.2-G-ALLSHOUSE

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved based upon the proponent's justification. This proposal provides flexibility in a higher construction type building to allow any occupancy besides Group H.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Disapproval.

Commenter's Reason: The General Committee approved this code change submitted by the Washington Association of Building Officials. We are submitting this public comment to urge disapproval of the code change. The General Committee approved the code change as submitted since it excluded H occupancies.

If adopted this code change will allow a nursing home, detention facility, hospital, school, or other critical occupancies to be located above grade plane and to be considered separate buildings when determining the type of construction and allowable # of stories. If this code change is adopted many occupancies will not be constructed of Type I or II construction since they would not be located above grad plane. For example, and as the code change has been approved, a Group I-3 occupancy will be permitted to be located on the third story in type VA construction as opposed to a building constructed of Type IB construction since the charging paragraph permits consideration of the building above as a separate building when determining the number of stories.

We urge support for our public comment to disapprove the code change.

G134-12

Final Action: AS AM AMPC____ D

G137-12
510.2

Proposed Change as Submitted

Proponent: Joe Nebbia and Mark Nowak, Steel Framing Alliance

Revise as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. through 7. *(no change)*
8. For Type V buildings with combustible framing members above the horizontal separation, all automatic fire sprinklers required by this code shall be in place and operable prior to continuing construction on any part of the building exceeding three stories above grade plane. Combustible framing members shall be protected by exterior and interior finishes or coverings permitted by this code before the total height of the building can exceed 3 stories above grade plane and before a certificate of occupancy is issued for any part of the building.

Reason: This proposal is designed to reduce the fire risk in Type V buildings to adjacent buildings and property, and reduce the risk of high intensity fires that require significant firefighting resources, leaving other areas in the community without adequate protection. Further, it will reduce the fire risk to occupants in buildings by prohibiting occupancy before all fire resistance and suppression systems are in place and operational in the building. It specifically addresses Type V buildings constructed with combustible materials that are exposed prior to and after construction, when such buildings exceed three stories in height.

Prompted by a series of serious fires in residential buildings, the London (UK) Assembly in 2010 called for an inquiry to examine fire safety issues. Among the findings by the examining commission was the determination that wood framing carries a high fire risk throughout most of the construction process. The risk extends beyond the building to include adjacent and neighboring buildings.

According to the report titled **Fire safety in London, Fire risks in London's tall and timber framed buildings,** "The effects of fire on large timber frame construction sites are significantly greater due to the large amount of exposed wood, the rapid spread and the radiated heat that can impact on surrounding buildings. All this can affect the ability of fire fighters to tackle the blaze."

The report further states "Fire risks in timber framed buildings are greatest during the construction phase when the fire resistant elements such as internal fire separating walls, protective linings and claddings and fire stopping in cavities are incomplete."

Insurance issues are also raised in the report, citing a quote by Zurich Insurance that timber framed buildings under construction "offer limited resistance until virtually the final stages of construction... This contrasts significantly to that provided in a more traditionally constructed or fire resisting construction system where the applied protection measures offer an immediate benefit in being applied to a noncombustible and generally more stable building elements"

Regarding the not uncommon practice of buildings being partially occupied, the report states that "timber frame buildings are not safe for occupation where there is still construction ongoing on site. Incomplete fire compartmentalization would make this extremely dangerous as fires can spread quickly to the occupied parts of the building and more so than "conventional" buildings." A significant recommendation in the report is that local authorities "do not permit the partial or full occupation of timber framed developments until the whole development is complete and signed off as complying with the approved building regulations."

The London report also cites several examples of the fires that initiated their study including the following that demonstrates the risk to adjacent properties and occupants:

> *In the afternoon of Wednesday 12 July 2006 there was a serious fire at a timber framed development situated between Aerodrome Road and Grahame Park Way in Colindale, London NW9. In response to the fire about 100 fire fighters spent five hours at the scene, during which time a number of neighboring premises, including Colindale Police Station and Hendon police college on opposite sides of the site, were evacuated and a stretch of the nearby A41 through Hendon was closed until 21:30 hours. Some 2000 local residents were evacuated from their homes. An adjoining building occupied by Middlesex University as halls of residence, was severely damage as a result of the fire spreading. Radiated heat also severely damaged 30 cars parked in the roads nearby.*

A copy of the London Assembly report is available at http://www.london.gov.uk/who-runs-london/the-london-assembly/publications/housing-planning/fire-safety-in-london

The risk of exposed lumber in taller buildings is not limited to London. In fact, the first wood mid-rise building in British Columbia burned to the ground before it was finished in the spring of 2011. Because it was under construction, the building had no systems in place and the wood framing was exposed directly to the flames. When rebuilt, the project will follow fire department recommendations to include earlier installation and activation of sprinklers and fire doors, among other recommendations. This incident like the similar fires in London, stresses the importance of limiting the heights at which unprotected combustible construction should be permitted. Because the intensity of the fire is so much greater than other fires due to the exposed wood, these fires require substantial firefighting capabilities and often leave little to no protection for other parts of the city during the fire.

The NFPA Fire Protection Handbook (2008 version, Page 11-52) also cites the vulnerability of buildings under construction and their threat to adjacent buildings. The Handbook presents a case study of a fire in a five story, wood framed building. Following is an excerpt:

> *The fire completely destroyed the building under construction and spread fire to many other buildings in the neighborhood. A total of over 20 buildings and 20 vehicles were damaged by the fire. Windows in a brick building across the street and at least 100 feet away were broken from the fire.*

Further, the same case study states: *It (the fire) also emphasizes the importance of expediting the installation of sprinklers and the vulnerability of combustible construction materials before they are sheathed.*

Currently, Table 503 limits Type V construction to at most 3 stories except for low hazard storage (S-2), before any modifications to the allowable height are applied. This proposal, if approved, will require the building to be fully protected as required for a finished building before applying sprinkler or horizontal separations provisions of the code to increase building height. It will also remove an important oversight in the code by requiring combustible materials to be covered before occupancy of any part of the building.

Cost Impact: This code change proposal will increase the cost of construction. Cost impacts will be limited to a small number of Type V buildings.

510.2 #2-G-NEBBIA-NOWAK.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This concept is more appropriately addressed by the IFC and is seen as overly restrictive. Additionally this requirement would be impractical to enforce.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1

Mark Nowak, Steel Framing Alliance, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. through 7. *(no change)*
8. For Type V buildings with combustible framing members above the horizontal separation, ~~all automatic fire sprinklers required by this code shall be in place and operable prior to continuing construction on any part of the building exceeding three stories above grade plane. C~~ combustible framing members shall be protected by exterior and interior finishes or coverings ~~permitted by this code before the total height of the building can exceed 3 stories above grade plane and~~ in accordance with Chapter 7 and Sections 803 and 804 before a certificate of occupancy is issued for any part of the building.

Commenter's Reason: Economical design in Type V construction typically utilizes floor and roof systems that span multiple occupancy areas, providing large void spaces between the truss chords and joists that would allow fire and smoke to spread horizontally and vertically when combustible materials are used. Chapter 7 of the IBC specifically requires the fire-resistance rating of an assembly to be in place on horizontal and vertical assemblies. Likewise, Sections 803 and 804 specify fire protection requirements for interior finishes. These protections should be in place whether the building is partially finished as in a tenant build out or if the entire building is complete. Unfortunately, more and more mixed use buildings constructed with space to be finished later as units are leased or sold are being built with combustible construction over a horizontal building separation. Even when adequate fire-stopping is employed, and discrete occupancy units in the structure are completed, fire in an unprotected area of the structure can induce structural failure or spread of fire to the entire building. This provision provides necessary protection to all occupants of a structure constructed with combustible materials, particularly when the building includes unimproved areas within the total building envelope.

The committee disapproved the original submission. This proposal is re-submitted without the building height and automatic sprinkler provisions as the Committee viewed these as overly restrictive and impractical to enforce.

Public Comment 2

Larry Williams, Steel Framing Industry Association requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. through 7. *(no change)*
8. For Type V buildings with combustible framing members above the horizontal separation, ~~all automatic fire sprinklers required by this code shall be in place and operable prior to continuing construction on any part of the building exceeding three stories above grade plane. C~~ combustible framing members shall be protected by exterior and interior finishes or coverings ~~permitted by this code~~ in accordance with Chapter 7 and Sections 803 and 804 before the total height of the building can exceed 3 stories above grade plane and before a certificate of occupancy is issued for any part of the building.

Commenter's Reason: The management of fire risks in Type V structures using combustible framing material requires complex fire-stopping strategies and construction. According to the findings of a study of fire safety in high-density, high rise buildings conducted by the London Planning and Housing Committee (*Fire Safety in London: Fire risks in London's tall and timber framed buildings, December 2010),* "Fire risks in timber framed buildings are greatest during the construction phase when the fire resistant elements such as internal fire separating walls, protective linings and claddings and fire stopping in cavities are incomplete. Only once the buildings are complete are all the necessary fire measures in place."

The study also recommends that, "Given the risks of fire during construction, and the likely spread and intensity of fires at that stage, timber frame buildings are not safe for occupation where there is still construction on site. Government should issue guidance to local authorities that, as a matter of strict safety policy, they do not permit the partial occupation of timber framed developments until the whole development is complete and signed off as complying with the approved building regulations."

The committee disapproved the original proposal. This public comment recognizes the risks inherent in the use of combustible materials in mid-rise structures and seeks to protect the safety of occupants in partially completed Type V buildings. It also addresses the issues associated with the sprinkler provisions being difficult to enforce in the original proposal.

G137-12

Final Action: AS AM AMPC____ D

G138-12

510.8

Proposed Change as Submitted

Proponent: Jason Thompson, P.E., National Concrete Masonry Association, representing Masonry Alliance for Codes and Standards

Revise as follows:

510.8 Group B ~~or~~ and M buildings with Group S-2 open parking garage above. Group B ~~or~~ and M occupancies located ~~not higher than the first *story above grade plane*~~ below a Group S-2 open parking garage of a lesser type of construction shall be considered as a separate and distinct building from the Group S-2 open parking garage for the purpose of determining the type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours.
2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M.
3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*.
4. The building below the horizontal assembly is of Type IA construction.

   Exception: The building below the *horizontal assembly* ~~is~~ shall be permitted to be of Type IB or II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than one story in height above grade plane.

5. through 7. *(no change)*

Reason: Section 510.8 of the IBC has requirements that allow buildings with certain occupancies to be constructed with mixed construction types by using what is commonly referred to as pedestal construction where a building of a lesser type of construction is permitted to be built on top of a building of Type I or II construction and the different types of construction are allowed to be considered separate buildings. This method of construction is allowed provided specific criteria are met including the installation of a 2 hour horizontal assembly that acts as a de facto "fire wall" separating the two buildings from vertical fire exposure (Item 1) and by limiting the total building height to the maximum height permitted in Table 503 for the lesser construction type (Item 6). However, the present code limits the height of the Type I or II portion of the building below the 2 hour horizontal assembly to a single story above grade plane.

This code change proposes to delete the one story limitation where the lower building portion of the pedestal construction is of Type IA construction. This will allow the Type IA building serving as the base of the pedestal construction to be multiple stories in height while still maintaining the total building height limit in Item 6 of Section 510.8 which is based on the construction type of the lesser type of construction built on top of the Type IA pedestal. Type IA is the most stringent construction type in the IBC from a fire resistance and noncombustibility point of view. According to Table 503, except for Group H-1 and H-2 occupancies, all other occupancies in buildings of Type IA construction are permitted to be of unlimited height and area due to the inherent fire safety provided by the most fire resistive construction type. This makes good sense since the more stories of Type IA construction allowed above the grade plane, the less stories of potentially combustible construction and less fire resistance there will be in the building above.

This code change to Section 510.8 is very similar to another code change we have proposed to Section 510.2 Horizontal Building Separation Allowance for pedestal buildings with high fire resistive construction for the lower building of the pedestal.

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

510.8-G-THOMPSON.doc

Public Hearing Results

Committee Action: **Approved as Modified**

Modify as follows:

510.8 Group B or ~~and~~ M buildings with Group S-2 open parking garage above. Group B or ~~and~~ M occupancies located below a Group S-2 open parking garage of a lesser type of construction shall be considered as a separate and distinct building from the Group S-2 open parking garage for the purpose of determining the type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours.
2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M.
3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*.
4. The building below the horizontal assembly is of Type IA construction.

   Exception: The building below the *horizontal assembly* is shall be permitted to be of Type IB or II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than one story in height above grade plane.

5. through 7. *(no change)*

Committee Reason: This proposal was approved based upon the action taken on G133-12. The proposal allows 2 stories where type IA is used but limits to 1 story when Type IB or II construction is used. The modification simply replaces "and" with "or" so it does not appear that you need both a Group B and a Group M occupancy to use this allowance.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Jonathan Humble, AIA, NCARB, LEED BD&C, American Iron and Steel Institute, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

510.8 Group B or **M buildings with Group S-2 open parking garage above.** Group B or M occupancies located below a Group S-2 open parking garage of a lesser type of construction shall be considered as a separate and distinct building from the Group S-2 open parking garage for the purpose of determining the type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 2 hours.
2. The occupancies in the building below the *horizontal assembly* are limited to Groups B and M.
3. The occupancy above the *horizontal assembly* is limited to a Group S-2 *open parking garage*.
4. The building below the horizontal assembly is ~~of Type IA construction~~ constructed to comply with one of the following:
   4.1. Type I construction, or
   4.2. Type II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than one story above grade plane.

   ~~Exception:~~ ~~The building below the *horizontal assembly* is shall be permitted to be of Type IB or II construction, but not less than the type of construction required for the Group S-2 *open parking garage* above, where the building below is not greater than one story in height above grade plane.~~

Commenters Reason: This proposed modification returns the original intent of Section 510.8, which was submitted by the American Iron and Steel Institute at the 2005 code hearings (G138-04/05). The original proposal recognized market trends in building construction, that of populating the street scape with business or mercantile occupancies in lieu of a parking structure only thus making is more attractive and inviting for the jurisdiction. Further, the upper levels of S-2 open parking garage poses no significant risk to the first floor uses. The independent exits, fire rated occupancy separation also minimizes the risk of the B or M occupancies to the S-2 parking garage above.

We propose further modifications as follows:

Allow Type IB construction for more than one story: The limitations proposed in G138-12 are more restrictive, and did not substantiate the need for the reduction to Type IB construction. Since the separation between the B or M and S2 Open Parking

garage is a minimum of two (2) hours fire resistance rating, there is no reason to limit a Type IB construction, which is also is two (2) fire resistance rated construction, to a single story.

Further, as part of the scoping requirements the S2 Open Parking Garage is to be "…of a lesser type of construction…", therefore the concern that Type IB will be of a lesser construction is cannot be substantiated.

Limit Type II construction to one story:
We have no objection to limiting the Type II constructions to the one story limitation.

Delete the exception:
There is no need for an exception in this case. The original language (IBC-2012) listed the construction types as options as a sub-provision. Therefore we feel it would be more appropriate to be consistent by listing the two basic constructions as options as originally published in the IBC from 2006 through 2012.

G138-12

Final Action: AS AM AMPC____ D

G139-12
Table 601

Proposed Change as Submitted

Proponent: Tony Crimi, A.C. Consulting Solutions Inc., (tcrimi@sympatico.ca), representing North American Insulation Manufacturers Association (NAIMA)

Revise as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of ~~structural~~ secondary members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members. Fire protection is still required for structural members forming part of the *primary structural frame.*

(Portions of Table and footnotes not shown remain unchanged)

Reason: Table 601 Fire Resistance Rating Requirements for Building Elements specifies the hourly fire resistive requirements for building elements such as structural framing, floor and roof construction, and walls and partitions. Note b of Table 601 applies to the construction of the roof and related secondary members in all types of construction. It allows these secondary elements to be exempted from being protected construction when all parts of the roof construction are more than 20 feet (6096 mm) above any floor below. Previous editions of the IBC more clearly differentiated between structural members and the structural frame. The 2003 and 2006 IBC specified that the structural frame is considered to be the columns and the girders, beams, trusses, and spandrels having direct connections to the columns and bracing members designed to carry gravity loads. The members of floor or roof panels which have no connection to the columns were intended to be considered secondary members and not part of the structural frame.

The proposed addition clarifies that this exception applies to the structural members, but does not apply to all parts of the structural frame. This distinction is frequently misinterpreted in the field and many times the structural frame is also allowed to be eliminated. The 2009 IBC Commentary clearly confirms that this only applies to the secondary members of the structure and not to primary structural frame located within the roof or at this roof level, as shown in Figure 601(1) of the 2009 International Building Code, Code and Commentary, Volume 1, page 6-3. This alternative is applicable for all occupancy classifications except Groups F-1, H, M and S-1.

Figure 601(2) of the 2009 International Building Code, Code and Commentary, Volume 1, page 6-4.shows an example where a mezzanine reduces the clearance to the roof to less than 20 feet (6096 mm) for a portion of the total roof. The Code Commentary clearly illustrates that designs similar to Figure 601(2) do not comply with note b, and elimination of fire-resistance is not allowed for any of the roof in these cases.

According to the 2012 IBC, by definition, the primary structural frame includes the columns; structural members having direct connections to the columns, including girders, beams, trusses and spandrels; members of the floor construction and roof construction having direct connections to the columns; and bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.

Cost Impact: This proposal does not increase the cost of construction.

T601-G-CRIMI.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved as it is the intent of the footnote to allow all structural members to be unprotected. This proposal would only exempt the secondary members.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Dave Dratnol, Isolatek International, requests Approval as Submitted.

Commenter's Reason: Primary Structural Frames are the main load-carrying structural steel components. They represent an assemblage of rafters and columns that support the secondary framing members and transfer loads directly to the foundation. According to the 2012 IBC, by definition, the primary structural frame includes the columns; structural members having direct connections to the columns, including girders, beams, trusses and spandrels; members of the floor construction and roof construction having direct connections to the columns; and bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.

On the other hand, Secondary Framing Members are the structural members which carry loads to the primary framing members. They consist of eave members, roof purlins, wind struts, wind bracing, wall girts and other miscellaneous structural framing and are either welded built-up sections, cold-formed light gage shapes, and/or hot-rolled shapes. Secondary Framing: Members carry loads from the building surface to the main framing

The proposed addition clarifies that the exception in Note b of Table 601 applies to the construction of the roof and related secondary members applies to the structural members, but does not apply to all parts of the structural frame. This distinction is frequently misinterpreted in the field and the structural frame is also allowed to be unprotected. The columns supporting the roof systems are clearly part of the primary structural frame. The exception applies only to cases where "... the roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below." The columns, and all of the primary structural frame members will never, by definition, be in this condition.

`The 2009 IBC Commentary clearly confirms that this only applies to the secondary members of the structure and not to primary structural frame located within the roof or at this roof level, as shown in Figure 601(1) of the 2009 International Building Code, Code and Commentary, Volume 1, page 6-3. This alternative is applicable for all occupancy classifications except Groups F-1, H, M and S-1.

Figure 601(2) of the 2009 International Building Code, Code and Commentary, Volume 1, page 6-4.shows an example where a mezzanine reduces the clearance to the roof to less than 20 feet (6096 mm) for a portion of the total roof. The Code Commentary clearly illustrates that designs similar to Figure 601(2) do not comply with note b, and elimination of fire-resistance is not allowed for any of the roof in these cases.

G139-12

Final Action: AS AM AMPC____ D

G140-12
Table 601

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

Revise as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A[d]	B	A[d]	B	HT	A[d]	B
Primary structural frame[g] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[f, g] Interior	 3 3[a]	 2 2[a]	 1 1	 0 0	 2 1	 2 0	 2 1/HT	 1 1	 0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[e]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1½[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	HT	1[b,c]	0

For SI: 1 foot = 304.8 mm.

~~d. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be allowed to be substituted for 1-hour fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1-hour substitution for the fire resistance of exterior walls shall not be permitted.~~

(Portions of text not shown remain unchanged)

Reason: In order to take advantage of this footnote, the sprinkler system must be "not otherwise required." The question is "required by what section?"

Obviously, it is known that if you take extra square footage or extra height and stories, the 1-hour tradeoff is not permitted.

And, it can be assumed that if the sprinkler system is installed to comply with the Fire Area provisions of Section 903, the system is required.

However, take note of Section 901.2 which states "Any fire protection system for which an exception or reduction to the provisions of this code has been granted shall be considered to be a required system." Thus, if any of the following items are applied, the system is a required system:

Flame spread reduction
Extra travel distance
Extra common path of egress travel
Corridor fire rating reduction
Dead end corridor extensions
Open stairs in sprinklered two story buildings
Etc.

The IBC commentary, Section 901.2, states:

"For example, a typical small office building may not require an automatic sprinkler system solely due to its Group B occupancy classification; however, if an exit access corridor fire-resistance-rating reduction is taken in accordance with Table 1018.1 for buildings equipped throughout with an NFPA 13 sprinkler system, that sprinkler system would be considered a required system."

When looking at Table 503, how many buildings that are large enough to be a Type VA, IIIA or IIA and are not already required to be sprinklered by another provision of the code. Group B occupancies are the most obvious exempted occupancy.

And, if there is a building that is a VA, IIIA or IIA without being sprinklered, who is going to sprinkler a building and not take a

sprinkler reduction as listed above.

Allowing this footnote to continue to exist opens the door to misuse. Sprinkler exceptions and reductions are going to be taken along with the 1-hour reduction, in violation of the provision. If not now, perhaps 5 years from now when the jurisdiction forgets that a 1-hour reduction was granted.

There is no need to allow this footnote to continue to exist.

Cost Impact: This code change proposal will not increase the cost of construction since those projects that are taking one-hour reduction along with non-allowed trade-offs are non-compliant anyway.

T601-G-GODWIN.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved as it removes an unnecessary level of complication in the code that restricts the use of sprinkler tradeoffs throughout the code.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, representing City of San Diego Development Services Department, requests Disapproval.

Commenter's Reason: The General Committee approved this code change submitted by AON Fire Protection. We are submitting this public comment to urge disapproval of the code change.

Footnote d to Table 601 existed in many legacy codes and served as the basis of approval for the type of construction of certain small or moderately sized buildings typically residential multifamily buildings three stories in height and certain group B office buildings. The proponent's reason for the change is that the IBC requires fire sprinkler protection for most new buildings and therefore the footnote is not necessary. Furthermore the proponent's statement reason indicates a concern over misapplication of the footnote with the table. We would suggest it would be more appropriate to correct the code rather than to delete this requirement.

An issue has been raised about record keeping preventing future changes of occupancy, alterations and additions from using the sprinklers when required throughout the building even though they had been used for the sprinkler substitution.

BC Section 111.2 requires that the Building Official identify the type of construction on the certificate of occupancy as well as "Any special stipulations and conditions of the building permit".

Some speakers in support of the code change indicated the lack of records in their jurisdictions to keep track of this limitation. We have had systems in place for more than 30 years and do identify the reasons fire sprinklers are required both on the approved plans and the permit.

We spoke during the code development hearing of the need to retain this code change to allow limited enlargements to existing buildings without requiring an addition causing the entire building to be upgraded to one-hour construction, for example enclosing an occupied roof deck adjacent to a unit or the addition of a laundry room to a building or perhaps covered parking to office building.

G140-12

Final Action: AS AM AMPC____ D

G141-12
602.4, Table 602.4

Proposed Change as Submitted

Proponent: Sam Francis, American Wood Council (sfrancis@awc.org)

Revise as follows:

602.4 Type IV. Type IV construction (Heavy Timber, HT) is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces. The details of Type IV construction shall comply with the provisions of this section. *Fire-retardant-treated wood* framing complying with Section 2303.2 shall be permitted within exterior wall assemblies with a 2-hour rating or less. Minimum solid sawn nominal dimensions are required for structures built using Type IV construction (HT). For glued laminated members and Structural Composite Lumber (SCL) members, the equivalent net finished width and depths corresponding to the minimum nominal width and depths of solid sawn lumber are required as specified in Table 602.4.

TABLE 602.4
WOOD MEMBER SIZE EQUIVALENCIES

MINIMUM NOMINAL SOLID SAWN SIZE		MINIMUM GLUED-LAMINATED NET SIZE		MINIMUM STRUCTURAL COMPOSITE LUMBER NET SIZE	
Width, inch	Depth, inch	Width, inch	Depth, inch	Width, inch	Depth, inch
8	8	6¾	8¼	7	7½
6	10	5	10½	5¼	9½
6	8	5	8¼	5¼	7½
6	6	5	6	5¼	5½
4	6	3	6⅞	3½	5½

Reason: Along with large solid-sawn and glued-laminated timbers, Structural Composite Lumber (SCL) can be produced in sizes necessary to qualify for Heavy Timber construction. Net dimensions of typical SCL members are similar to the net dimensions of nominal solid sawn timbers; however, the minimum width dimensions are slightly less than solid sawn timber widths and slightly greater than the glued-laminated timber net widths. In order to estimate equivalent cross-sectional dimensions, the initial section properties of the solid-sawn and glued-laminated timbers were compared with initial section properties of SCL. Starting with common SCL net widths between solid-sawn and glued-laminated timber net widths, minimum net depths were estimated for each nominal heavy timber size to provide similar net section properties. The resulting net dimensions were then incorporated into Table 602.4.

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

602.4 #1-G-FRANCIS

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the need for more fire test data on the performance of composite lumber.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Sam Francis, American Wood Council, requests Approval as Submitted.

Commenter's Reason: The American Wood Council urges the membership to approve this proposal AS SUBMITTED.

Much of the discussion of this proposal focused on the "lack of fire test data" for the product. Lost in the discussion is the fundamental principle of heavy timber performance: its protection from loss of strength by the development of a char layer during pyrolysis. Structural Composite Lumber (SCL) is of large section similar to sections of heavy timber (HT). SCL becomes insulated in the same manner as HT during pyrolysis. Therefore, it should be sufficient to demonstrate that wood species have the same **char rate** when manufactured into SCL as they have when manufactured into HT. To that end, the data for individual species are available at the website: http://www.awc.org/Code-Officials/2012-IBC-Challenges.

One of the other concerns was that adhesive might contribute to, or alter, the char rate of wood. The standard for SCL includes the requirement that the adhesives used to manufacture SCL meet the same as elevated temperature performance requirements as adhesives used to manufacture glued laminated timber. Glued laminated timber is included in the Heavy Timber definition.

USDA Forest Products Laboratory Research Paper FPL-RP- 633 reviewed the adhesive's impact on the char rate of another family of large-section composite wood products, Structural Composite Lumber (SCL). The following is an extract of their conclusion:

"In this study, we tested 14 structural composite lumber products to determine the char rate when exposed to the fire exposure of the standard fire resistance test. Products tested included LSL, LVL, and PSL. Products of five different species were tested. Based on the small vertical-furnace tests, we concluded that the char rates for composite lumber products were comparable to those of solid-sawn lumber and within the range previously found for different species of solid-sawn lumber."

The full text of this report is available via the website link above.

The char rate of wood is the characteristic which gives heavy timber is performance when exposed to fire. The char rate of Structural Composite Lumber has been shown to be within the range of that of solid sawn lumber. Therefore, it is appropriate to include comparable sizes of SCL in the heavy timber section.

G141-12

Final Action: AS AM AMPC____ D

G142-12, PART I
PART 1 – IBC GENERAL
602.4, 602.4.1 (NEW), 602.4.2 (NEW), 602.4.4, 602.4.6.2 (NEW), 602.4.5, 602.4.6, 602.4.8.1, 602.4.8.2 (NEW)

Proposed Change as Submitted

Proponent: Sam Francis, American Wood Council (sfrancis@awc.org)

THIS IS A 2 PART CODE CHANGE. THE FIRST PART WILL BE HEARD BY THE IBC GENERAL COMMITTEE AND THE SECOND BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

PART I – IBC GENERAL

Revise as follows:

602.4 Type IV. Type IV construction (Heavy Timber, HT) is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces. The details of Type IV construction shall comply with the provisions of this section. ~~Fire retardant treated wood framing complying with Section 2303.2 shall be permitted within exterior wall assemblies with a 2-hour rating or less.~~ Exterior walls complying with Section 602.4.1 or 602.4.2 shall also be permitted. Minimum solid sawn nominal dimensions are required for structures built using Type IV construction (HT). For glued-laminated members the equivalent net finished width and depths corresponding to the minimum nominal width and depths of solid sawn lumber are required as specified in Table 602.4. *Cross laminated timber* (CLT) dimensions used in this section are actual dimensions.

602.4.1 *Fire-retardant-treated wood* framing complying with Section 2303.2 shall be permitted within exterior wall assemblies with a 2-hour rating or less.

602.4.2 *Cross-laminated timber* complying with Section 2303.1.4 shall be permitted within exterior wall assemblies with a 2-hour rating or less, provided the exterior surface of the cross-laminated timber is protected *by (1) fire retardant treated wood* sheathing complying with 2303.2 and not less than 15/32 inch thick; or (2) *gypsum board* not less than ½ inch thick; or (3) a noncombustible material.

~~**602.4.1**~~ **602.4.3 Columns.** Wood columns shall be sawn or glued laminated and shall be not less than 8 inches (203 mm), nominal, in any dimension where supporting floor loads and not less than 6 inches (152 mm) nominal in width and not less than 8 inches (203 mm) nominal in depth where supporting roof and ceiling loads only. Columns shall be continuous or superimposed and connected in an approved manner.

~~**602.4.2**~~ **602.4.4 Floor framing**. Wood beams and girders shall be of sawn, or glued-laminated *timber* and shall be not less than 6 inches (152 mm) nominal in width and not less than 10 inches (254 mm) nominal in depth. Framed sawn, glued-laminated *timber* arches, which spring from the floor line and support floor loads, shall be not less than 8 inches (203 mm) nominal in any dimension. Framed timber trusses supporting floor loads shall have members of not less than 8 inches (203 mm) nominal in any dimension.

~~**602.4.3**~~ **602.4.5 Roof framing**. Wood-frame or glued-laminated arches for roof construction, which spring from the floor line or from grade and do not support floor loads, shall have members not less than 6 inches (152 mm) nominal in width and have not less than 8 inches (203 mm) nominal in depth for the lower half of the height and not less than 6 inches (152 mm) nominal in depth for the upper half. Framed or glued-laminated arches for roof construction that spring from the top of walls or wall abutments, framed timber trusses and other roof framing, which do not support floor loads, shall have members not less than 4 inches (102 mm) nominal in width and not less than 6 inches (152 mm) nominal in depth. Spaced

members shall be permitted to be composed of two or more pieces not less than 3 inches (76 mm) nominal in thickness where blocked solidly throughout their intervening spaces or where spaces are tightly closed by a continuous wood cover plate of not less than 2 inches (51 mm) nominal in thickness secured to the underside of the members. Splice plates shall be not less than 3 inches (76 mm) nominal in thickness. Where protected by approved automatic sprinklers under the roof deck, framing members shall be not less than 3 inches (76 mm) nominal in width.

~~602.4.4~~ **602.4.6 Floors.** Floors shall be without concealed spaces. Wood floors shall be constructed in accordance with 602.4.6.1 or 602.4.6.2.

602.4.6.1 Sawn or glued-laminated planks. ~~of s~~Sawn or glued-laminated planks, splined or tongue-and-groove, of not less than 3 inches (76 mm) nominal in thickness covered with 1-inch (25 mm) nominal dimension tongue-and-groove flooring, laid crosswise or diagonally, or 0.5-inch (12.7 mm) particleboard or planks not less than 4 inches (102 mm) nominal in width set on edge close together and well spiked and covered with 1-inch (25 mm) nominal dimension flooring or 15/32-inch (12 mm) wood structural panel or 0.5-inch (12.7 mm) particleboard. The lumber shall be laid so that no continuous line of joints will occur except at points of support. Floors shall not extend closer than 0.5 inch (12.7 mm) to walls. Such 0.5-inch (12.7 mm) space shall be covered by a molding fastened to the wall and so arranged that it will not obstruct the swelling or shrinkage movements of the floor. Corbelling of masonry walls under the floor shall be permitted to be used in place of molding.

602.4.6.2 CLT. *Cross laminated timber* shall be not less than 4 inches (102 mm) in thickness. It shall be continuous from support to support and mechanically fastened to one another. *Cross laminated timber* shall be permitted to be connected to walls without a shrinkage gap providing swelling or shrinking is considered in the design. Corbelling of masonry walls under the floor shall be permitted to be used.

~~602.4.5~~ **602.4.7 Roofs.** Roofs shall be without concealed spaces and wood roof decks shall be sawn or glued laminated, splined or tongue-and-groove plank, not less than 2 inches (51 mm) nominal in thickness~~,~~; 11/8-inch-thick (32 mm) wood structural panel (exterior glue)~~, or of~~; planks not less than 3 inches (76 mm) nominal in width, set on edge close together and laid as required for floors~~.~~; or of cross laminated timber. Other types of decking shall be permitted to be used if providing equivalent fire resistance and structural properties

Cross laminated timber roofs shall be not less than 3 inch nominal in thickness and shall be continuous from support to support and mechanically fastened to one another.

~~602.4.6~~ **602.4.8 Partitions and Walls.** Partitions and walls shall comply with 602.4.8.1 or 602.4.8.2.

602.4.8.1 Interior Walls and Partitions. Interior walls and partitions shall be of solid wood construction formed by not less than two layers of 1-inch (25 mm) matched boards or laminated construction 4 inches (102 mm) thick, or of 1-hour fire-resistance-rated construction.

602.4.8.2 Exterior walls. All exterior walls shall be of one of the following:

1. Noncombustible materials; or
2. Not less than 6 inches in thickness and constructed of one of the following:
   2.1 *Fire retardant treated wood* in accordance with 2303.2 and complying with 602.4.1 or
   2.2. C*ross laminated timber* complying with 602.4.2.

~~602.4.7~~ **602.4.9 Exterior Structural Members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes shall be permitted to be used externally.

Reason: Cross-laminated timber (CLT) is a new technology developed in Europe. It is generally analogous to large section members currently associated with heavy timber in the current code. Its fire performance is most like that of glued-laminated beams, or glu-lams, in traditional Type IV (heavy timber) construction. Therefore it is proposed that the CLT be included in Type IV.

To properly accomplish this, this proposal adds a definition of CLT, adds a consensus-developed product standard and then modifies the text of Type IV to accommodate CLT.

In Item #1, the existing language is maintained but FRTW, currently allowed in walls of Type IV, is pulled out into a subset of nontraditional material permitted to be used in Type IV. CLT is then added as the second subset. This makes it clear that this mode of construction performs like Heavy Timber but is constructed with different techniques. Walls are more like "tilt-up slabs" than HT beams but their fire performance is very similar to HT. Floors are more like slabs but again, their fire performance is similar to HT.

No changes are needed to the sections on columns, floor framing or roof framing because CLT is neither used as a "column" nor a "framing material". Cross-laminated timber is a large, thick panel composed of crosswise layers of dimension lumber bound with a structural adhesive.

In Section 602.4.4-Floors, the existing language is pulled down into a subparagraph and is unchanged. CLT floors are slightly different than HT so it is put into a second subparagraph with its own requirements. Among the differences is thickness (CLT=4 inches; HT=3 inches topped with a sheathing). Finally, the section is renumbered to accommodate the inserted subsections on general requirements.

In Section 602.4.5-Roofs, the existing language is pulled down, unchanged, into a subparagraph. CLT is again included as a subparagraph. Again the numbering is changed.

In Section 602.4.6-floors, CLT is added as an explicitly permitted form of floor decking. Traditional HT floor decks are 3" or 4" thick planks with various sheathings. Unlike the traditional plank decking, the CLT alternate has no joints to protect. Therefore no sheathing is required on top of the CLT. The structure of the section does not, however, prohibit the use of sheathing on top of a CLT floor deck.

In Section 602.4.7-roofs, CLT is added as an explicitly permitted form of roof decking.

In Section 602.4.8-walls, CLT is added as an acceptable wall system. For interior walls, it is already compliant as an element of solid wood construction meeting the traditional minimum dimensions. This section was modified to break out exterior walls separately so as to correlate with the base paragraph, 602.4 and its CLT subsection, 602.4.2. This eliminates any confusion which might arise between the two sections. By separating the interior and exterior walls, the new minimum wall thickness requirement associated with CLT may be interpreted to apply to all exterior wall construction, including traditional construction. However, it is observed that all common forms of exterior wall construction of Type IV would easily comply with this requirement.

The remaining items are necessary to include the product standard for CLT and a definition for the product. These items form the basis for the inclusion in Chapter 6 and give clarity to this new type of wood construction.

More information on the cross-laminated timber product can be found at our website, www.AWC.org.

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

Analysis: A review of the standard proposed for inclusion in the code, ANSI/APA PRG 320-2011 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2012.

602.4 #2-G-FRANCIS

Public Hearing Results

Part I of this proposal was heard by the IBC General Code Development Committee.

For staff analysis of the content of ANSI/APA PRG 320-2011 relative to CP#28, Section 3.6, please visit: http://www.iccsafe.org:8888/cs/codes/Documents/2012-13cycle/Proposed-A/00a_updates.pdf

PART I – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the need for fire test data on the performance of cross laminated lumber.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Sam Francis, American Wood Council, requests Approval as Submitted.

Commenter's Reason: The American Wood Council urges the membership to approve Part 1 of this proposal As Submitted.

Testimony during the Code Development hearing on this proposal focused on the "lack of fire test data" of Cross Laminated Timber (CLT). This was also the reason given by the Code Development Committee in recommending disapproval, so recent fire

test data on CLT is being provided to the membership for their consideration. Fire test data is one important consideration in approving this change. A fundamental attribute of heavy timber building fire performance is the time it takes for large sections to lose strength during fire exposure. The char layer created during pyrolysis of the wood protects and insulates the underlying fiber and allows the heavy timber to retain its structural load carrying capacity. Cross Laminated Timber (CLT) has similar characteristics as heavy timber, including large section properties. CLT is insulated in the same manner as HT during pyrolysis. Therefore, it should be sufficient to demonstrate that wood species have the same **char rate** when manufactured into CLT as they have when manufactured into heavy timber. To that end, the data for individual species are available at the webpage: http://www.awc.org/Code-Officials/2012-IBC-Challenges. Other information regarding CLT is also posted to the website.

One of the other concerns expressed during the hearings was that adhesive might contribute to, or alter, the char rate of wood. The new standard for CLT, which has been recommended for approval by the ICC Structural Committee in S250-12, includes the requirement that the adhesives used to manufacture CLT meet the same elevated temperature performance requirements as adhesives used to manufacture structural composite lumber (SCL) and glued laminated timber. Glued laminated timber is included in the Heavy Timber definition.

Glued laminated timbers have historically been accepted as having similar char rates to solid sawn heavy timber. The basis for that conclusion has been a number of tests performed by various agencies showing the char rates to be similar and, therefore, affording the same protection for fire exposure within the member. Examples of this information are also available at the webpage provided above.

Finally, recent testing by FPInnovations in Canada has determined that CLT has similar char rates to solid sawn heavy timber. That research paper, entitled "Preliminary CLT Fire Resistance Testing Report" is also available at the webpage provide above. The average char rate for the seven CLT tests in which char rate was measured was determined to be 1.5 in./hr, the same average char rate as for solid wood and glued laminated timber.

G142, Part I-12

Final Action: AS AM AMPC____ D

NOTE: PART II REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

PART II – IBC STRUCTURAL
202, 2303.1.4 (NEW), Chapter 35

Part II of this code change was heard by the IBC Structural code development committee.

PART II- IBC STRUCTURAL

Add new text as follows:

2303.1.4 Structural glued cross laminated timber. Cross-laminated timbers shall be manufactured and identified as required in ANSI/APA PRG 320-2011.

Add new standard to Chapter 35 as follows:

ANSI or APA
ANSI/APA PRG 320-2011 Standard for Performance-Rated Cross-Laminated Timber

Add new definition as follows:

CROSS-LAMINATED TIMBER. A prefabricated engineered wood product consisting of at least three layers of solid-sawn lumber or *structural composite lumber* where the adjacent layers are cross-oriented and bonded with structural adhesive to form a solid wood element.

PART II – IBC-STRUCTURAL
Committee Action: **Disapproved**

Committee Reason: This code change was disapproved in favor of S250-12.

Assembly Action: **None**

G145-12
603.1

Proposed Change as Submitted

Proponent: David Scott, Target (David.Scott@target.com)

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. through 25. *(no change)*
26. Wall construction of freezers and coolers of less than 1000 sq. ft. in size, lined on both sides with non combustible materials and the building is protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1

Reason: Item 6 allows for combustible materials such as doors, door frames, window sashes and frames. Item 11 allows partitions of wood panels or similar light construction up to 6 feet in height. In addition, freezer and cooler walls would need to meet finish requirements of Section 803 and 2603.

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

603.1-G-SCOTT.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The scale of this proposed exception is much larger than what is typically allowed by the exceptions. Also, the materials allowed to construct the interior of the walls were not clearly addressed.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Scott, Target Corporation, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1 through 25. *(no change)*
26. Wood framing within the ~~wall~~ construction of freezers and coolers with a floor area of less than 1000 square feet (92.9 m^2) ~~in size~~, lined on both sides with noncombustible materials and the building is ~~protected throughout~~ provided with an automatic sprinkler system in accordance with Section 903.3.1.1.

Commenter's Reason: The committee comments indicated it was not clearly identified what materials were intended or allowed in the wall construction. We have added Wood Framing to the language of the proposal to clarify the material usage within the wall construction of these panels. This also helps define or reduce the scale of the proposal, which was also a concern of the committee.

Also note that foam plastics that would be used within the construction of such panels would be controlled under Section 2603.

G145-12

Final Action: AS AM AMPC____ D

G146-12
1203.2

Proposed Change as Submitted

Proponent: Michael D. Fischer, Kellen Company, representing Asphalt Roofing Manufacturers Association

Revise as follows:

1203.2 Attic spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated.

Exceptions:

1. The net free cross-ventilation area shall be permitted to be reduced to 1/300 provided ~~that not less than 50 percent and not more than 80 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents with the balance of the required *ventilation* provided by eave or cornice vents.~~ Both of the following conditions are met:
   1.1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
   1.2 At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.
~~2. The net free cross-ventilation area shall be permitted to be reduced to 1/300 where a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling.~~
~~3~~2. ~~*Attic*~~ Ventilation of attic spaces under low slope roof assemblies shall not be required when determined not necessary by the *building official* due to atmospheric or climatic conditions.

Reason: There have been numerous changes to the attic ventilation requirements of the IBC and IRC during the past few code cycles. This proposal is offered to provide consistency with the ventilation requirements between the IBC and IRC and provide clarity regarding the placement of attic ventilators. Additionally, the added exception for local conditions was submitted to manage low-slope design issues; this proposal limits the use of that exception to such roof assemblies.

Cost Impact: This proposal will not raise the cost of construction.

1203.2-G-LSTIBUREK.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: There was concern that the revision to item 3 was not properly justified based upon the fact that it was new section in the 2012 code. G147-12 provides the necessary revisions to be consistent with the IRC for attic ventilation.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Michael D. Fischer, Kellen Company, Asphalt Roofing Manufacturers' Association, request Approval as Modified by this Public Comment.

Modify the proposal as follows:

1203.2 Attic spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An air space of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated. Ventilators shall be installed in accordance with manufacturer's installation instructions.

Exceptions:

1. The net free cross-ventilation area shall be permitted to be reduced to 1/300 provided both of the following conditions are met:
   1.1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
   1.2 At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.
2. ~~Ventilation of attic spaces under low slope roof assemblies shall not be required when determined not necessary by the *building official* due to atmospheric or climatic conditions.~~

Commenter's Reason: Proposal G149, approved (with modification) by the committee, introduces new comprehensive provisions for unvented attics. These provisions include the application of insulation for moisture and condensation control, proper installation of vapor retarders, specific provisions for roof covering installation, and other climate specific requirements. The existing provision that allows a waiver of attic ventilation is now in conflict with these new provisions for unvented attic spaces. Without the removal of this text, there are three compliance paths:

1) Comply with the attic ventilation requirements in 1203.2,
2) Comply with the new requirements for unvented attic assemblies, or
3) Do nothing whatsoever, provided the code official will sign off on the project.

This last option would require the code official to waive the requirements for the control of moisture and condensation control on the basis of the code official's knowledge of meteorology. The provision does not allow the code official to evaluate the proposed materials, assemblies and installation methods, but simply to waive the requirement-regardless of construction-across the board based solely on the weather.

The new unvented attic provisions require airspaces above the deck when the roof covering is wood shingles or shakes. By disregarding the unvented attic provisions via a carte blanche waiver of ventilation requirements, the code official risks failure of the roof covering

Moisture control in attics is an issue in southern as well as northern climate zones. The recent trend to more reflective roof covering has resulted in an increase in reported moisture problems in roof assemblies. Cool roofs result in lower roof assembly temperatures, which reduce the normal drying cycles that can mitigate moisture intrusion from minor roof leaks. Numerous studies demonstrate the need to control condensation in roof assemblies where reflected roof systems are installed. Applicable research is available at:

Richard E. Norris, "Hygrothermal Analysis: The New Design Standard", *RCI Interface*, July, 2012.
Helene Hardy-Pierce, "Unintended Consequences! Keeping Alert to Protect Single-Ply Roofs," *RCI Interface*, February 2012.
Christian Bludau, Daniel Zirkelback, and Hartwig M. Kunzel, "Condensation Problems in Cool Roofs," *RCI Interface,* August 2009
Phil Dregger, "'Cool' Roofs Cause Condensation – Fact or Fiction?", *Western Roofing,* January-February 2012.
Iain Fairnington, "Reducing Condensation in the Roof Space," *RCI Interface*, September 2001.
http://www.ravcoalition.org/research.html

Analysis: This proposal is similar to G147-12 that was Approved as Modified. Consideration of the coordination of the proposals should be made.

G146-12

Final Action: AS AM AMPC____ D

G147-12
1203.2

Proposed Change as Submitted

Proponent: Joseph Lstiburek, Building Science Corporation, representing self

Revise as follows:

1203.2 Attic spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated.

Exceptions:

1. The net free cross-ventilation area shall be permitted to be reduced to 1/300 provided ~~that not less than 50 percent and not more than 80 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents with the balance of the required *ventilation* provided by eave or cornice vents.~~ Both of the following conditions are met:
   1.1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
   1.2 At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.
2. ~~The net free cross-ventilation area shall be permitted to be reduced to 1/300 where a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling.~~
3. ~~2~~. *Attic* ventilation shall not be required when determined not necessary by the *building official* due to atmospheric or climatic conditions.

Reason: This proposed language aligns the IBC with IRC R806.2. The current IBC vapor retarder language is incorrect as it violates the applicable physics in hot climates and needs to be changed. Finally, the current language regarding a 50 percent and 80 percent split between upper and lower vents violates the applicable physics and can lead to attic ventilation make up air being drawn from the building rather than from the eave or cornice vents.

Cost Impact: This proposal will not raise the cost of construction.

1203.2-G-LSTIBUREK.doc

Public Hearing Results

Committee Action: **Approved as Modified**

Modify proposal as follows:

1203.2 Attic spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated.

Exceptions:

1. The net free cross ventilation area shall be permitted to be reduced to 1/300 provided both of the following conditions are met:
   1.1. In Climate Zones 6, 7 and 8 in accordance with the *International Energy Conservation Code*, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
   1.2 At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.
2. *Attic* ventilation shall not be required when determined not necessary by the *building official* due to atmospheric or climatic conditions.

Committee Reason: This particular proposal aligns the IBC with the IRC. The modification was simply to indicate how the climate zones are determined as the IBC does not address climate zones.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Brenda A. Thompson, Clark County Development Services, Clark County Nevada, Sustainable/Energy/High Performance Code Action Committee, request Approval as Modified by this Public Comment.

Further modify the proposal as follows:

1203.2 Attic spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated.

Exceptions:

1. The net free cross ventilation area shall be permitted to be reduced to 1/300 provided both of the following conditions are met:
   1.1. In Climate Zones 6, 7 and 8 ~~in accordance with the *International Energy Conservation Code*~~, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
   1.2 At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the *ventilation* provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.
2. *Attic* ventilation shall not be required when determined not necessary by the *building official* due to atmospheric or climatic conditions.

Add New Definition to Chapter 2:

CLIMATE ZONE. A geographical region that have been assigned climatic criteria as specified in Chapters 3CE and 3RE of *the International Energy Conservation Code.*

Commenter's Reason: This public comment is submitted by the ICC Sustainability Energy and High Performance Building Code Action Committee (SEHPCAC). The SEHPCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the SEHPCAC has held 2 open meetings and over 15 workgroup calls which included members of the SEHPCAC as well as any interested party to discuss and debate proposed changes and public comments. Related documentation and reports are posted on the SEHPCAC website at: http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx.

There are increasing numbers of proposals in which the term 'climate zone' is used in the proposed code test. Just this year at least 8 proposals heard in Dallas included the term. Three of the proposals were approved or approved as modified. Specifically G147 and G149, were approved as modified in order to provide a reference to the IECC to help the code user know where climate zones are 'defined'. The issue is that 'climate zones' are established in the IECC, but there is no definition.

The goal of this public comment and that submitted to G149 is to establish a definition of climate zone in the IBC to simplify individual references to climate zones. In Cycle B, the SEHPCAC will be submitting a code change to the IECC to add a definition of Climate Zone. In Cycle C, the SEHPCAC will submit a code change to the IgCC to add a definition of Climate zone. This will allow all future references to climate zone to be simple and not have to say "as established in the International Energy Conservation Code.

G147-12

Final Action: AS AM AMPC____ D

G149-12
202, 1203.2, 1203.3 (New), Table 1203.2 (New)

Proposed Change as Submitted

Proponent: Joseph Lstiburek, Building Science Corporation, representing self (joe@buildingscinece.com)

Revise as follows:

1203.2 ~~Attic spaces.~~ Ventilation required. *(No change to body of text)*

1203.3 Unvented attic and unvented enclosed rafter assemblies. Unvented *attic* assemblies (spaces between the ceiling joists of the top *story* and the roof rafters) and unvented enclosed rafter assemblies (spaces between ceilings that are applied directly to the underside of roof framing members/rafters and the structural roof sheathing at the top of the roof framing members/rafters) shall be permitted where all the following conditions are met:

1. The unvented attic space is completely within the *building thermal envelope*.
2. No interior Class I vapor retarders are installed on the ceiling side (*attic* floor) of the unvented *attic* assembly or on the ceiling side of the unvented enclosed rafter assembly.
3. Where wood shingles or shakes are used, a minimum 1/4 inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. In climate zones 5, 6, 7 and 8, any air-impermeable insulation shall be a Class II vapor retarder, or shall have a Class III vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Either items 5.1 5.2 or 5.3 shall be met, depending on the air permeablity of the insulation directly under the structural roof sheathing.
   - 5.1. Air-impermeable insulation only. Insulation shall be applied in direct contact with the underside of the structural roof sheathing.
   - 5.2. Air-permeable insulation only. In addition to the *air-permeable insulation* installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified in Table 1203.3 for condensation control.
   - 5.3. Air-impermeable and air-permeable insulation. The *air-impermeable insulation* shall be applied in direct contact with the underside of the structural roof sheathing as specified in Table 1203.3 for condensation control. The air-permeable insulation shall be installed directly under the *air-impermeable insulation*.
   - 5.4. Where preformed insulation board is used as the *air-impermeable insulation* layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.
6. This section does not apply to special use structures or enclosures such as swimming pool enclosures, data processing centers, hospitals, art galleries, or enclosures in climate zones 5 or higher that are humidified beyond 35 percent during the three coldest months.

TABLE 1203.3
INSULATION FOR CONDENSATION CONTROL

CLIMATE ZONE	MINIMUM RIGID BOARD ON AIR-IMPERMEABLE INSULATION R-VALUE[a,b]
2B and 3B tile roof only	0 (none required)
1, 2A, 2B, 3A, 3B, 3C	R-5
4C	R-10
4A, 4B	R-15
5	R-20
6	R-25

CLIMATE ZONE	MINIMUM RIGID BOARD ON AIR-IMPERMEABLE INSULATION R-VALUE[a,b]
7	R-30
8	R-35

a. Contributes to, but does not supersede thermal resistance requirements for attic and roof assemblies in Section C402.2.1 of the *International Energy Conservation Code*.

b. Alternatively, sufficient rigid board or sheet insulation shall be installed directly above the structural roof sheathing to maintain the monthly average temperature of the underside of the structural roof sheathing above 45 degrees F (7 degrees C). For calculation purposes, an interior air temperature of 68 degrees F (20 degrees C) is assumed and the exterior air temperature is assumed to be the monthly average outside air temperature of the three coldest months.

Add new definition as follows:

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 l/s-m^2 at 75 pa pressure differential tested according to ASTM E 2178 or E 283.

Reason: Unvented roof assemblies - both attic and cathedral ceiling - are a proven technology. They give the designer significant flexibility in locating mechanical equipment and ductwork inside of conditioned spaces thereby saving energy. They significantly improve the airtightness of the building enclosure thereby saving energy. They reduce wind uplift forces and reduce the risk of wildfire damage. They eliminate the problems associated with wind driven rain entering roof vents during hurricanes. The language in this proposed section is modeled on the existing language in the IRC Section 806.5. The "air-impermeable insulation" definition is the same as in the IRC.

Cost Impact: This proposal will not raise the cost of construction.

1203.3 (NEW)-G-LSTIBUREK.doc

Public Hearing Results

Committee Action: **Approved as Modified**

Modify proposal as follows:

1203.3 Unvented attic and unvented enclosed rafter assemblies. Unvented *attic* assemblies (spaces between the ceiling joists of the top *story* and the roof rafters) and unvented enclosed rafter assemblies (spaces between ceilings that are applied directly to the underside of roof framing members/rafters and the structural roof sheathing at the top of the roof framing members/rafters) shall be permitted where all the following conditions are met:

1. The unvented attic space is completely within the *building thermal envelope*.
2. No interior Class I vapor retarders are installed on the ceiling side (*attic* floor) of the unvented *attic* assembly or on the ceiling side of the unvented enclosed rafter assembly.
3. Where wood shingles or shakes are used, a minimum 1/4 inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. In climate zones 5, 6, 7 and 8 in accordance with the *International Energy Conservation Code*, any air-impermeable insulation shall be a Class II vapor retarder, or shall have a ~~Class III~~ Class II vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Either items 5.1 5.2 or 5.3 shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.
   5.1. Air-impermeable insulation only. Insulation shall be applied in direct contact with the underside of the structural roof sheathing.
   5.2. Air-permeable insulation only. In addition to the *air-permeable insulation* installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified in Table 1203.3 for condensation control.
   5.3. Air-impermeable and air-permeable insulation. The *air-impermeable insulation* shall be applied in direct contact with the underside of the structural roof sheathing as specified in Table 1203.3 for condensation control. The air-permeable insulation shall be installed directly under the *air-impermeable insulation*.
   5.4. Where preformed insulation board is used as the *air-impermeable insulation* layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.
6. This section does not apply to special use structures or enclosures such as swimming pool enclosures, data processing centers, hospitals, art galleries, or enclosures in climate zones 5 or higher that are humidified beyond 35 percent during the three coldest months.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal makes the IBC consistent with the IRC for unvented attic and unvented rafter assemblies. The modification is consistent with the modification to G147-12 to clarify how to determine climate zones. Note the revision from class III to Class II was an errata but shown as part of the modification for convenience.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Joseph Lstiburek, Building Science Corporation and Steven R. Winkel, The Preview Group representing the American Institute of Architects, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1203.2 Attic spaces. Ventilation required. *(No change to body of text)*

1203.3 Unvented attic and unvented enclosed rafter assemblies. Unvented attics ~~assemblies (spaces between the ceiling joists of the top story and roof rafters)~~ and unvented enclosed roof framing ~~rafter~~ assemblies created by ~~(spaces between~~ ceilings ~~that are~~ applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members ~~/rafters~~, shall be permitted where all the following conditions are met:

1. The unvented attic space is completely within the building thermal envelope.
2. No interior Class I vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly or on the ceiling side of the unvented enclosed roof framing ~~rafter~~ assembly.
3. Where wood shingles or shakes are used, a minimum 1/4 inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. In climate zones 5, 6, 7 and 8 in accordance with the *International Energy Conservation Code*, any air-impermeable insulation shall be a Class II vapor retarder, or shall have a Class II vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Insulation shall be located in accordance with the following:
   - 5.1 ~~Either~~ Items ~~5.1 5.2 or 5.3~~ 5.1.1, 5.1.2 , 5.1.3, or 5.1.4 shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.
     - 5.1.1 Where only ~~A~~ air-impermeable insulation ~~only~~ is provided, the air-impermeable ~~I~~ insulation shall be applied in direct contact with the underside of the structural roof sheathing.
     - 5.1.2. Where ~~A~~ air-permeable insulation is provided inside the building thermal envelope, it shall be installed per Section 5.1. In addition to the air-permeable insulation installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing in accordance with the R values in ~~as specified in~~ Table 1203.3 for condensation control.
     - 5.1.3. Where both ~~A~~ air-impermeable and air-permeable insulation are provided. ~~T~~ the air-impermeable insulation shall be applied in direct contact with the underside of the structural roof sheathing per Section 5.1.1 and shall be in accordance with the R values in ~~as specified in~~ Table 1203.3 for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.
     - 5.1.4 Alternatively, sufficient rigid board or sheet insulation shall be installed directly above the structural roof sheathing to maintain the monthly average temperature of the underside of the structural roof sheathing above 45 degrees F (7 degrees C). For calculation purposes, an interior air temperature of 68 degrees F (20 degrees C) is assumed and the exterior air temperature is assumed to be the monthly average outside air temperature of the three coldest months.
   - 5.2~~4~~ Where preformed insulation board is used as the air-impermeable insulation layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.

~~6.~~**Exceptions:**

1. Section 1203.3 ~~This section~~ does not apply to special use structures or enclosures such as swimming pool enclosures, data processing centers, hospitals, art galleries.
2. Section 1203.3 does not apply to enclosures in climate zones 5 through 8 ~~or higher~~ that are humidified beyond 35 percent during the three coldest months.

TABLE 1203.3
INSULATION FOR CONDENSATION CONTROL

CLIMATE ZONE	MINIMUM R-VALUE OF ~~RIGID BOARD ON~~ AIR-IMPERMEABLE INSULATION ~~R-VALUE~~ [a,b]
2B and 3B tile roof only	0 (none required)
1, 2A, 2B, 3A, 3B, 3C	R-5
4C	R-10
4A, 4B	R-15
5	R-20
6	R-25
7	R-30
8	R-35

a. Contributes to, but does not supersede thermal resistance requirements for attic and roof assemblies in Section C402.2.1 of the *International Energy Conservation Code*.

~~b. Alternatively, sufficient rigid board or sheet insulation shall be installed directly above the structural roof sheathing to maintain the monthly average temperature of the underside of the structural roof sheathing above 45 degrees F (7 degrees C). For calculation purposes, an interior air temperature of 68 degrees F (20 degrees C) is assumed and the exterior air temperature is assumed to be the monthly average outside air temperature of the three coldest months.~~

Add new definition as follows:

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 l/s-m^2 at 75 pa pressure differential tested according to ASTM E 2178 or E 283.

ATTIC. The space between the ceiling beams of the top story and the roof rafters.

Commenter's Reason: The proposed revisions are for readability and clarity only. There are no technical revisions proposed that differ from the revised version which was readily approved by the General Committee with only minor modifications. The language in the proposed section is modeled on the existing language and definitions in the IRC, with revisions to make them more readily enforceable for buildings built using the IBC. The footnote is moved into the body of Section 5.1 to make it easier to find and to clarify that it is an alternate means of compliance to the items listed above it.

Public Comment 2:

Brenda A. Thompson, Clark County Development Services, Clark County Nevada, Sustainable/Energy/High Performance Code Action Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

1203.3 Unvented attic and unvented enclosed rafter assemblies. Unvented *attic* assemblies (spaces between the ceiling joists of the top *story* and the roof rafters) and unvented enclosed rafter assemblies (spaces between ceilings that are applied directly to the underside of roof framing members/rafters and the structural roof sheathing at the top of the roof framing members/rafters) shall be permitted where all the following conditions are met:

4. In climate zones 5, 6, 7 and 8 ~~in accordance with the *International Energy Conservation Code*~~, any air-impermeable insulation shall be a Class II vapor retarder, or shall have a Class II vapor retarder coating or covering in direct contact with the underside of the insulation.

Add New Definition to Chapter 2:

CLIMATE ZONE. A geographical region that have been assigned climatic criteria as specified in Chapters 3CE and 3RE of *the International Energy Conservation Code.*

(Portions of the proposal not shown remain unchanged)

Commenter's Reason: This public comment is submitted by the ICC Sustainability Energy and High Performance Code Action Committee (SEHPCAC). The SEHPCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the SEHPCAC has held 2 open meetings and over 15 workgroup calls which included members of the SEHPCAC as well as any interested party to discuss and debate proposed changes and public comments. Related documentation and reports are posted on the SEHPCAC website at: http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx.

There are increasing numbers of proposals in which the term 'climate zone' is used in the proposed code test. Just this year at least 8 proposals heard in Dallas included the term. Three of the proposals were approved or approved as modified. Specifically G147 and G149, were approved as modified in order to provide a reference to the IECC to help the code user know where climate zones are 'defined'. The issue is that 'climate zones' are established in the IECC, but there is no definition.

The goal of this public comment and that submitted to G147 is to establish a definition of climate zone in the IBC to simplify individual references to climate zones. In Cycle B, the SEHPCAC will be submitting a code change to the IECC to add a definition of Climate Zone. In Cycle C, the SEHPCAC will submit a code change to the IgCC to add a definition of Climate zone. This will allow all future references to climate zone to be simple and not have to say "as established in the International Energy Conservation Code.

G149-12

Final Action: AS AM AMPC____ D

G165-12
3002.4

Proposed Change as Submitted

Proponent: Steve Willis, County of Lancaster, South Carolina, representing Lancaster County Emergency Medical Services (swillis@lancastercountysc.net)

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings ~~four~~ two or more stories above grade plane or ~~four~~ two 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 1930 mm) 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: Motorized/ mechanized gurneys are the norm these days. Along with medical gear, oxygen cylinders, etc. the use of stairs greatly extends the time it takes to reach/ remove a patient and can easily lead to injury of the paramedic. A suitable elevator allows the gurney and patient to be transported safely and quickly.

If additional information is needed from EMS for committee consideration, we will be happy to provide such.

Cost Impact: I would presume there would be some slight cost increase in construction for buildings of three stories or less; however, if planning on the proper size elevator from the beginning, this might not be the case.

3002.4-G-WILLIS

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was felt to be too excessive and would discourage the installation of elevators. This would be especially difficult on smaller buildings. A suggestion was made to potentially provide a minimum square footage before this provision was applicable.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Tim Annis and Adria Paesani, Davis Fire Department and Fountain Valley Fire Department, representing California Fire Chief's Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings ~~two~~ or more stories above grade plane or two 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 1930 mm) 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.

Exception: Elevators shall not be required to accommodate stretchers under any of the following conditions:

1. Elevators in structures used only by maintenance and operating personnel.
2. Elevators in Group I-3 occupancies.
3. Elevators in buildings or structures where each landing is at a level of exit discharge or is accessible by ramp.
4. Where approved by the fire code official elevators in two-story buildings or structures containing stairways that will accommodate movement of a stretcher.
5. Where approved by the fire code official elevators in buildings or structures less than 4 stories.

Commenter's Reason: While some members of the Code Committee appreciated the issues first responders deal with when transporting a patient down multiple stories of a building, they were concerned that the lack of exceptions allowing for code official flexibility of enforcement could discourage the installation of elevators. By adding the exceptions, this allows the authority having jurisdiction a means to evaluate adequate elevator size for a patient to receive necessary care while being transported safely and quickly. The elevator size is based on the responding agency's resources and building design allowing the code official discretion in what an adequate sized elevator is for their own jurisdiction.

G165-12

Final Action: AS AM AMPC____ D

G168-12, Part I

PART 1 – INTERNATIONAL BUILDING CODE

Table 1607.1, 3004.2, 3006.1 through 3006.5, 3007.2, 3007.3.1, 3007.7.3, 3008.3.1, 3008.7.3, 3008.8, 3008.9.1

Proposed Change as Submitted

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

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART I – INTERNATIONAL BUILDING CODE - GENERAL

Revise as follows:

3004.2 Location of vents. Vents shall be located at the top of the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air. Noncombustible ducts shall be permitted to pass through ~~the~~ elevator machine rooms and control rooms, provided that portions of the ducts located outside the hoistway, ~~or~~ machine room, or control room are enclosed by construction having not less than the *fire-resistance rating* required for the hoistway. Holes in the machine room and control room floors for the passage of ropes, cables or other moving elevator equipment shall be limited as not to provide greater than 2 inches (51 mm) of clearance on all sides.

3006.1 Access. An *approved* means of access shall be provided to elevator machine rooms, control rooms, control spaces, and ~~overhead~~ machinery spaces.

3006.2 Venting. Elevator machine rooms, and machinery spaces that contain the driving machine, and control rooms or control spaces that contain the operation or motion controller, ~~solid-state equipment~~ for elevator operation shall be provided with an independent *ventilation* or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

3006.3 Pressurization. The elevator machine room, control rooms, or control space with openings into ~~serving~~ a pressurized elevator hoistway shall be pressurized upon activation of a *heat or smoke detector* located in the elevator machine room, control room, or control space.

3006.4 Machine rooms, control rooms ~~and~~ machinery spaces, and control spaces. Elevator machine rooms, control rooms, control spaces, and machinery outside of but attached to a hoistway that have openings into the hoistway spaces shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway enclosure doors.

Exceptions:

1. Where machine rooms, ~~and~~ machinery spaces, control rooms and control spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire resistance rating*.
2. In buildings four *stories* or less above *grade plane* where machine room, ~~and~~ machinery spaces, control rooms and control spaces do not abut and have no openings to the hoistway

enclosure they serve, the machine rooms, ~~and~~ machinery spaces, control rooms and control spaces are not required to be fire-resistance rated.

3006.5 Shunt trip. Where elevator hoistways, ~~or~~ elevator machine rooms, control rooms and control spaces containing elevator ~~control~~ equipment are protected with automatic sprinklers, a means installed in accordance with NFPA 72, Section 6.16.4, Elevator Shutdown, shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of sprinklers outside the hoistway, ~~or~~ machine room, machinery space, control room, or control spaces shall not disconnect the main line power supply.

3007.2 Phase I Emergency recall operation. Actuation of any building fire alarm initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway, ~~or~~ elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room *smoke detectors*. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in ASME A17.1/CSA B44 shall be provided at the designated level for each fire service access elevator.

3007.3.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, ~~elevator machine~~ machinery spaces, control rooms, control spaces, and elevator hoistways of fire service access elevators.

3007.7.3 Lobby doorways. Other than ~~the~~ door to the hoistway, each doorway to a fire service access elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control door assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

3008.3.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, ~~and elevator machine~~ machinery spaces, control rooms, control spaces, and elevator hoistways of for occupant evacuation elevators.

3008.7.3 Lobby doorways. Other than ~~the~~ doors to the hoistway, and elevator machine rooms, machinery spaces, control rooms, and control spaces within the lobby enclosure smoke barrier, each doorway to an occupant evacuation elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

3008.8 Elevator system monitoring. The occupant evacuation elevators shall be continuously monitored at the *fire command center* or a central control point *approved* by the fire department and arranged to display all of the following information:

1. Floor location of each elevator car.
2. Direction of travel of each elevator car.
3. Status of each elevator car with respect to whether it is occupied.
4. Status of normal power to the elevator equipment, elevator machinery and electrical apparatus ~~controller~~ cooling equipment where provided, ~~and~~ elevator machine room, control room and control space *ventilation* and cooling equipment.
5. Status of standby or emergency power system that provides backup power to the elevator equipment, elevator machinery and electrical ~~controller~~ cooling equipment where provided, ~~and~~ elevator machine room, control room and control space *ventilation* and cooling equipment.

6. Activation of any fire alarm initiating device in any elevator lobby, elevator machine room, ~~or~~ machine space containing a motor controller or electric driving machine, control space, control room, or elevator hoistway.

3008.9.1 Protection of wiring or cables. Wires or cables that are located outside of the elevator hoistway, ~~and~~ machine room, control room and control space and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to fire service access elevators shall be protected by construction having a *fire-resistance rating* of not less than 2 hours, or shall be circuit integrity cable having a *fire resistance rating* of not less than 2 hours.

Exception: Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operation.

Revise as follows:

1607.3 Uniform live loads. The live loads used in the design of buildings and other structures shall be the maximum loads expected by the intended use or occupancy but shall in no case be less than the minimum uniformly distributed live loads given in Table 1607.1.

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_o,
AND MINIMUM CONCENTRATED LIVE LOADS[g]

OCCUPANCY OR USE	UNIFORM (psf)	Concentrated (lbs)
11. Elevator machine room and control room grating (on area of 2 inches by 2 inches)	--	300

(Portions of table not shown remain unchanged)

Reason: The ASME A17.1 *Safety Code for Elevators and Escalators* underwent a substantial revision in 2005 to incorporate requirements for Machine Room-Less elevators (MRLs). These provisions are in ASME A17.1-2007/CSA B44-07 with A17.1a-2008/CSA B44a-08 Addenda that is referenced in Chapter 35 of the 2012 IBC.

ASME A17.1 has definitions for elevator rooms and spaces that may contain various elevator apparatus, and has terminology for certain elevator electrical apparatus. Key concepts include:

- A room outside the hoistway with an elevator machine is a ***machine room***;
- A room or space outside the hoistway with a motor controller and not a machine is a ***control room*** or ***control space***;
- Where a machine and motor controller are located inside the hoistway, the hoistway is a ***machinery space***;
- Machinery and control spaces may have doors;
- Elevator controllers include the operation controller and motion controller that may be separated from the location of the elevator machine and be located in separate elevator rooms and spaces;
- Machine rooms and controls rooms are full body spaces with doors that may have room sprinklers and fire detection apparatus; control and machinery spaces typically would not;
- Machine rooms and control rooms typically require room ventilation and cooling, machinery and control spaces typically do not;
- Machinery spaces inside the hoistway are covered by the code's hoistway requirements;.
- Elevator machines and electrical apparatus in spaces other than the hoistway or rooms may require standby power for apparatus cooling equipment.

Thus, MRL design has resulted in elevators machines and controllers being located in rooms or spaces other than the traditional machine rooms regulated by the IBC. This code change simply harmonizes the current IBC text with the nomenclature now used in ASME A17.1/CSA B44 to ensure that the same level of protection is provided to MRLs as is provided for traditional elevators with machine rooms.

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

3004.2-G-BLACK.doc

Public Hearing Results

Both parts of this proposal were heard by the IBC General Code Development Committee.

PART I – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: Current terminology was felt appropriate therefore these revisions appeared unnecessary. There was also some concern as to how this change would correlate with G176-12 and G182-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3004.2 Location of vents. Vents shall be located at the top of the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air. Noncombustible ducts shall be permitted to pass through ~~the~~ elevator machine rooms and control rooms, provided that portions of the ducts located outside the hoistway, ~~or~~ machine room, or control room are enclosed by construction having not less than the *fire-resistance rating* required for the hoistway. Holes in the machine room and control room floors for the passage of ropes, cables or other moving elevator equipment shall be limited as not to provide greater than 2 inches (51 mm) of clearance on all sides.

Commenter's Reason: The original proposal was to make numerous editorial changes to the code to ensure that its requirements for "machine rooms" reflect the introduction of Machine Room Less (MRL) elevators in the referenced ASME A17.1-2007/CSA B44-07. Because this package was Disapproved in the hearings I am submitting each proposed change separately.

The ASME A17.1 *Safety Code for Elevators and Escalators* underwent a substantial revision in 2005 to incorporate requirements for Machine Room-Less elevators (MRLs). These provisions are in ASME A17.1-2007/CSA B44-07 with A17.1a-2008/CSA B44a-08 Addenda that is referenced in Chapter 35 of the 2012 IBC.

ASME A17.1 has definitions for elevator rooms and spaces that may contain various elevator apparatus, and has terminology for certain elevator electrical apparatus. Key concepts include:

- A room outside the hoistway with an elevator machine is a ***machine room***;
- A room or space outside the hoistway with a motor controller and not a machine is a ***control room*** or ***control space***;
- Where a machine and motor controller are located inside the hoistway, the hoistway is a ***machinery space***;
- Machinery and control spaces may have doors;
- Elevator controllers include the operation controller and motion controller that may be separated from the location of the elevator machine and be located in separate elevator rooms and spaces;
- Machine rooms and controls rooms are full body spaces with doors that may have room sprinklers and fire detection apparatus; control and machinery spaces typically would not;
- Machine rooms and control rooms typically require room ventilation and cooling, machinery and control spaces typically do not;
- Machinery spaces inside the hoistway are covered by the code's hoistway requirements;.
- Elevator machines and electrical apparatus in spaces other than the hoistway or rooms may require standby power for apparatus cooling equipment.

Thus, MRL design has resulted in elevators machines and controllers being located in rooms or spaces other than the traditional machine rooms regulated by the IBC. Noncombustible ducts should be permitted in control rooms that do not contain a machine, and holes in a control room floor should be regulated the same as holes located in a machine room floor.

Public Comment 2:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3006.1 Access. An *approved* means of access shall be provided to elevator machine rooms, control rooms, control spaces, and ~~overhead~~ machinery spaces.

Commenter's Reason: See Public Comment #1.

Public Comment 3:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3006.2 Venting. Elevator machine rooms, and machinery spaces that contain the driving machine, and control rooms or control spaces that contain the operation or motion controller, ~~solid state equipment~~ for elevator operation shall be provided with an independent *ventilation* or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

Commenter's Reason: See Public Comment #1.

Public Comment 4:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3006.3 Pressurization. The elevator machine room, control rooms, or control space with openings into ~~serving~~ a pressurized elevator hoistway shall be pressurized upon activation of a *heat or smoke detector* located in the elevator machine room, control room, or control space.

Commenter's Reason: See Public Comment #1.

Public Comment 5:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3006.4 Machine rooms, control rooms, ~~and~~ machinery spaces, and control spaces. Elevator machine rooms, control rooms, control spaces, and machinery spaces outside of but attached to a hoistway that have openings into the hoistway shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway enclosure doors.

Exceptions:

1. Where machine rooms, ~~and~~ machinery spaces, control rooms and control spaces do not abut and have no openings to the hoistway enclosure they serve the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire-resistance rating*.
2. In buildings four *stories* or less above *grade plane* where machine rooms, ~~and~~ machinery spaces, control rooms and control spaces do not abut and have no openings to the hoistway enclosure they serve, the machine rooms, ~~and~~ machinery spaces, control rooms and control spaces are not required to be fire-resistance rated.

Commenter's Reason: See Public Comment #1.

Public Comment 6:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3006.5 Shunt trip. Where elevator hoistways, ~~or~~ elevator machine rooms, control rooms or control spaces containing elevator ~~control~~ equipment are protected with automatic sprinklers, a means installed in accordance with NFPA 72, Section 6.16.4, Elevator Shutdown, shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of sprinklers outside the hoistway, ~~or~~ machine room, machinery space, control room, or control space shall not disconnect the main line power supply.

Commenter's Reason: See Public Comment #1.

Public Comment 7:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3007.2 Phase I Emergency recall operation. Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway, ~~or~~ elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room *smoke detectors*. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in ASME A17.1/CSA B44 shall be provided at the designated level for each fire service access elevator.

Commenter's Reason: See Public Comment #1.

Public Comment 8:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3007.3.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, ~~elevator~~ machinery spaces, control rooms, control spaces, and elevator hoistways of fire service access elevators.

Commenter's Reason: See Public Comment #1.

Public Comment 9:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3008.3.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, ~~and elevator~~ machinery spaces, control rooms, control spaces, and elevator hoistways of ~~for~~ occupant evacuation elevators.

Commenter's Reason: See Public Comment #1.

Public Comment 10:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3008.7.3 Lobby doorways. Other than ~~the~~ doors to the hoistway, and elevator machine rooms, machinery spaces, control rooms, and control spaces within the lobby enclosure smoke barrier, each doorway to an occupant evacuation elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

Commenter's Reason: See Public Comment #1.

Public Comment 11:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3008.8 Elevator system monitoring. The occupant evacuation elevators shall be continuously monitored at the *fire command center* or a central control point *approved* by the fire department and arranged to display all of the following information:

1. Floor location of each elevator car.
2. Direction of travel of each elevator car.
3. Status of each elevator car with respect to whether it is occupied.
4. Status of normal power to the elevator equipment, elevator machinery and electrical apparatus ~~controller~~ cooling equipment where provided, ~~and~~ elevator machine room, control room and control space *ventilation* and cooling equipment.
5. Status of standby or emergency power system that provides backup power to the elevator equipment, elevator machinery and electrical ~~controller~~ cooling equipment where provided, ~~and~~ elevator machine room, control room and control space *ventilation* and cooling equipment.
6. Activation of any fire alarm initiating device in any elevator lobby, elevator machine room, ~~or~~ machinery space containing a motor controller or electric driving machine, control space, control room or elevator hoistway.

Commenter's Reason: See Public Comment #1.

Public Comment 12:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3008.9.1 Protection of wiring or cables. Wires or cables that are located outside of the elevator hoistway, ~~and~~ machine room, control room and control space and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to fire service access elevators shall be protected by construction having a *fire-resistance rating* of not less than 2 hours, or shall be circuit integrity cable having a *fire resistance rating* of not less than 2 hours.

Exception: Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operation.

Commenter's Reason: See Public Comment #1.

Public Comment 13:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

1607.3 Uniform live loads. The live loads used in the design of buildings and other structures shall be the maximum loads expected by the intended use or occupancy but shall in no case be less than the minimum uniformly distributed live loads given in Table 1607.1.

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_o, AND MINIMUM CONCENTRATED LIVE LOADS[g]

OCCUPANCY OR USE	UNIFORM (psf)	Concentrated (lbs.)
11. Elevator machine room and control room grating (on area of 2 inches by 2 inches)	--	300

Commenter's Reason: See Public Comment #1.

Analysis: The original proponent of G168-12 Part I has submitted 11 public comments. While each public comment is indicated as a replacement of the original proposal, there is no change in the proposed wording between any public comment and the original proposal. The net effect of the 11 public comments is to allow the membership to vote on each piece of G168, Part I, individually. Any and all public comments approved by the membership will amend the specific section or sections of the code in each specific comment. Approval of any one public comment will not override the approval of changes found in another public comment.

G168-12
Final Action: AS AM AMPC____ D

G168-12, Part II

PART II – INTERNATIONAL FIRE CODE

IFC 903.3.1.1.1, 907.2.13.1.1, 911.1.5 (IBC [F] 903.3.1.1.1, [F] 907.2.13.1.1, [F] 911.1.5)

Proposed Change as Submitted

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART II – INTERNATIONAL FIRE CODE

Revise as follows:

IFC 903.3.1.1 (IBC [F] 903.3.1.1) NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an *automatic sprinkler system* in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1.

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

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when *approved* by the fire code official.
3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a *fire-resistance rating* of not less than 2 hours.
4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.
5. Fire service access elevator machine rooms and machinery spaces.
6. Machine rooms, ~~and~~ machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

IFC 907.2.13.1.1 (IBC [F] 907.2.13.1.1) Area smoke detection. Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection.
2. In each elevator machine room, machinery space, control room and control space and in elevator lobbies.

IFC 911.1.5 (IBC [F] 911.1.5) Required features. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. through 12. *(no change)*
13. An *approved* Building Information Card that contains, but is not limited to, the following information:
    13.1 *(no change)*

13.2 *(no change)*
13.3 *(no change)*
13.4. *Exit stair* information that includes: number of *exit stairs* in building, each *exit stair* designation and floors served, location where each *exit stair* discharges, *exit stairs* that are pressurized, *exit stairs* provided with emergency lighting, each *exit stair* that allows reentry, *exit stairs* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine room~~s~~, control rooms, control spaces, location of sky lobby, location of freight elevator banks;
13.5 *(no change)*
13.6 *(no change)*
13.7 *(no change)*
14. through 18. *(no change)*

Reason: The ASME A17.1 *Safety Code for Elevators and Escalators* underwent a substantial revision in 2005 to incorporate requirements for Machine Room-Less elevators (MRLs). These provisions are in ASME A17.1-2007/CSA B44-07 with A17.1a-2008/CSA B44a-08 Addenda that is referenced in Chapter 35 of the 2012 IBC.
ASME A17.1 has definitions for elevator rooms and spaces that may contain various elevator apparatus, and has terminology for certain elevator electrical apparatus. Key concepts include:

- A room outside the hoistway with an elevator machine is a ***machine room***;
- A room or space outside the hoistway with a motor controller and not a machine is a ***control room*** or ***control space***;
- Where a machine and motor controller are located inside the hoistway, the hoistway is a ***machinery space***;
- Machinery and control spaces may have doors;
- Elevator controllers include the operation controller and motion controller that may be separated from the location of the elevator machine and be located in separate elevator rooms and spaces;
- Machine rooms and controls rooms are full body spaces with doors that may have room sprinklers and fire detection apparatus; control and machinery spaces typically would not;
- Machine rooms and control rooms typically require room ventilation and cooling, machinery and control spaces typically do not;
- Machinery spaces inside the hoistway are covered by the code's hoistway requirements;.
- Elevator machines and electrical apparatus in spaces other than the hoistway or rooms may require standby power for apparatus cooling equipment.

Thus, MRL design has resulted in elevators machines and controllers being located in rooms or spaces other than the traditional machine rooms regulated by the IBC. This code change simply harmonizes the current IBC text with the nomenclature now used in ASME A17.1/CSA B44 to ensure that the same level of protection is provided to MRLs as is provided for traditional elevators with machine rooms.

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

3004.2-G-BLACK.doc

Public Hearing Results

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

Committee Reason: The proposal was disapproved based upon the action taken on G168-12 part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

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

1 through 5 – (*No change*)

6. Machine rooms, ~~and~~ machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

Commenter's Reason: The original proposal was to make numerous editorial changes to the code to ensure that its requirements for "machine rooms" reflect the introduction of Machine Room Less (MRL) elevators in the referenced ASME A17.1-2007/CSA B44-07. Because this package was Disapproved in the hearings I am submitting each proposed change separately.

The ASME A17.1 *Safety Code for Elevators and Escalators* underwent a substantial revision in 2005 to incorporate requirements for Machine Room-Less elevators (MRLs). These provisions are in ASME A17.1-2007/CSA B44-07 with A17.1a-2008/CSA B44a-08 Addenda that is referenced in Chapter 35 of the 2012 IBC.

ASME A17.1 has definitions for elevator rooms and spaces that may contain various elevator apparatus, and has terminology for certain elevator electrical apparatus. Key concepts include:

- A room outside the hoistway with an elevator machine is a ***machine room***;
- A room or space outside the hoistway with a motor controller and not a machine is a ***control room*** or ***control space***;
- Where a machine and motor controller are located inside the hoistway, the hoistway is a ***machinery space***;
- Machinery and control spaces may have doors;
- Elevator controllers include the operation controller and motion controller that may be separated from the location of the elevator machine and be located in separate elevator rooms and spaces;
- Machine rooms and controls rooms are full body spaces with doors that may have room sprinklers and fire detection apparatus; control and machinery spaces typically would not;
- Machine rooms and control rooms typically require room ventilation and cooling, machinery and control spaces typically do not;
- Machinery spaces inside the hoistway are covered by the code's hoistway requirements;.
- Elevator machines and electrical apparatus in spaces other than the hoistway or rooms may require standby power for apparatus cooling equipment.

Thus, MRL design has resulted in elevators machines and controllers being located in rooms or spaces other than the traditional machine rooms regulated by the IBC. This code change ensures that sprinklers are not included in control rooms or control spaces for MRLs used for occupant evacuation. This reflects the identical protection of controllers located in machine rooms required by the current code.

Public Comment 2:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

907.2.13.1.1 Area smoke detection. Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection.
2. In each elevator machine room, machinery space, control room and control space and in elevator lobbies.

Commenter's Reason: See Public Comment #1

Public Comment 3:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc., requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

911.1.5 Required features. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. through 12. *(no change)*
13. An *approved* Building Information Card that contains, but is not limited to, the following information:
    13.1 *(no change)*
    13.2 *(no change)*
    13.3 *(no change)*
    13.4. *Exit stair* information that includes: number of *exit stairs* in building, each *exit stair* designation and floors served, location where each *exit stair* discharges, *exit stairs* that are pressurized, *exit stairs* provided with emergency lighting, each *exit stair* that allows reentry, *exit stairs* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine room~~s~~, control rooms, control spaces, location of sky lobby, location of freight elevator banks;
    13.5 *(no change)*
    13.6 *(no change)*
    13.7 *(no change)*
14. through 18. *(no change)*

Commenter's Reason: See Public Comment #1

Analysis: The original proponent of G168-12 Part II has submitted 3 public comments. While each public comment is indicated as a replacement of the original proposal, there is no change in the proposed wording between any public comment and the original proposal. The net effect of the 3 public comments is to allow the membership to vote on each piece of G168, Part II, individually. Any and all public comments approved by the membership will amend the specific section or sections of the code in each specific comment. Approval of any one public comment will not override the approval of changes found in another public comment.

G168-12

Final Action: AS AM AMPC____ D

G173-12
3007.2

Proposed Change as Submitted

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

Delete without substitution:

~~**3007.2 Phase I Emergency recall operation.** Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway or elevator machine room *smoke detectors*. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in ASME A17.1/CSA B44 shall be provided at the designated level for each fire service access elevator.~~

Reason: The first sentence makes no sense because ASME A17.1/CSA B44 requires Phase I emergency recall operation only when a fire alarm initiating device is activated in an elevator lobby, hoistway, or associated elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room. The activation of any alarm initiating device in a building activating Phase I on any elevator does not comply with ASME A17.1/CSA B44.

Just as important, this activation of Phase I in a building equipped with Occupant Evacuation Elevators complying with Section 3008 would unnecessarily compromise the evacuation capacity of the elevator system for no good reason. The firefighters responding to a building fire can capture the fire service access elevators when they get there if it is needed.

With the deletion of the first sentence, none of the rest of this section is necessary as these functions are already addressed in ASME A17.1/CSA B44 or the Occupant Evacuation Elevator requirements of Section 3008.

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

3007.2-G-BLACK

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved as it was felt that the detailed provisions should remain in the IBC. There was a concern with dependence upon a standard that is not yet published.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Brian Black, BDBlack & Associates, representing National Elevator Industry, Inc.; Dave Frable, U.S. General Services Administration, Public Buildings Service; requests Approval as Submitted.

Commenter's Reason (Black): The first sentence makes no sense because ASME A17.1/CSA B44 requires Phase I emergency recall operation only when a fire alarm initiating device is activated in an elevator lobby, hoistway, or associated elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room. The activation of any alarm initiating device in a building activating Phase I on any elevator does not comply with ASME A17.1/CSA B44.

Just as important, this activation of Phase I in a building equipped with Occupant Evacuation Elevators complying with Section 3008 would unnecessarily compromise the evacuation capacity of the elevator system for no good reason. The firefighters responding to a building fire can capture the fire service access elevators when they get there if it is needed.

With the deletion of the first sentence, none of the rest of this section is necessary as these functions are already addressed in ASME A17.1/CSA B44 or the Occupant Evacuation Elevator requirements of Section 3008.

The committee disapproved this proposal as it was felt – based on misinformed testimony - that the detailed provisions should remain in the IBC. Opponents spoke to a need to "keep this safety requirement in **our** code", when in fact this requirement severely decreases safety by taking all Fire Service Access Elevators out of service at the exact moment that building occupants have been trained to go to the lobby to use Occupant Evacuation Elevators to vacate the building. In buildings without Occupation Evacuation Elevators, there is no safety reason to recall Fire Service Access Elevators when, for example, someone burns popcorn in the office microwave.

The fact that the existing text decreases safety in certain buildings is bad enough, but the tenor of the testimony and committee deliberations on this item was of greater concern.

Some suggested that once a requirement that ***appears*** to provide safety is put in the code it should not be deleted, even when it is shown to not provide the safety intended. But we as code developers sometimes make mistakes, and if we do not allow ourselves to correct those mistakes in future codes the whole code development process becomes futile.

Even more disconcerting were comments suggesting that "we" should not trust other committees (in this case, the American Society of Mechanical Engineers A17 Standards Committee and Canadian Standards Association B44 Executive Committee) to develop safety requirements that can just be added to the I-Codes. This is absurd. The IBC has referenced ASME A17.1 since 2000 (as did the legacy codes in earlier decades), recognizing the expertise of those that developed the A17 codes and validity of their codes and standards. The IBC relies on the expertise of consensus bodies that develop the safety requirements for fire alarm systems (NFPA 72), sprinklers (NFPA 13), *etc*. Indeed, there are very few standards referenced in Chapter 35 of the code that do not relate to safety. Building codes cannot and should not attempt to replicate the work of consensus bodies that bring a level of expertise to their subjects that none of us in an ICC hearing can provide.

Finally, the committee also expressed a concern with dependence upon a standard that is not yet published. This proposal is relevant to how Phase I emergency recall operates in the referenced ASME A17.1a-2008/CSA B44a-08 and two or three earlier editions of the Safety Code for Elevators and Escalators. It does not rely on ASME A17.1-2013/CSA B44-13.

Commenter's Reason (Frable): As the original proponent of this section, I would support the deletion of this section since the original intent was to ensure that the designated fire service access elevator cars would be automatically recalled and waiting for fire department at the designated level prior to their arrival to the building. Unfortunately, I have been informed by members of the fire service that this requirement may cause some unintentional confusion and possible delays for firefighters responding to a building that have fire service access elevators automatically recalled by any fire alarm initiating device in lieu of just the specific fire alarm initiating devices activated in an elevator lobby, hoistway, or associated elevator machine room, machinery space containing a motor controller or electric driving machine, control space, or control room. The confusion and delays stem from the fact the firefighters will not be sure initially if the recalled fire service access elevators are safe to use and will now have to evaluate if in fact the environment affecting the operation of the fire fighter access elevators has been compromised causing the elevators to be recalled. In addition, any unwanted fire alarm condition in the building will result in the subject fire service access elevators being recalled.

G173-12

Final Action: AS AM AMPC____ D

G174-12, PART I
PART 1 – IBC GENERAL
3007.7, 3007.7.1, 3007.7.5 (NEW), 3007.7.6 (NEW)

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering, (al.godwin@aon.com)

THIS IS A 3 PART CODE CHANGE. PARTS I AND II WILL BE HEARD BY THE IBC GENERAL COMMITTEE AND PART III WILL BE HEARD BY THE IBC FIRE SAFETY COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEE.

PART I - IBC GENERAL

Revise as follows:

3007.7 Fire service access elevator lobby. The fire service access elevator shall open into a fire service access elevator lobby in accordance with Sections 3007.7.1 through ~~3007.7.5~~ 3007.7.7.

> **~~Exception:~~** ~~Where a fire service access elevator has two entrances onto a floor, the second entrance shall be permitted to open into an elevator lobby in accordance with Section 708.14.1.~~

The fire service access elevator lobby shall be permitted to be one of the following:

1. A private lobby from the fire service access elevator in which the elevator is dedicated to this use only.
2. A private lobby on the side or rear of a public or freight elevator which has two entrances onto a floor. The second entrance shall be permitted to open into an elevator lobby in accordance with Section 713.14.1.
3. The public or freight elevator lobby when constructed in accordance with this Section. The lobby exceptions of Section 713.14.1 shall not be applicable except as specified in Section 3007.7.2.

3007.7.1 Access. The fire service access elevator lobby shall have direct access to an enclosure for an *interior exit stairway*.

> **Exception:** Direct access shall be permitted through an *exit passageway*, used only as an *exit* in accordance with Section 1023 that directly connects the lobby to the *interior stairway*, is not also used as a corridor, and has no other entry doors except those that are used as a *means of egress*.

3007.7.5 Connections with corridors and other rooms. Corridors shall be permitted to pass through the fire service access elevator lobby when the connecting walls and doors are constructed in accordance with this section.

> **Exception:** In Group I-2 occupancies and ambulatory healthcare facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.

Other rooms or spaces, other than those associated with fire service uses, shall not have doors directly connected to the fire service access elevator lobby.

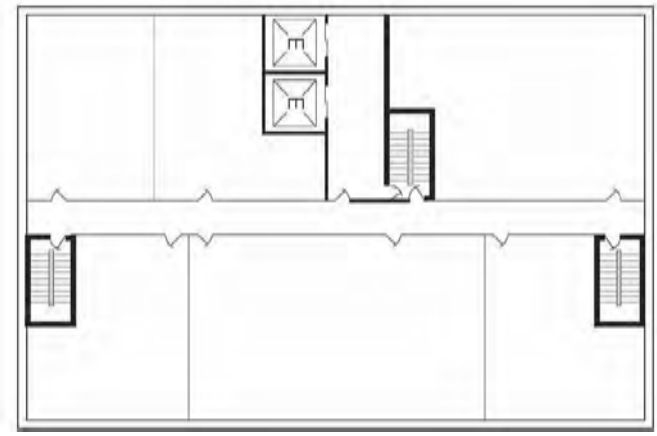
3007.7.6 Storage and furniture. Fire service access elevator lobbies shall be maintained free of storage and furniture.

(Renumber subsequent sections)

Reason: Part I: During the last code cycle, code change FS45-09/10 was submitted to restrict exiting through a passenger elevator lobby. It was withdrawn after public comments were submitted against it claiming that it was an exiting issue and not a fire safety issue.

This proposal is being submitted as a fire safety issue for clarification as to the fire safety construction of fire service access elevator lobbies and occupant evacuation elevator lobbies. While passenger elevator lobbies may end up as part of the discussion, the first point of clarification is for fire service access elevator lobbies.

When originally submitted, the exception to Section 3007.7 gave the impression that the fire service access elevator lobby was a private dedicated elevator lobby. When G49-09/10 passed, requiring "two" fire service access elevators, it virtually guaranteed that the public lobby would be used as the fire service access lobby. This was further confirmed when G164-09/10 was passed using the following drawing:



With multiple lobby changes happening (fire service access elevator lobbies, occupant evacuation lobbies, which are now tied to passenger lobbies) it is time the sections were correlated. And, how does section 709.5, allowing the removal of hardware fit into all of this?

There are commentary notes about public elevator lobbies that may or may not be applicable when used as the fire service access lobby. Thus, this submittal is to generate discussion as to what is or is not applicable.

Specific sections are explained as follows:

Section 3007.7, options 1 thru 3. These now appears to be the design options available.

Section 3007.7.1. Now that two elevators are required, it is likely that the main elevator lobby in the center of the building will be the option of choice as shown in G164-09/10. As such, it may not be feasible to install an extra stair in the center of the building, or bring over one of the original stairs and still meet code for dead end corridors. Therefore, direct connection from the lobby to the stair with the use of an exit passageway seems to be an appropriate option.

Section 3007.7.5. The commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into and elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space."

If the above mentioned commentary notes are not deemed appropriate for passenger lobbies, then an amendment to Section 713.14.1 may be needed to correct the commentary.

However, as long as applicable, the following might also apply to the Fire Service Access lobby:

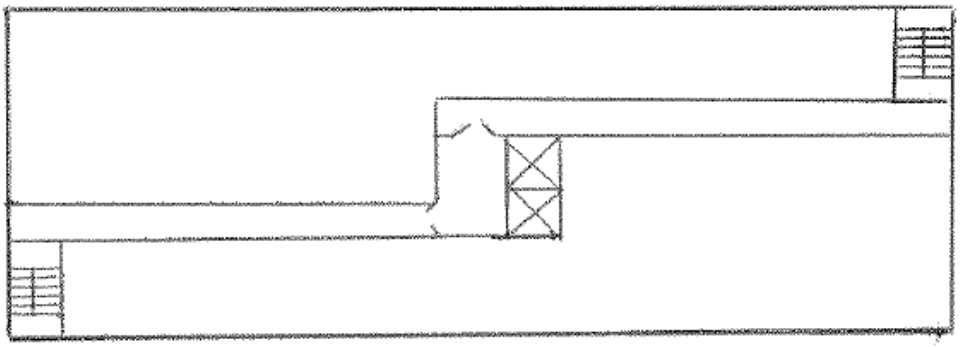
Allowing the corridor to pass through a fire service access lobby, when properly protected, would not seem to add any extra hazard than crossing across the front of a lobby as shown in G164 above. The exception for Group I-2's and ambulatory health care needs to be evaluated.

However, is does not seem appropriate to have extra rooms directly connected to the fire service access lobby, even if separated, that would exit through the lobby and perhaps into the directly connected interior stair.

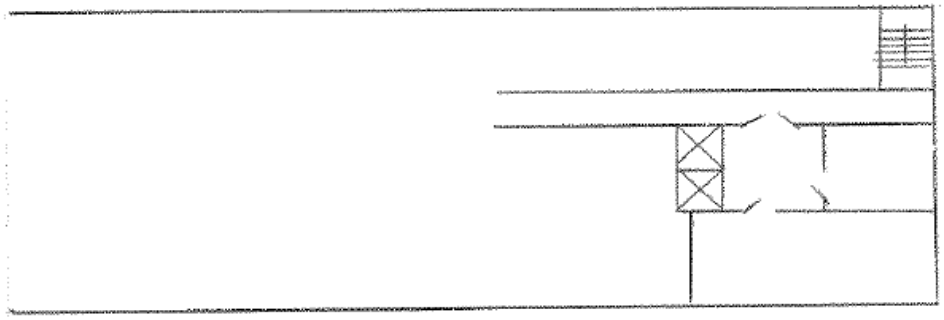
Section 3007.7.6. This is from IFC Section 607.3.

Some examples are as follows:

1. Corridor passes through passenger elevator lobby. If provided with access to a stair and proper construction, could this be a Fire Service Access Elevator Lobby and/or an Occupant Evacuation Elevator Lobby?



2. Rooms connect to and exit through elevator lobby. If provided with access to a stair and correct construction, could this be a Fire Service Access Elevator Lobby and/or an Occupant Evacuation Elevator Lobby?



Even the commentary has an example of what appear to be restrooms off an elevator lobby as follows:

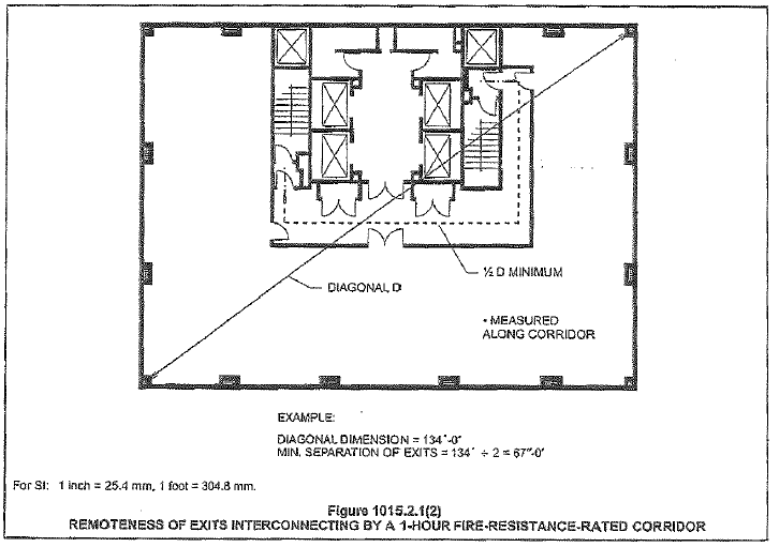
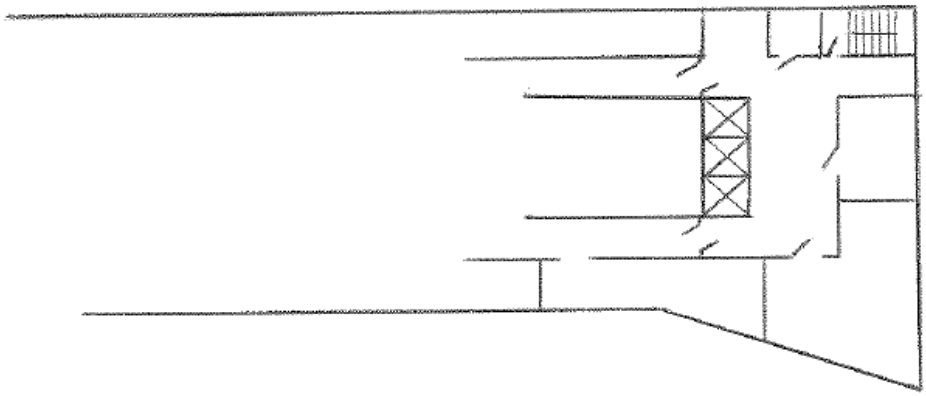


Figure 1015.2.1(2)
REMOTENESS OF EXITS INTERCONNECTING BY A 1-HOUR FIRE-RESISTANCE-RATED CORRIDOR

3. The following is an example of corridors passing through a lobby, along with rooms with direct connection to lobby, serving as passenger elevator lobby Fire Service Access lobby and/or Occupant Evacuation Elevator lobby. This is an actual design submitted for review.



When this discussion concludes, there should be a clear definition of what is required for lobby protection.

Cost Impact: This code change proposal will increase the cost of construction if the intent was to allow such penetrations of all lobbies and this restricts such penetrations.

3007.7-G-GODWIN.doc

Public Hearing Results

Part I and II of this proposal were heard by the IBC General Committee and Part III of this code change was heard by the IBC Fire Safety code development committee.

PART I – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The concepts being addressed are necessary but suggested the proponent work with the proponent of G175-12 dealing with similar issues. The language in the exception to Section 3007.7.1 as proposed seems redundant to other sections of the code.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ali M. Fattah P.E., City of San Diego, City of San Diego Development Services Department, request Approval as Modified by this Public Comment.

Replace the proposal as follows:

3007.7.3 Lobby doorways. Other than the door to the hoistway, each doorway to a fire service access elevator lobby shall be provided with a 3/4-hour *fire door assembly* complying with Section 716.5. The *fire door assembly* shall also comply with the smoke and draft control door assembly requirements of Section 716.5.3.1 with the UL 1784 test conducted without the artificial bottom seal.

3007.7.3.1 Vision panel. A vision panel shall be installed in each fire door assembly protecting the lobby doorway. The vision panel shall consist of fire protection-rated glazing and shall be located to furnish clear vision of the fire service access elevator lobby. Each vision panel shall be located no less than 43 inches (1090 mm) above the floor; the vision panel shall have a height of not less than 12 in (305 mm) and an area not less than 144 (92903 mm²).

Commenter's Reason: The General Committee approved G175-12 that addresses what can be used as a fire service access elevator lobby. E110-12 addresses whether egress can be allowed through these elevator lobbies. We propose to focus only on the doors into the fire service access elevator lobby since Section 1018.6 permits corridors to pass through lobbies. This requirement is similar to the vision panel required for occupant evacuation elevator lobbies required in Section 3008.7.3.1 and is intended to inform occupants that the elevator lobby is available for egress and whether fire fighting personnel are in the process of staging.

Additionally, the vision panel affords the opportunity for firefighting personnel to view occupants in the corridor if necessary. The mounting height is necessary to conform to ICC A117.1 Section 404.2.10. There should be a minimum dimension to allow for viewing through the window. In some cases fire service access elevators serve as service elevators during non-emergency operations and do not have corridors passing through them so it is important to include specific requirements reasonably necessary for uniform enforcement. This code change is necessary to complete the action approved in E110-12 and G175-12 allowing the corridor to pass through the fire service access elevator lobby and how to construct and configure the lobby when the corridor passes through it. We request that the membership approve the proposed modification to the committee's action.

G174-12

Final Action: AS AM AMPC____ D

NOTE: PART II AND III REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

Part II – IBC GENERAL
3008.7, 3008.7.1, 3008.7.5 (NEW)

3008.7 Occupant evacuation elevator lobby. The occupant evacuation elevators shall open into an elevator lobby in accordance with Sections 3008.7.1 through ~~3008.7.7~~ 3008.7.8.

3008.7.1 Access. The occupant evacuation elevator lobby shall have direct access to an *interior exit stairway* or *ramp*.

Exception: Direct access shall be permitted to be through the use of an *exit passageway*, used only as an *exit* in accordance with Section 1023 that directly connects the lobby to the *interior stairway*, is not also used as a corridor, and has no other entry doors except those that are used as a *means of egress*

3008.7.5 Connections with corridors and other rooms. Corridors shall be permitted to pass through the occupant evacuation elevator lobby when the connecting walls and doors are constructed in accordance with this section.

Exception: In Group I-2 occupancies and ambulatory healthcare facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.

Other rooms or spaces, other than those associated with fire service uses, shall not have doors directly connected to the occupant evacuation elevator lobby.

(Renumber subsequent sections)

Reason: Part II is actually a place holder. Depending on how the discussions proceed on Part I, amendments may be needed on Part II. By listing this section in the code change, it will allow them to be made.

My personal opinion is that the elevator lobby should be a separated alcove off of the side with only a corridor going across the entry way as shown in the drawing under Part I above. However, the commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into and elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space."

In order to specifically achieve the alcove as shown in the drawing above, it would seem that extra wording is required.

PART III – IBC FIRE SAFETY
713.14.1.2 (NEW)

Revise as follows:

713.14.1.2 Connections with corridors and other rooms. When a lobby or smoke partitions of Exception 5 in Section 713,14,1, is constructed, corridors shall be permitted to pass through the elevator lobby when the connecting walls and doors are constructed in accordance with this section.

Exception: In Group I-2 occupancies and ambulatory health care facilities, connecting doors for a corridor passing through the lobby need not have latching hardware when in compliance with Section 709.5.

Other rooms or spaces shall be permitted to have doors directly connected to the lobby.

Reasons: Part III is actually a place holder. Depending on how the discussions proceed on Part I, amendments may be needed on Part III. By listing this section in the code change, it will allow them to be made.

My personal opinion is that the elevator lobby should be a separated alcove off of the side with only a corridor going across the entry way as shown in the drawing under Part I below. However, the commentary allows corridors to pass through a lobby and it allows other rooms to have direct access to and/or through the lobby. The commentary states:

"Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions arise. One, can a space have its only exit access path through an elevator lobby? The answer is yes, if it meets all the other egress requirements. Second, can an exit enclosure open into and elevator lobby? The answer is yes. An elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space."

In order to specifically achieve the alcove as shown in the drawing above, it would seem that extra wording is required.

Public Hearing Results

Part I and II of this proposal were heard by the IBC General Committee and Part III of this code change was heard by the IBC Fire Safety code development committee.

PART II – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the previous action on G174-12 Part I.

Assembly Action: **None**

PART III – IBC Fire Safety
Committee Action: **Disapproved**

Committee Reason: The committee felt that allowing egress through the lobby was not substantiated by the proponent. Further, it appears that this change is dependent on G174 Part I; therefore the committee suggests bringing this change back in the public comment phase to coordinate the change with actions taken on Part I.

Assembly Action: **None**

G179-12
3007.9

Proposed Change as Submitted

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

Revise as follows:

3007.9 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. ~~Elevator machine room~~ Ventilation and cooling equipment for elevator machine/control rooms, and machinery/control spaces.
4. Elevator ~~controller cooling equipment~~ car lighting.

Reason: Editorial changes in item 3 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 4 to ensure that firefighters are not trapped in a pitch-black elevator in case the building power is interrupted.

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

Staff note: The proposal reflect the errata printed in the Report of Hearings.

3007.9-G-BLACK

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved due to concern that the terminology revision related to provisions within an updated standard that is not yet published.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

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

Commenter's Reason: The proposal was disapproved by the committee due to a concern that the terminology revision related to provisions within an updated standard that is not yet published.

In fact, the terminology is from the current reference standard ASME A17.1a-2008/CSA B44a-08 and earlier editions of the *Safety Code for Elevators and Escalators*. This proposal does not rely on the 2013 edition of that code.

The editorial changes in item 2 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 3 to ensure that firefighters are not trapped in a pitch-black elevator in case the building power is interrupted.

G179-12
Final Action: AS AM AMPC____ D

G180-12
3008.2, 3008.2.1

Proposed Change as Submitted

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

Revise as follows:

~~**3008.2 Phase I Emergency recall operation**. An independent, three-position, key-operated "Fire Recall" switch complying with ASME A17.1/CSA B44 shall be provided at the designated level for each occupant evacuation elevator.~~

~~**3008.2.1**~~ **3008.2 Operation.** The occupant evacuation elevators shall be used for occupant self-evacuation ~~only in the normal elevator operating mode prior to Phase I Emergency Recall Operation~~ in accordance with the occupant evacuation operation requirements in ASME A17.1/CSA B44 and the building's fire safety and evacuation plan.

(Renumber subsequent sections)

Reason: Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013CSA B44-13 will amend that code's Firefighters' Emergency Operations requirements to require a "GROUP FIRE RECALL" three-position switch in the designated level lobby with a corresponding two-position switch in the fire command center that can recall all of the elevators in that group. In addition, each elevator in that group will have a three-position key operated switch for CAR FIRE RECALL in the designated level elevator lobby. This configuration will allow firefighters to recall all of the elevators in a group if warranted, but only recall a few of the elevators for firefighter service as needed, allowing the remaining elevators to operate as occupant evacuation elevators. This was the purpose of the key operated switches required by Section 3008.2, thus making the IBC requirement unnecessary.

DRAFT FOR ASME A17.1-2013/CSA B44-13i

2.27.10 Occupant Evacuation Operation

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters' Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.

2.27.10.1 The requirements of 2.27.3.1 shall be modified as follows:

2.27.10.1.1 The three-position switch in the lobby (2.27.3.1.1) and two-position switch in the fire command center (2.27.3.1.2) shall be labeled "GROUP FIRE RECALL" and indicate the elevator group that they control.

2.27.10.1.2 An additional three-position key-operated individual "CAR FIRE RECALL" switch per elevator, that will not change position without a deliberate action by the user, shall be located in the lobby at the elevator discharge level adjacent to the elevator it controls. Each switch shall be labeled "CAR ___ FIRE RECALL" (with the car identification, as specified in 2.29.1, inserted), and its positions marked "RESET", "OFF" and "ON" (in that order) in letters a minimum of 5 mm (0.25 in.) high. Text shall be black on a yellow background. Each switch shall control the associated elevator in conformance with 2.27.3.1.6, but shall not control the other elevators controlled by the "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

2.27.10.1.3 Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

2.27.10.1.4 Each individual "CAR FIRE RECALL" switch shall be provided with an illuminated visual signal to indicate when Phase I Emergency Recall Operation is in effect for that car (see 2.27.3.1.5).

2.27.10.1.5 To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the “GROUP FIRE RECALL SWITCH” and the additional two-position “GROUP FIRE RECALL” switch, where provided, are in the “OFF” position

(2) no fire alarm initiating device is activated (see 2.27.3.2).

2.27.10.1.6 A car with its individual “CAR FIRE RECALL” switch in the “ON” position shall not be removed from Phase I Emergency Recall Operation when the “GROUP FIRE RECALL” switch is rotated to the “RESET” position and then to the “OFF” position.

2.27.10.1.7 The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the “GROUP FIRE RECALL” switch is located shall open.

2.27.10.2 The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 mm (120 in) above the floor and in a central visible location within the elevator lobby. Message text shall be a minimum of 50 mm (2 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters’ Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: “Elevators in normal operation”.

2.27.10.3 Where hoistway pressurization is provided, a car on Phase I Emergency Recall, after completing the requirements of 2.27.3.1.6, shall conform to the following:

a) A car shall close its doors after 15 seconds.

b) Door reopening devices, door force limiting devices, kinetic energy limiting devices, and the door open button shall remain active.

c) At least one operating device normally used to call a car to the landing (*e.g.* hall call button, keypad) shall be located in the elevator lobby at the elevator discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

2.27.10.4 A position indicator shall be provided at the elevator discharge level above or adjacent to the entrance for each car. The position indicator shall be powered by the same power supply as the elevator, including emergency or standby power.

2.27.10.5 Fire Alarm System Interface

2.27.10.5.1 Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 indicating the floors to be evacuated. The floors to be evacuated shall be a contiguous block of floors, consisting of at least the floor with an active alarm, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 is in effect, the evacuation zone shall be expanded to include all floors with an active alarm, all floors between the highest and lowest floor with an active alarm plus two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the “activation of an automatic fire alarm initiating device” as used in this requirement.

2.27.10.5.2 A means to initiate total building evacuation, labeled “ELEVATOR TOTAL BUILDING EVACUATION” shall be provided at the fire command center location and installed in accordance with NFPA 72. When this means is actuated, the fire alarm system shall provide a signal to the elevator system indicating that all floors are to be evacuated.

2.27.10.6 When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

2.27.10.6.1 The variable message signs required by 2.27.10.2 shall indicate one of the following messages:

(a) On all floors being evacuated, they shall indicate that the elevators are available for evacuation and the estimated time duration in minutes for the next elevator to arrive.
Note: Sample text: “Elevators and stairs available for evacuation. Next car in about 2 minutes”.

(b) On all floors not being evacuated, they shall indicate that elevator service is not available.
Note: Sample text: “Elevators temporarily dedicated to other floors”.

(c) On the elevator discharge level, they shall indicate that the cars are in evacuation mode and that passengers should not use elevators.
Note (2.27.10.6.1): Sample text: “Elevators dedicated to evacuation. Do not enter elevator”.

(d) If no elevators are available for Occupant Evacuation Operation (Fire service, inspection, shut off, etc.), they shall indicate that elevator service is not available. On all floors being evacuated they shall also indicate that occupants should use the stairs.

Note: Sample text for floors being evacuated: “Elevators out of service. Use stairs to evacuate”. Sample text for other floors: “Elevators out of service”.

2.27.10.6.2 Automatic visual signal or variable message sign, and voice notification in each car shall indicate that the car is being used to evacuate the building. In the event that the car stops to pick up passengers at a floor other than the elevator discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge level, passengers shall be notified that they have arrived at the exit floor and to exit quickly. Message text shall be a minimum of 25 mm (1 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.

2.27.10.6.3 All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) to that landing. Landing calls entered at the floor with an active alarm shall be given higher priority than the calls at the floors above and below it. If a subsequent active alarm is received from a different floor, the evacuation priority shall be assigned in the sequence received. Once passengers have entered an elevator, it shall proceed only towards the elevator discharge level. When total building evacuation is in effect and no calls are entered at an affected floor, priority shall be based on distance from the elevator discharge level, with the furthest floor served getting highest priority.

2.27.10.6.4 Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

2.27.10.6.5 Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which is being evacuated, and park with their doors closed until a landing call is registered. If the car is in motion away from the floors being evacuated, it shall stop at or before the next available floor, without opening the doors, reverse direction and move to a floor which is being evacuated.

2.27.10.6.6 Cars which are occupied when Occupant Evacuation Operation is actuated shall proceed without delay to the elevator discharge level. If a reversal of travel direction is needed, it shall be done at or before the next available floor without opening the doors. After opening and closing the doors at the elevator discharge level, they shall proceed without delay to a floor which is being evacuated and park with their doors closed until a landing call is registered.

2.27.10.6.7 When a car answers a landing call at a floor being evacuated, a car call for the elevator discharge level shall be automatically registered. The system shall accept a new landing call as soon as the doors have opened to permit loading at that floor, or sooner. If a new landing call is registered at this floor, it shall be assigned to another car, and not canceled until that car arrives. Actuation of the landing call device shall not prevent a loaded car from closing its doors and leaving the floor.

2.27.10.6.8 While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening device(s) shall be disabled and the doors shall initiate closing at reduced kinetic energy in accordance with 2.13.4.2.1(c). If the doors stall while closing, they shall re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

2.27.10.6.9 Once the block of floors being evacuated has been evacuated, as indicated by a 60 second period in which no landing calls are registered, one car shall park with its doors closed at the lowest floor of the block of floors ready to answer subsequent landing calls within the block of floors; the rest shall park with doors closed at the elevator discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

2.27.10.6.10 Occupant Evacuation Operation shall be terminated when the fire alarm system is reset or the signals provided in 2.27.3.2 are actuated (see 2.27.10.1.3).

[i] Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

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

3008.2-G-BLACK.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: There was concern that more justification was necessary for this proposal. The proposal appears to make technical changes to the current requirements and there was some level of concern with the dependence on ASME A17.1. It is encouraged that this proposal be brought back via public comment.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

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

Commenter's Reason: Requirements for *Occupant Evacuation Operation* (attached) have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

This proposal was disapproved based on its dependence on the 2013 edition of ASME A17.1 that is not yet published. While *NEII*® is generally in agreement with this principle, there are two significant problems in this case:

1. Commenters and the committee assumed that because the IBC Occupant Evacuation Elevator requirements in Section 3008 do not conflict with the current ASME A17.1-2010/CSA B44-10, retaining the current IBC language will not be a problem, and any conflicts with the newer A17.1/CSA B44 can be resolved in the 2018 IBC. While this argument may be true for most codes and standards referenced in the I-Codes, it is incorrect in this case.

In many jurisdictions in the United States (*e.g.*, Wisconsin) the building code, fire code and elevator code are enacted by different pieces of legislation and regulated by entirely different state or municipal rules and agencies. Because of this, one department enforces the building code, another the elevator code, and neither official is obligated or legally able to recognize the requirements of the other. Some jurisdictions have legislated "auto-adopt" provisions in their elevator laws that will result in applying the 2013 of the *Safety Code for Elevators and Escalators* shortly after its publication. In other words, the 2013 elevator code will apply in many states and cities in little more than a year, irrespective of the code edition reference in the IBC.

The result is that the building official will require one set of key switches, the Chief Elevator Inspector will require another. Neither will have priority over the other, and the building owner will be continuously in violation of one law or the other. This conflict will exist for seven or more years if this proposal is not approved.

2. The American Society of Mechanical Engineers has stopped publishing yearly addenda to their codes. Had it kept its yearly addenda, an ASME A17.1b-2012/CSA B44b-12 that included the new requirement for Occupant Evacuation Operation would be published by now and available for referencing. At the same time the ICC elongated its code development process such that elevator requirements for the 2015 IBC had to be developed in 2011, four years before the anticipated publication of the IBC. This will significantly undermine efforts to harmonize the ASME, ICC and NFPA codes (a function of the ASME A17 Code Coordination Committee staffed by ICC, ASME, NFPA and *NEII*® representatives). Most importantly, this unprecedented delay will have the effect of decreasing the level of safety the IBC could otherwise provide to users of Occupant Evacuation Elevators.

ASME A17.1-2013CSA B44-13 will amend that code's Firefighters' Emergency Operations requirements to require a "GROUP FIRE RECALL" three-position switch in the designated level lobby with a corresponding two-position switch in the fire command center that can recall all of the elevators in that group. In addition, each elevator in that group will have a three-position key operated switch for CAR FIRE RECALL in the designated level elevator lobby. This configuration will allow firefighters to recall all of the elevators in a group if warranted, but only recall a few of the elevators for firefighter service as needed, allowing the remaining elevators to operate as occupant evacuation elevators. This was the purpose of the key operated switches required by Section 3008.2, thus making the IBC requirement unnecessary.

The proposal was also disapproved based upon the need for further technical justification.

ASME A17.1/CSA B44 expands the existing IBC requirement by providing numerous options to firefighters who may want to place only specific elevator in Phase I Emergency Recall Operation. GROUP FIRE RECALL switched in both the elevator lobby and the fire command center will save valuable time in catastrophic situations where having to recall numerous elevators one at a time using their individual stitches may not be desired or feasible.

G180-12

Final Action: AS AM AMPC____ D

G181-12
3008.2.2

Proposed Change as Submitted

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

Delete without substitution as follows:

~~**3008.2.2 Activation.** Occupant evacuation elevator systems shall be activated by any of the following:~~

~~1. The operation of an *automatic sprinkler system* complying with Section 3008.3;~~
~~2. *Smoke detectors* required by another provision of the code;~~
~~3. *Approved* manual controls.~~

Reason: Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013/CSA B44-13 will include a section on Fire Alarm System Interface that requires that the activation of any building fire alarm initiating device not associated with Phase I elevator recall will provide signals to the elevator system controller(s) to indicate which building floors will be evacuated under the ASME Occupant Evacuation Operation criteria. These floors will be a contiguous block of floors consisting of the floor with the active alarm, two floors above, and two floors below. It will also accommodate enlarging the evacuation zone should other floors have an initiated fire alarm initiating device and will allow for full building evacuation when initiated by firefighters.

The ASME A17.1/CSA B44 requirements are more comprehensive than those in Section 3008.2.2 and the IBC requirements should be deleted in deference to the ASME provisions.

DRAFT FOR ASME A17.1-2013/CSA B44-13i

2.27.10 Occupant Evacuation Operation

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters' Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.

2.27.10.1 The requirements of 2.27.3.1 shall be modified as follows:

2.27.10.1.1 The three-position switch in the lobby (2.27.3.1.1) and two-position switch in the fire command center (2.27.3.1.2) shall be labeled "GROUP FIRE RECALL" and indicate the elevator group that they control.

2.27.10.1.2 An additional three-position key-operated individual "CAR FIRE RECALL" switch per elevator, that will not change position without a deliberate action by the user, shall be located in the lobby at the elevator discharge level adjacent to the elevator it controls. Each switch shall be labeled "CAR ___ FIRE RECALL" (with the car identification, as specified in 2.29.1, inserted), and its positions marked "RESET", "OFF" and "ON" (in that order) in letters a minimum of 5 mm (0.25 in.) high. Text shall be black on a yellow background. Each switch shall control the associated elevator in conformance with 2.27.3.1.6, but shall not control the other elevators controlled by the "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

2.27.10.1.3 Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

2.27.10.1.4 Each individual "CAR FIRE RECALL" switch shall be provided with an illuminated visual signal to indicate when Phase I Emergency Recall Operation is in effect for that car (see 2.27.3.1.5).

2.27.10.1.5 To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the "GROUP FIRE RECALL SWITCH" and the additional two-position "GROUP FIRE RECALL" switch, where provided, are in the "OFF" position

(2) no fire alarm initiating device is activated (see 2.27.3.2).

2.27.10.1.6 A car with its individual "CAR FIRE RECALL" switch in the "ON" position shall not be removed from Phase I Emergency Recall Operation when the "GROUP FIRE RECALL" switch is rotated to the "RESET" position and then to the "OFF" position.

2.27.10.1.7 The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the "GROUP FIRE RECALL" switch is located shall open.

2.27.10.2 The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 mm (120 in) above the floor and in a central visible location within the elevator lobby. Message text shall be a minimum of 50 mm (2 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: "Elevators in normal operation".

2.27.10.3 Where hoistway pressurization is provided, a car on Phase I Emergency Recall, after completing the requirements of 2.27.3.1.6, shall conform to the following:

a) A car shall close its doors after 15 seconds.

b) Door reopening devices, door force limiting devices, kinetic energy limiting devices, and the door open button shall remain active.

c) At least one operating device normally used to call a car to the landing (*e.g*. hall call button, keypad) shall be located in the elevator lobby at the elevator discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

2.27.10.4 A position indicator shall be provided at the elevator discharge level above or adjacent to the entrance for each car. The position indicator shall be powered by the same power supply as the elevator, including emergency or standby power.

2.27.10.5 Fire Alarm System Interface

2.27.10.5.1 Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 indicating the floors to be evacuated. The floors to be evacuated shall be a contiguous block of floors, consisting of at least the floor with an active alarm, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 is in effect, the evacuation zone shall be expanded to include all floors with an active alarm, all floors between the highest and lowest floor with an active alarm plus two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the "activation of an automatic fire alarm initiating device" as used in this requirement.

2.27.10.5.2 A means to initiate total building evacuation, labeled "ELEVATOR TOTAL BUILDING EVACUATION" shall be provided at the fire command center location and installed in accordance with NFPA 72. When this means is actuated, the fire alarm system shall provide a signal to the elevator system indicating that all floors are to be evacuated.

2.27.10.6 When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

2.27.10.6.1 The variable message signs required by 2.27.10.2 shall indicate one of the following messages:

(a) On all floors being evacuated, they shall indicate that the elevators are available for evacuation and the estimated time duration in minutes for the next elevator to arrive.
Note: Sample text: "Elevators and stairs available for evacuation. Next car in about 2 minutes".

(b) On all floors not being evacuated, they shall indicate that elevator service is not available.
Note: Sample text: "Elevators temporarily dedicated to other floors".

(c) On the elevator discharge level, they shall indicate that the cars are in evacuation mode and that passengers should not use elevators.
Note (2.27.10.6.1): Sample text: "Elevators dedicated to evacuation. Do not enter elevator".

(d) If no elevators are available for Occupant Evacuation Operation (Fire service, inspection, shut off, etc.), they shall indicate that elevator service is not available. On all floors being evacuated they shall also indicate that occupants should use the stairs.

Note: Sample text for floors being evacuated: “Elevators out of service. Use stairs to evacuate”. Sample text for other floors: “Elevators out of service”.

2.27.10.6.2 Automatic visual signal or variable message sign, and voice notification in each car shall indicate that the car is being used to evacuate the building. In the event that the car stops to pick up passengers at a floor other than the elevator discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge level, passengers shall be notified that they have arrived at the exit floor and to exit quickly. Message text shall be a minimum of 25 mm (1 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.

2.27.10.6.3 All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) to that landing. Landing calls entered at the floor with an active alarm shall be given higher priority than the calls at the floors above and below it. If a subsequent active alarm is received from a different floor, the evacuation priority shall be assigned in the sequence received. Once passengers have entered an elevator, it shall proceed only towards the elevator discharge level. When total building evacuation is in effect and no calls are entered at an affected floor, priority shall be based on distance from the elevator discharge level, with the furthest floor served getting highest priority.

2.27.10.6.4 Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

2.27.10.6.5 Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which is being evacuated, and park with their doors closed until a landing call is registered. If the car is in motion away from the floors being evacuated, it shall stop at or before the next available floor, without opening the doors, reverse direction and move to a floor which is being evacuated.

2.27.10.6.6 Cars which are occupied when Occupant Evacuation Operation is actuated shall proceed without delay to the elevator discharge level. If a reversal of travel direction is needed, it shall be done at or before the next available floor without opening the doors. After opening and closing the doors at the elevator discharge level, they shall proceed without delay to a floor which is being evacuated and park with their doors closed until a landing call is registered.

2.27.10.6.7 When a car answers a landing call at a floor being evacuated, a car call for the elevator discharge level shall be automatically registered. The system shall accept a new landing call as soon as the doors have opened to permit loading at that floor, or sooner. If a new landing call is registered at this floor, it shall be assigned to another car, and not canceled until that car arrives. Actuation of the landing call device shall not prevent a loaded car from closing its doors and leaving the floor.

2.27.10.6.8 While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening device(s) shall be disabled and the doors shall initiate closing at reduced kinetic energy in accordance with 2.13.4.2.1(c). If the doors stall while closing, they shall re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

2.27.10.6.9 Once the block of floors being evacuated has been evacuated, as indicated by a 60 second period in which no landing calls are registered, one car shall park with its doors closed at the lowest floor of the block of floors ready to answer subsequent landing calls within the block of floors; the rest shall park with doors closed at the elevator discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

2.27.10.6.10 Occupant Evacuation Operation shall be terminated when the fire alarm system is reset or the signals provided in 2.27.3.2 are actuated (see 2.27.10.1.3).

i Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

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

3008.2.2-G-BLACK

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the need for further technical justification and the dependence on the 2013 edition of ASME A17.1 that is not yet published.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Brian Black, BD Black & Associates, representing National Elevator Industry, Inc. requests Approved as Submitted.

Commenter's Reason: This proposal was disapproved based on its dependence on the 2013 edition of ASME A17.1 that is not yet published. While *NEII*® is generally in agreement with this principle, there are two significant problems in this case:

1. Commenters and the committee assumed that because the IBC Occupant Evacuation Elevator requirements in Section 3008 do not conflict with the current ASME A17.1-2010/CSA B44-10, retaining the current IBC language will not be a problem, and any conflicts with the newer A17.1/CSA B44 can be resolved in the 2018 IBC. While this argument may be true for most codes and standards referenced in the I-Codes, it is incorrect in this case.

   In many jurisdictions in the United States (*e.g.*, Wisconsin) the building code, fire code and elevator code are enacted by different pieces of legislation and regulated by entirely different state or municipal rules and agencies. Because of this, one department enforces the building code, another the elevator code, and neither official is obligated or legally able to recognize the requirements of the other. Some jurisdictions have legislated "auto-adopt" provisions in their elevator laws that will result in applying the 2013 of the *Safety Code for Elevators and Escalators* shortly after its publication. In other words, the 2013 elevator code will apply in many states and cities in little more than a year, irrespective of the code edition reference in the IBC.

   The result is that the building official will require one Occupant Evacuation activation, the Chief Elevator Inspector will require another. Neither will have priority over the other, and the building owner will be continuously in violation of one law or the other. This conflict will exist for seven or more years if this proposal is not approved.
2. The American Society of Mechanical Engineers has stopped publishing yearly addenda to their codes. Had it kept its yearly addenda, an ASME A17.1b-2012/CSA B44b-12 that included the new requirement for Occupant Evacuation Operation would be published by now and available for referencing. At the same time the ICC elongated its code development process such that elevator requirements for the 2015 IBC had to be developed in 2011, four years before the anticipated publication of the IBC. This will significantly undermine efforts to harmonize the ASME, ICC and NFPA codes (a function of the ASME A17 Code Coordination Committee staffed by ICC, ASME, NFPA and *NEII*® representatives). Most importantly, this unprecedented delay will have the effect of decreasing the level of safety the IBC could otherwise provide to users of Occupant Evacuation Elevators.

   ASME A17.1-2013/CSA B44-13 (attached) will include a section on Fire Alarm System Interface that requires that the activation of any building fire alarm initiating device not associated with Phase I elevator recall will provide signals to the elevator system controller(s) to indicate which building floors will be evacuated under the ASME Occupant Evacuation Operation criteria. These floors will be a contiguous block of floors consisting of the floor with the active alarm, two floors above, and two floors below. It will also accommodate enlarging the evacuation zone should other floors have an initiated fire alarm initiating device and will allow for full building evacuation when initiated by firefighters.

   The ASME A17.1/CSA B44 requirements are more comprehensive than those in Section 3008.2.2 and the IBC requirements should be deleted in deference to the ASME provisions.

G181-12

Final Action: AS AM AMPC____ D

G183-12
3008.7.6

Proposed Change as Submitted

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

Delete without substitution as follows:

~~**3008.7.6 Lobby status indicator.** Each occupant evacuation elevator lobby shall be equipped with a status indicator arranged to display all of the following information:~~

1. ~~An illuminated green light and the message, "Elevators available for occupant evacuation" when the elevators are operating in normal service and the *fire alarm system* is indicating an alarm in the building.~~
2. ~~An illuminated red light and the message, "Elevators out of service, use *exit stairs*" when the elevators are in Phase I emergency recall operation in accordance with the requirements in ASME A17.1/CSA B44.~~
3. ~~No illuminated light or message when the elevators are operating in normal service.~~

Reason: Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013/CSA B44-13 will include all of the information specified in Section 3008.7.6, (1) and (2). In addition, it will require approximate waiting times for persons awaiting an evacuation elevator and an indication that exit stairs may also be used.

ASME A17.1-2013/CSA B44-13 will also provide indicators in the signs in lobbies on floors not being evacuated that elevator service is not available. This will ensure that persons who have heard of a fire in the building and who are aware that elevators may be available for evacuation will not waste time waiting for elevators that will not arrive at their floors.

ASME A17.1-2013/CSA B44-13 will require every sign in elevator lobbies where elevators have entered Phase I Firefighter service to indicate that the elevators are out of service and not available.

ASME A17.1-2013/CSA B44-13 differs from the IBC in that it will permit messages such as "Elevators in normal operation" on the lobby status indicator signs when no evacuation is occurring. The ASME A17 Elevators & Fire Task Group believes that this will accustom building occupants to reading the indicators and will also allow for monitoring to ensure that the signs are operable when needed.

Finally, ASME A17.1-2013/CSA B44-13 will specify that all indicator signs comply with the Variable Message Sign requirements of ICC/ANSI A117.1, thus ensuring they are accessible to persons with disabilities.

For these reasons, Section 3008.7.6 should be deleted in deference to the referenced standard.

DRAFT FOR ASME A17.1-2013/CSA B44-13i

2.27.10 Occupant Evacuation Operation

Where elevators are provided for occupant evacuation, Occupant Evacuation Operation (OEO) shall be provided to function prior to Firefighters' Emergency Operation and shall conform to 2.27.10.1 through 2.27.10.6. See also Nonmandatory Appendix T.

2.27.10.1 The requirements of 2.27.3.1 shall be modified as follows:

2.27.10.1.1 The three-position switch in the lobby (2.27.3.1.1) and two-position switch in the fire command center (2.27.3.1.2) shall be labeled "GROUP FIRE RECALL" and indicate the elevator group that they control.

2.27.10.1.2 An additional three-position key-operated individual "CAR FIRE RECALL" switch per elevator, that will not change position without a deliberate action by the user, shall be located in the lobby at the elevator discharge level adjacent to the elevator it controls. Each switch shall be labeled "CAR ___ FIRE RECALL" (with the car identification, as specified in 2.29.1, inserted), and its positions marked "RESET", "OFF" and "ON" (in that order) in letters a minimum of 5 mm (0.25 in.) high. Text shall be black on a yellow background. Each switch shall control the associated elevator in conformance with 2.27.3.1.6, but shall not control the other elevators controlled by the "GROUP FIRE RECALL" switch (see 2.27.10.1.1).

2.27.10.1.3 Each individual "CAR FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevator it controls when placed in the "ON" position. Each "GROUP FIRE RECALL" switch shall terminate Occupant Evacuation Operation for the elevators it controls when placed in the "ON" position.

2.27.10.1.4 Each individual "CAR FIRE RECALL" switch shall be provided with an illuminated visual signal to indicate when Phase I Emergency Recall Operation is in effect for that car (see 2.27.3.1.5).

2.27.10.1.5 To remove an individual elevator from Phase I Emergency Recall Operation, the individual "CAR FIRE RECALL" switch shall be rotated first to the "RESET," and then to the "OFF" position, provided that

(1) the "GROUP FIRE RECALL SWITCH" and the additional two-position "GROUP FIRE RECALL" switch, where provided, are in the "OFF" position

(2) no fire alarm initiating device is activated (see 2.27.3.2).

2.27.10.1.6 A car with its individual "CAR FIRE RECALL" switch in the "ON" position shall not be removed from Phase I Emergency Recall Operation when the "GROUP FIRE RECALL" switch is rotated to the "RESET" position and then to the "OFF" position.

2.27.10.1.7 The Designated Level shall be the same floor as the Elevator Discharge Level. At the elevator discharge level, only the door(s) serving the lobby where the "GROUP FIRE RECALL" switch is located shall open.

2.27.10.2 The sign required by 2.27.9 shall not be installed. A variable message sign, as defined in A117.1, shall be installed for each elevator group on each landing served. It shall be located not less than 2130 mm (84 in) and not more than 3000 mm (120 in) above the floor and in a central visible location within the elevator lobby. Message text shall be a minimum of 50 mm (2 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). The variable message signs shall be powered by the same power supply as the elevator, including emergency or standby power. Where not prohibited by the Building Code, when the elevators are not on Occupant Evacuation Operation or Firefighters' Emergency Operation, the variable message signs shall be permitted to display other elevator system status messages. Note: sample text: "Elevators in normal operation".

2.27.10.3 Where hoistway pressurization is provided, a car on Phase I Emergency Recall, after completing the requirements of 2.27.3.1.6, shall conform to the following:

a) A car shall close its doors after 15 seconds.

b) Door reopening devices, door force limiting devices, kinetic energy limiting devices, and the door open button shall remain active.

c) At least one operating device normally used to call a car to the landing (*e.g.* hall call button, keypad) shall be located in the elevator lobby at the elevator discharge level. Actuating this device shall cause all recalled cars to open their doors for 30 to 45 seconds, then reclose.

2.27.10.4 A position indicator shall be provided at the elevator discharge level above or adjacent to the entrance for each car. The position indicator shall be powered by the same power supply as the elevator, including emergency or standby power.

2.27.10.5 Fire Alarm System Interface

2.27.10.5.1 Upon activation of an automatic fire alarm initiating device in the building in any area which does not initiate Phase I recall in this group, the fire alarm system shall provide signals to the elevator system in conformance with NFPA 72 indicating the floors to be evacuated. The floors to be evacuated shall be a contiguous block of floors, consisting of at least the floor with an active alarm, two floors above and two floors below. The elevator system shall initiate Occupant Evacuation Operation in accordance with 2.27.10.6 for the indicated floors. If activation of an automatic fire alarm initiating device which does not initiate Phase I recall in this group occurs on an additional floor(s) at any time while Occupant Evacuation Operation in accordance with 2.27.10.6 is in effect, the evacuation zone shall be expanded to include all floors with an active alarm, all floors between the highest and lowest floor with an active alarm plus two floors above the highest floor with an active alarm and two floors below the lowest floor with an active alarm. If the active alarm is on the elevator discharge level, automatic initiation of Occupant Evacuation Operation in accordance with 2.27.10.6 shall not be permitted. Manual initiation by authorized or emergency personnel shall be permitted.

Note (2.27.10.5.1): An active alarm refers to the condition caused by the "activation of an automatic fire alarm initiating device" as used in this requirement.

2.27.10.5.2 A means to initiate total building evacuation, labeled "ELEVATOR TOTAL BUILDING EVACUATION" shall be provided at the fire command center location and installed in accordance with NFPA 72. When this means is actuated, the fire alarm system shall provide a signal to the elevator system indicating that all floors are to be evacuated.

2.27.10.6 When any of the signals provided in 2.27.10.5 actuate, the elevators shall conform to 2.27.10.6.1 through 2.27.10.6.10 in order to move occupants from the floors affected by the fire to the elevator discharge level.

2.27.10.6.1 The variable message signs required by 2.27.10.2 shall indicate one of the following messages:

(a) On all floors being evacuated, they shall indicate that the elevators are available for evacuation and the estimated time duration in minutes for the next elevator to arrive.
Note: Sample text: "Elevators and stairs available for evacuation. Next car in about 2 minutes".

(b) On all floors not being evacuated, they shall indicate that elevator service is not available.
Note: Sample text: “Elevators temporarily dedicated to other floors”.

(c) On the elevator discharge level, they shall indicate that the cars are in evacuation mode and that passengers should not use elevators.
Note (2.27.10.6.1): Sample text: “Elevators dedicated to evacuation. Do not enter elevator”.

(d) If no elevators are available for Occupant Evacuation Operation (Fire service, inspection, shut off, etc.), they shall indicate that elevator service is not available. On all floors being evacuated they shall also indicate that occupants should use the stairs.

Note: Sample text for floors being evacuated: “Elevators out of service. Use stairs to evacuate”. Sample text for other floors: “Elevators out of service”.

2.27.10.6.2 Automatic visual signal or variable message sign, and voice notification in each car shall indicate that the car is being used to evacuate the building. In the event that the car stops to pick up passengers at a floor other than the elevator discharge level, the signals shall instruct the passengers to remain in the car. Upon or prior to arrival at the elevator discharge level, passengers shall be notified that they have arrived at the exit floor and to exit quickly. Message text shall be a minimum of 25 mm (1 in) high and conform to A117.1 or Appendix E requirement E-20, whichever is applicable (see Section 9 and E-1). Voice notification shall be at least 10 dBA above ambient but not more than 80 dBA measured 1525 mm (60 in) above the floor, at the center of the car.

2.27.10.6.3 All landing calls outside of the contiguous block of floors being evacuated shall be canceled and disabled. Building security systems which limit service to these floors shall be overridden. Any landing call within the contiguous block of floors shall call an elevator(s) to that landing. Landing calls entered at the floor with an active alarm shall be given higher priority than the calls at the floors above and below it. If a subsequent active alarm is received from a different floor, the evacuation priority shall be assigned in the sequence received. Once passengers have entered an elevator, it shall proceed only towards the elevator discharge level. When total building evacuation is in effect and no calls are entered at an affected floor, priority shall be based on distance from the elevator discharge level, with the furthest floor served getting highest priority.

2.27.10.6.4 Car calls for all floors, except for the elevator discharge level, shall be canceled and disabled. A car call for the elevator discharge level shall be automatically entered when any landing call is answered.

2.27.10.6.5 Cars which are unoccupied when Occupant Evacuation Operation is actuated shall move without delay to a floor which is being evacuated, and park with their doors closed until a landing call is registered. If the car is in motion away from the floors being evacuated, it shall stop at or before the next available floor, without opening the doors, reverse direction and move to a floor which is being evacuated.

2.27.10.6.6 Cars which are occupied when Occupant Evacuation Operation is actuated shall proceed without delay to the elevator discharge level. If a reversal of travel direction is needed, it shall be done at or before the next available floor without opening the doors. After opening and closing the doors at the elevator discharge level, they shall proceed without delay to a floor which is being evacuated and park with their doors closed until a landing call is registered.

2.27.10.6.7 When a car answers a landing call at a floor being evacuated, a car call for the elevator discharge level shall be automatically registered. The system shall accept a new landing call as soon as the doors have opened to permit loading at that floor, or sooner. If a new landing call is registered at this floor, it shall be assigned to another car, and not canceled until that car arrives. Actuation of the landing call device shall not prevent a loaded car from closing its doors and leaving the floor.

2.27.10.6.8 While passengers are entering the car at a floor being evacuated, when the load reaches no greater than 80% of car capacity, the door re-opening device(s) shall be disabled and the doors shall initiate closing at reduced kinetic energy in accordance with 2.13.4.2.1(c). If the doors stall while closing, they shall re-open fully, then close. An audible signal shall sound until the doors are closed. If the load exceeds 100% of capacity the doors shall re-open and remain open and a voice notification and visual signal shall indicate that the car is overloaded.

2.27.10.6.9 Once the block of floors being evacuated has been evacuated, as indicated by a 60 second period in which no landing calls are registered, one car shall park with its doors closed at the lowest floor of the block of floors ready to answer subsequent landing calls within the block of floors; the rest shall park with doors closed at the elevator discharge level. A car parked at the elevator discharge level shall replace the car at the lowest floor of the block, which has answered a landing call.

2.27.10.6.10 Occupant Evacuation Operation shall be terminated when the fire alarm system is reset or the signals provided in 2.27.3.2 are actuated (see 2.27.10.1.3).

[i] Approved 2011 by the ASME A17 Standards Committee for ASME A17.1-2013/CSA B44-13; subject to ANSI and ASME Board Approval. Provided for informational purposes and does not indicate endorsement by ASME or its Committees of proposed changes to the ICC *International Building Code*.

Cost Impact: This code change proposal will not increase construction costs.

3008.7.6-G-BLACK.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved as it was felt that the status indicators should remain in the code regardless of whether they are currently addressed by the standard. Additionally, the proposal was disapproved based upon previous actions related to the referencing of the 2013 edition of ASME A17.1.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

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

Commenter's Reason: This proposal was disapproved in part based on its dependence on the 2013 edition of ASME A17.1 that is not yet published. While *NEII*® is generally in agreement with this principle, there are two significant problems in this case:

1. Commenters and the committee assumed that because the IBC Occupant Evacuation Elevator requirements in Section 3008 do not conflict with the current ASME A17.1-2010/CSA B44-10, retaining the current IBC language will not be a problem, and any conflicts with the newer A17.1/CSA B44 can be resolved in the 2018 IBC. While this argument may be true for most codes and standards referenced in the I-Codes, it is incorrect in this case.

In many jurisdictions in the United States (*e.g.*, Wisconsin) the building code, fire code and elevator code are enacted by different pieces of legislation and regulated by entirely different state or municipal rules and agencies. Because of this, one department enforces the building code, another the elevator code, and neither official is obligated or legally able to recognize the requirements of the other. Some jurisdictions have legislated "auto-adopt" provisions in their elevator laws that will result in applying the 2013 of the *Safety Code for Elevators and Escalators* shortly after its publication. In other words, the 2013 elevator code will apply in many states and cities in little more than a year, irrespective of the code edition reference in the IBC.

The result is that the building official will require one set of Occupant Evacuation lobby status indicators, the Chief Elevator Inspector will require another. Neither will have priority over the other, and the building owner will be continuously in violation of one law or the other. This conflict will exist for seven or more years if this proposal is not approved.

2. The American Society of Mechanical Engineers has stopped publishing yearly addenda to their codes. Had it kept its yearly addenda, an ASME A17.1b-2012/CSA B44b-12 that included the new requirement for Occupant Evacuation Operation would be published by now and available for referencing. At the same time the ICC elongated its code development process such that elevator requirements for the 2015 IBC had to be developed in 2011, four years before the anticipated publication of the IBC. This will significantly undermine efforts to harmonize the ASME, ICC and NFPA codes (a function of the ASME A17 Code Coordination Committee staffed by ICC, ASME, NFPA and *NEII*® representatives). Most importantly, this unprecedented delay will have the effect of decreasing the level of safety the IBC could otherwise provide to users of Occupant Evacuation Elevators.

The committee also disapproved this proposal because some testified that the status indicators should remain in the code regardless of whether they are addressed by the standard. There was no technical justification for this other than a parochial attitude that these safety provisions should be kept in "our" code, even if the ASME provisions provide a significantly higher level of safety and the IBC provisions conflict with the superior requirements in ASME A17.1/CSA B44. It should also be noted that ICC staff was instrumental in developing the requirements in the ASME code, committing years of work serving on the ASME A17 Elevators & Fire Task Groups that created the IBC/NFPA/ASME Occupant Evacuation package from which this code change was derived.

Requirements for *Occupant Evacuation Operation* have been approved for publication in the 2013 edition of ASME A17.1/CSA B44 *Safety Code for Elevators and Escalators*. With this development and corresponding changes to the NFPA 72 *Fire Alarm and Signaling Code*, the comprehensive ICC/ASME/NFPA package to establish occupant evacuation elevator requirements is complete, and provisions that were temporarily "parked" in the IBC can be removed as they are addressed by ASME A17.1/CSA B44.

ASME A17.1-2013/CSA B44-13 will include all of the information specified in Section 3008.7.6, (1) and (2). In addition, it will require approximate waiting times for persons awaiting an evacuation elevator and an indication that exit stairs may also be used.

ASME A17.1-2013/CSA B44-13 will also provide indicators in the signs in lobbies on floors not being evacuated that elevator service is not available. This will ensure that persons who have heard of a fire in the building and who are aware that elevators may be available for evacuation will not waste time waiting for elevators that will not arrive at their floors.

ASME A17.1-2013/CSA B44-13 will require every sign in elevator lobbies where elevators have entered Phase I Firefighter service to indicate that the elevators are out of service and not available.

ASME A17.1-2013/CSA B44-13 differs from the IBC in that it will permit messages such as "Elevators in normal operation" on the lobby status indicator signs when no evacuation is occurring. The ASME A17 Elevators & Fire Task Group believes that this will accustom building occupants to reading the indicators and will also allow for monitoring to ensure that the signs are operable when needed.

Finally, ASME A17.1-2013/CSA B44-13 will specify that all indicator signs comply with the Variable Message Sign requirements of ICC/ANSI A117.1, thus ensuring they are accessible to persons with disabilities.

For these reasons, Section 3008.7.6 should be deleted in deference to the referenced standard.

G183-12

Final Action: AS AM AMPC____ D

G185-12
3008.9

Proposed Change as Submitted

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

Revise as follows:

3008.9 Electrical power. The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. ~~Elevator machine room v~~ *Ventilation* and cooling equipment for elevator machine/control rooms, and machinery/control spaces.
3. Elevator ~~controller cooling equipment~~ car lighting.

Reason: Editorial changes in item 2 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 3 to ensure that occupants are not trapped in a pitch-black elevator in case the building power is interrupted.

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

3008.9-G-BLACK.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action on G179-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

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

Commenter's Reason: The proposal was disapproved by the committee due to a concern that the terminology revision related to provisions within an updated standard that is not yet published and based on action taken on G179-12.

In fact, the terminology is from the current reference standard ASME A17.1a-2008/CSA B44a-08 and earlier editions of the *Safety Code for Elevators and Escalators*. This proposal does not rely on the 2013 edition of that code.

The numbering in the original proposal as published was incorrect. Instead of being items 1,2 and 3 it was incorrectly labeled 1, 3 and 4 which caused some confusion. This has been corrected.

The editorial changes in item 2 reflect current terminology in ASME A17.1/CSA B44. Standby power is necessary for elevator car lighting as specified in item 3 to ensure that firefighters are not trapped in a pitch-black elevator in case the building power is interrupted.

G185-12

Final Action: AS AM AMPC____ D

G190-12
3103.1.1 (New)

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Add new text as follows:

3103.1.1 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, *means of egress*, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

Reason: This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

The International Code Council's Building Code Action Committee was asked to look at adding structural provisions and requirements for temporary structures. In the current code, the administrative requirements for temporary structures are located in section 108 while the technical requirements are in section 3103. In reviewing the existing code, it was the opinion of the BCAC that the two sections in the current code sufficiently address the requirements. However, the BCAC did determine that section 108.2, "Conformance", was more technical than administrative and that a code user may not be aware of those requirements when looking at section 3103 for the technical requirements. To address this and to avoid potential confusion or oversight, the BCAC proposes moving the technical language of section 108.2 to section 3103.1.1.

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

3103.1.1 (NEW)-G-BAJNAI.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon concerns with enforcement issues. Section 108 has provisions to address these situations already.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC), requests Approval as Submitted.

Commenter's Reason: Commenter's Reason: This public comment is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 5 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

In disapproving this code change proposal, the code development committee stated that moving the requirements of Section 108.2 to Section 3103.1.1 was unnecessary because the requirements were appropriately located in Section 108.2.

The BCAC disagrees with the code development committee; we would like the proposal *approved as submitted*. We still think our proposal to copy the provisions in Section 108.2 into Section 3103.1.1 makes the most sense, because the conformance requirements are technical in nature, and therefore belong in the technical area of the code that deals with temporary structures.

Also the BCAC argues that since many states generate their own chapter 1 requirements, the conformance requirements for temporary structures would be best served in 3103.1.1.

If successful, the BCAC intends to propose deleting Section 108.2 during the Group B hearings when all provisions in Chapter 1 will be considered.

G190-12

Final Action: AS AM AMPC____ D

G192-12
3105.4

Proposed Change as Submitted

Proponent: Lee J. Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development (lkranz@bellevuewa.gov)

Revise as follows:

3105.4 Awning and canopy materials. Awnings and c*anopies* shall be ~~constructed of a rigid framework~~ provided with an *approved* covering that meets the fire propagation performance criteria of NFPA 701 or has a *flame spread index* not greater than 25 when tested in accordance with ASTM E 84 or UL 723.

Reason: The code does not currently provide a means for building officials to regulate the fire propagation performance and flame spread requirements for materials covering awnings afforded for canopies. This is resolved by adding "awnings" to this section. The words "constructed of a rigid framework…" is deleted as it is already included in the definitions of awning and canopy.

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

3105.4-G-KRANZ.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The provisions of Section 3105.4 were not intended to apply to awnings. This would possibly require compliance with NFPA 701 for awnings installed on one and two family dwellings. Compliance with NFPA 701 in general for awnings was felt to be unnecessary.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Lee J. Kranz, City of Bellevue Washington representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3105.4 Awning and canopy materials. Awnings and canopies shall be provided with an approved covering that meets the fire propagation performance criteria of NFPA 701 or has a flame spread index not greater than 25 when tested in accordance with ASTM E 84 or UL 723.

Exception: The fire propagation performance and flame spread index requirements shall not apply to awnings installed on detached one and two family dwellings.

Commenter's Reason: Awnings, like canopies, may be installed on residential or commercial buildings. Awnings are typically light-weight frame structures, supported wholly or partially by the building to which they are attached and are typically covered with a membrane or fabric covering, therefore are more likely to pose a potential risk by dripping molten plastic or vinyl on building occupants leaving a building during a fire event. They may also pose a risk to fire fighters entering a building to extinguish a fire if the awning has been subjected to fire. Currently, the code does not provide a way for building officials to regulate the fire propagation performance and flame spread requirements for awning covering materials. This was resolved by adding "Awnings" to Section 3105.4. The General Committee suggested that it was never intended to regulate awning covering materials for one and two family dwellings so an exception is now included to resolve that issue. The definitions for *awnings* and *canopies* are very similar

and either may be installed on commercial or residential buildings. The primary difference between the two lies in how they are supported.

G192-12

Final Action: AS AM AMPC____ D

G193-12, PART I

PART I – INTERNATIONAL BUILDING CODE

202, 303.4 (IFC 202), 303.5 (IFC 202), 507.6, 507.7, Table 1004.1.2 (IFC [B] Table 1004.1.2), 1808.7.3, 2406.4.5, 2609.4, 3109, 3102.8.3, G801.5

Proposed Change as Submitted

Proponents: Kris Bridges, CBO, Chair, ICC Swimming Pool Code Drafting Committee (SPCDC) & Jennifer Hatfield, J. Hatfield & Associates, PL, representing the Association of Pool & Spa Professionals

THIS IS A 4 PART CODE CHANGE.PART All PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC GENERAL CODE DEVELOPMENT COMMITTEE.

PART I – IBC GENERAL

Delete Section 3109 in its entirety and substitute as follows:

SECTION 3109
AQUATIC VESSELS

3109.1 General. The design and construction of aquatic vessels shall comply with the *International Swimming Pool and Spa Code*. The application of this section shall be limited in scope in accordance with Section 101.2.

Revise as follows:

303.4 Assembly Group A-3. Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades
Art galleries
Bowling alleys
Community halls
Courtrooms
Dance halls (not including food or drink consumption)
Exhibition halls
Funeral parlors
Gymnasiums (without spectator seating)
Indoor ~~*swimming pools*~~ *aquatic vessels* (without spectator seating)
Indoor tennis courts (without spectator seating)
Lecture halls
Libraries
Museums
Places of religious worship
Pool and billiard parlors
Waiting areas in transportation terminals

303.5 Assembly Group A-4. Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:
Arenas
Skating rinks
~~*Swimming pools*~~ *Aquatic vessels*
Tennis courts

507.6 Group A-3 buildings of 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*~~ *aquatic vessel* or tennis court of Type II construction, shall not be limited provided 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 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 of Types III and IV construction. The area of a Group A-3 building of Type III or IV construction, with no more than one *story above grade plane*, and used as a *place of religious worship*, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor ~~*swimming pool*~~ *aquatic vessel* or tennis court, shall not be limited provided 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 21inches (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.

TABLE 1004.1.2 (IFC [B] TABLE 1004.1.2)
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Skating rinks~~, swimming pools~~ Rink ~~and pool~~ Decks	 50 gross 15 gross
Aquatic Vessels and Aquatic Recreation Facility	Occupant load factors shall be determined in accordance with the International Swimming Pools & Spa Code (ISPSC)

(Portion of table not shown remains unchanged)

1808.7.3 ~~Pools~~ Aquatic vessels. The setback between ~~pools~~ aquatic vessel s regulated by this code and slopes shall be equal to one-half the building footing setback distance required by this section. That portion of the ~~pool~~ aquatic vessel wall within a horizontal distance of 7 feet (2134 mm) from the top of the slope shall be capable of supporting the water in the ~~pool~~ aquatic vessel without soil support.

2406.4.5 Glazing and wet surfaces. Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor ~~swimming pool~~ aquatic vessels where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be considered a hazardous location. This shall apply to single glazing and all panes in multiple glazing.

Exception: Glazing that is more than 60 inches (1524 mm), measured horizontally and in a straight line, from the water's edge of a bathtub~~, hot tub, spa, whirlpool, or swimming pool~~ or aquatic vessel.

2609.4 Area limitations. Roof panels shall be limited in area and the aggregate area of panels shall be limited by a percentage of the floor area of the room or space sheltered in accordance with Table 2609.4.

Exceptions:

1. The area limitations of Table 2609.4 shall be permitted to be increased by 100 percent in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Low-hazard occupancy buildings, such as ~~swimming pool~~ aquatic vessel shelters, shall be exempt from the area limitations of Table 2609.4, provided that the buildings do not exceed 5,000 square feet (465 m^2) in area and have a minimum fire separation distance of 10 feet (3048 mm).
3. Greenhouses that are occupied for growing plants on a production or research basis, without public access, shall be exempt from the area limitations of Table 2609.4 provided they have a minimum fire separation distance of 4 feet (1220 mm).
4. Roof coverings over terraces and patios in occupancies in Group R-3 shall be exempt from the area limitations of Table 2609.4 and shall be permitted with light-transmitting plastics.

3102.8.3 Support provisions. A system capable of supporting the membrane in the event of deflation shall be provided for in air-supported and air-inflated structures having an *occupant load* of 50 or more or where covering ~~a swimming pool~~ an aquatic vessel regardless of *occupant load*. The support system shall be capable of maintaining membrane structures used as a roof for Type I construction not less than 20 feet (6096 mm) above floor or seating areas. The support system shall be capable of maintaining other membranes not less than 7 feet (2134 mm) above the floor, seating area or surface of the water.

Add new definition as follows:

SECTION 202
DEFINITIONS

AQUATIC RECREATION FACILITY. A facility that is designed for free-form aquatic play and recreation. The facilities may include, but are not limited to, wave or surf action pools, leisure rivers, sand bottom pools, vortex pools, *activity pools*, *tube rides* and body slides, and interactive play attractions.

AQUATIC VESSEL. Any vessel, permanent or temporary, intended for swimming, bathing, or wading and that is designed and manufactured to be connected to a *circulation system*. Portable vessels 12 inches or less in designed water depth which are drained and filled daily are not considered *aquatic vessels*. For purposes of this code, the term is used to identify all the types of vessels governed by this code, including: swimming pools, aquatic facilities, *spas* and hot tubs, and related equipment. Such vessels are either used in a *residential* application or in a public application.

Delete without substitution:

~~**G801.5 Prefabricated swimming pools.** Prefabricated swimming pools in *floodways* shall meet the requirements of Section G103.5.~~

Reason: 3109. When addressing pool safety provisions found in the new International Swimming Pool & Spa Code, reference to that code ensures consistency and provides additional pool and spa requirements that are important to follow for life safety reasons. By requiring in the IBC that aquatic vessels comply with the ISPSC, proper construction of the aquatic vessel will occur, providing the end user with a safe aquatic environment.

Table 1004.1.2. The new International Swimming Pool & Spa Code (ISPSC) provides occupant load requirements for aquatic recreation facilities (Table 608.1 of the ISPSC) and bather load requirements for public swimming pools (Table 403.1). In order to provide consistency between the I-codes, this proposal provides a new entry into Table 1004.1.2 that references you to the ISPSC requirements that provide a more detailed occupant load requirement based on what type of aquatic vessel and what area of the vessel is being considered.

202. The new International Swimming Pool & Spa Code (ISPSC) utilizes a new definition to encompass all different types of pools, hot tubs, and spas – aquatic vessel. The ISPSC also defines a public pool and an aquatic recreation facility, both of which fall under the IBC purview. This proposal revises the definitions in accordance with the terminology provided in the new ISPSC, in order to provide consistency between I-codes and clarity on what requirements apply to what type of aquatic vessels (see subsequent

proposal regarding Table 1004.1.2 of the IBC for example). Further, the current definition excludes wading pools 18 feet deep from any requirements, this new language ensure these types of aquatic vessels are covered.

G801.5. The new International Swimming Pool & Spa Code (ISPSC) does not define prefabricated swimming pools. Rather, it uses the terminology "aquatic vessel" (which is also being suggested for inclusion in the IBC definitions in a separate proposal). Under the new ISPSC, requirements for the design and construction of aquatic vessels installed in flood hazard areas are provided in Section 304. This language should be deleted due to the ISPSC flood hazard area requirements, and due to the fact a prefabricated swimming pool is not defined.

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

T1004.2-E-Hatfield.doc

Public Hearing Results

All 4 parts of this code change were heard by the IBC General Code development committee.

PART I – IBC GENERAL

Committee Action: **Approved as Modified**

Modify proposal as follows:

G801.5 Prefabricated swimming pools. Prefabricated swimming pools in *floodways* shall meet the requirements of Section G103.5.

(This simply retains current language in G801.5. Portions not shown remain unchanged)

Committee Reason: This proposal more appropriately references the pool code for more comprehensive provisions throughout the IBC. The modification simply retains language that corresponds to section 105.2 item 9 that requires a permit for prefabricated pools. The permit requirements need to be modified before the requirements in Section G801.5 can be deleted.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle Department of Planning & Development, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

SECTION 3109
SWIMMING POOLS AND SPAS

3109.1 General. The design and construction of swimming pools and spas shall comply with the *International Swimming Pool and Spa Code*.

Commenter's Reason: This modification substitutes a simple reference to the International Swimming Pool and Spa Code for the original proposal. This is the only change necessary to incorporate the new Pool and Spa Code into the IBC.

The bulk of the original proposal consists of changes in terminology, largely replacing the term "swimming pool" with "aquatic vessel". We're suggesting that this change not be made. The change in terminology is unnecessary. The name of the referenced code is "International Swimming Pool and Spa Code". The IBC definition of "swimming pool" includes spas, hot tubs, wading pools, and other facilities, consistent with the proposed definition of "aquatic vessel". Furthermore, "aquatic vessel" is an obscure term that isn't commonly understood to mean "swimming pool". The term "vessel" is commonly used to refer to ships, and adding "aquatic" reinforces the impression that an "aquatic vessel" is a boat. Adding a definition to the code solves the technical issue with the use of the term, but it leaves us using an awkward and unusual term to refer to a common object.

The original proposal contains one additional technical change. It replaces the Table 1004.1.2 floor area allowance for pools with a reference to the Pool and Spa Code. Our modification eliminates that change. Determination of occupant loads is a fundamental aspect of the design of means of egress systems, and belongs in the egress chapter of the IBC rather than in a specialty code. If the proponents prefer the numbers used in the Pool and Spa Code, those numbers should be proposed for

inclusion in the IBC. Code change proposals related to floor area allowances should be reviewed by the Means of Egress Committee.

G193-12, Part I

Final Action: AS AM AMPC____ D

G193-12, PART II
PART II – INTERNATIONAL MECHANICAL CODE
202, 403.2.1, Table 403.3, 916, Table 916, 1401.1

Proposed Change as Submitted

Proponents: Kris Bridges, CBO, Chair, ICC Swimming Pool Code Drafting Committee (SPCDC) & Jennifer Hatfield, J. Hatfield & Associates, PL, representing the Association of Pool & Spa Professionals

THIS IS A 4 PART CODE CHANGE.PART AII PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC GENERAL CODE DEVELOPMENT COMMITTEE.

PART II – IMC

Revise as follows:

IMC 403.2.1 Recirculation of air. The outdoor air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces, except that:

1. Ventilation air shall not be recirculated from one dwelling to another or to dissimilar occupancies.
2. Supply air to a ~~swimming pool~~ aquatic vessel and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where more than 10 percent of the resulting supply airstream consists of air recirculated from these spaces.
3. Where mechanical exhaust is required by Note b in Table 403.3, recirculation of air from such spaces shall be prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 403.3.
4. Where mechanical exhaust is required by Note g in Table 403.3, mechanical exhaust is required and recirculation is prohibited where more than 10 percent of the resulting supply airstream consists of air recirculated from these spaces.

IMC TABLE 403.3
MINIMUM VENTILATION RATES

OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE R_a CFM/FT^{2a}	DEFAULT OCCUPANT DENSITY #/1000 FT^{2a}	EXHAUST AIRFLOW RATE CFM/FT^{2a}
Sports and amusement ~~Swimming pools~~ Aquatic vessels (pool and deck area)	--	**0.48**	--	--

IMC SECTION 916
~~POOL AND SPA~~ AQUATIC VESSEL HEATERS

IMC 916.1 General. ~~Pool and spa~~ Aquatic vessel heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired ~~pool and spa~~ aquatic vessel heaters shall be tested in accordance with UL 726. Electric p~~ool and spa~~ aquatic vessel heaters shall be tested in accordance with UL 1261.

IMC 1401.1 Scope. This chapter shall govern the design, construction, installation, alteration and repair of systems, equipment and appliances intended to utilize solar energy for space heating or cooling, domestic hot water heating, ~~swimming pool~~ aquatic vessel heating or process heating.

Add new definition as follows: *(Same definition as in IBC)*

IMC SECTION 202
DEFINITIONS

AQUATIC VESSEL. Any vessel, permanent or temporary, intended for swimming, bathing, or wading and that is designed and manufactured to be connected to a *circulation system*. Portable vessels 12 inches or less in designed water depth which are drained and filled daily are not considered *aquatic vessels*. For purposes of this code, the term is used to identify all the types of vessels governed by this code, including: swimming pools, aquatic facilities, *spas* and hot tubs, and related equipment. Such vessels are either used in a *residential* application or in a public application.

Reason: IMC, IFGC, IPC and IPSDC. The new International Swimming Pool & Spa Code (ISPSC) utilizes a new definition to encompass all different types of pools, hot tubs, and spas – aquatic vessel. This proposal utilizes the new terminology found in the ISPSC for consistency between the I-codes.

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

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Public Hearing Results

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

Committee Reason: Based upon action on G193-12 Part I and for correlation with the ISPSC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle Department of Planning & Development, requests Disapproval.

Commenter's Reason: This modification substitutes a simple reference to the International Swimming Pool and Spa Code for the original proposal. This is the only change necessary to incorporate the new Pool and Spa Code into the IBC and revisions to other I-Codes were felt unnecessary.

The bulk of the original proposal consists of changes in terminology, largely replacing the term "swimming pool" with "aquatic vessel". We're suggesting that this change not be made. The change in terminology is unnecessary. The name of the referenced code is "International Swimming Pool and Spa Code". The IBC definition of "swimming pool" includes spas, hot tubs, wading pools, and other facilities, consistent with the proposed definition of "aquatic vessel". Furthermore, "aquatic vessel" is an obscure term that isn't commonly understood to mean "swimming pool". The term "vessel" is commonly used to refer to ships, and adding "aquatic" reinforces the impression that an "aquatic vessel" is a boat. Adding a definition to the code solves the technical issue with the use of the term, but it leaves us using an awkward and unusual term to refer to a common object.

The original proposal contains one additional technical change. It replaces the Table 1004.1.2 floor area allowance for pools with a reference to the Pool and Spa Code. Our modification eliminates that change. Determination of occupant loads is a fundamental aspect of the design of means of egress systems, and belongs in the egress chapter of the IBC rather than in a

specialty code. If the proponents prefer the numbers used in the Pool and Spa Code, those numbers should be proposed for inclusion in the IBC. Code change proposals related to floor area allowances should be reviewed by the Means of Egress Committee.

G193-12, Part II

Final Action: AS AM AMPC____ D

G193-12, PART III
PART III – INTERANTIONAL FUEL GAS CODE
202, 617.1

Proposed Change as Submitted

Proponents: Kris Bridges, CBO, Chair, ICC Swimming Pool Code Drafting Committee (SPCDC) & Jennifer Hatfield, J. Hatfield & Associates, PL, representing the Association of Pool & Spa Professionals

THIS IS A 4 PART CODE CHANGE.PART AII PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC GENERAL CODE DEVELOPMENT COMMITTEE.

PART III – IFGC

Revise as follows:

IFGC SECTION 617
~~POOL AND SPA~~ AQUATIC VESSEL HEATERS

IFGC 617.1 General. ~~Pool and spa~~ Aquatic vessel heaters shall be tested in accordance with ANSI Z21.56 and shall be installed in accordance with the manufacturer's installation instructions.

Add new definition as follows: *(Same definition as in IBC)*

IFGC SECTION 202
DEFINITIONS

AQUATIC VESSEL. Any vessel, permanent or temporary, intended for swimming, bathing, or wading and that is designed and manufactured to be connected to a *circulation system*. Portable vessels 12 inches or less in designed water depth which are drained and filled daily are not considered *aquatic vessels*. For purposes of this code, the term is used to identify all the types of vessels governed by this code, including: swimming pools, aquatic facilities, *spas* and hot tubs, and related equipment. Such vessels are either used in a *residential* application or in a public application.

Reason: IMC,IFGC, IPC and IPSDC. The new International Swimming Pool & Spa Code (ISPSC) utilizes a new definition to encompass all different types of pools, hot tubs, and spas – aquatic vessel. This proposal utilizes the new terminology found in the ISPSC for consistency between the I-codes.

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

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Public Hearing Results

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

Committee Reason: Based upon action on G193-12 Part I and for correlation with the ISPSC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Disapproval.

Commenter's Reason: This modification substitutes a simple reference to the International Swimming Pool and Spa Code for the original proposal. This is the only change necessary to incorporate the new Pool and Spa Code into the IBC and revisions to other I-Codes were felt unnecessary.

The bulk of the original proposal consists of changes in terminology, largely replacing the term "swimming pool" with "aquatic vessel". We're suggesting that this change not be made. The change in terminology is unnecessary. The name of the referenced code is "International Swimming Pool and Spa Code". The IBC definition of "swimming pool" includes spas, hot tubs, wading pools, and other facilities, consistent with the proposed definition of "aquatic vessel". Furthermore, "aquatic vessel" is an obscure term that isn't commonly understood to mean "swimming pool". The term "vessel" is commonly used to refer to ships, and adding "aquatic" reinforces the impression that an "aquatic vessel" is a boat. Adding a definition to the code solves the technical issue with the use of the term, but it leaves us using an awkward and unusual term to refer to a common object.

The original proposal contains one additional technical change. It replaces the Table 1004.1.2 floor area allowance for pools with a reference to the Pool and Spa Code. Our modification eliminates that change. Determination of occupant loads is a fundamental aspect of the design of means of egress systems, and belongs in the egress chapter of the IBC rather than in a specialty code. If the proponents prefer the numbers used in the Pool and Spa Code, those numbers should be proposed for inclusion in the IBC. Code change proposals related to floor area allowances should be reviewed by the Means of Egress Committee.

G193-12, Part III

Final Action: AS AM AMPC____ D

G193-12, PART IV

PART IV – INTERNATIONAL PLUMBING CODE

IPC 202, 423.1, 612.1, 801.1, 802.1.4; IPSDC 202 401.3.2, Table 406.1, Table 604.1(2), Table 802.7.2, Table 802.8

Proposed Change as Submitted

Proponents: Kris Bridges, CBO, Chair, ICC Swimming Pool Code Drafting Committee (SPCDC) & Jennifer Hatfield, J. Hatfield & Associates, PL, representing the Association of Pool & Spa Professionals

THIS IS A 4 PART CODE CHANGE.PART AII PARTS WILL BE HEARD BY THE IBC GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC GENERAL CODE DEVELOPMENT COMMITTEE.

PART IV – IPC/IPSDC

Revise as follows:

IPC 423.1 Water connections. Baptisteries, ornamental and lily pools, aquariums, ornamental fountain basins, ~~swimming pools~~ aquatic vessels, and similar constructions, where provided with water supplies, shall be protected against backflow in accordance with Section 608.

IPC 612.1 Solar systems. The construction, installation, alterations and repair of systems, equipment and appliances intended to utilize solar energy for space heating or cooling, domestic hot water heating, ~~swimming pool~~ aquatic vessel heating or process heating shall be in accordance with the International Mechanical Code.

IPC 801.1 Scope. This chapter shall govern matters concerning indirect waste piping and special wastes. This chapter shall further control matters concerning food-handling establishments, sterilizers, clear-water wastes, ~~swimming pools~~ aquatic vessels, methods of providing air breaks or air gaps, and neutralizing devices for corrosive wastes.

IPC 802.1.4 ~~Swimming pools~~ Aquatic vessels. Where wastewater from ~~swimming pools~~ aquatic vessels, backwash from filters and water from ~~pools~~ aquatic vessel deck drains discharge to the building drainage system, the discharge shall be through an indirect waste pipe by means of an air gap.

Delete and substitute definition as follows: *(Same definition as in IBC)*

IPC SECTION 202
DEFINITIONS

~~**SWIMMING POOL.** Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.~~

AQUATIC VESSEL. Any vessel, permanent or temporary, intended for swimming, bathing, or wading and that is designed and manufactured to be connected to a *circulation system*. Portable vessels 12 inches or less in designed water depth which are drained and filled daily are not considered *aquatic vessels*. For purposes of this code, the term is used to identify all the types of vessels governed by this code, including: swimming pools, aquatic facilities, *spas* and hot tubs, and related equipment. Such vessels are either used in a *residential* application or in a public application.

Revise IPSDC as follows:

IPSDC 401.3.2 Undisturbed site. The replacement system shall not be disturbed to the extent that the site area is no longer suitable. The replacement system area shall not be used for construction of buildings, parking lots or parking areas, below-ground ~~swimming pools~~ aquatic vessels or any other use that will adversely affect the replacement area.

IPSDC TABLE 406.1
MINIMUM HORIZONTAL SEPARATION DISTANCES FOR SOIL ABSORPTION SYSTEMS

ELEMENT	DISTANCE (feet)
~~**Swimming Pool**~~ **Aquatic vessel**	**15**

(Portions of table not shown remain unchanged)

IPSDC TABLE 604.1(2)
CONVERSION FACTOR

BUILDING CLASSIFICATION	UNITS	FACTOR
~~Swimming pool~~ Aquatic vessel bathhouse	1 per person	0.2

(Portions of table not shown remain unchanged)

IPSDC TABLE 802.7.2
ADDITIONAL CAPACITY FOR OTHER BUILDINGS

BUILDING CLASSIFICATION	CAPACITY (GALLONS)
~~Swimming pool~~ Aquatic vessel bathhouses (per person)	10

(Portions of table not shown remain unchanged)

IPSDC TABLE 802.8
MINIMUM HORIZONTAL SEPARATION DISTANCES FOR TREATMENT TANKS

ELEMENT	DISTANCE (feet)
~~Swimming pool~~ Aquatic vessel	**15**

(Portions of table not shown remain unchanged)

Add new definition as follows: *(Same definition as in IBC)*

IPSDC SECTION 202
DEFINITIONS

AQUATIC VESSEL. Any vessel, permanent or temporary, intended for swimming, bathing, or wading and that is designed and manufactured to be connected to a *circulation system*. Portable vessels 12 inches or less in designed water depth which are drained and filled daily are not considered *aquatic vessels*. For purposes of this code, the term is used to identify all the types of vessels governed by this code, including: swimming pools, aquatic facilities, *spas* and hot tubs, and related equipment. Such vessels are either used in a *residential* application or in a public application.

Reason: IMC,IFGC, IPC and IPSDC. The new International Swimming Pool & Spa Code (ISPSC) utilizes a new definition to encompass all different types of pools, hot tubs, and spas – aquatic vessel. This proposal utilizes the new terminology found in the ISPSC for consistency between the I-codes.

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

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Public Hearing Results

PART IV – IPC
Committee Action: **Approved as Submitted**

Committee Reason: Based upon action on G193-12 Part I and for correlation with the ISPSC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Disapproval.

Commenter's Reason: This modification substitutes a simple reference to the International Swimming Pool and Spa Code for the original proposal. This is the only change necessary to incorporate the new Pool and Spa Code into the IBC and revisions to other I-Codes were felt unnecessary.

The bulk of the original proposal consists of changes in terminology, largely replacing the term "swimming pool" with "aquatic vessel". We're suggesting that this change not be made. The change in terminology is unnecessary. The name of the referenced code is "International Swimming Pool and Spa Code". The IBC definition of "swimming pool" includes spas, hot tubs, wading pools, and other facilities, consistent with the proposed definition of "aquatic vessel". Furthermore, "aquatic vessel" is an obscure term that isn't commonly understood to mean "swimming pool". The term "vessel" is commonly used to refer to ships, and adding "aquatic" reinforces the impression that an "aquatic vessel" is a boat. Adding a definition to the code solves the technical issue with the use of the term, but it leaves us using an awkward and unusual term to refer to a common object.

The original proposal contains one additional technical change. It replaces the Table 1004.1.2 floor area allowance for pools with a reference to the Pool and Spa Code. Our modification eliminates that change. Determination of occupant loads is a fundamental aspect of the design of means of egress systems, and belongs in the egress chapter of the IBC rather than in a specialty code. If the proponents prefer the numbers used in the Pool and Spa Code, those numbers should be proposed for inclusion in the IBC. Code change proposals related to floor area allowances should be reviewed by the Means of Egress Committee.

G193-12, Part IV
Final Action: AS AM AMPC____ D

G195-12
3109.4

Proposed Change as Submitted

Proponent: Steve Pfeiffer, City of Seattle, Dept. of Planning & Development (steve.pfeiffer@seattle.gov)

Revise as follows

3109.4 Residential swimming pools. Residential swimming pools shall ~~comply~~ be completely enclosed by a barrier complying with Sections 3109.4.1 through 3109.4.3.

Exception: A swimming pool with a power safety cover or a spa with a safety cover complying with ASTM F 1346 need not comply with Section 3109.4.

Reason: The purpose of this change is to clarify the location where barriers are required at a residential swimming pool. The current code provisions specify how to construct a barrier, but don't specify that the pool must be entirely surrounded by the barrier. The proposed language is similar to Section 3109.3 for public swimming pools.

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

3109.4-G-PFEIFFER.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the proponents request and action taken on G193-12 Parts I through IV.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Rick Lupton, City of Seattle representing Dept of Planning & Development, requests Approval as Submitted.

Commenter's Reason: The purpose of this change is to clarify the location where barriers are required at a residential swimming pool. The current code provisions specify how to construct a barrier, but don't specify that the pool must be entirely surrounded by the barrier. The proposed language is similar to Section 3109.3 for public swimming pools. If G193 does not pass then this code change is still necessary. If G193 passes at the Final Action Hearing then the proposal will be withdrawn.

G195-12
Final Action: AS AM AMPC____ D

G198-12
202, 107.2.6 (New), 3101.1, 3112 (New)

Proposed Change as Submitted

Proponent: Carl F. Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee (CTC)

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, and relocatable buildings.

SECTION 3112
RELOCATABLE BUILDINGS

3112.1 General. The provisions of this section shall apply to relocatable buildings. Relocatable buildings manufactured after the effective date of this code shall comply with the applicable provisions of this code.

3112.1.1 Compliance. A relocatable building transported to a new location, or a relocatable building that is undergoing *alteration or additions* shall comply with Section 3410.

3112.2 Supplemental information. Supplemental information specific to a relocatable building shall be submitted to the authority having jurisdiction, and shall, *as a minimum,* include all of the following:

1. Application for approval or permit
2. Manufacturer's name, address, contact information
3. Date of manufacture
4. Serial number of module
5. Manufacturer's design drawings
6. Type of construction in accordance with Section 602.
7. Occupancy type in accordance with Section 302.
8. Design loads including: roof live load, roof snow load, floor live load, wind load and seismic site class, use group and design category
9. Additional building planning and structural design data
10. Site plan indicating the location of the relocatable building
11. Site built structure or appurtenance attached to the relocatable building

3112.3 Manufacturer's Data Plate. The manufactures data plate shall be the basis for determining code compliance. Each relocatable module shall have a data plate that is posted in the location as noted on the drawings, and shall include the following information:

1. Manufacturer's name and address
2. Serial number
3. Date of manufacture
4. The quality assurance agency or approved inspection agency
5. Codes, and standards of construction
6. Design live roof load, design live floor load, snow load, wind and seismic design
7. Envelope thermal resistance values
8. Electrical service size
9. Fuel burning equipment and size
10. Special limitations if any

3112.4 Inspections. Inspections of a relocatable building shall be performed in accordance with Section 110.4 of this code during off-site construction, and the applicable sections of Section 110.3 during installation at the site.

Add new definition as follows:

SECTION 202
DEFINITIONS

RELOCATABLE BUILDING. A partially or completely assembled building constructed and designed to be reused multiple times and transported to different building sites.

Add new text as follows:

107.2.6 Relocatable buildings. Construction documents for relocatable buildings shall comply with this section and Section 3112.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other 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 April, 2005, the CTC has held twenty-two meetings – all open to the public.

Unlike site-built buildings, which are typically intended to remain on their original site for the life of the building, relocatable modular buildings are designed and intended for relocation, reuse and/or repurposing. Many states have statutes that govern the building and relocating of relocatable modular buildings. For those that do not have state mandated requirements, much confusion and inconsistency exists about the requirements for relocatable modular buildings as existing buildings.

The Modular Building Institute (MBI) (www.modular.org) estimates that there are over 600,000 code compliant relocatable buildings in use in North America today. While it is impossible to determine the exact amount owned by the public at large, MBI estimates that public school districts across North America collectively own and operate about 180,000 relocatable classrooms with the industry owning and leasing an additional 120,000. Additionally, the industry owns and leases approximately 280,000 relocatable buildings for various other business occupancies, including construction site offices and temporary sales offices.

The Code Technology Committee Study Group on Relocatable Modular Buildings identified a number of unique characteristics of relocatable modular buildings that are unlike site-built buildings. Their findings are as follows:

- There are sections of the IBC that are applicable equally to both site-built and relocatable modular buildings, particularly for new construction.
- There are sections of the conflicting code sections that cannot be applied to both site-built and relocatable modular buildings, specifically related to construction documents, inspection, and relocation.

The IBC does not have specific requirements on how to treat these buildings. In the absence of clear definitions and requirements that are specific to both new and existing relocatable modular buildings, many code officials attempt to apply similar, but non-related sections of the building code intended for site built buildings to the relocatable modular industry. There are unique attributes to relocatable modular buildings that warrant their own requirements in a new chapter in this code.

CTC has submitted two proposals on the subject of relocatable modular buildings. One proposal for new construction (this proposal) and a second proposal to address the relocation of modular buildings (proposal to Chapter 34). This proposal includes:

- The definition has been distilled from industry publications and definitions found in state statutes that govern modular (industrialized) buildings. This definition was also approved in the 2012 IGCC.
- Identification and inclusion of relocatables into Special Construction, Chapter 31. This chapter applies to new relocatable buildings, and also new site built structures.

Moving this document forward through the ICC code development process will help the modular building industry comply with the intent of the code, provide a clear and consistent path for enforcement professionals, and for compliance by owners of relocatable buildings who wish to re-use or repurpose their existing buildings.

Cost impact: This code change proposal will not increase the cost of construction due to the re-usable/relocatable nature of such buildings.

3112 (NEW)-G-BALDASSARRA-CTC.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The concept was acceptable but the proposal was disapproved with concern for the varied use of such buildings without a particular occupancy classification being associated with the buildings. Also, it was felt that the proposal needed to better address change of occupancy. Currently only alterations and additions were addressed. Additionally, there was a suggestion that perhaps this should be located within and appendix or a guidance document.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee requests Approval as Modified by this public comment

Modify the proposal as follows:

SECTION 3112
RELOCATABLE BUILDINGS

3112.1 General. The provisions of this section shall apply to relocatable buildings. Relocatable buildings manufactured after the effective date of this code shall comply with the applicable provisions of this code.

3112.1.1 Compliance. A relocatable building transported to a new location, or a relocatable building that is undergoing alteration, ~~or~~ additions, or change in occupancy group shall comply with Section 3410.

3112.2 Supplemental information. Supplemental information specific to a relocatable building shall be submitted to the authority having jurisdiction, and shall, *as a minimum,* include all of the following:

1. Application for approval or permit
~~7.~~ 2. Occupancy ~~type~~ group ~~in accordance with Section 302.~~
~~2.~~ 3. Manufacturer's name, address, ~~contact information~~
~~3.~~ 4. Date of manufacture
~~4.~~ 5. Serial number of module
~~5.~~ 6. Manufacturer's design drawings
~~6.~~ 7. Type of construction in accordance with Section 602.
8. Design loads including: roof live load, roof snow load, floor live load, wind load and seismic site class, use group and design category
9. Additional building planning and structural design data
10. Site plan indicating the location of the relocatable building
11. Site built structure or appurtenance attached to the relocatable building

3112.3 Manufacturer's Data Plate. The manufactures data plate shall be the basis for determining code compliance. Each relocatable module shall have a data plate that is posted in the location as noted on the drawings, and shall include the following information:

1. Occupancy group
~~1.~~ 2. Manufacturer's name and address
3. Date of manufacture
~~2.~~ 4. Serial number of module
~~6.~~ 5. Design live roof load, design live floor load, snow load, wind and seismic design
~~4.~~ 6. ~~The~~ Quality assurance agency or approved inspection agency
~~5.~~ 7. Codes, and standards of construction
~~7.~~ 8. Envelope thermal resistance values
~~8~~ 9. Electrical service size
~~9.~~ 10. Fuel burning equipment and size
~~10.~~ 11. Special limitations if any

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Unlike traditional site-built buildings that are rarely, if ever, moved to another location, relocatable modular buildings are designed and intended to be relocated numerous times.

During the public hearing, there was general support for the new language in G198 that specifically addresses the unique conditions related to the permitting, installation, and inspection of new relocatable buildings. It was recognized that supplemental information is necessary to complete the permitting, approval and inspection process for new relocatable modular buildings.

Proposal G203-12 addresses the requirements to approve and re-inspect existing relocatable modular buildings when they are subsequently transported from one site to another site.

This public comment addresses the concern expressed by the committee about identifying the occupancy group of the new modular building when it is delivered from the factory. The occupancy group must be designated in the supplemental information submitted to the building department, and also must be found on the manufacturers data plate which is physically attached to each module.

The lists in 3112.2 and 3112.3 were modified to incorporate the occupancy group, and to be consistent with each other.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Relocatable Modular Buildings". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/RelocatableModularBuildings.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

G198-12

Final Action: AS AM AMPC____ D

G199-12
202, Table 503, 1609.1.2, 2405.3, 2606.11, 2607.4, 2609.4, 3112 (New), 3102.1

Proposed Change as Submitted

Proponent: Vickie J. Lovell, InterCode Incorporated, representing National Greenhouse Manufacturers Association (vickie@InterCodeinc.com)

Add new text as follows:

SECTION 3112
GREENHOUSES

3112.1 General. The provisions of this section shall apply to structures defined as greenhouses that are designed and used primarily for the cultivation, maintenance, or protection of plants. Greenhouses are constructed for agricultural production, educational purposes, research, retail or business uses.

3112.2 Definitions. The following terms are defined in Chapter 2.

GREENHOUSE
ATTACHED GREENHOUSE

3112.3 Occupancy. The occupancy provisions of this section shall apply to structures defined as greenhouses, and attached greenhouses.

3112.3.1 Group B. Greenhouses that are structurally attached to, but thermally isolated from college or university classrooms shall be classified as Group B.

3112.3.2 Group E. Greenhouses that are structurally attached to, but thermally isolated from elementary, middle or high school classrooms shall be classified as Group E.

3112.3.3 Group M. Greenhouses and attached greenhouses with access by the general access used primarily for the display and sale of plants shall be classified as Group M.

3112.3.4 Group U. Greenhouses that are any of the following shall be classified as Group U:

1. Greenhouses used primarily for the agricultural use for the production, cultivation, maintenance, or protection of plants.
2. Greenhouses that are accessory buildings to Group B, E, or M occupancies.
3. Utility or accessory greenhouses that are not classified in any specific occupancy.

3112.4 Type of Construction. Greenhouses shall be permitted to be constructed as Type I, II, III, IV or V construction. Combustible materials used in Type I and II construction shall be permitted in accordance with Section 603.

3112.5 Allowable Height and Area. The maximum allowable height and area for greenhouses shall comply with Table 3112.5. When an automatic sprinkler system is installed in accordance with Section 903.3.1.1, the values specified in Table 3112.5 for maximum building height is increased by 20 feet (6096mm) 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.

3112.5.1 One-story unlimited area. The area of a one-story Group U agricultural building shall not be limited if the building is surrounded and adjoined by *public ways* or yards not less than 60 feet (18 288 mm) in width.

3112.5.2 Two-story unlimited area. The area of a two-story Group U agricultural building shall not be limited if the building is surrounded and adjoined by *public ways* or *yards* not less than 60 feet (18 288 mm) in width and is provided with an approved automatic sprinkler system throughout in accordance with Section 903.3.1.1.

TABLE 3112.5
BASIC ALLOWABLE AREA FOR GREENHOUSES

I		II		III and IV		V	
A	B	A	B	III A and IV	III B	A	B
ALLOWABLE AREA (square feet)a							
Unlimited	60,000	27,100	18,000	27,100	18,000	21,100	12,000
MAXIMUM HEIGHT IN STORIES							
Unlimited	12	4	2	4	2	3	2
MAXIMUM HEIGHT IN FEET							
Unlimited	160	65	55	65	55	50	40

3112.6 Mixed use and occupancy. Attached greenhouses shall comply with the requirements for mixed occupancies and use requirements in Section 508.

3112.6.1 Fire Rating. The fire rating for the exterior wall of an attached greenhouse classified as Group E, B, or M shall comply with Table 602. Where Table 705.3 permits nonbearing exterior walls with unlimited area of unprotected openings, the fire resistance rating for the exterior walls is 0 hours.

3112 7 Materials. Materials used for the exterior of greenhouses shall comply with Sections 3112.11 through 3112.12.5

3112.8 Means of egress. Greenhouses shall provide means of egress in accordance with Chapters 10.

3112. 9 Accessibility. Attached greenhouses with access by the general public in use Groups B, E, and M shall provide accessibility in accordance with Chapter 11.

3112.9.1 Use Group U. Greenhouses in use group U are exempt from Chapter 11 except as specified in this section.

3112.9.1.1 Employee work areas. Employees work areas shall comply with 1103.2.3 and 1104.3.1.

3112.9.1.2 Paved areas. Greenhouses with access to the general public shall be required to pave work areas and areas open to the general public in accordance with Section 1103.2.5.

3112.10 General Structural Design. Greenhouses with shall comply with the structural design requirements for live and dead loads appropriate for greenhouses in Chapter 16.

3112.10.1 Wind loads. All greenhouses are considered as Risk Category I as defined in Section 1604.5. Openings shall be permitted to be unprotected.

3112.11 Glass and Glazing. Glass and glazing used in greenhouses shall comply with Section 2405.

3112.11.1 Monolithic and multiple-layer sloped glazing systems. Glazing material, including annealed glass, is permitted to be installed without screens in the sloped glazing system of commercial greenhouses, or detached production greenhouses without public access, provided that the height of the greenhouse at the ridge does not exceed 30- feet (6096 mm) above grade.

3112.11.2 Greenhouse frames. Greenhouse frames shall be noncombustible if the height of the sloped glazing exceeds 30-feet (6096 mm) above grade.

3112.11.3 Energy. Greenhouses are exempt from fenestration requirements for U factor and SHGC, and envelope insulation of the International Energy Conservation Code.

3112.12 Light-transmitting Plastics. Light-transmitting plastics shall be permitted in lieu of plain glass in greenhouses and shall comply with Section 2606.

3112.12.1 Plastic wall panels. Greenhouses shall comply with Section 2607 for plastic wall panels. Greenhouses are not required to comply with the area limitations for plastic wall panels in Section 2607.4 but shall be limited as required for unprotected openings in accordance with 705.8

3112.12.2 Plastic glazing. Light transmitting plastic glazing shall comply with Section 2608.

3112.12.3 Plastic roof panels limitations. Greenhouses shall comply with Section 2609 for plastic roof panels. Greenhouses that have access by the general public are exempt from the area limitations of Table 2607.4 provided that the greenhouse has a minimum *fire separation distance* of 30 feet (1219 mm), or are equipped with an automatic sprinkler system in accordance with 903.3.1.1 and minimum fire separation distance of 4 feet (1219 mm). Group U greenhouses without access by the general public are exempt from the area limitations of Table 2607.4 provided that the greenhouse has a minimum fire separation distance of 4 feet (1219 mm).

3112.12.4 Shade and Curtain systems. Greenhouses that have access by the general public shall use material that is flame resistant with either of following:

1. Any textile shade or covering shall be flame resistant as determined by tests conducted in accordance with NFPA 701.
2. Any covering, other than textiles, shall have a *flame spread index* not greater than 25 when tested in accordance with ASTM E 84 or UL 723 in the form intended for use.

Any material is permitted to be used in a shade or curtain system in greenhouses without general public access.

3112.12.5 Plastic film. Plastic less than 30 feet (9144mm) above any floor, and plastic interior liners less than 20 mil (0.5 mm) in thickness used in greenhouses used in greenhouses without access by the general public is not required to comply with 311212.4.

3112.13 Membrane Structures. Greenhouses that are air-inflated or air-supported shall comply with Section 3103.1. Greenhouses that use an arch or truss to support plastic film shall not be considered a membrane structure.

Add new definitions as follows:

GREENHOUSE. A structure designed and used primarily for the cultivation, maintenance, or protection of plants. Greenhouses may or may not be accessible to the general public.

ATTACHED GREENHOUSE. A greenhouse that is structurally attached to another building, but thermally isolated from the adjoining building.

Revise as follows:

3102.1 General. The provisions of Sections 3102.1 through 3102.8 shall apply to air-supported, air-inflated, membrane covered cable and membrane-covered frame structures, collectively known as membrane structures, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the *International Fire Code*. Membrane structures covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants, ~~greenhouses~~ and similar facilities not

used for human occupancy are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with this section.

1609.1.2 Protection of openings. In *wind-borne debris regions*, glazing in buildings shall be impact resistant or protected with an impact-resistant covering meeting the requirements of an *approved* impact-resistant standard or ASTM E 1996 and ASTM E 1886 referenced herein as follows:

1. Wood structural panels with a minimum thickness of $_{7}/_{16}$ inch (11.1 mm) and maximum panel span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings classified as Group R-3 or R-4 occupancy.

   Panels shall be precut so that they shall be attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method and shall be secured with the attachment hardware provided. Attachments shall be designed to resist the components and cladding loads determined in accordance with the provisions of ASCE 7, with corrosion-resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table 1609.1.2 with corrosion resistant attachment hardware provided and anchors permanently installed on the building is permitted for buildings with a mean roof height of 45 feet (13 716 mm) or less where V_{asd} determined in accordance with Section 1609.3.1 does not exceed 140 mph (63 m/s).
2. Glazing in *Risk Category* I buildings as defined in Section 1604.5~~, including greenhouses that are occupied for growing plants on a production or research basis, without public access~~ shall be permitted to be unprotected.

   Exceptions:

   1. through 3. *(Portions of text not shown remain unchanged)*

2405.3 Screening. Where used in monolithic glazing systems, heat-strengthened glass and fully tempered glass shall have screens installed below the glazing material. The screens and their fastenings shall: (1) be capable of supporting twice the weight of the glazing; (2) be firmly and substantially fastened to the framing members and (3) be installed within 4 inches (102 mm) of the glass. The screens shall be constructed of a noncombustible material not thinner than No. 12 B&S gage (0.0808 inch) with mesh not larger than 1 inch by 1 inch (25 mm by 25 mm). In a corrosive atmosphere, structurally equivalent noncorrosive screen materials shall be used. Heat-strengthened glass, fully tempered glass and wired glass, when used in multiple-layer glazing systems as the bottom glass layer over the walking surface, shall be equipped with screening that conforms to the requirements for monolithic glazing systems.

Exception: In monolithic and multiple-layer sloped glazing systems, the following applies:

1. Fully tempered glass installed without protective screens where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane shall have the highest point of the glass 10 feet (3048 mm) or less above the walking surface.
2. Screens are not required below any glazing material, including annealed glass, where the walking surface below the glazing material is permanently protected from the risk of falling glass or the area below the glazing material is not a walking surface.
3. ~~Any glazing material, including annealed glass, is permitted to be installed without screens in the sloped glazing systems of commercial or detached noncombustible greenhouses used exclusively for growing plants and not open to the public, provided that the height of the greenhouse at the ridge does not exceed 30 feet (9144 mm) above grade.~~
4. *(no change to text)*
5. *(no change to text)*

~~**2606.11 Greenhouses.** Light-transmitting plastics shall be permitted in lieu of plain glass in greenhouses.~~

2607.4 Area limitation and separation. The maximum area of a single wall panel and minimum vertical and horizontal separation requirements for exterior light-transmitting plastic wall panels shall be as provided for in Table 2607.4. The maximum percentage of wall area of any *story* in light-transmitting plastic wall panels shall not exceed that indicated in Table 2607.4 or the percentage of unprotected openings permitted by Section 705.8, whichever is smaller.

Exceptions:

1. In structures provided with approved flame barriers extending 30 inches (760 mm) beyond the *exterior wall* in the plane of the floor, a vertical separation is not required at the floor except that provided by the vertical thickness of the flame barrier projection.
2. Veneers of approved weather-resistant light-transmitting plastics used as exterior siding in buildings of Type V construction in compliance with Section 1406.
3. ~~The area of light-transmitting plastic wall panels in *exterior walls* of greenhouses shall be exempt from the area limitations of Table 2607.4 but shall be limited as required for unprotected openings in accordance with Section 704.8.~~

2609.4 Area limitations. Roof panels shall be limited in area and the aggregate area of panels shall be limited by a percentage of the floor area of the room or space sheltered in accordance with Table 2609.4.

Exceptions:

1. The area limitations of Table 2609.4 shall be permitted to be increased by 100 percent in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Low-hazard occupancy buildings, such as swimming pool shelters, shall be exempt from the area limitations of Table 2609.4, provided that the buildings do not exceed 5,000 square feet (465 m_2) in area and have a minimum fire separation distance of 10 feet (3048 mm).
3. ~~Greenhouses that are occupied for growing plants on a production or research basis, without public access, shall be exempt from the area limitations of Table 2609.4 provided they have a minimum fire separation distance of 4 feet (1220 mm).~~
4. *(no change to text)*

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS[a]
Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
Building area limitations shown in square feet, 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 = 0.0929 m^2.
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 building 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.
   5. See Section 3112 for allowable height and area for greenhouses.

b. through d. *(no change to text)*

Reason: Because the primary purpose of a greenhouse is for the propagation of plants, and not for human comfort, many typical building requirements are not applicable or necessary for greenhouses. This proposal has been submitted to distinguish the use and purpose of greenhouses, which better defines the applicable code requirements, and appropriate exceptions to the code.

The word "greenhouse" used throughout the IBC is too general of a term. Definitions and descriptions of greenhouses have been proposed that make the distinctions between the purposes of greenhouses, which better defines their occupancy classification.

Existing requirements for fire safety, structural, allowable height and area, accessibility, and other provisions for greenhouses have been extracted from the current code, and relocated into this new section without any significant technical changes. In two locations, Table 1604.3, 1607.12.2.1, it was impractical to remove the word "greenhouses" due to context. Some new sections have been added that are not presently addressed in the code, but are based on common, accepted practice for greenhouse construction. Some applicable text has been derived from Appendix C Agricultural Buildings.

Greenhouses are a type of unique structure, not a type of use group. Greenhouses fall into categories depending on their use. Greenhouse use groups include B, E, M, and U.

Two distinguishing features between types of greenhouses for the purposes of code enforcement is the access by the public or not and whether they are attached to another structure. These situations have been addressed in numerous locations within the proposal.

Although employees, students, faculty, or members of the general public may occupy the space, the primary function of a greenhouse is to create a controlled environment for the propagation and cultivation of plants, and is intended to achieve the optimum environment for the protection of the plants from the outside environment. Below are photos of typical types of greenhouses.

Greenhouse for display and retail sales of plants intended for general public access

Production greenhouse for agricultural use without public access

Greenhouses used by universities for research and scientific studies, access is limited to students and faculty.

T503 Appendix C contains the height and area requirements for greenhouses.

A proposal has been submitted to Chapter 31, Special Construction, that provides the allowable height and area requirements for greenhouses.

202. Currently, there is no definition for greenhouse in the IBC, although there are numerous requirements for greenhouses in the IBC.

Greenhouses fall into categories depending on their use. Greenhouse can fall into different use groups including B, E, M, and U. A proposal has been submitted to Chapter 31 to distinguish the use and purpose of greenhouses, and better define the applicable code requirements and appropriate exceptions to the code.

Although employees, students, faculty, or the general public may occupy the space, the primary function of a greenhouse is to create a controlled environment for the propagation or maintenance of plants, and to achieve the optimum environment for the protection of the plants from the outside environment.

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

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Public Hearing Results

Committee Action: Approved as Modified

Modify proposal as follows:

3112.3.3 Group M. Greenhouses and attached greenhouses with access by the general ~~access~~ public used primarily for the display and sale of plants shall be classified as Group M occupancies.

3112.6.1 Fire resistance rating. The fire resistance rating for the exterior wall of an attached greenhouse classified as Group E, B, or M shall comply with Table 602. Where Table 705.3 permits nonbearing exterior walls with unlimited area of unprotected openings, the fire resistance rating for the exterior walls is 0 hours.

3112.10 General Structural Design. Greenhouses ~~with~~ shall comply with the structural design requirements for live and dead loads appropriate for greenhouses in Chapter 16.

3112.10.1 Wind loads. All greenhouses in Group U are considered as Risk Category I as defined in Section 1604.5. Openings in greenhouses without public access shall be permitted to be unprotected.

3112.11.1 Monolithic and multiple-layer sloped glazing systems. Glazing material, including annealed glass, is permitted to be installed without screens in the sloped glazing system of commercial ~~greenhouses~~, or detached production greenhouses without public access, provided that the height of the greenhouse at the ridge does not exceed 30- feet (6096 mm) above grade.

3112.12.4 Shade and Curtain systems. Greenhouses that have access by the general public shall use material that complies ~~is flame resistant~~ with either of following:

1. Any textile shade or covering shall comply with the fire propagation performance criteria contained in Test Method 1 or Test Method 2, as appropriate, of ~~be flame resistant as determined by tests conducted in accordance with~~ NFPA 701.
2. Any covering, other than textiles, shall have a *flame spread index* not greater than 25 when tested in accordance with ASTM E 84 or UL 723 in the form intended for use.

Any material is permitted to be used in a shade or curtain system in greenhouses without general public access.

3112.12.5 Plastic film. Plastic less than 30 feet (9144mm) above any floor, and plastic interior liners less than 20 mil (0.5 mm) in thickness used in greenhouses ~~used in greenhouses~~ without access by the general public is not required to comply with 311212.4.

(Portions not shown remain unchanged)

Committee Reason: These provisions were seen as necessary to be assembled in one location in the IBC and will improve the consistency of enforcement on these structures. The modifications addressed necessary language clean up, clarification of which greenhouses would not require protection from wind and correlation with action taken on G84-12 addressing NFPA 701. It should be noted further clarification of the applicability of wind requirements to greenhouses should be made.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Disapproval.

Commenter's Reason: While there may be some benefits to gathering together all the code provisions related to greenhouses, the flaws of this proposal by far outweigh any benefits. The proposal would be confusing to apply, and it contains contradictory and conflicting provisions. There may be the seeds of a decent code provision in this proposal, but this one is not ready to be adopted into the code. Here are some examples of problems with the proposal:

- Table 3112.5 is used in this proposal to apply to all greenhouses, regardless of occupancy classification. The table is copied from Appendix C where it applies only to Group U greenhouses, and, according to Section C101.1, item 5 it only applies to detached production greenhouses. In this proposal, the table applies to all occupancies, to non-production greenhouses, and to attached greenhouses. The proponents provided no justification for this huge increase in application of the table.
- The values in Table 3112.5 are much larger than would be allowed for other uses by Table 503, even for Group U. For example, in Table 503, the tabular values for Group U of Type VB construction are 1 story and 5,500 sq. ft. This proposal more than doubles that, by allowing 12,000 sq. ft. and 2 stories. Another example--the Table 503 values for Group E Type VB buildings are 9,500 sq. ft. and 1 story. In this proposal, a greenhouse, which could be attached to and classified as Group E, is given a tabular value of 12,000 sq. ft. and 2 stories. Similarly, the Table 503 values for Group M Type VB are 9,000 sq. ft. and 1 story. Sprinkler increases magnify the discrepancy between what's allowed in this proposal and what's allowed in Chapter 5. In every case other than Type IA, this proposal allows significantly greater area for greenhouses than Chapter 5 would allow, with no justification from the proponents other than that the table is in the appendix (which doesn't apply to the same occupancies).
- The definition of "attached greenhouse" says it is structurally attached to a building but thermally isolated. What would you call a greenhouse that's structurally attached but isn't thermally isolated? Because of this definition, it wouldn't be an "attached greenhouse." It's possible the proposal is meant to require all attached greenhouses to be thermally isolated, but it doesn't say that, and the definition wouldn't be the correct place for a requirement anyway.
- The definition of greenhouse says that greenhouses are "used primarily for the cultivation, maintenance, or protection of plants." Section 3112.3.4 says that greenhouses "used primarily for the cultivation, maintenance, or protection of plants" "shall be classified as Group U", therefore all greenhouses are classified as Group U. But, the 3 previous sections said some greenhouses shall be B, E, or M. There may be a way those provisions were meant to fit together, but this proposal doesn't tell us how to do it.
- Section 3112.9 scopes accessibility for "attached greenhouses". What about greenhouses that aren't attached? It's confusing for accessibility to be addressed in chapter 31, and inaccurate. Accessibility should be left to Chapter 11 where it can be more easily coordinated with federal accessibility laws.
- Section 3112.10 requires greenhouses to comply with live and dead load provisions of Chapter 16. What about snow loads, and lateral loads, and other loads that might cause a greenhouse to collapse? Wind is addressed in 3112.10.1 but it isn't scoped in 3112.10, and seismic loads are ignored. It's confusing for structural loads to be addressed in Chapter 31—they should be left to Chapter 16.
- 3112.11.3 says greenhouses are exempt from some provisions of the Energy Code. That provision belongs in the Energy Code—one code can't modify the provisions of a different code. Whether the Energy Code applies is determined by the Energy Code, not the Building Code.
- Section 3112.4 says greenhouses can be of any construction type, apparently without any limitation. Why is this necessary? Is there anything in the code that would limit the construction type? Is it intended to mean that they can be of any construction type regardless of other conditions, such as being attached to or part of a building of a higher construction type?
- There are numerous other problems with the drafting of the proposal; many are minor but they add up to a code change that would be difficult to use. Section 3112.6 is "Mixed use and occupancy"—subsection 3112.6.1 is about the fire rating of exterior walls, and seems to apply whether or not the greenhouse is in a mixed use building. Section 3112.7 is the scoping section for Section 3112.12—why are those sections so far apart? Section 3112.9.1.2 "Greenhouses…shall pave work areas…"—the greenhouse is going to do the paving?

G199-12

Final Action: AS AM AMPC____ D

G201-12
[A] 101.4, [A] 116.5, 201.3, 202, Chapter 34

Proposed Change as Submitted

Proponent: Charles S. Bajnai, Chesterfield County, VA., ICC Building Code Action Committee (BCAC)

Delete without substitution as follows:

~~**CHAPTER 34**~~
~~**EXISTING STRUCTURES**~~

Revise as follows:

[A] 101.4 Referenced codes. The other codes listed in Sections 101.4.1 through ~~101.4.6~~ 101.4.7 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.

[A] 101.4.7 Existing buildings. The provisions of the *International Existing Building Code* shall apply to all matters governing the repairs, alterations, change of occupancy, additions and relocation of existing buildings.

[A] 116.5 Restoration. The structure or equipment determined to be unsafe by the *building official* is permitted to be restored to a safe condition. To the extent that repairs, *alterations* or *additions* are made or a change of occupancy occurs during the restoration of the structure, such repairs, *alterations*, *additions* or change of occupancy shall comply with the requirements of Section 105.2.2 and ~~Chapter 34~~ *the International Existing Building Code*.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *International Energy Conservation Code*, *International Fuel Gas Code*, *International Fire Code*, *International Existing Building Code, International Mechanical Code* or *International Plumbing Code,* such terms shall have the meanings ascribed to them as in those codes.

Revise as follows:

SECTION 202
DEFINITIONS

EXISTING STRUCTURE ~~(For Chapter 34)~~. A structure erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been issued.

Reason: This proposal is submitted by the ICC Building Code Action Committee (BCAC) The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 3 open meetings and over 15 workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Consistency and coordination among the International Codes is one of the cornerstones of the ICC Code Development process. The ICC Board established the ICC Building Code Action Committee (BCAC) to act as a forum to deal with complex issues ahead of the Code Development Process, identify emerging issues and draft proposed code changes.
This proposed change is a result of the BCAC's work. This code change proposal was identified as the highest priority of the code change topics brought to the committee.

The purpose of this code change is to eliminate redundant and otherwise unnecessary and confusing requirements in the ICC family of codes. This is an effort to consolidate requirements for Existing Buildings into one code. The IEBC takes a more comprehensive approach to existing buildings than the IBC. The amount of language needed to properly regulate Existing Buildings would make the IBC Chapter 34 too large, or require the IBC to be split into two volumes. Therefore it is necessary and proper to regulate Existing Buildings under the provisions of the IEBC. This does not mean that the IEBC is the only document for regulation of Existing Buildings because the IEBC references the IBC and vice versa.

Some opposition to the deletion of Chapter 34 has been expressed in past code cycles with the reason that most jurisdictions do not adopt the IEBC. Data collected by ICC Government Relations indicates that 75% of all the States have adopted the IEBC locally or statewide. Of those 75%, 60% adopt the IEBC Statewide in some fashion.

Some opposition to the deletion of Chapter 34 has been expressed in past code cycles with the reason that jurisdictions do not want to adopt another book or that it would require burdensome legislative actions. The data collected by ICC Government Relations indicates that the IEBC is adopted in more jurisdictions than the Plumbing Code, yet the International Plumbing Code is referenced throughout the IBC in more sections than the IEBC. This would require jurisdictions to make several legislative actions to amend to those Plumbing Code references in the IBC, whereas they would only have to take one legislative action in the adoption of the IEBC.

The topic of governance of Existing Buildings has gone through several code cycles flip-flopping from being in the IBC, to being in an appendix, to being in a new code - the IEBC. Opposition to removing it from the IBC and putting it in the IEBC has been expressed that the IEBC was "not ready for prime time" while leaving Chapter 34 in the IBC. The text of Chapter 34 is duplicated in Chapter 4 and 14 of the IEBC and is now "ready for prime time"

It is problematic and confusing when attempting to create code changes to address Existing Buildings. The proponent would have to propose amendments to both the IBC and the IEBC. Furthermore a code change in one committee may fail to get approved but approved in the other. Therefore it only makes sense to have the requirements for Existing Buildings in one document, the IEBC. Then all focus and efforts to properly address regulations for Existing Buildings can be handled through one committee, one avenue and one process.

1. This is more of an editorial change, adding the IEBC.
2. There is no need to have the term "for Chapter 34" in the definition. The ICC codes contain language for Terms not defined in current code but are defined in other codes.
3. The IEBC is already referenced for compliance in IBC 3401.6. The IBC committee agreed to place the reference section 3401.6, stating that the IEBC was a viable design tool as a compliance option. The IEBC is one of the several code documents in the ICC Family of Codes. The requirements in Chapter 34 are duplicated in the IEBC in Chapters 4 and 14 as two separate compliance Chapters/Methods the Table below shows the section references between IBC Chapter 34 and IEBC Chapter 4 and 14.
4. This is proposed to be revised and consistent with language in Section 101.4. The IEBC should be a referenced code the same as the IFGC, IMC, IPC, IPMC, IFC and the IECC. The IEBC is referenced in IBC 3401.6.
5. This is more of an editorial change, adding the IEBC.

Comparison Table of the IBC Chapter 34 and the IEBC Chapter 4

IBC 34	IEBC 4	Notes	IBC 34	IEBC 4	Notes	IBC 34	IEBC 4	Notes
3401.1	401.1		3404.5	403.5		3408.3	407.3	
3401.2		Not in IEBC	3404.6	403.6		3408.4	407.4	
3401.3		Found in 301.2	3405.1	404.1		3409.1	408.1	
3401.4	401.2		3405.2	404.2		3409.2	408.2	
3401.5	401.3		3405.3	404.3		3410.1	409.1	
3402		Found in 202	3405.4	404.4		3411.1	410.1	
3403.1	402.1		3405.5	404.5		3411.2	410.2	
3403.2	402.2		3406.1	405.1		3411.3	410.3	
3403.3	402.3		3406.2	405.2		3411.4	410.4	
3403.4	402.4		3406.3	405.3		3411.5	410.5	
3403.5	402.5		3406.4	405.4		3411.6	410.6	
3404.1	403.1		3406.5	405.5		3411.7	410.7	
3404.2	403.2		3407.1	406.1		3411.8	410.8	
3404.3	403.3		3408.1	407.1		3411.9	410.9	
3404.4	403.4		3408.2	407.2		3412	1401	

Notes:

1. 3401.2 of the IBC contains maintenance language. Similar language regarding maintenance is found in the IPMC.
2. 3401.3 of the IBC is not found in IEBC Chapter 4, however it is found in 301.2.
3. 3402 of the IBC is the definition section and is not found in IEBC Chapter 4, however it is found in 202.

Bibliography: ICC Government Relations Code Adoption Resources.

Analysis:

1. This code change proposal will not remove Chapter 4 or Chapter 14 of the IEBC.
2. ICC Staff would have to change the references in Section 1009.7.2 from ~~3404.1~~ to 403.1 of the International Existing Building Code
3. ICC Staff would have to change the references in Section 1103.2.2 from ~~3411~~ 410 of the International Existing Building Code

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

Staff note: The IEBC does not have a definition for 'existing structure', however, it does have a definition for 'existing building' that reads as follows: [B] EXISTING BUILDING. A building erected prior to the date of the adoption of the appropriate code, or one for which a legal building permit has been issued.

CH 34-G-BAJNAI-BCAC.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal deletes Chapter 34 from the IBC. This proposal was preferred over G202 and G205 which would move the IEBC into the IBC in different forms. It was felt to be the most straightforward approach of simply referencing a single document and not moving all the text from the IEBC into the IBC. Keeping the IEBC as a document of choice will keep the Appendix A and C chapters intact. States such as NJ already address existing buildings within a separate document. Generally it was felt that it was necessary to go down this path to see if the membership is ready. The scoping of the IEBC is more appropriate than the IBC for existing buildings. Finally this will mean all existing building code related issues will go to a single committee. It should be noted that currently the structural provisions of both Chapter 34 and the IEBC are heard by the IBC Structural committee.

Analysis: This code change proposal considered by the IBC-General Committee was one of several proposals addressing the scope and application of the *International Building Code,* Chapter 34, and the *International Existing Building Code.* These proposals included G201-12, G202-12, and G205-12. The action taken by the IBC-General Committee on these proposals coupled with the final action taken at the 2012 Final Action Hearings will be limited to an advisory recommendation to the ICC Board of Directors who will determine the final disposition on these proposed changes.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Jim Edelson, New Buildings Institute, requests Approval as Submitted.

Commenter's Reason: Achieving energy use efficiency in existing commercial buildings is universally recognized as critical to most energy and environmental policies at local, state and federal levels. Consistency and coordination of the energy provisions in the ICC family of codes will establish an important framework for achieving meaningful, consistent and cost-effective reductions in energy consumption in existing buildings. An easily understood and enforceable path for the application of energy code measures to existing buildings will lead to higher levels of compliance and more widespread adoption. Thus, the approval of this proposal to achieve the consistency of existing building provisions in the IBC in this code cycle, followed by modifications to the IEBC, IECC and IRC in Code Cycle B, is one of the most important steps the ICC can take to reduce energy waste in commercial buildings.

Public Comment 2:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Disapproval.

Commenter's Reason: This code change removes provisions for existing buildings from the IBC and places all requirements into the IEBC. While I understand the purpose, I disagree with the result of having to use the IEBC for existing buildings. In G205-12, provisions that duplicate what is in the IEBC are put into the IBC so that the resource for both designers and code officials is the same single source document.

Analysis: This code change proposal considered by the IBC-General Committee was one of several proposals addressing the scope and application of the *International Building Code,* Chapter 34, and the *International Existing Building Code.* These proposals included G201-12, G202-12, and G205-12. As reported at the Code Development Hearing, the action taken by the IBC-General Committee on these proposals coupled with the final action taken at the 2012 Final Action Hearings will be limited to an advisory recommendation to the ICC Board of Directors who will determine the final disposition on these proposed changes in accordance with Section 1.3 of CP 28 which stipulates that the Board determines the scope of the I-Codes.

It should be noted that G201-12 and G205-12 have received Public Comments. For reference the committee action and summary of each proposal are as follows:

- G201-12 (Approved as submitted) – Deletes Chapter 34 and simply references the IEBC for existing buildings.
- G202-12 (Disapproved) – Places the work area method of the IEBC within Chapter 34 of the IBC. This is similar in approach to G205-12 except it focuses solely on building code issues.
- G205-12 (Disapproved) – Places the work area method of the IEBC within Chapter 34 of the IBC.

G201-12

Final Action: AS AM AMPC____ D

G203-12
202, 3401.1, 3410.1, 3410.2 (New); [IEBC (B0 401.1, 409.1, 409.2 (New)]

Proposed Change as Submitted

Proponent: Carl F. Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee (CTC)

Revise as follows:

RELOCATABLE BUILDING. A partially or completely assembled building constructed and designed to be reused multiple times and transported to different building sites.

3401.1 (IEBC [B] 401.1) Scope. The provisions of this chapter shall control the *alteration*, *repair*, *addition* ~~and~~ change of occupancy, and the relocation of existing buildings and structures.

Exception: Existing *bleachers*, grandstands and folding and telescopic seating shall comply with ICC 300.

3410.1 (IEBC [B] 409.1) Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

Exception: Existing relocatable buildings moved into or within the jurisdiction shall be permitted to comply with the provisions of Chapter 13 of the International Existing Building Code.

3410.2 (IEBC [B] 409.2) Additions and Alterations. Additions and alterations made to relocatable buildings shall comply with the applicable provisions of Section 3403 and 3404 or the International Existing Building Code.

Reason: Unlike site-built buildings, which are typically intended to remain on their original site for the life of the building, relocatable modular buildings are designed and intended for relocation, reuse and/or repurposing. Many states have statutes that govern the building and relocating of relocatable modular buildings. For those that do not have state mandated requirements, much confusion and inconsistency exists about the requirements for relocatable modular buildings as existing buildings.

The Modular Building Institute (MBI) (www.modular.org) estimates that there are over 600,000 code compliant relocatable buildings in use in North America today. While it is impossible to determine the exact amount owned by the public at large, MBI estimates that public school districts across North America collectively own and operate about 180,000 relocatable classrooms with the industry owning and leasing an additional 120,000. Additionally, the industry owns and leases approximately 280,000 relocatable buildings for various other business occupancies, including construction site offices and temporary sales offices.

The Code Technology Committee Study Group on Relocatable Modular Buildings identified a number of unique characteristics of relocatable modular buildings that are unlike site-built buildings and compared them to the IBC and the IEBC. Their findings are as follows:

- There are provisions of the IBC that are not applicable/appropriate to relocatable modular buildings. Specifically, there is an unintended conflict between the IBC Section 3410, and the intent of the IEBC that cannot be realistically applied to relocatable modular buildings.
- There are sections of the conflicting code sections that cannot be applied to both site-built and relocatable modular buildings, specifically related to construction documents, inspection, and relocation.

Both the IBC and the IEBC are unclear on how to treat these buildings, particularly when they are relocated to a new site. In the absence of clear definitions and requirements that are specific to both new and existing relocatable modular buildings, many code officials attempt to apply similar, but non-related sections of the building code intended for site built buildings to the relocatable modular industry. There are unique attributes to relocatable modular buildings that warrant their own requirements in a new chapter in this code.

CTC has submitted two proposals on the subject of relocatable modular buildings. One proposal to Section 3112 for new construction and this proposal for existing buildings which are relocated. This proposal includes:

- The definition has been distilled from industry publications and definitions found in state statutes that govern modular (industrialized) buildings. This definition was also approved in the 2012 IGCC.
- An exception to IBC 3410 for relocatable buildings (currently treats all moved buildings as “new” buildings) with a pointer to Chapter 13 of IEBC. Moved relocatable modular buildings are to be treated as existing buildings.
- Relocatables undergoing additions or alterations shall comply with the appropriate section of the IEBC, which also applies to site built buildings. This section clarifies that there is no difference between the requirements for modular buildings and site built buildings when either undergoes construction for alteration or addition.

Moving this document forward through the ICC code development process will help the modular building industry comply with the intent of the code, provide a clear and consistent path for enforcement professionals, and for compliance by owners of relocatable buildings who wish to re-use or repurpose their existing buildings.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

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

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The main concern was related to how change of occupancy would be addressed from one site to the next. Similar to G198-12 it was suggested that perhaps these issues are addressed in an appendix since states deal with these buildings in varied ways. There was concern generally that these provisions are necessary but are not quite ready to be enforced.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this public comment

Modify the proposal as follows:

3410.2 (IEBC [B] 409.2) Additions, ~~and~~ Alterations, or Change of Occupancy. Additions, ~~and~~ alterations, or change of occupancy classification from one group to a different group made to relocatable buildings shall comply with the applicable provisions of Section 3403 and 3404 or the International Existing Building Code.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Unlike traditional site-built buildings that are rarely, if ever, moved to another location, relocatable modular buildings are designed and intended to be relocated numerous times.

During the public hearing, there was general support for the new language in G198 that specifically addresses the unique conditions related to the permitting, installation, and inspection of new relocatable buildings. It was recognized that supplemental information is necessary to complete the permitting, approval and inspection process when existing relocatable modular buildings are subsequently transported from one site to another site.

Proposal G203-12 provides a pointer to the International Existing Building Code which will contain the requirements to approve and re-inspect relocatable buildings when they are transported to future sites. During the Group B code change cycle, additional information will be proposed to the International Existing Building Code that will specifically address the relocation of modular buildings from one site to another site.

This public comment addresses the concern expressed by the committee about identifying the occupancy group of an existing relocatable modular building when it is moved to another location and used for different purpose, or when it stays in the same jurisdiction, but is used for a different purpose.

If the occupancy group changes when the building is reused for a different purpose other than those uses within the designated occupancy group, then the new occupancy group must be designated in the supplemental information and submitted to the building department. The new occupancy group must also be indicated on the manufacturers' data plate which is physically attached to each module.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Relocatable Modular Buildings". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from

the following website: http://www.iccsafe.org/cs/CTC/Pages/RelocatableModularBuildings.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

G203-12

Final Action: AS AM AMPC____ D

G205-12, Part I
3401.1.2 (New)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART I – IBC GENERAL

Add new text as follows:

3401.1 Scope. The provisions of this chapter shall control the *alteration*, *repair*, *addition* and change of occupancy of existing buildings and structures.

Exception: Existing *bleachers*, grandstands and folding and telescopic seating shall comply with ICC 300.

3401.1.2 Intent. The intent of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety and welfare insofar as they are affected by the repair, alteration, change of occupancy, addition and relocation of existing buildings.

Reasons: The AIA Codes and Standards Committee has become increasingly concerned that the sheer volume of codes have become unwieldy, leaving users of the code (designers and code officials) in the precarious position of not being able to embrace all the criteria that a single jurisdiction may choose to enforce. One of the obvious ways that the codes can be streamlined is to eliminate duplicative elements of the codes. The IBC now includes Chapter 34 for existing buildings and the IEBC is dedicated completely too existing buildings. While there is a great deal of duplication in these documents, they are not 100% the same.

Complicating the problem are jurisdictions that adopt both the IBC and the IEBC and do not provide any additional direction as to how the two documents are to be used. Lack of consistency is created among jurisdictions when one neighboring jurisdictions adopt one of the codes, but their neighbor adopts another. If the ICC intends to have provisions that are equally applicable, they can most easily be incorporated into the building code and applied consistently as part of that code.

(202 items) All these definitions are found in the IEBC but are not found in the IBC even though buildings that are designed and constructed per the IBC are subject to the IEBC once completed. Common terminology and meaning should be applied through both codes.

(3401.1.2) The intent in the IEBC Section 101.3 is not the same as the intent of the IBC and should be restated here.

(3401.3) The requirements in Section 104.10.1 in the IEBC are more comprehensively applied to repair and alterations and are moved here for consistency.

(3401.5) Requirements for flood hazard areas appear in three sections (3403.2, 3404.2 and 3405.2) in Chapter 34 establishing the exact same provisions for flood hazard but applying them to additions, alterations and repairs. The IEBC has a completely different approach to the same subject in Section 104.10.1. They are all placed in one section here to provide a concise and consistent set of requirements for flood protection in existing buildings.

(3401.6) By moving the provisions from the IEBC into the IBC this isn't necessary.

(3401.6 (NEW)) Structural requirements in the IBC and IEBC are being made the same.

(3401.7.1 (NEW)) The provisions in Chapter 34 and the IEBC for accessibility use of fire escapes and replacement glass have been moved to the general section of the Chapter so that these requirements will apply to all buildings using any compliance method.

(3403.1 #1) The requirements for alterations in 3404 and Section 403 establish that the alterations must be made in compliance with the IBC and do not make the existing portions of the building any less compliant. The structural requirements are redundant with other structural requirements and are consolidated into Section 3401.4.5 and flood criteria are in Section 3401.5.

(3403.1 #2) In the IBC, Section 3403.1 requires the addition and any alterations needed to make the existing structure "no less conforming." This section also requires the addition to meet the code making any elements that are part of the code for new construction applicable; the accessibility and energy conservation requirements in the IEBC are redundant.

(3403.2) This section is moved to 3401.5 and combined with criteria from the IEBC and other sections in Chapter 34 to form a single section on flood provisions. Both the addition and the existing building are limited to compliance with Chapter 5, so the provisions for height and area in the IEBC Section 1102, are unnecessary; the structural requirements for the additions are addressed in the new Section 3401.4.5.3, and are combined with the requirements from the IEBC. Energy conservation requirements aren't needed since Section

(3404 through 3412) Proposed change to the IBC incorporating the provisions of the IEBC.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART I – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: The IEBC is not an independent code, it is tied intrinsically with the IBC for a myriad of provisions. Having provisions and options for design, construction and review in two different documents complicates the work by the owners, designers, code officials and contractors. This code change compiles all the criteria for existing buildings into one code with all the construction elements that are referenced in that code as part of the document.

The option to move all existing building provisions into the IEBC may appear to remove the overlap, but they will still remain as long as that code relies on the IBC for fundamental aspects of structural loading and adds to the complexity of the code user that must go to another document to find the requirements. The design of the I-codes doesn't envision dividing up the requirements of the code, but to package them as simply as possible.

AIA recently surveyed our members and received significant input that the codes are moving in the wrong direction, making the ability to find and apply information in the codes further and further away from what was envisioned when we endorsed these codes. Instead of spreading information out over more documents, the members responses called for inclusion of fundamental information for all projects in the building code.

This change brings the elements of the IEBC back into Chapter 34, which was specifically crafted as the location for existing building provisions.

Analysis: This code change proposal considered by the IBC-General Committee was one of several proposals addressing the scope and application of the *International Building Code,* Chapter 34, and the *International Existing Building Code.* These proposals included G201-12, G202-12, and G205-12. As reported at the Code Development Hearing, the action taken by the IBC-General Committee on these proposals coupled with the final action taken at the 2012 Final Action Hearings will be limited to an advisory recommendation to the ICC Board of Directors who will determine the final disposition on these proposed changes in accordance with Section 1.3 of CP 28 which stipulates that the Board determines the scope of the I-Codes.

It should be noted that G201-12 and G205-12 have received Public Comments. For reference the committee action and summary of each proposal are as follows:

- G201-12 (Approved as submitted) – Deletes Chapter 34 and simply references the IEBC for existing buildings.

- G202-12 (Disapproved) – Places the work area method of the IEBC within Chapter 34 of the IBC. This is similar in approach to G205-12 except it focuses solely on building code issues.
- G205-12 (Disapproved) – Places the work area method of the IEBC within Chapter 34 of the IBC.

G205-12, Part I

Final Action: AS AM AMPC____ D

G205-12, Part II
3401.3, 3401.1.3 through 3401.3.4 (New)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART II – IBC GENERAL

Revise as follows:

~~**3401.3 Compliance.** *Alterations*, *repairs*, *additions* and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for *alterations*, *repairs*, *additions* and changes of occupancy or relocation, respectively, in the *International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Residential Code* and NFPA 70. Where provisions of the other codes conflict with provisions of this Chapter, the provisions of this Chapter shall take precedence~~.

3401.3 Compliance. The repair, alteration, change of occupancy, addition or relocation of all existing buildings shall comply with the applicable provisions of Section 3401 and one of the methods listed in Sections 3401.3.2 through 3401.3.4. Application of a method shall be the sole basis for assessing the compliance of work performed under a single permit unless otherwise approved by the code official. Sections 3401.3.2 through 3401.3.4 shall not be applied in combination with each other.

3401.3.1 Compliance with laws at the time the building was constructed. Subject to the approval of the code official, alterations complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural alteration as prescribed in Section 907.4.3. New structural members added as part of the alteration shall comply with the International Building Code. Alterations of existing buildings in flood hazard areas shall comply with Section 3401.5.

3401.3.2 Prescriptive compliance method. Repairs, alterations, additions and changes of occupancy complying with Section 3403 of this code in buildings complying with the International Fire Code.

3401.3.3 Work area compliance method. Repairs, alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Sections 3404 to 3412 of this code.

3401.3.4 Performance compliance method. Repairs, alterations, additions, changes in occupancy and relocated buildings complying with Section 3413 of this code.

Reason: See G205-12 Part I

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART II – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I

G205-12, Part II
Final Action: AS AM AMPC____ D

G205-12, Part III
3401.5 (NEW), 3403.2, 3404.2, 3505.5 (IEBC [B] 402.2, 403.2, 404.5)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART III – IBC GENERAL

Revise as follows:

3401.5 Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any repairs, alterations and additions 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.

For buildings and structures in flood hazard areas established in Section 1612.3, any additions that do not constitute substantial improvement of the existing structure, as defined in Section 1612.2, are not required to comply with the flood design requirements for new construction.

The code official shall not grant modifications to provisions related to flood resistance unless a determination is made that:

1. The applicant has presented good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render compliance with the flood-resistant construction provisions inappropriate.
2. Failure to grant the modification would result in exceptional hardship.
3. The granting of the modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense nor create nuisances, cause fraud on or victimization of the public or conflict with existing laws or ordinances.
4. The modification is the minimum necessary to afford relief, considering the flood hazard.
5. A written notice will be provided to the applicant specifying, if applicable, the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and that construction below the design flood elevation increases risks to life and property.

~~**3403.2 (IEBC [B] 402.2) 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.~~

~~For buildings and structures in *flood hazard areas* established in Section 1612.3, any additions that do not constitute substantial improvement of the existing structure, as defined in Section 1612.2, are not required to comply with the flood design requirements for new construction.~~

~~**3404.2 (IEBC [B] 403.2) 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.~~

~~For buildings and structures in *flood hazard areas* established in Section 1612.3, any *alterations* that do not constitute *substantial improvement* of the *existing structure*, as defined in Section 1612.2, are not required to comply with the flood design requirements for new construction.~~

~~**3405.5 (IEBC [B] 404.5) 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.~~

~~For buildings and structures in *flood hazard areas* established in Section 1612.3, any *repairs* that do not constitute substantial improvement or repair of 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: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART III – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part III
Final Action: AS AM AMPC____ D

G205-12, Part IV
3401.6

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART IV – IBC GENERAL

Delete without substitution:

~~**3401.6 Alternative compliance.** Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.~~

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART IV – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part IV
Final Action: AS AM AMPC____ D

G205-12, Part V
3401.6 (New)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART V – IBC GENERAL

Add new text as follows:

3401.6 Structural requirements. Where this chapter requires consideration of the structural system of an existing building subject to repair, alteration, change of occupancy, addition or relocation of existing buildings, the structure shall be made to comply with this section. (IEBC 301.1)

3401.6.1 New structural elements. New structural elements in alterations, including connections and anchorage, shall comply with the International Building Code.

3401.6.2 Minimum design loads. The minimum design loads on existing elements of a structure that do not support additional loads as a result of an alteration shall be the loads applicable at the time the building was constructed.

3401.6.3 Existing structural elements carrying gravity loads. Alterations shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required in Chapter 16. Existing structural elements supporting any additional gravity loads as a result of the alterations, including the effects of snow drift, shall comply with the International Building Code. (IBC 3404.3, IEBC 807.4)

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light-frame construction methods of the International Building Code or the provisions of the International Residential Code.

3401.6.4 Existing structural elements resisting lateral loads. Additions or alterations affecting existing structural elements resisting lateral loads shall comply with this section. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of R , W0, and Cd 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, intermediate or special system.

3401.6.4.1 Additions. Where an 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 in accordance with 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.

3401.6.4.2 Alterations. Alterations affecting the demands or capacities of existing elements of the lateral load-resisting system shall be evaluated using the wind provisions in Section 1609 and the reduced IBC-level seismic forces per Section 1604.10. Any existing lateral load-resisting structural elements whose demand-capacity ratio with the alteration considered is more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be brought into compliance with those wind and seismic provisions. In addition, the alteration shall not create a structural irregularity prohibited by ASCE 7 unless the entire structure complies with Section 3401.4.5.5. For the purposes of this section, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacity shall account for the cumulative effects of additions and alterations since the original construction. (3403.4 IBC, 807.5 IEBC)

3401.6.4.3 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 including all of the following:

1 The capacity of existing structural elements required to resist forces is not reduced;
2 The lateral loading to existing structural elements is not increased either beyond its capacity or 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. (IBC 3404.5, IEBC 807.6)

3401.6.4.4 Compliance with reduced IBC level seismic forces. Where seismic evaluation and design is permitted to meet reduced International Building Code seismic force levels, the procedures used shall be in accordance with one of the following:

1. The International Building Code using 75 percent of the prescribed forces. Values of R, W0 and Cd used for analysis shall be as specified in Section 301.1.4.1 of this code.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 and subject to the limitations of the respective Appendix A Chapters shall be deemed to comply with this section.
   2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk 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 Risk Category I or II are permitted to be based on the procedures specified in Chapter A2.
   2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A3.
   2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A4.
   2.5. Seismic evaluation and design of concrete buildings in all risk categories are permitted to be based on the procedures specified in Chapter A5.
3. Compliance with ASCE 31 based on the applicable performance level as shown in Table 3401.1.4.5.5. It shall be permitted to use the BSE-1 earthquake hazard level as defined in ASCE 41 and subject to the limitations in Item 4 below.

4. Compliance with ASCE 41 using the BSE-1 Earthquake Hazard Level and the performance level shown in Table 3401.6.4.4. The design spectral response acceleration parameters SXS and SX1 specified in ASCE 41 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.

(IEBC Table 301.1.4.2)

TABLE 3401.6.4.4 (IEBC TABLE 301.1.4.2)
PERFORMANCE CRITERIA FOR REDUCED CHAPTER 16-LEVEL SEISMIC FORCES OCCUPANCY

RISK CATEGORY (Based on IBC Table 1604.5)	PERFORMANCE LEVEL FOR USE WITH ASCE 31	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL
I	Life safety (LS)	Life safety (LS)
II	Life safety (LS)	Life safety (LS)
III	Notes a, b	Note a
IV	Immediate occupancy (IO)	Life safety (LS)

a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV levels.
b. For Risk Category III, the ASCE 31 screening phase checklists shall be based on the life safety performance level.
a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV levels.
b. For Risk Category III, the ASCE 31 screening phase checklists shall be based on the life safety performance level. (IBC 3401.4.3, IEBC 301.1.4.2)

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART V – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part V
Final Action: AS AM AMPC____ D

G205-12, Part VI
3406, 3407, 3411 (IEBC [B] 405, 406, 410)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART VI – IBC GENERAL

Revise as follows:

~~**SECTION 3411 (IEBC [B] 410)**~~
~~**ACCESSIBILITY FOR EXISTING BUILDINGS**~~

3401.7 Accessibility for existing buildings. Accessibility for existing buildings shall be in accordance with Sections 3401.7.1 through 3401.7.9.4.

~~**3411.1(IEBC [B] 410.1)**~~ **3401.7.1 Scope.** The provisions of Sections ~~3411.1 through 3411.9~~ 3401.7.1 through 3401.7.9 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

~~**3411.2 (IEBC [B] 410.2)**~~ **3401.7.2 Maintenance of facilities.** A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

~~**3411.3 (IEBC [B] 410.3)**~~ **3401.7.3 Extent of application.** An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

~~**3411.4 (IEBC [B] 410.4)**~~ **3401.7.4 Change of occupancy.** Existing buildings that undergo a change of group or occupancy shall comply with this section.

> **Exception:** Type B dwelling units or sleeping units required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

~~**3411.4.1 (IEBC [B] 410.4.1)**~~ **3401.7.4.1 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 3401.7.6, 3401.7.7 and 3401.7.8.

~~**3411.4.2 (IEBC [B] 410.4.2)**~~ **3401.7.4.2 Complete change of occupancy.** Where an entire building undergoes a change of occupancy, it shall comply with Section 3401.7.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

~~**3411.5 (IEBC [B] 410.5)**~~ **3401.7.5 Additions.** Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, a primary function shall comply with the requirements in Section 3401.7.7.

~~**3411.6 (IEBC [B] 410.6)**~~ **3401.7.6 Alterations.** A facility that is altered shall comply with the applicable provisions in Chapter 11 of this code, 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 3401.7.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

~~**3411.7 (IEBC [B] 410.7)**~~ **3401.7.7 Alterations affecting an area containing a primary function.** Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

~~**3411.8 (IEBC [B] 410.8)**~~ **3401.7.8 Scoping for alterations.** The provisions of Sections 3401.7.8.1 through 3401.7.8.14 shall apply to alterations to existing buildings and facilities.

~~**3411.8.1 (IEBC [B] 410.8.1)**~~ **3401.7.8.1 Entrances.** Accessible entrances shall be provided in accordance with Section 1105.

Exception: Where an alteration includes alterations to an entrance, and the facility has an accessible entrance, the altered entrance is not required to be accessible, unless required by Section 3401.7.7. Signs complying with Section 1110 shall be provided.

~~3411.8.2 (IEBC [B] 410.8.2)~~ 3401.7.8.2 **Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

~~3411.8.3 (IEBC [B] 410.8.3)~~ 3401.7.8.3 **Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

~~3411.8.4 (IEBC [B] 410.8.4)~~ 3401.7.8.4 **Stairs and escalators in existing buildings.** In alterations, change of occupancy or additions where an escalator or stair is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairs in accordance with Sections 1104.4 and 1104.5.

~~3411.8.5 (IEBC [B] 410.8.5)~~ 3401.7.8.5 **Ramps.** Where slopes steeper than allowed by Section 1010.2 are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 3401.7.8.5.

TABLE ~~3411.8.5~~ 3401.7.8.5
RAMPS

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm.

~~3411.8.6 (IEBC [B] 410.8.6)~~ 3401.7.8.6 **Performance areas.** Where it is technically infeasible to alter performance areas to be on an accessible route, at least one of each type of performance area shall be made accessible.

~~3411.8.7 (IEBC [B] 410.8.7)~~ 3401.7.8.7 **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 apply only to the quantity of spaces being altered or added.

~~3411.8.8 (IEBC [B] 410.8.8)~~ 3401.7.8.8 **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 apply only to the quantity of the spaces being altered or added.

~~3411.8.9 (IEBC [B] 410.8.9)~~ 3401.7.8.9 **Type B dwelling or sleeping units.** Where four 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 B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 for Type B units apply only to the quantity of the spaces being altered.

~~3411.8.10 (IEBC [B] 410.8.10)~~ 3401.7.8.10 **Jury boxes and witness stands.** In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the means of egress.

~~3411.8.11 (IEBC [B] 410.8.11)~~ 3401.7.8.11 **Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms.

~~3411.8.12 (IEBC [B] 410.8.12)~~ 3401.7.8.12 **Dressing, fitting and locker rooms.** Where it is technically infeasible to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided.

~~3411.8.13 (IEBC [B] 410.8.13)~~ 3401.7.8.13 **Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

~~3411.8.14 (IEBC [B] 410.8.14)~~ 3401.7.8.14 **Thresholds.** The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

~~3411.9 (IEBC [B] 410.9)~~ 3401.7.9 **Historic buildings.** These provisions shall apply to facilities designated as historic structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the facility, as determined by the applicable governing authority, the alternative requirements of Sections 3401.7.9.1 through 3401.7.9.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 are not required to be provided in historical buildings.

~~3411.9.1 (IEBC [B] 410.9.1)~~ 3401.7.9.1 **Site arrival points.** At least one accessible route from a site arrival point to an accessible entrance shall be provided.

~~3411.9.2 (IEBC [B] 410.9.2)~~ 3401.7.9.2 **Multilevel buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

~~3411.9.3 (IEBC [B] 410.9.3)~~ 3401.7.9.3 **Entrances.** At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1110 shall be provided at the primary entrance and the accessible entrance.

~~3411.9.4 (IEBC [B] 410.9.4)~~ 3401.7.9.4 **Toilet and bathing facilities.** Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 shall be provided.

~~**SECTION 3406(IEBC [B] 405)**~~
~~**FIRE ESCAPES**~~

~~3406.1 (IEBC [B] 405.1)~~ 3401.8.1 **Fire escapes** ~~**Where permitted.**~~ Fire escapes shall be permitted only as provided for in Sections 3401.8.1.1 through 3401.8.1.4.

~~3406.1.1 (IEBC [B] 405.1.1)~~ 3401.8.1.1 **New buildings.** Fire escapes shall not constitute any part of the required means of egress in new buildings.

~~3406.1.2 (IEBC [B] 405.1.2)~~ 3401.8.1.2 **Existing fire escapes.** Existing fire escapes shall be continued to be accepted as a component in the means of egress in existing buildings only.

~~**3406.1.3 (IEBC [B] 405.1.3)**~~ **3401.8.1.3 New fire escapes.** New fire escapes for existing buildings shall be permitted only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

~~**3406.1.4 (IEBC [B] 405.1.4)**~~ **3401.8.1.4 Limitations.** Fire escapes shall comply with this section and shall not constitute more than 50 percent of the required number of exits nor more than 50 percent of the required exit capacity.

~~**3406.2 (IEBC [B] 405.2)**~~ **3401.8.2 Location.** Where located on the front of the building and where projecting beyond the building line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet (3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest landing shall not be less than 12 feet (3658 mm).

~~**3406.3 (IEBC [B] 405.3)**~~ **3401.8.3 Construction.** The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Type III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

~~**3406.4 (IEBC [B] 405.4)**~~ **3401.8.4 Dimensions.** Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

~~**3406.5 (IEBC [B] 405.5)**~~ **3401.8.5 Opening protectives.** Doors and windows along the fire escape shall be protected with ¾-hour opening protectives.

~~**SECTION 3407 (IEBC [B] 406)**~~
~~**GLASS REPLACEMENT**~~

~~**3407.1 (IEBC [B] 406.1)**~~ **3401.9 Glass Replacement.** The installation or replacement of glass shall be as required for new installations.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART VI – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part VI

Final Action: AS AM AMPC____ D

G205-12, Part VII
3403 (IEBC [B] 402)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART VII- IBC GENERAL

Revise as follows:

~~**SECTION 3403(IEBC [B] 402)**~~
~~**ADDITIONS**~~

3403.1 Prescriptive Compliance. The provisions of this section control the alteration, repair, addition and change of occupancy or relocation of existing buildings and structures, including historic buildings and structures when using the prescriptive compliance method as permitted in Section 3401.3.3.

~~**3403.1 (IEBC [B] 402.1) General**~~ **3403.1.1 Additions.** *Additions* to any building or structure shall comply with the requirements of this 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.

~~**3403.3 (IEBC [B] 402.3) 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 gravity 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 [B] 402.3.3.1) Design live load.** Where the *addition* does not result in increased design live load, existing gravity loadcarrying 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 nonconforming 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 [B] 402.3.4) 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 in accordance with 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.~~

~~**3403.5 (IEBC [B] 402.5)**~~ **3403.1.1.1 Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with *smoke alarms* in accordance with Section 1103.8 of the *International Fire Code*.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART VII – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part VII
Final Action: AS AM AMPC____ D

G205-12, Part VIII
3404 (IEBC [B] 403)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART VIII - IBC GENERAL

Revise as follows:

~~SECTION 3404 (IEBC [B] 403)~~
~~ALTERATIONS~~

~~3404.1 (IEBC [B] 403.1)~~ 3403.1.2 General Alterations. 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 complying with the provisions of this code than the existing building or structure was prior to the *alteration*.

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 1009.15 shall not be required to comply with the requirements of Section 1012.6 regarding full extension of the *handrails* where such extensions would be hazardous due to plan configuration.

~~**3404.3 (IEBC [B] 403.3) 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 [B] 403.3.1) 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 nonconforming 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 [B] 403.4) Existing structural elements carrying lateral load.** Except as permitted by Section 3404.5, where the *alteration* increases design lateral loads in accordance with Section 1609 or 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 [B] 403.5) 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 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 as required for new construction.~~
~~3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.~~
~~4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.~~

~~**3404.6 (IEBC [B] 403.6)**~~ **3403.1.2.1 Smoke alarms.** Individual *sleeping units* and individual *dwelling units* in Group R and I-1 occupancies shall be provided with *smoke alarms* in accordance with Section 1103.8 of the *International Fire Code*.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART VIII – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part VIII
Final Action: AS AM AMPC____ D

G205-12, Part IX
3405 (IEBC [B] 404)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART IX - IBC GENERAL

Revise as follows:

~~**SECTION 3405 (IEBC [B] 404)**~~
~~**REPAIRS**~~

3403.1.3 Repairs. Repairs to existing buildings shall be in accordance with Sections 3403.1.3 through 3403.1.

~~**3405.1(IEBC [B] 404.1)**~~ **3403.1.3.1 General.** Buildings and structures, and parts thereof, shall be repaired in compliance with Section 3403.1.3.1 and 3401.2. Work on nondamaged 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* in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for *repairs* in this section.

~~**3405.2 (IEBC [B] 404.2)**~~ **3403.1.3.2 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 3403.1.3.2.1 through 3403.1.3.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

~~**3405.2.1 (IEBC [B] 404.2.1)**~~ **3403.1.3.2.1 Evaluation.** The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building 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. Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613.

~~**3405.2.2 (IEBC [B] 404.2.2)**~~ **3403.1.3.2.2 Extent of repair for compliant buildings.** If the evaluation establishes compliance of the pre-damage building in accordance with Section 3403.1.3.2.1, then repairs shall be permitted that restore the building to its pre-damage state, based on material properties and design strengths applicable at the time of original construction.

~~**3405.2.3 (IEBC [B] 404.2.3)**~~ **3403.1.3.2.3 Extent of repair for noncompliant buildings.** If the evaluation does not establish compliance of the predamage building in accordance with Section 3403.1.3.2.1, then

the building shall be rehabilitated to comply with applicable provisions of this code for load combinations that include 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 this code. 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.

~~**3405.3 (IEBC [B] 404.3)**~~ **3403.1.3.3 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. Nondamaged 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.

~~**3405.3.1 (IEBC [B] 404.3.1)**~~ **3403.1.3.3.1 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 3403.1.3.2.1 and, if noncompliant, rehabilitated in accordance with Section 3403.1.3.2.3.

Exceptions:

1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. Buildings assigned to Seismic Design Category A, B, or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

~~**3405.4 (IEBC [B] 404.4)**~~ **3403.1.3.4 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, based on material properties and design strengths applicable at the time of original construction. 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.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART IX – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part IX

Final Action: AS AM AMPC____ D

G205-12, Part X
202 (New)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART X – IBC GENERAL

Add new definitions as follows:

SECTION 202
DEFINITIONS

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

EQUIPMENT OR FIXTURE. Any plumbing, heating, electrical, ventilating, air conditioning, refrigerating, and fire protection equipment, and elevators, dumb waiters, escalators, boilers, pressure vessels and other mechanical facilities or installations that are related to building services. Equipment or fixture shall not include manufacturing, production, or process equipment, but shall include connections from building service to process equipment.

LOAD-BEARING ELEMENT. Any column, girder, beam, joist, truss, rafter, wall, floor or roof sheathing that supports any vertical load in addition to its own weight or any lateral load.

NONCOMBUSTIBLE MATERIAL. A material that, under the conditions anticipated, will not ignite or burn when subjected to fire or heat. Materials that pass ASTM E 136 are considered noncombustible materials.

REHABILITATION. Any work, as described by the categories of work defined herein, undertaken in an existing building.

REHABILITATION, SEISMIC. Work conducted to improve the seismic lateral force resistance of an existing building.

REPAIR. The restoration to good or sound condition of any part of an existing building for the purpose of its maintenance.

SEISMIC LOADING. The forces prescribed herein, related to the response of the structure to earthquake motions, to be used in the analysis and design of the structure and its components.

UNSAFE. Buildings, structures or equipment that are unsanitary, or that are deficient due to inadequate means of egress facilities, inadequate light and ventilation, or that constitute a fire hazard, or in which the structure or individual structural members meet the definition of "Dangerous," or that are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed unsafe. A vacant structure that is not secured against entry shall be deemed unsafe.

WORK AREA. That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work

entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART X – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part X
Final Action: AS AM AMPC____ D

G205-12, Part XI
3408, 3409, 3410 (IEBC [B] 407, 408, 409)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART XI – IBC GENERAL

Revise as follows:

~~**SECTION 3408 (IEBC [B] 407)**~~
~~**CHANGE OF OCCUPANCY**~~

3403.6 Change of occupancy. Change of occupancy shall be in accordance with Sections 3403.6.1 through 3403.6.4

~~**3408.1 (IEBC [B] 407.1)**~~ **3403.6.1 Conformance.** No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancies or in a different group of occupancies, unless such building is made to comply with the requirements of this code for such division or group of occupancies. Subject to the approval of the *building official*, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

~~**3408.2 (IEBC [B] 407.2)**~~ **3403.6.2 Certificate of occupancy.** A certificate of occupancy shall be issued where it has been determined that the requirements for the new occupancy classification have been met.

~~**3408.3 (IEBC [B] 407.3)**~~ **3403.6.3 Stairways.** 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.

3408.4 (IEBC [B] 407.4) 3403.6.4 Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exceptions:

1. Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure.
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, *SDS,* is less than 0.33, compliance with the seismic requirements of Section 1613 are not required.

~~**SECTION 3409 (IEBC [B] 408)**~~
~~**HISTORIC BUILDINGS**~~

3403.7 Historic Buildings. Historic buildings shall be in accordance with Sections 3403.7.1 and 3403.7.2

~~**3409.1 (IEBC [B] 408.1)**~~ **3403.7.1** ~~**Historic buildings**~~ **General.** The provisions of this code relating to the construction, *repair*, *alteration*, *addition*, restoration and movement of structures, and change of occupancy shall not be mandatory for *historic buildings* where such buildings are judged by the *building official* to not constitute
a distinct life safety hazard.

~~**3409.2 (IEBC [B] 408.2)**~~ **3403.7.2 Flood hazard areas.** Within *flood hazard areas* established in accordance with Section 1612.3, where the work proposed constitutes *substantial improvement* as defined in Section 1612.2, the building shall be brought into compliance with Section 1612.

Exception: *Historic buildings* that are:

1. *Listed* or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is *approved* by the Department of Interior.

~~**SECTION 3410 (IEBC [B] 409)**~~
~~**MOVED STRUCTURES**~~

~~**3410.1 (IEBC [B] 409.1)**~~ **3403.8** ~~**Conformance**~~ **Moved structures.** Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART XI – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part XI

Final Action: AS AM AMPC____ D

G205-12, Part XII
3404.1 (NEW) through 3412.1.8 (NEW)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing The American Institute of Architects

THIS IS A 12 PART CODE CHANGE PROPOSAL. ALL 12 PARTS OF THE PROPOSAL WILL BE HEARD BY THE IBC GENERAL COMMITTEE.

PART XII - IBC GENERAL

Add new text as follows

SECTION 3404
WORK AREA METHOD

3404.1 Work area compliance. The provisions of this section and Sections 3405 through 3412 control the alteration, repair, addition and change of occupancy or relocation of existing buildings and structures, including historic buildings and structures when using the work area compliance method as permitted in Section 3401.3.3.

3404.1.1 Work area. The work area, as defined in Chapter 2, shall be identified on the construction documents.

3404.1.2 Occupancy and use. When determining the appropriate application of the referenced sections of this code, the occupancy and use of a building shall be determined in accordance with Section 3401.3 of the International Building Code.

SECTION 3405
REPAIRS

3405.1 General. Repairs within the work area shall comply with the applicable requirements of Section 3403.1.3 for repairs. The work shall not make the building less conforming than it was before the repair was undertaken.

3405.1.1 Structural. Structural repairs shall be in compliance with this section and Section 3403.1.3. Repairs to damaged buildings shall comply with this section.

3405.1.2 Flood hazard areas. In flood hazard areas, buildings that have sustained substantial damage shall be brought into compliance with Section 3401.5.

3405.1.3 Electrical. Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material as required by this section.

3405.1.3.1 Receptacles. Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.3(D) of NFPA 70.

3405.1.3.2 Plug fuses. Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

3405.1.3.3 Nongrounding-type receptacles. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in

the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

3405.1.3.4 Group I-2 receptacles. Non-"hospital grade" receptacles in patient bed locations of Group I-2 shall be replaced with "hospital grade" receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

3405.1.3.5 Grounding of appliances. Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

3405.1.4 Mechanical systems. Mechanical systems in existing buildings shall be in accordance with Section 3405.1.4.1 through 3405.1.4.2

3405.1.4.1 General. Existing mechanical systems undergoing repair shall not make the building less conforming than it was before the repair was undertaken.

3405.1.4.2 Mechanical draft systems for manually fired appliances and fireplaces. A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer's installation instructions.
2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.
3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

3405.1.5 Plumbing. Plumbing fixtures, supplies and materials in existing buildings shall be in accordance with Sections 3405.1.5.1 through 3405.1.5.2.

3405.1.5.1 Plumbing materials. Plumbing materials and supplies shall not be used for repairs that are prohibited in the International Plumbing Code.

3405.1.5.2 Water closet replacement. The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

Exception: Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

SECTION 3406
LEVEL 1 ALTERATIONS

3406.1 General. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose shall comply with the requirements of this section. Level 1 alterations to historic buildings shall comply with this chapter, except as modified in Section 3411.

3406.2 Safety. An existing building or portion thereof shall not be altered such that the building becomes less safe than its existing condition. Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the International Building Code.

(INTERIOR FINISHES AND BUILDING MATERIALS ARE COVERED IN SECTION 3401.4)

[FG] 3406.3 International Fuel Gas Code. The following sections of the *International Fuel Gas Code* shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.
2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.
   2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.
3. All of Chapter 5, entitled "Chimneys and Vents."
4. All of Chapter 6, entitled "Specific Appliances."

(*FIRE PROTECTION AND MEANS OF EGRESS ARE MEANINGLESS)*

3406.4 Accessibility. A facility that is altered shall comply with the applicable provisions in Sections 3401.7

3406.5 Structural. Where alteration work includes replacement of equipment that is supported by the building or where a reroofing permit is required, the provisions of this section shall apply.

3406.5.1 Addition or replacement of roofing or replacement of equipment. Where addition or replacement of roofing or replacement of equipment results in additional dead loads, structural components supporting such reroofing or equipment shall comply with the gravity load requirements of this code.

Exceptions:

1. Structural elements where the additional dead load from the roofing or equipment does not increase the force in the element by more than 5 percent.
2. Buildings constructed in accordance with the *International Residential Code* or the conventional lightframe construction methods of the *International Building Code* and where the dead load from the roofing or equipment is not increased by more than 5 percent.
3. Addition of a second layer of roof covering weighing 3 pounds per square foot (0.1437 kN/m2) or less over an existing, single layer of roof covering.

3406.5.2 Additional requirements for reroof permits. The requirements of this section shall apply to *alteration* work requiring reroof permits.

3406.5.2.1 Bracing for unreinforced masonry bearing wall parapets. Where a permit is issued for reroofing for more than 25 percent of the roof area of a building assigned to Seismic Design Category D, E or F that has parapets constructed of unreinforced masonry, the work shall include installation of parapet bracing to resist the reduced *International Building Code* level seismic forces as specified in Section 3401.6.4.4 of this code, unless an evaluation demonstrates compliance of such items.

3406.5.2.2 Roof diaphragms resisting wind loads in high-wind regions. Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the basic wind speed is greater than 90 mph or in a special wind region, as defined in Section 1609 of the *International Building Code*, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the *International Building Code*.

3406.6 Energy code compliance. Level 1 alterations to existing buildings or structures shall only require the portions of the building altered to comply with energy requirements of the International Energy Conservation Code or International Residential Code.

(ALTERATIONS—LEVEL 2
SECTION 801)

SECTION 3407
LEVEL 2 ALTERATIONS.

3407.1 Level 2 alterations. Level 2 alterations shall be in accordance with Sections 3407.1.1 through 3407.11.1.

3407.1.1 Scoping. Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of additional equipment shall comply with the requirements of this section.

3407.1.2 Accessibility. Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 3401.7 shall be permitted to comply with level 1 alterations per Section 3406.

3407.1.3 Limits to compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of this code for new construction.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements.
2. Newly installed electrical equipment shall comply with the requirements of Section 3404.11.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 3407.6.6.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

(SECTION 802 SPECIAL USE AND OCCUPANCY)

3407.2 Special use and occupancy. Alteration of buildings classified as special use and occupancy as described in the International Building Code shall comply with the requirements of Section 3407.1.1 and the scoping provisions of Chapter 1 where applicable.

(SECTION 803 BUILDING ELEMENTS AND MATERIALS)

3407.3 Building elements and materials. The requirements of this section are limited to work areas in which Level 2 alterations are being performed, and shall apply beyond the work area where specified.

3407.3.1 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 3407.3.1.1, 3407.3.1.2 and 3407.3.1.3.

3407.3.1.1 Existing vertical openings. All existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the International Building Code or the International Fire Code.

2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the work area by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
    3.1. Connecting the main floor and mezzanines; or
    3.2. All of the following conditions are met:
        3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
        3.2.2. The lowest or next to the lowest level is a street floor.
        3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
        3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
        3.2.5. Each floor level, considered separately, has at least one-half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 3407.3.1.1, shall not be required in the following locations:
    5.1. Buildings not exceeding 3,000 square feet (279 m2) per floor.
    5.2. Buildings protected throughout by an approved automatic fire sprinkler system.
6. In Group E occupancies, the enclosure shall not be required for vertical openings not exceeding three stories when the building is protected throughout by an approved automatic fire sprinkler system.
7. In Group F occupancies, the enclosure shall not be required in the following locations:
    7.1. Vertical openings not exceeding three stories.
    7.2. Special purpose occupancies where necessary for manufacturing operations and direct access is provided to at least one protected stairway.
    7.3. Buildings protected throughout by an approved automatic sprinkler system.
8. In Group H occupancies, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and every floor level has direct access to at least two remote enclosed stairways or other approved exits.
9. In Group M occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 3407.3.1.1, shall not be required in the following locations:
    9.1. Openings connecting only two floor levels.
    9.2. Occupancies protected throughout by an approved automatic sprinkler system.
10. In Group R-1 occupancies, the enclosure shall not be required for vertical openings not exceeding three stories in the following locations:
    10.1. Buildings protected throughout by an approved automatic sprinkler system.
    10.2. Buildings with less than 25 dwelling units or sleeping units where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and where:

        10.2.1. Any exit access corridor exceeding 8 feet (2438 mm) in length that serves two means of egress, one of which is an unprotected vertical opening, shall have at least one of the means of egress separated from the vertical opening by a 1-hour fire barrier; and

10.2.2. The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the International Building Code.

11. In Group R-2 occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 3407.3.1.1, shall not be required in the following locations:
    11.1. Vertical openings not exceeding two stories with not more than four dwelling units per floor.
    11.2. Buildings protected throughout by an approved automatic sprinkler system.
    11.3. Buildings with not more than four dwelling units per floor where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and the building is protected throughout by an automatic fire alarm system complying with Section 3407.4.3.
12. One- and two-family dwellings.
13. Group S occupancies where connecting not more than two floor levels or where connecting not more than three floor levels and the structure is equipped throughout with an approved automatic sprinkler system.
14. Group S occupancies where vertical opening protection is not required for open parking garages and ramps.

3407.3.1.2 Supplemental shaft and floor opening enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, the enclosure requirements of Section 3407.3.1 shall apply to vertical openings other than stairways throughout the floor.

Exception: Vertical openings located in tenant spaces that are entirely outside the work area.

3407.3.1.3 Supplemental stairway enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, stairways that are part of the means of egress serving the work area shall, at a minimum, be enclosed with smoke-tight construction on the highest work area floor and all floors below.

Exception: Where stairway enclosure is not required by the International Building Code or the International Fire Code.

3407.3.2 Smoke barriers. Smoke barriers in Group I-2 occupancies shall be installed where required by Sections 3407.3.2.1 and 3407.3.2.2.

3407.3.2.1 Compartmentation. Where the work area is on a story used for sleeping rooms for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls complying with Section 3407.3.2.2 such that each compartment does not exceed 22,500 square feet (2093 m2), and the travel distance from any point to reach a door in the required smoke barrier shall not exceed 200 feet (60 960 mm).

Exception: Where neither the length nor the width of the smoke compartment exceeds 150 feet (45 720 mm), the travel distance to reach the smoke barrier door shall not be limited.

3407.3.2.2 Fire-resistance rating. The smoke barriers shall be fire-resistance rated for 30 minutes and constructed in accordance with the International Building Code.

3407.3.3 Interior finish. The interior finish of walls and ceilings in exits and corridors in any work area shall comply with the requirements of the International Building Code.

Exception: Existing interior finish materials that do not comply with the interior finish requirements of the International Building Code shall be permitted to be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to achieve the required rating.

3407.3.3.1 Supplemental interior finish requirements. Where the work area on any floor exceeds 50 percent of the floor area, Section 3407.3.3 shall also apply to the interior finish in exits and corridors serving the work area throughout the floor.

Exception: Interior finish within tenant spaces that are entirely outside the work area.

3407.3.4 Guards. The requirements of Sections 3407.3.4.1 and 3407.3.4.2 shall apply in all work areas.

3407.3.4.1 Minimum requirement. Every portion of a floor, such as a balcony or a loading dock, that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

3407.3.4.2 Design. Where there are no guards or where existing guards must be replaced, the guards shall be designed and installed in accordance with the International Building Code.

(SECTION 804 FIRE PROTECTION)

3407.4 Fire protection. The requirements of this section shall be limited to work areas in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

3407.4.1 Corridor ratings. Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the International Building Code. In order to be considered for a corridor rating reduction, such system shall provide coverage for the stairwell landings serving the floor and the intermediate landings immediately below.

3407.4.2 Automatic sprinkler systems. Automatic sprinkler systems shall be provided in accordance with the requirements of Sections 3407.4.2.1 through 3407.4.2.5. Installation requirements shall be in accordance with the International Building Code.

3407.4.2.1 High-rise buildings. In high-rise buildings, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection in the entire work area where the work area is located on a floor that has a sufficient sprinkler water supply system from an existing standpipe or a sprinkler riser serving that floor.

3407.4.2.1.1 Supplemental automatic sprinkler system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 3407.4.2.1 shall apply to the entire floor on which the work area is located.

Exception: Tenant spaces that are entirely outside the work area.

3407.4.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The work area is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction; and
2. The work area exceeds 50 percent of the floor area.

Exceptions:

1. Work areas in Group R occupancies three stories or less in height.

2. If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

3407.4.2.2.1 Mixed uses. In work areas containing mixed uses, one or more of which requires automatic sprinkler protection in accordance with Section 3407.4.2.2, such protection shall not be required throughout the work area provided that the uses requiring such protection are separated from those not requiring protection by fire-resistance-rated construction having a minimum 2-hour rating for Group H and a minimum 1-hour rating for all other occupancy groups.

3407.4.2.3 Windowless stories. Work located in a windowless story, as determined in accordance with the International Building Code, shall be sprinklered where the work area is required to be sprinklered under the provisions of the International Building Code for newly constructed buildings and the building has a sufficient municipal water supply without installation of a new fire pump.

3407.4.2.4 Other required automatic sprinkler systems. In buildings and areas listed in Table 903.2.11.6, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions:

1. The work area is required to be provided with an automatic sprinkler system in accordance with the International Building Code applicable to new construction; and
2. The building has sufficient municipal water supply for design of an automatic sprinkler system available to the floor without installation of a new fire pump.

3407.4.2.5 Supervision. Fire sprinkler systems required by this section shall be supervised by one of the following methods:

1. Approved central station system in accordance with NFPA 72;
2. Approved proprietary system in accordance with NFPA 72;
3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or
4. When approved by the code official, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

Exception: Supervision is not required for the following:

1. Underground gate valve with roadway boxes.
2. Halogenated extinguishing systems.
3. Carbon dioxide extinguishing systems.
4. Dry- and wet-chemical extinguishing systems.
5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.

3407.4.3 Standpipes. Where the work area includes exits or corridors shared by more than one tenant and is located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the International Building Code.

Exceptions:

1. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) (946 L/m at 448KPa) to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gpm at 65 psi (1892 L/m at 448KPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet (gpm/psi) (L/m/KPa) requirements of this exception for possible future extension of the standpipe.
2. The interconnection of multiple standpipe risers shall not be required.

3407.4.4 Fire alarm and detection. An approved fire alarm system shall be installed in accordance with Sections 3407.4.4.1 through 3407.4.4.3. Where automatic sprinkler protection is provided in accordance with Section 3407.4.2 and is connected to the building fire alarm system, automatic heat detection shall not be required.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.

3407.4.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 3407.4.4.1.1 through 3407.4.4.1.7. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the work area shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

3407.4.4.1.1 Group E. A fire alarm system shall be installed in work areas of Group E occupancies as required by the International Fire Code for existing Group E occupancies.

3407.4.4.1.2 Group I-1. A fire alarm system shall be installed in work areas of Group I-1 residential care/assisted living facilities as required by the International Fire Code for existing Group I-1 occupancies.

3407.4.4.1.3 Group I-2. A fire alarm system shall be installed in work areas of Group I-2 occupancies as required by the International Fire Code for existing Group I-2 occupancies.

3407.4.4.1.4 Group I-3. A fire alarm system shall be installed in work areas of Group I-3 occupancies as required by the International Fire Code for existing Group I-3 occupancies.

3407.4.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by the International Fire Code for existing Group R-1 occupancies.

3407.4.4.1.6 Group R-2. A fire alarm system shall be installed in work areas of Group R-2 apartment buildings as required by the International Fire Code for existing Group R-2 occupancies.

3407.4.4.1.7 Group R-4. A fire alarm system shall be installed in work areas of Group R-4 residential care/assisted living facilities as required by the International Fire Code for existing Group R-4 occupancies.

3407.4.4.2 Supplemental fire alarm system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 3407.4.4 .1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.

3407.4.4.3 Smoke alarms. Individual sleeping units and individual dwelling units in any work area in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code.

Exception: Interconnection of smoke alarms outside of the work area shall not be required.

(SECTION 805 MEANS OF EGRESS)

3407.5 Means of egress. Means of egress requirements for work areas in a level 2 alteration shall be in accordance with Sections 3407.5.1 through 3407.5.10.2 .

3407.5.1 Scope. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the work area in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

3407.5.2 General. The means of egress shall comply with the requirements of this section.

Exceptions:

1. Where the work area and the means of egress serving it complies with NFPA 101.
2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life.

3407.5.3 Number of exits. The number of exits shall be in accordance with Sections 3407.5.3.1 through 3407.5.3.3

3407.5.3.1 Minimum number. Every story utilized for human occupancy on which there is a work area that includes exits or corridors shared by more than one tenant within the work area shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the International Building Code. In addition, the exits shall comply with Sections 3407.5.3.1.1 and 3407.5.3.1.2.

3407.5.3.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).
2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m2), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
3. Open parking structures where vehicles are mechanically parked.
4. In community residences for the developmentally disabled, the maximum occupant load excluding staff is 12.
5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm).

The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:
   6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
   6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.
7. In Group R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).
8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m2) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.
9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smokeproof enclosure or outside stair as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.
10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.

3407.5.3.1.2 Fire escapes required. When more than one exit is required, an existing or newly constructed fire escape complying with Section 3407.5.3.1.2.1 shall be accepted as providing one of the required means of egress.

3407.5.3.1.2.1 Fire escape access and details. Fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
   2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m2) or 5 square feet (0.46 m2) where located at grade.
   2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).
   2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.
   2.4. The operation of the window shall comply with the operational constraints of the International Building Code.
3. Newly constructed fire escapes shall be permitted only where exterior stairs cannot be utilized because of lot lines limiting the stair size or because of the sidewalks, alleys, or roads at grade level.
4. Openings within 10 feet (3048 mm) of fire escape stairs shall be protected by fire assemblies having minimum 3/4-hour fire-resistance ratings.

   Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

5. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

3407.5.3.1.2.2 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Types III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

3407.5.3.1.2.3 Dimensions. Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm). Landings at the foot of stairs shall not be less than 40 inches (1016 mm) wide by 36 inches (914 mm) long and located not more than 8 inches (203 mm) below the door.

3407.5.3.2 Mezzanines. Mezzanines in the work area and with an occupant load of more than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have access to at least two independent means of egress.

Exception: Two independent means of egress are not required where the travel distance to an exit does not exceed 100 feet (30 480 mm) and the building is protected throughout with an automatic sprinkler system.

3407.5.3.3 Main entrance—Group A. All buildings of Group A with an occupant load of 300 or more shall be provided with a main entrance capable of serving as the main exit with an egress capacity of at least one-half of the total occupant load. The remaining exits shall be capable of providing one-half of the total required exit capacity.

Exception: Where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

3407.5.4 Egress doorways. Egress doorways in any work area shall comply with Sections 3407.5.4.1 through 3407.5.4.5.

3407.5.4.1 Two egress doorways required. Work areas shall be provided with two egress doorways in accordance with the requirements of Sections 3404.8.4.1.1 and 3404.8.4.1.2.

3407.5.4.1.1 Occupant load and travel distance. In any work area, all rooms and spaces having an occupant load greater than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have a minimum of two egress doorways.

Exceptions:

1. Storage rooms having a maximum occupant load of 10.
2. Where the work area is served by a single exit in accordance with Section 3407.5.3.1.1.

3407.5.4.1.2 Group I-2. In buildings of Group I-2 occupancy, any patient sleeping room or suite of patient rooms greater than 1,000 square feet (93 m2) within the work area shall have a minimum of two egress doorways.

3407.5.4.2 Door swing. In the work area and in the egress path from any work area to the exit discharge, all egress doors serving an occupant load greater than 50 shall swing in the direction of exit travel.

3407.5.4.2.1 Supplemental requirements for door swing. Where the work area exceeds 50 percent of the floor area, door swing shall comply with Section 3407.5.4.2 throughout the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

3407.5.4.3 Door closing. In any work area, all doors opening onto an exit passageway at grade or an exit stair shall be self-closing or automatic-closing by listed closing devices.

Exceptions:

1. Where exit enclosure is not required by the International Building Code.
2. Means of egress within or serving only a tenant space that is entirely outside the work area.

3407.5.4.3.1 Supplemental requirements for door closing. Where the work area exceeds 50 percent of the floor area, doors shall comply with Section 3407.5.4.3 throughout the exit stair from the work area to, and including, the level of exit discharge.

3407.5.4.4 Panic hardware. In any work area, and in the egress path from any work area to the exit discharge, in buildings or portions thereof of Group A assembly occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with approved panic hardware.

3407.5.4.4.1 Supplemental requirements for panic hardware. Where the work area exceeds 50 percent of the floor area, panic hardware shall comply with Section 3407.5.4.4 throughout the floor.

Exception: Means of egress within a tenant space that is entirely outside the work area.

3407.5.4.5 Emergency power source in Group I-3. Work areas in buildings of Group I-3 occupancy having remote power unlocking capability for more than 10 locks shall be provided with an emergency power source for such locks. Power shall be arranged to operate automatically upon failure of normal power within 10 seconds and for a duration of not less than 1 hour.

3407.5.5 Openings in corridor walls. Openings in corridor walls in any work area shall comply with Sections 3407.5.5.1 through 3407.5.5.4.

Exception: Openings in corridors where such corridors are not required to be rated in accordance with the International Building Code.

3407.5.5.1 Corridor doors. Corridor doors in the work area shall not be constructed of hollow core wood and shall not contain louvers. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be at least 13/8-inch (35 mm) solid core wood or approved equivalent and shall not have any glass panels, other than approved wired glass or other approved glazing material in metal frames. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be equipped with approved door closers. All replacement doors shall be 13/4-inch (45 mm) solid bonded wood core or approved equivalent, unless the existing frame will accommodate only a 13/8-inch (35 mm) door.

Exceptions:

1. Corridor doors within a dwelling unit or sleeping unit.
2. Existing doors meeting the requirements of Guidelines on Fire Ratings of Archaic Materials and Assemblies (IEBC Resource A) for a rating of 15 minutes or more shall be accepted as meeting the provisions of this requirement.

3. Existing doors in buildings protected throughout with an approved automatic sprinkler system shall be required only to resist smoke, be reasonably tight fitting, and shall not contain louvers.
4. In group homes with a maximum of 15 occupants and that are protected with an approved automatic detection system, closing devices may be omitted.
5. Door assemblies having a fire protection rating of at least 20 minutes.

3407.5.5.2 Transoms. In all buildings of Group I-1, R-1 and R-2 occupancy, all transoms in corridor walls in work areas shall either be glazed with 1/4-inch (6.4 mm) wired glass set in metal frames or other glazing assemblies having a fire protection rating as required for the door and permanently secured in the closed position or sealed with materials consistent with the corridor construction.

3407.5.5.3 Other corridor openings. In any work area, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

3407.5.5.3.1 Supplemental requirements for other corridor opening. Where the work area exceeds 50 percent of the floor area, Section 3407.5.5.3 shall be applicable to all corridor windows, grills, sashes, and other openings on the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

3407.5.5.4 Supplemental requirements for corridor openings. Where the work area on any floor exceeds 50 percent of the floor area, the requirements of Sections 3407.5.5.1 through 3407.5.5.3 shall apply throughout the floor.

3407.5.6 Dead-end corridors. Dead-end corridors in any work area shall not exceed 35 feet (10 670 mm).

Exceptions:

1. Where dead-end corridors of greater length are permitted by the International Building Code.
2. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the International Building Code.
3. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 70 feet (21 356 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the International Building Code.
4. In other than Group A and H occupancies, the maximum length of an existing, newly constructed, or extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the International Building Code.

3407.5.7 Means-of-egress lighting. Means-of-egress lighting shall be in accordance with Section 3407.5.7.1 through 3407.5.7.2, as applicable.

3407.5.7.1 Artificial lighting required. Means of egress in all work areas shall be provided with artificial lighting in accordance with the requirements of the International Building Code.

3407.5.7.2 Supplemental requirements for means-of-egress lighting. Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 3407.5.7.1.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

3407.5.8 Exit signs. Exit signs shall be in accordance with Sections 3407.5.8.1 and 3407.5.8.2, as applicable.

3407.5.8.1 Work areas. Means of egress in all work areas shall be provided with exit signs in accordance with the requirements of the International Building Code.

3407.5.8.2 Supplemental requirements for exit signs. Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 3407.5.8.1.

Exception: Means of egress within a tenant space that is entirely outside the work area.

3407.5.9 Handrails. The requirements of Sections 3407.5.9.1 and 3407.5.9.2 shall apply to handrails from the work area floor to, and including, the level of exit discharge.

3407.5.9.1 Minimum requirement. Every required exit stairway that is part of the means of egress for any work area and that has three or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the run of steps on at least one side. All exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

3407.5.9.2 Design. Handrails required in accordance with Section 3407.5.9.1 shall be designed and installed in accordance with the provisions of the International Building Code.

3407.5.10 Guards. The requirements of Sections 3407.5.10.1 and 3407.5.10.2 shall apply to guards from the work area floor to, and including, the level of exit discharge but shall be confined to the egress path of any work area.

3407.5.10.1 Minimum requirement. Every open portion of a stair, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

3407.5.10.2 Design. Guards required in accordance with Section 3407.5.10.1 shall be designed and installed in accordance with the International Building Code.

(SECTION 806 ACCESSIBILITY)

3407.6 Accessibility. A building, facility, or element that is altered shall comply with Sections 3407.6.1 through 3407.6.4 and Section 3406.4.

3407.6.1 Stairs and escalators in existing buildings. In alterations where an escalator or stair is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5.

3407.6.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for accessible units and Chapter 9 for visible alarms apply only to the quantity of spaces being added.

3407.6.3 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 for visible alarms apply only to the quantity of the spaces being added.

3407.6.4 Type B dwelling or sleeping units. Where four 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 of the International Building

Code for Type B units and Chapter 9 for visible alarms apply only to the quantity of the spaces being added.

(SECTION 807STRUCTURAL)

3407.7 Structural. Structural elements and systems within buildings undergoing Level 2 alterations shall comply with Sections 3407.7.1 through 3407.7.5

3407.7.1 New structural elements. New structural elements in alterations, including connections and anchorage, shall comply with the International Building Code.

3407.7.2 Minimum design loads. The minimum design loads on existing elements of a structure that do not support additional loads as a result of an alteration shall be the loads applicable at the time the building was constructed.

3407.7.3 Existing structural elements carrying gravity loads. Alterations shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the International Building Code. Existing structural elements supporting any additional gravity loads as a result of the alterations, including the effects of snow drift, shall comply with the International Building Code.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light-frame construction methods of the International Building Code or the provisions of the International Residential Code.

3407.7.4 Existing structural elements resisting lateral loads. Alterations affecting the demands or capacities of existing elements of the lateral load-resisting system shall be evaluated using the wind provisions of the International Building Code and the reduced IBC-level seismic forces. Any existing lateral load-resisting structural elements whose demand-capacity ratio with the alteration considered is more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be brought into compliance with those wind and seismic provisions. In addition, the alteration shall not create a structural irregularity prohibited by ASCE 7 unless the entire structure complies with Section 3401.6.4.4. For the purposes of this section, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacity shall account for the cumulative effects of additions and alterations since the original construction.

3407.7.5 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. The lateral loading to existing structural elements is not increased either beyond its capacity or 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.

(SECTION 808 ELECTRICAL)

3407.8 Electrical. Electrical equipment and wiring in buildings undergoing a level 2 alteration shall be in accordance with Sections 3407.8.1 through 3407.8.3.

3407.8.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements of Section 3406.1.

> **Exception:** Electrical equipment and wiring in newly installed partitions and ceilings shall comply with all applicable requirements of NFPA 70.

3407.8.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Section 3404.3.

3407.8.3 Residential occupancies. In Group R-2, R-3 and R-4 occupancies and buildings regulated by the International Residential Code, the requirements of Sections 3407.8.3.1 through 3407.8.3.7 shall be applicable only to work areas located within a dwelling unit.

3407.8.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

3407.8.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

3407.8.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

3407.8.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by NFPA 70.

3407.8.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

3407.8.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements where such spaces are used for storage or contain equipment requiring service.

3407.8.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the NFPA 70.

(SECTION 809 MECHANICAL)

3407.9 Mechanical. Mechanical ventilation in buildings undergoing a level 2 alteration shall be in accordance with Sections 3407.9.1 through 3407.9.3

3407.9.1 Mechanical. All reconfigured spaces intended for occupancy and all spaces converted to habitable or occupiable space in any work area shall be provided with natural or mechanical ventilation in accordance with the International Mechanical Code.

> **Exception:** Existing mechanical ventilation systems shall comply with the requirements of Section 3407.9.2.

3407.9.2 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m3/s) per person of outdoor air and not less than 15 cfm (0.0071 m3/s) of ventilation air per

person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

3407.9.3 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

(SECTION 810 PLUMBING)

3407.10 Plumbing fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.

(SECTION 811 ENERGY CONSERVATION)

3407.11 Energy conservation. Level 2 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

(CHAPTER 9 ALTERATIONS—LEVEL 3, SECTION 901GENERAL)

SECTION 3408
LEVEL 3 ALTERATIONS

3408.1 General. Level 3 alterations shall comply with Sections 3408.1.1 through 3408.9

3408.1 Scoping. Level 3 alterations includes alterations where the work area exceeds 50% of the aggregate area of the building.

3408.2 Compliance. In addition to the provisions of this chapter, work shall comply with all of the requirements of Chapters 3406 and 3407. The requirements of Sections 3407.3, 3407.4 and 3407.5 shall apply within all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

> **Exception:** Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 3406.4 shall not be required to comply with this chapter.

(SECTION 902 SPECIAL USE AND OCCUPANCY)

3408.3 Special use and occupancy. Buildings undergoing a level 3 alteration containing a special use shall be in accordance with this section.

3408.3.1 High-rise buildings. Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 3408.3.1.1 and 3408.3.1.2.

3408.3.1.1 Recirculating air or exhaust systems. When a floor is served by a recirculating air or exhaust system with a capacity greater than 15,000 cubic feet per minute (701 m3/s), that system shall be equipped with approved smoke and heat detection devices installed in accordance with the International Mechanical Code.

3408.3.1.2 Elevators. Where there is an elevator or elevators for public use, at least one elevator serving the work area shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

3408.3.2 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within the following facilities shall be enclosed by 1-hour fire-resistance-rated construction: day nurseries, children's shelter facilities, residential childcare facilities, and similar facilities with children below the age of 21/2 years or that are classified as Group I-2 occupancies, shelter facilities, residences for the developmentally disabled, group homes, teaching family homes, transitional living homes, rooming and boarding houses, hotels, and multiple dwellings.

Exceptions:

1. Furnace and boiler equipment of low-pressure type, operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less for steam equipment or 170 psig (1171 KPa) or less for hot water equipment, when installed in accordance with manufacturer recommendations.
2. Furnace and boiler equipment of residential R-3 type with 200,000 British thermal units (Btu) (2.11 × 108 J) per hour input rating or less is not required to be enclosed.
3. Furnace rooms protected with automatic sprinkler protection.

3408.3.2.1 Emergency controls. Emergency controls for boilers and furnace equipment shall be provided in accordance with the International Mechanical Code in all buildings classified as day nurseries, children's shelter facilities, residential childcare facilities, and similar facilities with children below the age of 21/2 years or that are classified as Group I-2 occupancies, and in group homes, teaching family homes, and supervised transitional living homes in accordance with the following:

1. Emergency shutoff switches for furnaces and boilers in basements shall be located at the top of the stairs leading to the basement; and
2. Emergency shutoff switches for furnaces and boilers in other enclosed rooms shall be located outside of such room.

(SECTION 903 BUILDING ELEMENTS AND MATERIALS)

3408.4 Building elements and materials. Building elements and materials shall be in accordance with this section.

3408.4.1 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 3407.3.1.1 from the highest work area floor to, and including, the level of exit discharge and all floors below.

3408.4.2 Fire partitions in Group R-3. Fire separation in Group R-3 occupancies shall be in accordance with Section 3408.4.2.1.

3408.4.2.1 Separation required. Where the work area is in any attached dwelling unit in Group R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the work area.

Exception: Where alterations or repairs do not result in the removal of wall or ceiling finishes exposing the structure, walls are not required to be continuous through concealed floor spaces.

3408.4.3 Interior finish. Interior finish in exits serving the work area shall comply with Section 3407.3.3 between the highest floor on which there is a work area to the floor of exit discharge.

(SECTION 904 FIRE PROTECTION)

3408.5 Fire protection. Fire protection requirements for buildings undergoing level 3 alterations shall be in accordance with this section.

3408.5.1 Automatic sprinkler systems. Automatic sprinkler systems shall be provided in all work areas when required by Section 3407.4.2 or this section.

3408.5.1.1 High-rise buildings. In high-rise buildings, work areas shall be provided with automatic sprinkler protection where the building has a sufficient municipal water supply system to the site. Where the work area exceeds 50 percent of floor area, sprinklers shall be provided in the specified areas where sufficient municipal water supply for design and installation of a fire sprinkler system is available at the site.

3408.5.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the work area shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the provisions of the International Building Code for new construction.

3408.5.2 Fire alarm and detection systems. Fire alarm and detection systems complying with Sections 3407.4.4.1 and 3407.4.4.3 shall be provided throughout the building in accordance with the International Building Code.

3408.5.2.1 Manual fire alarm systems. Where required by the International Building Code, a manual fire alarm system shall be provided throughout the work area. Alarm notification appliances shall be provided on such floors and shall be automatically activated as required by the International Building Code.

Exceptions:

1. Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.
2. Visual alarm notification appliances are not required, except where an existing alarm system is upgraded or replaced or where a new fire alarm system is installed.

3408.5.2.2 Automatic fire detection. Where required by the International Building Code for new buildings, automatic fire detection systems shall be provided throughout the work area.

(SECTION 905 MEANS OF EGRESS)

3408.6. Means of egress. The means of egress shall comply with the requirements of Section 3407.5 except as specifically required in Sections 3408.6.1 and 3408.6.2.

3408.6.1 Means-of-egress lighting. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the International Building Code.

3408.6.2 Exit signs. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the International Building Code.

(SECTION 906 ACCESSIBILITY)

3408.7 Accessibility. A building, facility or element that is altered shall comply with this section and Sections 3406.4 and 3407.6

3408.7.1 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 for visible alarms apply only to the quantity of the spaces being altered or added.

(SECTION 907STRUCTURAL)

3408.8 Structural. Where buildings are undergoing Level 3 alterations including structural alterations, the provisions of this section shall apply.

3408.8.1 New structural elements. New structural elements shall comply with Section 3407.7.1.

3408.8.2 Existing structural elements carrying gravity loads. Existing structural elements carrying gravity loads shall comply with Section 3407.7.3.

3408.8.3 Existing structural elements resisting lateral loads. All existing elements of the lateral force-resisting system shall comply with this section.

Exceptions:

1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes that are altered based on the conventional light-frame construction methods of the International Building Code or in compliance with the provisions of the International Residential Code.
2. Where such alterations involve only the lowest story of a building and the change of occupancy provisions of Section 3409 do not apply, only the lateral force-resisting components in and below that story need comply with this section.

3408.8.3.1 Evaluation and analysis. An engineering evaluation and analysis that establishes the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the code official.

3408.8.3.2 Substantial structural alteration. Where more than 30 percent of the total floor and roof areas of the building or structure have been or are proposed to be involved in structural alteration within a five-year period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the International Building Code for wind loading and with reduced IBC-level seismic forces. The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been or will be removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

3408.8.3.3 Limited structural alteration. Where the work does not involve a substantial structural alteration, the existing elements of the lateral load-resisting system shall comply with Section 3407.7.4.

3408.8.3.4 Wall anchors for concrete and masonry buildings. For any building assigned to Seismic Design Category D, E or F with a structural system consisting of concrete or reinforced masonry walls with a flexible roof diaphragm or unreinforced masonry walls with any type of roof diaphragm, the alteration work shall include installation of wall anchors at the roof line to resist the reduced IBC-level seismic forces, unless an evaluation demonstrates compliance of existing wall anchorage.

3408.8.3.5 Bracing for unreinforced masonry parapets. Parapets constructed of unreinforced masonry in buildings assigned to Seismic Design Category D, E or F shall have bracing installed as

needed to resist the reduced IBC-level seismic forces, unless an evaluation demonstrates compliance of such items.

(SECTION 908 ENERGY CONSERVATION)

3408.9 Energy conservation. Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

(CHAPTER 10 CHANGE OF OCCUPANCY
SECTION 1001 GENERAL)

SECTION 3409
CHANGE OF OCCUPANCY

3409.1 Scope. The provisions of this section shall apply where a change of occupancy occurs, as defined in Section 202, including:

1. Where the occupancy classification is not changed; or
2. Where there is a change in occupancy classification or the occupancy group designation changes.

3409.2 Change in occupancy with no change of occupancy classification. A change in occupancy, as defined in Section 202, with no change of occupancy classification shall not be made to any structure that will subject the structure to any special provisions of the applicable International Codes, including the provisions of Sections 3409.5 through 3409.14, without the approval of the code official. A certificate of occupancy shall be issued where it has been determined that the requirements for the change in occupancy have been met.

3409.2.1 Repair and alteration with no change of occupancy classification. Any repair or alteration work undertaken in connection with a change of occupancy that does not involve a change of occupancy classification shall conform to the applicable requirements for the work as classified in Chapter 4 and to the requirements of Sections 3409.5 through 3409.14.

Exception: As modified in Section 3411.8 for historic buildings.

3409.3 Change of occupancy classification. Where the occupancy classification of a building changes, the provisions of Sections 3409.5 through 3409.15 shall apply. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group.

3409.3.1 Partial change of occupancy classification. Where a portion of an existing building is changed to a new occupancy classification, Section 3409.15 shall apply.

3409.4 Certificate of occupancy required. A certificate of occupancy shall be issued where a change of occupancy occurs that results in a different occupancy classification as determined by the International Building Code.

(SECTION 1002 SPECIAL USE AND OCCUPANCY)

3409.5 Special use and occupancy. Where the character or use of an existing building or part of an existing building is changed to one of the following special use or occupancy categories as defined in the International Building Code, the building shall comply with all of the applicable requirements of the International Building Code:

1. Covered and open mall buildings.
2. Atriums.
3. Motor vehicle-related occupancies.
4. Aircraft-related occupancies.
5. Motion picture projection rooms.
6. Stages and platforms.
7. Special amusement buildings.
8. Incidental use areas.
9. Hazardous materials.
10. Ambulatory care facilities.

3409.5.1 Underground buildings. An underground building in which there is a change of use shall comply with the requirements of the International Building Code applicable to underground structures.

(SECTION 1003 BUILDING ELEMENTS AND MATERIALS

3409.6 Building elements and materials. Building elements and materials in portions of buildings undergoing a change of occupancy classification shall comply with Section 3409.15.

(SECTION 1004 FIRE PROTECTION)

3409.7 Fire protection. Fire protection requirements of Section 3409.15 shall apply where a building or portions thereof undergo a change of occupancy classification.

(SECTION 1005 MEANS OF EGRESS)

3409.8 Means of egress. Means of egress in portions of buildings undergoing a change of occupancy classification shall comply with Section 3409.15.

(SECTION 1006 ACCESSIBILITY)

3409.9 Accessibility. Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with Section 3407.9.8.

(SECTION 1007 STRUCTURAL)

3409.10 Structural. Structural requirements for buildings undergoing a change of occupancy shall comply with this section.

3409.10.1 Gravity loads. Buildings or portions thereof subject to a change of occupancy where such change in the nature of occupancy results in higher uniform or concentrated loads based on Table 1607.1 of the International Building Code shall comply with the gravity load provisions of the International Building Code.

Exception: Structural elements whose stress is not increased by more than 5 percent.

3409.10.2 Snow and wind loads. Buildings and structures subject to a change of occupancy where such change in the nature of occupancy results in higher wind or snow risk categories based on Table 1607.1 of the International Building Code shall be analyzed and shall comply with the applicable wind or snow load provisions of the International Building Code.

Exception: Where the new occupancy with a higher risk category is less than or equal to 10 percent of the total building floor area. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

3409.10.2 Seismic loads. Existing buildings with a change of occupancy shall comply with the seismic provisions of Sections 3409.10.2.1 and 3409.10.2.2.

3409.10.2.1 Compliance with the International Building Code level seismic forces. Where a building or portion thereof is subject to a change of occupancy that results in the building being assigned to a higher risk category based on Table 1604.5 of the International Building Code; or where such change of occupancy results in a reclassification of a building to a higher hazard category as shown in Table 3409.15.4; or where a change of a Group M occupancy to a Group A, E, I-1, R-1, R-2 or R-4 occupancy with two-thirds or more of the floors involved in Level 3 alteration work, the building shall comply with the requirements for International Building Code level seismic forces as specified in Section 301.1.4.1 for the new risk category.

Exceptions:

1. Group M occupancies being changed to Group A, E, I-1, R-1, R-2 or R-4 occupancies for buildings less than six stories in height and in Seismic Design Category A, B or C.
2. Where approved by the code official, specific detailing provisions required for a new structure are not required to be met where it can be shown that an equivalent level of performance and seismic safety is obtained for the applicable risk category based on the provision for reduced International Building Code level seismic forces as specified in Section 3401.6.4.4.
3. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Risk Category IV. For the purposes of this exception, buildings occupied by two or more occupancies not included in the same Risk category, shall be subject to the provisions of Section 1604.5.1 of the International Building Code. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.
4. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to Seismic Design Category A or B shall be allowed to be strengthened to meet the requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)].

3409.10.2.2 Access to Risk Category IV. Where a change of occupancy is such that compliance with Section 3409.10.2.1 is required and the building is assigned to Risk Category IV, the operational access to the building shall not be through an adjacent structure, unless that structure conforms to the requirements for Risk Category IV structures. Where operational access is less than 10 feet (3048 mm) from either an interior lot line or from another structure, access protection from potential falling debris shall be provided by the owner of the Risk Category IV structure.

(SECTION 1008 ELECTRICAL)

3409.11 Electrical. Buildings undergoing a change occupancy shall comply with this Section.

3409.11.1 Special occupancies. Where the occupancy of an existing building or part of an existing building is changed to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building or portion thereof that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70 whether or not a change of occupancy group is involved:

1. Hazardous locations.
2. Commercial garages, repair, and storage.
3. Aircraft hangars.
4. Gasoline dispensing and service stations.
5. Bulk storage plants.
6. Spray application, dipping, and coating processes.
7. Health care facilities.
8. Places of assembly.

9. Theaters, audience areas of motion picture and television studios, and similar locations.
10. Motion picture and television studios and similar locations.
11. Motion picture projectors.
12. Agricultural buildings.

3409.11.2 Unsafe conditions. Where the occupancy of an existing building or part of an existing building is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system comply with NFPA 70.

3409.11.3 Service upgrade. Where the occupancy of an existing building or part of an existing building is changed, electrical service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy.

3409.11.4 Number of electrical outlets. Where the occupancy of an existing building or part of an existing building is changed, the number of electrical outlets shall comply with NFPA 70 for the new occupancy.

(SECTION 1009 MECHANICAL)

3409.12 Mechanical requirements. Where the occupancy of an existing building or part of an existing building is changed such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with the International Mechanical Code, the new occupancy shall comply with the intent of the respective International Mechanical Code provisions.

(SECTION 1010 PLUMBING)

3409.13 Plumbing. Buildings undergoing a change of occupancy shall comply with plumbing requirements of this section.

3409.13.1 Increased demand. Where the occupancy of an existing building or part of an existing building is changed such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the International Plumbing Code, the new occupancy shall comply with the intent of the respective International Plumbing Code provisions.

3409.13.2 Food-handling occupancies. If the new occupancy is a food-handling establishment, all existing sanitary waste lines above the food or drink preparation or storage areas shall be panned or otherwise protected to prevent leaking pipes or condensation on pipes from contaminating food or drink. New drainage lines shall not be installed above such areas and shall be protected in accordance with the International Plumbing Code.

3409.13.3 Interceptor required. If the new occupancy will produce grease or oil-laden wastes, interceptors shall be provided as required in the International Plumbing Code.

3409.13.4 Chemical wastes. If the new occupancy will produce chemical wastes, the following shall apply:

1. If the existing piping is not compatible with the chemical waste, the waste shall be neutralized prior to entering the drainage system, or the piping shall be changed to a compatible material.
2. No chemical waste shall discharge to a public sewer system without the approval of the sewage authority.

3409.13.5 Group I-2. If the occupancy group is changed to Group I-2, the plumbing system shall comply with the applicable requirements of the International Plumbing Code.

(SECTION 1011 OTHER REQUIREMENTS)

3409.14 Light and ventilation. Light and ventilation shall comply with the requirements of the International Building Code for the new occupancy.

(SECTION 1012 CHANGE OF OCCUPANCY CLASSIFICATION)

3409.15 Change of occupancy classification. Buildings undergoing a change of occupancy classification shall comply with this section.

3409.15.1 General. The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group. Such buildings shall also comply with Sections 3409.5 through 3409.14. The application of requirements for the change of occupancy shall be as set forth in Sections 3409.15.1.1 through 3409.15.1.4. A change of occupancy, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 3409.2.

3409.15.1.1 Compliance with Section 3408. The requirements of Section 3405.1 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 3409.15.1.1.1 and 3409.15.1.1.2.

3409.15.1.1.1 Change of occupancy classification without separation. Where a portion of an existing building is changed to a new occupancy classification and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the International Building Code for the separate occupancy, the entire building shall comply with all of the requirements of Section 3408 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

3409.15.1.1.2 Change of occupancy classification with separation. Where a portion of an existing building that is changed to a new occupancy classification and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the International Building Code for the separate occupancy, that portion shall comply with all of the requirements of Section 3408 for the new occupancy classification and with the requirements of this chapter.

3409.15.1.2 Fire protection and interior finish. The provisions of Sections 3409.15.2 and 3409.15.3 for fire protection and interior finish, respectively, shall apply to all buildings undergoing a change of occupancy classification.

3409.15.1.3 Change of occupancy classification based on hazard category. The relative degree of hazard between different occupancy classifications shall be determined in accordance with the categories specified in Tables 3409.15.4, 3409.15.5 and 3415.6. Such a determination shall be the basis for the application of Sections 3409.15.4 through 3409.15.7.

3409.15.1.4 Accessibility. All buildings undergoing a change of occupancy classification shall comply with Section 3409.15.8.

3409.15.2 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 3409.15.2.1 and 3409.15.2.2.

3409.15.2.1 Fire sprinkler system. Where a change in occupancy classification occurs that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9, such system shall be provided throughout the area where the change of occupancy occurs.

3409.15.2.2 Fire alarm and detection system. Where a change in occupancy classification occurs that requires a fire alarm and detection system to be provided based on the new occupancy in accordance

with Chapter 9, such system shall be provided throughout the area where the change of occupancy occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the change of occupancy occurs and shall be automatically activated.

3409.15.3 Interior finish. In areas of the building undergoing the change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the International Building Code for the new occupancy classification.

3409.15.4 Means of egress, general. Hazard categories in regard to life safety and means of egress shall be in accordance with Table 3409.15.4.

TABLE 3409.15.4 (IEBC TABLE 1012.4)
MEANS OF EGRESS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	**H**
2	I-2, I-3, I-4
3	A, E, I-1, M, R-1, R-2, R-4
4	B, F-1, R-3, S-1
5 (Lowest Hazard)	F-2, S-2, U

3409.15.4.1 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 3409.15.4, the means of egress shall comply with the requirements of Chapter 10..

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 3408.4.1.
2. Existing stairways including handrails and guards complying with the requirements of Section 3408 shall be permitted for continued use subject to approval of the code official.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings shall comply with the requirements in Sections 3407.5.5.1, 3407.5.5.2 and 3407.5.5.3, .
6. Existing dead-end corridors shall comply with the requirements in Section 3407.5.6.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m2) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.

3409.15.4.2 Means of egress for change of use to equal or lower hazard category. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 3409.15.4, existing elements of the means of egress shall comply with the requirements of Section 3407.15.4 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10.

Exception: Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.

3409.15.4.3 Egress capacity. Egress capacity shall meet or exceed the occupant load as specified in Chapter 10 for the new occupancy.

3409.15.4.4 Handrails. Existing stairways shall comply with the handrail requirements of Section 3407.5.9 in the area of the change of occupancy classification.

3409.15.4.5 Guards. Existing guards shall comply with the requirements in Section 3407.5.10 in the area of the change of occupancy classification.

3409.15.5 Heights and areas. Hazard categories in regard to height and area shall be in accordance with Table 3409.15.5.

TABLE 3409.15.5 (IEBC TABLE 1012.5)
HEIGHTS AND AREAS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	**H**
2	A-1, A-2, A-3, A-4, I, R-1, R-2, R-4
3	E, F-1, S-1, M
4 (Lowest Hazard)	B, F-2, S-2, A-5, R-3, U

3409.15.5.1 Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 3409.15.5, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 for the new occupancy classification.

Exception: In other than Groups H, F-1 and S-1, in lieu of fire walls, use of fire barriers having a fire-resistance rating of not less than that specified in Table 706.4, constructed in accordance with Section 707, shall be permitted to meet area limitations required for the new occupancy in buildings protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

3409.15.5.1.1 Fire wall alternative. In other than Groups H, F-1 and S-1, fire barriers and horizontal assemblies constructed in accordance with Sections 707 and 711, respectively, shall be permitted to be used in lieu of fire walls to subdivide the building into separate buildings for the purpose of complying with the area limitations required for the new occupancy where all of the following conditions are met:

1. The buildings are protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. The maximum allowable area between fire barriers, horizontal assemblies, or any combination thereof shall not exceed the maximum allowable area determined in accordance with Chapter 5 without an increase allowed for an automatic sprinkler system in accordance with Section 506.
3. The fire-resistance rating of the fire barriers and horizontal assemblies shall not be less than that specified for fire walls in Table 706.4.

Exception: Where horizontal assemblies are used to limit the maximum allowable area, the required fire resistance rating of the horizontal assemblies shall be permitted to be reduced by 1 hour provided the height and number of stories increases allowed for an automatic sprinkler system by Section 504.2 are not used for the buildings.

3409.15.5.2 Height and area for change to equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 3409.15.5, the height and area of the existing building shall be deemed acceptable.

3409.15.5.3 Fire barriers. When a change of occupancy classification is made to a higher hazard category as shown in Table 3409.15.5, fire barriers in separated mixed use buildings shall comply with the fire-resistance requirements of the International Building Code.

Exception: Where the fire barriers are required to have a 1-hour fire-resistance rating, existing wood lath and plaster in good condition or existing 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.

3409.15.6 Exterior wall fire-resistance ratings. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table 3409.15.6.

TABLE 3409.15.6 (IEBC TABLE 1012.6)
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	**H**
2	F-1, M, S-1
3	A, B, E, I, R
4 (Lowest Hazard)	F-2, S-2, U

3409.15.6.1 Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 3409.15.6, exterior walls shall have fire resistance and exterior opening protectives as required by the International Building Code.

Exception: A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

3409.15.6.2 Exterior wall rating for change of occupancy classification to an equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 3409.15.6, existing exterior walls, including openings, shall be accepted.

3409.15.6.3 Opening protectives. Openings in exterior walls shall be protected as required by the International Building Code. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

Exceptions:

1. Where the International Building Code permits openings in excess of 50 percent.
2. Protected openings shall not be required in buildings of Group R occupancy that do not exceed three stories in height and that are located not less than 3 feet (914 mm) from the lot line.
3. Where exterior opening protectives are required, an automatic sprinkler system throughout may be substituted for opening protection.
4. Exterior opening protectives are not required when the change of occupancy group is to an equal or lower hazard classification in accordance with Table 3409.15.6.

3409.15.7 Enclosure of vertical shafts. Enclosure of vertical shafts shall be in accordance with Sections 3409.15.7.1 through 3409.15.7.4.

3409.15.7.1 Minimum requirements. Vertical shafts shall be designed to meet the International Building Code requirements for atriums or the requirements of this section.

3409.15.7.2 Stairways. When a change of occupancy classification is made to a higher hazard category as shown in Table 3409.15.4, interior stairways shall be enclosed as required by the International Building Code.

Exceptions:

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic watersupply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with Chapter 7.

3409.15.7.3 Other vertical shafts. Interior vertical shafts other than stairways, including but not limited to elevator hoistways and service and utility shafts, shall be enclosed as required by the International Building Code when there is a change of use to a higher hazard category as specified in Table 3409.15.4.

Exceptions:

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.
2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories shall not be required to be enclosed if the entire building is provided with an approved automatic sprinkler system.

3409.15.7.4 Openings. All openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. All other openings shall be fire protected in an approved manner. Existing fusible link-type automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135°F (57°C).

3409.15.8 Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with less than a Level 3 alteration.

3409.15.8.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alteration shall comply with Sections 3406.1.2, 3407.6 and 3408.7, as applicable.

3409.15.8.2 Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 3409.15.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

(CHAPTER 11 ADDITIONS
SECTION 1101 GENERAL)

SECTION 3410
ADDITIONS

3410.1 Scope. An addition to a building or structure shall comply with the International Codes as adopted for new construction without requiring the existing building or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an addition impacts the existing building or structure, that portion shall comply with this code.

3410.2 Creation or extension of nonconformity. An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems.

3410.3 Other work. Any repair or alteration work within an existing building to which an addition is being made shall comply with the applicable requirements for the work as classified.

(SECTION 1102 HEIGHTS AND AREAS)

3410.4 Height and areas. Heights and areas in buildings undergoing an addition shall be in accordance with Section 3410.4.1 through 3410.4.3.

3410.4.1 Height limitations. No addition shall increase the height of an existing building beyond that permitted under the applicable provisions of Chapter 5 for new buildings.

3410.4.2 Area limitations. No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 for new buildings unless fire separation as required by the International Building Code is provided.

Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stair shafts shall be permitted beyond that permitted by this code for new construction.

3410.4.3 Fire protection systems. Existing fire areas increased by the addition shall comply with Chapter 9.

(SECTION 1103 STRUCTURAL)

3410.5 Structural. Structural requirements for additions shall comply with Sections 3410.5.1 through 3410.5.5.

3410.5.1 Compliance with the International Building Code. Additions to existing buildings or structures are new construction and shall comply with the International Building Code.

3410.5.2 Additional gravity loads. Existing structural elements supporting any additional gravity loads as a result of additions shall comply with the International Building Code.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light- frame construction methods of the International Building Code or the provisions of the International Residential Code.

3405.3 Lateral force-resisting system. The lateral force-resisting system of existing buildings to which additions are made shall comply with Sections 3410.5.3.1, 3410.5.3.2 and 3410.5.3.3.

Exceptions:

1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the International Building Code or the provisions of the International Residential Code.
2. In other existing buildings where the lateral-force story shear in any story is not increased by more than 10 percent cumulative.

3410.5.3.1 Vertical addition. Any element of the lateral force-resisting system of an existing building subjected to an increase in vertical or lateral loads from the vertical addition shall comply with the International Building Code wind provisions and the IBC-level seismic forces specified in Section 301.1.4.1 of this code.

3410.5.3.2 Horizontal addition. Where horizontal additions are structurally connected to an existing structure, all lateral force-resisting elements of the existing structure affected by such addition shall comply with the International Building Code wind provisions and the IBC-level seismic forces specified in Section 301.1.4.1 of this code.

3410.5.3.3 Voluntary addition of structural elements to improve the lateral force-resisting system. Voluntary addition of structural elements to improve the lateral force-resisting system of an existing building shall comply with Section 3407.7.5.

3410.5.4 Snow drift loads. Any structural element of an existing building subjected to additional loads from the effects of snow drift as a result of an addition shall comply Chapter 16.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light- frame construction methods of Section 2308 or the provisions of the International Residential Code.

3410.5.5 Flood hazard areas. Additions and foundations in flood hazard areas shall comply with the following requirements:

1. For horizontal additions that are structurally interconnected to the existing building:
   1.1. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code.
   1.2. If the addition constitutes substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code.
2. For horizontal additions that are not structurally interconnected to the existing building:
   2.1. The addition shall comply with Section 1612 of the International Building Code.

2.2. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code.

3. For vertical additions and all other proposed work that, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the International Building Code.
4. For a new, replacement, raised, or extended foundation, if the foundation work and all other proposed work, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the International Building Code.

(SECTION 1104 SMOKE ALARMS IN OCCUPANCY GROUPS R AND I-1)

3410.6 Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with smoke alarms as required by Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code as applicable.

(SECTION 1105 ACCESSIBILITY)

3410.7 Accessibility. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, primary function shall comply with the requirements of Sections 3406.1.2, 3407.6 and 3408.7, as applicable.

(SECTION 1106 ENERGY CONSERVATION)

3410.8 Energy conservation. Additions to existing buildings shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction.

(CHAPTER 12 HISTORIC BUILDINGS
SECTION 1201GENERAL)

SECTION 3411
HISTORIC BUILDINGS

3411.1 Scope. It is the intent of this chapter to provide means for the preservation of historic buildings. Historical buildings shall comply with the provisions of this chapter relating to their repair, alteration, relocation and change of occupancy.

3411.2 Report. A historic building undergoing repair, alteration, or change of occupancy shall be investigated and evaluated. If it is intended that the building meet the requirements of this chapter, a written report shall be prepared and filed with the code official by a registered design professional when such a report is necessary in the opinion of the code official. Such report shall be in accordance with Chapter 1 and shall identify each required safety feature that is in compliance with this chapter and where compliance with other chapters of these provisions would be damaging to the contributing historic features. For buildings assigned to Seismic Design Category D, E or F, a structural evaluation describing, at a minimum, the vertical and horizontal elements of the lateral force-resisting system and any strengths or weaknesses therein shall be prepared. Additionally, the report shall describe each feature that is not in compliance with these provisions and shall demonstrate how the intent of these provisions is complied with in providing an equivalent level of safety.

3411.3 Special occupancy exceptions—museums. When a building in Group R-3 is also used for Group A, B, or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m2), the code official may determine that the occupancy is Group B when life-safety conditions can be demonstrated in accordance with Section 3411.2. Adequate means of egress in such buildings, which may include a means of maintaining doors in an open position

to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

3411.4 Flood hazard areas. In flood hazard areas, if all proposed work, including repairs, work required because of a change of occupancy, and alterations, constitutes substantial improvement, then the existing building shall comply with Section 1612 of the International Building Code.

Exception: If an historic building will continue to be an historic building after the proposed work is completed, then the proposed work is not considered a substantial improvement. For the purposes of this exception, an historic building is:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior to contribute to the historical significance of a registered historic district or a district preliminarily determined to qualify as a historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

(SECTION 1202 REPAIRS)

3411.5 Repairs. Repairs to historic buildings shall be in accordance with Sections 3411.5.1 through 3411.5.4.

3411.5.1 General. Repairs to any portion of an historic building or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

3411.5.2 Unsafe conditions. Conditions determined by the code official to be unsafe shall be remedied. No work shall be required beyond what is required to remedy the unsafe conditions.

3411.5.3 Relocated buildings. Foundations of relocated historic buildings and structures shall comply with the International Building Code. Relocated historic buildings shall otherwise be considered an historic building for the purposes of this code. Relocated historic buildings and structures shall be sited so that exterior wall and opening requirements comply with the International Building Code or with the compliance alternatives of this code.

3411.5.4 Replacement. Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted.

Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Chapter 24.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

(SECTION 1203 FIRE SAFETY)

3411.6 Scope. Historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with this section.

3411.6.2 General. Every historic building that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the

code official. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any facility.

3411.6.3 Means of egress. Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. When approved by the code official, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

3411.6.4 Transoms. In fully sprinklered buildings of Group R-1, R-2 or R-3 occupancy, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.

3411.6.5 Interior finishes. The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are the historic finishes.

3411.6.6 Stairway enclosure. In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight-fitting doors and solid elements. Such elements are not required to have a fire-resistance rating.

3411.6.7 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.

3411.6.8 Glazing in fire-resistance-rated systems. Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area affected is provided with an automatic sprinkler system.

3411.6.9 Stairway railings. Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairs shall be permitted to remain, provided they are not structurally dangerous.

3411.6.10 Guards. Guards shall comply with Sections 3411.6.10.1 and 3411.6.10.2.

3411.6.10.1 Height. Existing guards shall comply with the requirements of Section 3405.1.

3411.6.10.2 Guard openings. The spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted. Missing elements or members of a guard may be replaced in a manner that will preserve the historic appearance of the building or structure.

3411.6.11 Exit signs. Where exit sign or egress path marking location would damage the historic character of the building, alternative exit signs are permitted with approval of the code official. Alternative signs shall identify the exits and egress path.

3411.6.12 Automatic fire-extinguishing systems. Every historical building that cannot be made to conform to the construction requirements specified in the International Building Code for the occupancy or use and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire-extinguishing system.

Exception: When the code official approves an alternative life-safety system.

(SECTION 1204 ALTERATIONS)

3411.7 Alterations. Alterations to historic buildings shall be in accordance with this section.

3411.7.1 Accessibility requirements. The provisions of Sections 3406.1.2, 3407.6 and 3408.7, as applicable, shall apply to facilities designated as historic structures that undergo alterations, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the code official, the alternative requirements of Sections 3411.7.1.1 through 3411.7.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

3411.7.1.1 Site arrival points. At least one main entrance shall be accessible.

3411.7.1.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

3411.7.1.3 Entrances. At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

3411.7.1.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 shall be provided.

(SECTION 1205 CHANGE OF OCCUPANCY)

3411.8 Change of Occupancy. Historic buildings undergoing a change of occupancy shall be in accordance with this Sections 3411.8.1 through 3411.8.15.

3411.8.1 General. Historic buildings undergoing a change of occupancy shall comply with the applicable provisions of Section 3409, except as specifically permitted in this chapter. When Section 3409 requires compliance with specific requirements of Sections 3406, 3407 or 3408 and when those requirements are subject to the exceptions in Section 3410.4, the same exceptions shall apply to this section.

3411.8.2 Building area. The allowable floor area for historic buildings undergoing a change of occupancy shall be permitted to exceed by 20 percent the allowable areas specified in Chapter 5.

3411.8.3 Location on property. Historic structures undergoing a change of use to a higher hazard category in accordance with Section 3409.15.6 may use alternative methods to comply with the fire-resistance and exterior opening protective requirements. Such alternatives shall comply with Section 3411.2.

3411.8.4 Occupancy separation. Required occupancy separations of 1 hour may be omitted when the building is provided with an approved automatic sprinkler system throughout.

3411.8.5 Roof covering. Regardless of occupancy or use group, roof-covering materials not less than Class C shall be permitted where a fire-retardant roof covering is required.

3411.8.6 Means of egress. Existing door openings and corridor and stairway widths less than those that would be acceptable for nonhistoric buildings under these provisions shall be approved, provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the exit and that the capacity of the exit system is adequate for the occupant load, or where other operational controls to limit occupancy are approved by the code official.

3411.8.7 Door swing. When approved by the code official, existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided.

3411.8.8 Transoms. In corridor walls required by these provisions to be fire-resistance rated, existing transoms may be maintained if fixed in the closed position, and fixed wired glass set in a steel frame or other approved glazing shall be installed on one side of the transom.

Exception: Transoms conforming to Section 3411.6.4 shall be accepted.

3411.8.9 Finishes. Where interior finish materials are required to have a flame spread index of Class C or better, existing nonconforming materials shall be surfaced with approved fire-retardant paint or finish.

Exception: Existing nonconforming materials need not be surfaced with an approved fire-retardant paint or finish where the building is equipped throughout with an automatic sprinkler system installed in accordance with the International Building Code and the nonconforming materials can be substantiated as being historic in character.

3411.8.10 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood lath and plaster.

3411.8.11 Stairs and railings. Existing stairways shall comply with the requirements of these provisions. The code official shall grant alternatives for stairways and railings if alternative stairways are found to be acceptable or are judged to meet the intent of these provisions. Existing stairways shall comply with Section 3411.6.

Exception: For buildings less than 3,000 square feet (279 m2), existing conditions are permitted to remain at all stairs and rails.

3411.8.12 Exit signs. The code official may accept alternative exit sign locations where such signs would damage the historic character of the building or structure. Such signs shall identify the exits and exit path.

3411.8.13 Exit stair live load. Existing historic stairways in buildings changed to a Group R-1 or R-2 occupancy shall be accepted where it can be shown that the stairway can support a 75-pounds-per-square-foot (366 kg/m2) live load.

3411.8.14 Natural light. When it is determined by the code official that compliance with the natural light requirements of Section 3409.14 will lead to loss of historic character or historic materials in the building, the existing level of natural lighting shall be considered acceptable.

3411.8.15 Accessibility requirements. The provisions of Section 3409.15.8 shall apply to facilities designated as historic structures that undergo a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the authority having jurisdiction, the alternative requirements of Sections 3411.7.1.1 through 3411.7.1.4 for those elements shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107.

(SECTION 1206 STRUCTURAL)

3411.9 Historic. Historic buildings shall comply with the requirements for repairs, Level1,2 or 3 alterations or additions as applicable.

Exception: The code official shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.

3411.9.2 Dangerous conditions. Conditions determined by the code official to be dangerous shall be remedied. No work shall be required beyond what is required to remedy the dangerous condition.

(CHAPTER 13 RELOCATED OR MOVED BUILDINGS
SECTION 1301GENERAL)

SECTION 3412
RELOCATED OR MOVED BUILDINGS

3412.1 Scope. This section provides requirements for relocated or moved structures.

3412.1.1 Conformance. The building shall be safe for human occupancy as determined by the International Fire Code and the International Property Maintenance Code. Any repair, alteration, or change of occupancy undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the International Building Code or the International Residential Code as applicable.

(SECTION 1302 REQUIREMENTS)

3412.1.2 Location on the lot. The building shall be located on the lot in accordance with the requirements of this code or the International Residential Code as applicable.

3412.1.3 Foundation. The foundation system of relocated buildings shall comply with this code or the International Residential Code as applicable.

3412.1.3.1 Connection to the foundation. The connection of the relocated building to the foundation shall comply with this code or the International Residential Code as applicable.

3412.1.4 Wind loads. Buildings shall comply with this code or International Residential Code wind provisions as applicable.

Exceptions:

1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

3412.1.5 Seismic loads. Buildings shall comply with this code or International Residential Code seismic provisions at the new location as applicable.

Exceptions:

1. Structures in Seismic Design Categories A and B and detached one- and two-family dwellings in Seismic Design Categories A, B and C where the seismic loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

3412.1.6 Snow loads. Structures shall comply with this code or International Residential Code snow loads as applicable where snow loads at the new location are higher than those at the previous location.

Exception: Structural elements whose stress is not increased by more than 5 percent.

3412.1.7 Flood hazard areas. If relocated or moved into a flood hazard area, structures shall comply with Section 1612.

3412.1.8 Required inspection and repairs. The code official shall be authorized to inspect, or to require approved professionals to inspect at the expense of the owner, the various structural parts of a relocated building to verify that structural components and connections have not sustained structural damage. Any repairs required by the code official as a result of such inspection shall be made prior to the final approval.

Reason: See G205-12 Part I.

Cost Impact: None.

3404.1 (NEW)-G-COLLINS

Public Hearing Results

All 12 parts of this code change were heard by the IBC General code development committee.

PART XII – IBC GENERAL
Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the action taken on G201-12.

Analysis: See G205-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Submitted.

Commenter's Reason: See G205-12 Part I.

Analysis: See G205-12 Part I.

G205-12, Part XII
Final Action: AS AM AMPC____ D

G209-12
3401.7(New) [IEBC [B] 401.4 (New)]

Proposed Change as Submitted

Proponent: Vickie Lovell, InterCode Incorporated, representing the International Window Film Association

Add new text as follows:

3401.7 (IEBC [B] 401.4) Energy Conservation. Level 1 Alterations, as scoped by Section 503.1 of the *International Existing Building Code*, to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or the *International Residential Code*. The alterations shall conform to the energy requirements of the *International Energy Conservation Code* or the *International Residential Code* only as they relate to new construction.

Exception: The following need not comply provided the energy use of the building in not increased.

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing single pane fenestration assemblies.
4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
5. Construction where the existing roof, wall or floor cavity is not exposed.
6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
7. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed,
8. Alterations that replace less than 50 percent of the luminares in a space, provided that such alterations do not increase the installed interior lighting power.
9. Alterations that replace only the bulb and ballast within the existing luminares in a space provided that the *alteration* does not increase the installed interior lighting power.

Reason: The IECC Section C401.2.1 requires compliance with Sections C402, C403, and C405 for existing buildings that are undergoing alternations and repairs. This proposal clarifies that certain features of the existing building undergoing Level 1 alterations are exempt from the requirements of the IECC.

The scoping section is extracted from Section 707 of the IEBC.

This list of exempted items has been extracted from IECC Section C101.4.

Surface applied window film to existing fenestration has been added to the list because it can enhance the performance of existing single pane fenestration products for protection from injuries and property damage due to broken glass, reduces solar heat gain and energy use, ultraviolet transmittance and glare, and improves performance when impacted.

A similar proposal will be submitted to the IEBC in the group B proposal cycle.

Without this list of exceptions, the code would require improvements or replacements to be with new materials and systems as for new construction.

Cost Impact: This code change will not increase the cost of construction and may in fact reduce the cost of construction.

3401.7#1-G-LOVELL.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the previous action on G208-12.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Vickie Lovell, InterCode Incorporated, representing International Window Film Association, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3401.7 (IEBC [B] 401.4) Energy Conservation. Existing buildings or structures shall comply with Sections C101.4.1, C101.4.2, C101.4.3, C401.2.1 and R101.4 of the *International Energy Conservation Code*.

Exception: The following need not comply provided the energy use of the building is not increased.

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film to existing fenestration assemblies.
4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
5. Construction where the existing roof, wall or floor cavity is not exposed.
6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
8. Alterations that replace less than 50 percent of the luminares in a space, provided that such alterations do not increase the installed interior lighting power.
9. Alterations that replace only the bulb and ballast within the existing luminares in a space provided that the *alteration* does not increase the installed interior lighting power.

Commenter's Reason: Chapter 13 and 34 of the IBC do not address energy efficiency of existing buildings. The IECC does in Sections C101.4 and R101.4. These sections clarify how and when the IECC applies to commercial and residential existing buildings.

The IECC Section C401.2.1 requires compliance with Sections C402, C403, C404 and C405, and R101.4 for existing buildings that are undergoing alternations, additions, and repairs.

However, this IBC proposal clarifies that certain changes made to a building that improve energy conservation in existing buildings are exempt from the requirements of the IECC. This list of exempted items has been extracted from IECC Section C101.4. (Surface applied window film has been included in this list of exempted materials, and will be proposed to be added to the IECC during the Group B proposals.)

The committee disapproved this code change, stating that the list of exceptions only needed to be in the IECC. However, if the existing building energy performance is being improved, and the energy use is not being increased, the code user should not have to go to the IECC to take advantage of these exceptions.

Without this list of exceptions, the IECC has been used to require improvements or replacements in existing buildings unnecessarily with materials and systems as new construction as an "alteration". This proposal eliminates the need to go to the IECC unless the existing building is being altered, added on to, repaired, or renovated in ways that that trigger compliance with the IECC.

G209-12

Final Action: AS AM AMPC____ D

G211-12

3403.4, 3404.4, 3405.2.1, 3405.2.3, 3408.4 (IEBC [B] 402.4, 403.4, 404.2.1, 404.2.3, 407.4), Chapter 35

Proposed Change as Submitted

Proponent: Jennifer Goupil, The Structural Engineering Institute of ASCE (jgoupil@asce.org)

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:

3403.4 (IEBC [B] 402.4) 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.

Exceptions:

1. 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 in accordance with 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.
2. In lieu of compliance with Section 1613 for the existing structure, it shall be permitted to demonstrate compliance of the existing structure and addition, acting together as a single structure, with the performance objectives in ASCE 41 Section 2.2.4. Alterations to existing structural elements initiated for the purpose of improving the performance of the seismic force-resisting system of the existing structure shall be permitted to be included in the ASCE 41 analysis.

3404.4 (IEBC [B] 403.4) Existing structural elements carrying lateral load. Except as permitted by Section 3404.5, where the *alteration* increases design lateral loads in accordance with Section 1609 or 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.

Exceptions:

1. 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.

2. In lieu of compliance with Section 1613 for the altered structure, it shall be permitted to demonstrate compliance of the altered structure and addition with the performance objectives in ASCE 41 Section 2.2.4.

3405.2.1 (IEBC [B] 404.2.1) Evaluation. The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the building 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.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613.

Exception: In lieu of Section 1613, it shall be permitted to demonstrate compliance with the performance objectives in ASCE 41 Section 2.2.1.

3405.2.3 (IEBC [B] 404.2.3) Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the pre-damage building in accordance with Section 3405.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations that include 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 this code. Earthquake loads for this rehabilitation design shall be those required for the design of the pre-damage building, but not less than 75 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.

Exception: It shall be permitted to demonstrate compliance of the rehabilitated structure with the performance objectives in ASCE 41 Section 2.2.1.

3408.4 (IEBC [B] 407.4) Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exceptions:

1. ~~Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, over strength, redundancy and ductility of the structure.~~ In lieu of Section 1613, it shall be permitted to demonstrate compliance with the performance objectives in ASCE 41 Section 2.2.4.
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, *SDS,* is less than 0.33, compliance with the seismic requirements of Section 1613 are not required.

Reason: The purpose of this proposal is to permit the use of ASCE 41-13 as an exception to IBC Chapter 16 and ASCE 7 where seismic evaluation or retrofit is required for existing buildings. ASCE 41-13 is a combination of two standards referenced in the 2012 IEBC (ASCE 31-03 and 41-06) for seismic evaluation and retrofit. In many cases the provisions of ASCE 31 and 41 are more appropriate for existing buildings by providing strength, stiffness, and acceptance criteria for structural systems that can meet the seismic performance objectives of the IBC without necessarily meeting all the specific detailing requirements. These standards have a history of use and as a result of the current (ANSI compliant) update cycle, incorporate recent research to represent the state of practice for seismic evaluation and retrofit.

Some specific reasons in support of the direct reference of ASCE 41 in the IBC are as follows:

- ASCE 31 and 41 already have been allowed as an option in the 2012 IBC by means of the Section 3401.5 reference to the IEBC as "deemed to comply." The 2012 IEBC utilizes ASCE 31 and 41 as reference standards in a very similar manner to what is being proposed for IBC Chapter 34. This proposal makes the connection more direct and allows the use of ASCE 41 for seismic evaluation and retrofit without requiring compliance with other portions of the IEBC (fire, life safety, MEP, etc), thus giving design professionals more flexibility in using ASCE 41.
- ASCE 41-13 has two explicit performance objectives consistent with the intent of IBC Chapter 34. There is a "new building standard equivalent" (ASCE 41-13 Section 2.2.4) intended to be used in conditions where the IBC/ASCE 7 is

referenced. This performance objective utilizes the seismic hazard levels for new buildings in ASCE 7 and includes other requirements and acceptance criteria intended to provide IBC-equivalent performance. There is also a basic existing building performance (ASCE 41-13 Section 2.2.1) that matches the traditional performance objective of ASCE 31 and 41, and consistent with 75% of IBC-level seismic forces. These two performance objectives are proposed to be applied in the appropriate sections of IBC Chapter 34, consistent with how those sections currently specify IBC forces.

- There is a history of ASCE 41 being referenced in some jurisdictions' adoption of the IBC, including Chapter 34 of the 2007 California Building Code.

A public ballot version of the new standard will be available from ASCE in the spring of 2012 and it is expected that it a prepublication (white cover) version will be available prior to the ICC Final Action Hearings in October of 2012. Any person interested in obtaining a public comment copy of ASCE 41-13 may do so by contacting the proponent at jgoupil@asce.org.

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

Staff Analysis: This code change proposal references ASCE standard 41, which is already referenced in the _International Existing Building code. However, the proposed change to code text is written to correlate with a new edition of the standard ASCE 41-13, rather than the edition presently referenced in the code, which is the 06 edition. The 2013 edition of this standard is not yet completed, published and available. The update to this standard will be considered by the Administrative Code Committee during the 2013 Code Development Cycle. Should this code change proposal be approved, but the update to the standard not be approved by the Administrative Code Committee, the code text will revert to the text as it appears in the 2012 Edition of the Code. Additionally, if the standard update is approved but the document is not published and available by Dec. 1, 2014, an errata will be issued to the Code that will return the affected code text to the text as it appears in the 2012 Edition of the Code.

3403.4-G-GOUPIL.doc

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: Disapproved

Committee Reason: This code change would allow a less robust option that the current code. The committee believes it is necessary to spell out which performance objectives are to be followed.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment:

Jennifer Goupil, The Structural Engineering Institute of ASCE requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3403.4 (IEBC [B] 402.4) 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. <u>For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 3403.4 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.</u>

Exceptions:

1. 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 in accordance with 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.
2. ~~In lieu of compliance with Section 1613 for the existing structure, it shall be permitted to demonstrate compliance of the existing structure and addition, acting together as a single structure, with the performance objectives in ASCE 41~~

~~Section 2.2.4. Alterations to existing structural elements initiated for the purpose of improving the performance of the seismic force-resisting system of the existing structure shall be permitted to be included in the ASCE 41 analysis.~~

TABLE 3403.4 (IEBC [B] TABLE 402.4)
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41
FOR ALTERNATIVE COMPLIANCE WITH SECTION 1613

RISK CATEGORY	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1N EARTHQUAKE HAZARD LEVEL	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-2N EARTHQUAKE HAZARD LEVEL
I	Life Safety (S-3)	Collapse Prevention (S-5)
II	Life Safety (S-3)	Collapse Prevention (S-5)
III	Damage Control (S-2)	Limited Safety (S-4)
IV	Immediate Occupancy (S-1)	Life Safety (S-3)

3404.4 (IEBC [B] 403.4) Existing structural elements carrying lateral load. Except as permitted by Section 3404.5, where the *alteration* increases design lateral loads in accordance with Section 1609 or 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. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 3403.4.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.

Exceptions:

1. 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.
2. ~~In lieu of compliance with Section 1613 for the altered structure, it shall be permitted to demonstrate compliance of the altered structure and addition with the performance objectives in ASCE 41 Section 2.2.4.~~

3405.2.1 (IEBC [B] 404.2.1) Evaluation. The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building 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.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613. Alternatively, compliance with ASCE 41, using the performance objective in Table 3405.2.1 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.

~~**Exception:** In lieu of Section 1613, it shall be permitted to demonstrate compliance with the performance objectives in ASCE 41 Section 2.2.1.~~

TABLE 3405.2.1 (IEBC [B] TABLE 404.2.1)
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41
FOR ALTERNATIVE COMPLIANCE WITH REDUCED SECTION 1613 SEISMIC FORCES

RISK CATEGORY	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1E EARTHQUAKE HAZARD LEVEL
I	Life Safety (S-3)
II	Life Safety (S-3)
III	Damage Control (S-2). See Note a.
IV	Immediate Occupancy (S-1)

a. Tier 1 evaluation at the Damage Control performance level shall use the Tier 1 Life Safety checklists and Tier 1 Quick Check provisions midway between those specified for Life Safety and Immediate Occupancy performance.

3405.2.3 (IEBC [B] 404.2.3) Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the pre-damage building in accordance with Section 3405.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations that include 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 this code. Earthquake loads for this rehabilitation design shall be those required for the design of the pre-damage building, but not less than 75 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. Alternatively, compliance with ASCE 41, using the performance objective in Table 3405.2.1.1 for the applicable risk category, shall be deemed to meet the earthquake rehabilitation requirement.

~~**Exception:** It shall be permitted to demonstrate compliance of the rehabilitated structure with the performance objectives in ASCE 41 Section 2.2.1.~~

3408.4 (IEBC [B] 407.4) Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 3403.4.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.

Exceptions:

1. Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure. ~~In lieu of Section 1613, it shall be permitted to demonstrate compliance with the performance objectives in ASCE 41 Section 2.2.4.~~
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, S_{DS}, is less than 0.33, compliance with the seismic requirements of Section 1613 are not required.

Commenter's Reason: G211-12 was disapproved at the Public Hearings for two reasons, one of which we believe was a misunderstanding of the proposed standard, and the other is being addressed by this public comment. Therefore, we urge AMPC for G211-12 for the reasons stated below. For the purposes of clarity, the text below for this public comment replaces the original proposal; that is, changes indicated are relative to current code text.

We recommend AMPC for the following reasons.

1. The Committee's reason for disapproval indicated that the use of ASCE 41 would allow a "less robust" option than the current code. This is not correct. ASCE 41 can be used under the 2012 IBC, since Chapter 34 (Section 3401.6) allows the IEBC as a "deemed to comply" alternate. ASCE 41 is referenced as option for seismic evaluation and retrofit (Section 301.1.4).
2. In addition, the new version of the standard (ASCE 41-13) referenced in G211-12 contains a new performance objective that is defined as "equivalent to new building standards" (e.g. ASCE 7-10). This performance objective is required where the 2012 IBC required the use of unreduced ASCE 7 forces for evaluation or retrofit (see locations where Table 3403.4.1 is referenced below.)
3. Many local jurisdictions, including the State of California and City of Seattle have for several code cycles modified Chapter 34 to include references to ASCE 41 as an option for seismic evaluation and retrofit, recognizing that for many types of older buildings, it is acceptable and often more suited to the conditions of those buildings than ASCE 7, which is intended primarily for new construction.
4. The Committee's second reason for disapproval was that the performance objectives should be indicated in Chapter 34 rather than just using section reference in ASCE 41. The modifications below include these tables. It should be noted that these tables are consistent with the performance objectives in ASCE 41 so there is no technical change from the original as-submitted G211-12. In addition, the format and content of this modified proposal is consistent to the modifications that were made in EB1-12 which was approved as modified by the Structural Committee. (EB1-12 is the IEBC version comparable to G211-12.)
5. Additional modifications are proposed for G211-12 to make it more consistent with the AM version of EB1-12. These modifications include recasting the references to ASCE 41 as "alternates" rather than "exceptions" and in Section 3408.4, restoring Exception 1 from the current 2012 IBC text that was mistakenly deleted in the original G211-12.
6. ASCE 41-13, entitled "Seismic Evaluation and Retrofit of Existing Buildings," has completed ASCE committee balloting, and public balloting was complete at the end of July. A pre-publication (white cover) version of the standard will be available prior to the FAH.

Analysis: ASCE/SEI 41 is currently referenced in the International Existing Building Code. Update of the edition referenced for the standard will be handled through the Administrative code change proposals as part of Group B changes in the 2013/14 code development cycle.

G211-12

Final Action: AS AM AMPC____ D

G212-12

3404.1, 3405.1, 3405.2.3, 3405.5, 3408.4, 3409.1; (IEBC [B] 403.1, 404.1, 404.2.3, 404.5, 407.4, 408.1)

Proposed Change as Submitted

Proponent: David Bonowitz S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee (dbonowitz@att.net)

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:

3404.1 (IEBC [B] 403.1) General. Except as provided by Section 3401.4 or this section, *alterations* to any building or structure shall comply with the requirements of ~~the~~ this code for new construction. *Alterations* shall be such that the existing building or structure is no less ~~complying~~ conforming with the provisions of this code than the existing building or structure was prior to the *alteration*.

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 1009.15 shall not be required to comply with the requirements of Section 1012.6 regarding full extension of the *handrails* where such extensions would be hazardous due to plan configuration.

3405.1 (IEBC [B] 404.1) General. Buildings and structures, and parts thereof, shall be repaired in compliance with Section ~~3405 and~~ 3401.2. Work on nondamaged 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* in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for *repairs* in this section.

3405.2.3 (IEBC [B] 404.2.3) Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the predamage building in accordance with Section ~~3404.2.1~~ 3405.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations that include 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 this code. 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.

3405.5 (IEBC [B] 4 04.5) 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.

For buildings and structures in *flood hazard areas* established in Section 1612.3, any *repairs* that do not constitute substantial improvement ~~or repair of 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.

3408.4 (IEBC [B] 407.4) Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exceptions:

1. Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, over strength, redundancy and ductility of the structure.
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, *SDS,* is less than 0.33, compliance with the seismic requirements of Section 1613 ~~are~~ is not required.

3409.1 (IEBC [B] 408.1) Historic buildings. The provisions of this code relating to the construction, *repair*, *alteration*, *addition*, restoration and ~~movement~~ moving of structures, and change of occupancy shall not be mandatory for *historic buildings* where such buildings are judged by the *building official* to not constitute a distinct life safety hazard.

Reason: This proposal is entirely editorial. At ICC discretion, some of the proposed edits should preferably be addressed as errata. Explanations for proposed edits:

- 3404.1: Match similar wording in 3403.1.
- 3405.1: No need for self-reference. The purpose of this item is to point to 3401.2 re coordination of repairs with maintenance.
- 3405.2.3: Errata
- 3405.5: Edit second paragraph to match first paragraph. Because of the definitions of substantial repair and substantial improvement, this proposed change has no substantive effect and is editorial only.

Cost Impact: The proposed changes will not increase the cost of construction.

3404.1-G-BONOWITZ.doc

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: **Approved as Modified**

Modify proposal as follows:

3405.1 (IEBC [B] 404.1) General. Buildings and structures, and parts thereof, shall be repaired in compliance with Section 3405 and 3401.2. Work on nondamaged 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* in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for *repairs* in this section.

(Portions of proposal not shown remain unchanged)

Committee Reason: Agreement with the proponent's reason which indicated the proposal is entirely editorial in nature. The modification retains the reference to Section 3405 to clarify that it remains applicable.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

John Ingargiola and Gregory Wilson, representing Department Homeland Security, Federal Emergency Management Agency, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3405.5 (IEBC [B] 404.5) Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3, any *repair* that constitutes substantial improvement or repair of substantial damage 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.

For buildings and structures in *flood hazard areas* established in Section 1612.3, any *repairs* that do not constitute substantial improvement or repair of 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.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This modification restores the phrase "or repair of substantial damage" in the second paragraph of 3405.5 and adds the same phrase to the first paragraph. The code includes definitions for both terms, and both definitions are required for consistency with the definitions in the federal regulations for the National Flood Insurance Program (44 CFR § 59.1). Although the term "substantial improvement" is defined to include "repairs," it is clearer and more intuitive to include "repair of substantial damage" in a section specifically about repairs.

G212-12

Final Action: AS AM AMPC____ D

G213-12, Part II
202, 907.2 (New), 907.2.1 (NEW), 907.2.2 (New)

Proposed Change as Submitted

Proponent: David Bonowitz, S.E., representing self (dbonowitz@att.net)

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

PART II – IEBC

Add new definition as follows:

202
DEFINITIONS

PRIORITY BUILDING. A building designated by Section 907.2.1 for special consideration during alteration projects, based on its risk category, seismic design category, occupancy, size, structural system(s), location, and/or other readily known attributes.

Add new text as follows:

907.2 Priority buildings. Priority buildings undergoing Level 3 alterations shall comply with this section.

907.2.1 Designation. Unless specifically designated in this section, no building is considered a priority building.

907.2.2 Triggered seismic scope and criteria. The seismic force-resisting system of the altered building shall comply with reduced IBC level seismic forces.

Reason: This proposal offers a uniform means to encourage local seismic mitigation efforts through code-based triggers.

Clearly, the success of the I-codes as national model codes has improved the practice of building regulation. Paradoxically, however, the same success may have weakened the ability of jurisdictions to tailor the building code to local needs. The more reliable the model codes become, the more state adoption boards are implementing "no amendment" policies. If it's good enough for the national model, the thinking goes, it's good enough for us. This is a convenient policy, and perhaps cost-effective in the short term, but it is flawed, as no solution can be right all the time for the full diversity of the country's buildings, communities, and natural hazards. At the same time, if a new idea is only applicable to a few markets or local conditions, it has a hard time getting into the national code. Thus the need for local amendments remains, while the ability to enact them diminishes.

What's needed is a mechanism within the model code to facilitate local amendments in response to a jurisdiction's particular building stock and performance goals. This proposal offers such a mechanism for triggering seismic retrofits of "priority buildings" when major alterations are made. (Similar provisions could be developed for other load types and project triggers, but this initial proposal has a limited scope by design.)

Currently, alteration projects call for seismic considerations only when they impact the seismic force-resisting system (Sections 807.5 and 907.4) or involve the most dangerous structure types (Sections 706.3, 907.4.4, and 907.4.5). Even then, because the basic alteration provision is based on the *change* of demand-capacity ratios, not their absolute values, highly deficient structures are often allowed to remain unimproved while major architectural or building services improvements are implemented. The apparently easy fix to this problem is simply to trigger seismic retrofit when a high DCR is found. But such an approach is naïve and ineffective, and the current provisions were clarified in recent cycles precisely to avoid this misapplication. Since a standard seismic evaluation will find some seismic deficiency in almost any existing building more than, say, twenty years old, such a trigger would discourage basic modernization projects. More important, such a generic trigger applicable to all building and structure types would not result in predictable mitigation. No public policy objective is served by such a scattershot approach.

Instead, this proposal would allow a jurisdiction to target certain buildings for alteration-triggered retrofits. Not only does this limit the cost to building owners as a group, it focuses the mitigation where it will best serve the community. This is especially important for evolving policies that promote earthquake resilience – the ability of a community to recover from a damaging earthquake. Resilience is not only about avoiding deaths; it is about restoring functions and services in a timely way, maintaining community stability. From this perspective, building regulation is not merely about safety. Regulatory policy will also need to prioritize certain occupancies and certain subsets of the building stock that are most likely to delay recovery. This proposal makes that possible within the context of the building code, which, after all, is a building department's principal regulatory tool.

The idea of identifying certain buildings for special consideration is not new. Many of our existing building provisions are based on seismic design category, which prioritizes some combinations of occupancy and hazard level over others. Similarly, the IEBC includes specific mitigation provisions that target unreinforced masonry parapets and concrete or masonry wall structures (Sections 706.3, 907.4.4, and 907.4.5). These buildings are targeted because of their historic performance as life-threatening collapse hazards. For many jurisdictions, mitigating just those risks is enough. Lately, however, more jurisdictions are looking beyond mere safety toward resilience. They will use the proposed provisions to target, perhaps, weak story multi-family housing, schools or assembly halls that serve as backup emergency centers, private social service organizations, large non-ductile concrete buildings, buildings in near-fault or liquefiable zones, etc. The priorities can be different – as they should be – for each jurisdiction.

We know that effective mitigation requires the right mix of incentives and legislation. But there is certainly a role for triggered retrofit as well, especially where proactive mandates are unfeasible and voluntary effort is limited. The proposal facilitates the planning and enforcement of triggered retrofits by providing a uniform code-based framework.

The proposed provision would work as follows:

- A jurisdiction would amend proposed Section 907.2.1 to designate its priority buildings. Ideally, this would occur after initial planning studies identify the sectors of the building stock of greatest concern. A jurisdiction that makes no designation loses nothing relative to the provisions of the model code.
- With the buildings designated, any Level 3 Alteration project to a priority building would necessarily invoke at least a seismic evaluation, and possibly a retrofit. The choice of triggering projects is also amendable by a jurisdiction. For example, priority buildings could be slated for retrofit based on certain types of Level 2 or Level 3 alterations or based on metrics other than work area.

Some features of the proposal:

- Priority buildings will be designated based on "readily known attributes." That is, a potential priority building is identifiable in advance, without the need for a detailed engineering evaluation or analysis. Priority status is also not a function of the proposed alteration project. This means that owners, tenants, lenders, building officials, planners, and others can know in advance what the provision's effects might be.
- Designation of priority buildings is entirely at the jurisdiction's option. The default condition is that no buildings are designated at all. In this case, the jurisdiction has in effect the building code it would have had if this provision did not exist.
- As proposed, the provision would apply only reduced seismic loads, consistent with traditional allowances for existing buildings and with similar provisions throughout the IEBC. This, too, is adaptable by a jurisdiction.
- An owner can still avoid a retrofit by modifying the scope of her project to avoid the trigger level. This aspect of triggered retrofit provisions makes them more politically feasible and less disruptive than outright mandates.
- By being part of the building code, the proposed provisions bring with them all the advantages of the I-codes: the consensus of professional communities, administrative provisions, an authority and accountability structure, a full array of technical provisions and reference standards, etc. Otherwise, a special ordinance outside the building code would have to incorporate or specifically cite all these items.

Cost Impact: None.

3404.3 (NEW)-G-BONOWITZ.doc

Public Hearing Results

Parts I and II of this code change were heard by the IBC Structural code development committee.

PART II - IEBC
Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the action on G213-12, Part I.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Bonowitz, S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

APPENDIX D
Supplemental Seismic Provisions for Priority Buildings

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

SECTION D101
GENERAL

D101.1 Purpose. This appendix supplements the provisions of Section 907. The appendix requires improvements to the seismic force resisting systems of certain buildings undergoing certain alterations regardless of the structural scope or effect of those alterations. Its purpose is to promote seismic mitigation of key sectors of the building stock, which can vary from jurisdiction to jurisdiction.

D101.2 Implementation. To implement these provisions, the authority having jurisdiction shall adopt this chapter and shall establish one or more types of priority buildings by setting forth their defining attributes in Table D103, adding rows as necessary.

D101.2.1 Completing Table D103.1. For each type of priority building, the jurisdiction shall provide content for each column of Table D103.1. Content for the column labeled Priority Building Type shall be any descriptive text or distinct identifier. Each of the other columns represents a readily known attribute of the priority building type. For any attribute that does not contribute to the description of a given priority building type, the content of the corresponding table cell shall be "Any." At the jurisdiction's discretion, other attributes consistent with the definition of priority building shall be provided as content for the column labeled Other.

SECTION D102
DEFINITIONS

PRIORITY BUILDING. A building designated by Section D103 for special consideration during alteration projects, based on its risk category, seismic design category, occupancy, size, structural systems, age and other attributes not requiring a structural evaluation to determine.

SECTION D103
DESIGNATION OF PRIORITY BUILDINGS

D103.1 Priority building types. A building described by one or more rows of Table D103.1 shall be deemed a priority building.

TABLE D103.1
DESIGNATION OF PRIORITY BUILDINGS[a, b]

PRIORITY BUILDING TYPE	RISK CATEGORY	SEISMIC DESIGN CATEGORY	OCCUPANCY	SIZE	STRUCTURAL MATERIAL OR SYSTEM	AGE	OTHER

[a] Upon adoption of this chapter, the jurisdiction shall complete one row of Table D103.1 for each type of building it seeks to designate as a priority building, adding rows as necessary. See Section D101.2.
[b] Where the triggering alteration is associated with a change of occupancy, the risk category, seismic design category, and occupancy shall be taken as those of the new occupancy.

SECTION D104
SEISMIC IMPROVEMENT TRIGGER, SCOPE, AND CRITERIA

D104.1 Trigger. A priority building undergoing a Level 3 alteration shall comply with Sections D104.2 and D104.3 in addition to the applicable provisions of Chapters 7, 8, and 9.

D104.2 Scope. The seismic force-resisting system of the altered building shall be made to satisfy the criteria given in Section D104.3. Existing nonstructural components and their bracing or anchorage are not be required to be altered.

D104.3 Criteria. Seismic forces and design criteria for seismic improvements triggered by Section D104.1 shall be, not less than those specified in Section 301.1.4.2.

Commenter's Reason: Proposal G213 calls for provisions to support locally customizable seismic upgrade triggers for "priority buildings". At the code development hearings, the ICC Structural Committee supported this idea but made two recommendations regarding presentation in the code. This public comment follows the committee's advice and implements the two recommendations.

First, the committee suggested that these optional provisions be introduced through an appendix, instead of within IEBC Chapter 9. This comment does just that.

Second, the ROH notes that the proposal's definition of priority building is vague. That note actually represents support for an idea brought forward at the hearings as a proposed floor modification that would help a jurisdiction describe its priority building types. The proposed floor modification was discussed at the hearings, but it was not voted on because of the committee's more general preference to locate the proposed provisions in an appendix. This comment re-introduces the key idea of that floor modification: Table D103.

As an example, if a jurisdiction wants to designate pre-1997 tilt-up buildings as a priority building type, it could complete the table as follows:

- Priority Building Type: "Pre-1997 Tilt-up", or similar. (Or, more simply per D101.2.1, just "Type 1".)

- Structural Material or System: “Precast Concrete Tilt-Up Shear Walls”.
- Other: “Permitted for construction before January 1, 1997” (or similar).
- All other columns of Table D103: “Any,” indicating that occupancy, size, etc. do not affect the definition of this priority building type.

Otherwise, this comment does not affect the intent or scope of the original proposal. Even in the original proposal, implementation of these supplemental upgrade triggers was optional. As an appendix, the optional nature is clearer, and Table D103 can be added without as much aesthetic disruption to the flow of Chapter 9.

The main benefit of the proposal remains: Seismic upgrade priorities should involve considerations of occupancy and significance within the local building stock, so proposal G213 (as proposed or as modified) adds provisions that let jurisdictions make such considerations.

Please see the original proposal or contact the proponent for a detailed reason statement. In brief, the justification for this proposal follows this logic:

- Local jurisdictions, especially those attempting to address questions of disaster resilience, need locally tailored mitigation programs that account for a community’s particular mix of building types and uses.
- Code-based upgrade triggers can play an important role within broader mitigation plans.
- Currently, IBC and IEBC alteration provisions are not customizable to a local building stock or mitigation policy.
- Currently, IBC and IEBC alteration provisions only require seismic evaluation or upgrade when the intended alteration would significantly worsen a building’s lateral system. Thus, major alterations involving multiple systems throughout the building and costing well over half of a building’s replacement cost, may be done without even considering the structure’s earthquake resistance.
- The solution: The code should provide a consistent means for jurisdictions to implement simple, customizable seismic upgrade triggers suited to their building stock and local priorities. These upgrade triggers would be optional and would only supplement, not replace, the code’s current uniform provisions.

Some features of the proposal:

- Priority buildings will be designated based on “readily known attributes.” Thus, a potential priority building is identifiable in advance, without the need for a detailed engineering evaluation or analysis. Priority status also does not depend on the nature of the proposed Level 3 alteration project. This means that owners, tenants, lenders, building officials, planners, and others can know in advance what the provision’s effects might be.
- Designation of priority buildings is entirely at the jurisdiction’s option. The default condition is that no buildings are designated at all. In this case, the jurisdiction has in effect the building code it would have had if these provisions did not exist.
- As proposed, the provisions would apply only reduced seismic loads, consistent with traditional allowances for existing buildings and with similar provisions throughout the IEBC.
- An owner can still avoid a retrofit by modifying the scope of her project to avoid the trigger level. This aspect of triggered retrofit provisions makes them more politically feasible and less disruptive than outright mandates.
- By being part of the building code, the proposed provisions bring with them all the advantages of the I-codes: the consensus of professional communities, administrative provisions, an authority and accountability structure, a full array of technical provisions and reference standards, etc. Otherwise, a special ordinance outside the building code would have to incorporate or specify all these items.

G213, Part II-12

Final Action: AS AM AMPC____ D

NOTE: PART I REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

PART I – IBC STRUCTURAL
202, 3404.3 through 3404.3.3 (NEW) (IEBC [B] 403.3 through 403.3.3(NEW))

PART I – IBC STRUCTURAL

Add new text as follows:

3404.3 (IEBC [B] 403.3) Priority buildings. Priority buildings undergoing alteration shall comply with this section.

3404.3.1 (IEBC [B] 403.3.1) Designation. Unless specifically designated in this section, no building is considered a priority building.

3404.3.2 (IEBC [B] 403.3.2) Triggering alteration. Where the portion of a priority building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, the alteration work shall include retrofit measures as needed to satisfy Section 3404.3.3. Calculation of the portion undergoing alteration shall include all reconfigured spaces as indicated on the construction documents and, at the discretion of the code official, all spaces served by extended or renovated building systems. The portion undergoing alteration shall be permitted to exclude other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is required by this code.

3404.3.3 (IEBC [B] 403.3.3) Triggered seismic scope and criteria. The seismic force-resisting system of the altered building shall comply with the earthquake design provisions of this code. For purposes of this section, the earthquake loads need not be taken larger than 75 percent of the loads that would be required for the design of a new building of similar structure, purpose, and location.

Add new definition as follows:

PRIORITY BUILDING. A building designated by Section 3404.3.1 for special consideration during alteration projects, based on its risk category, seismic design category, occupancy, size, structural system(s), location, and/or other readily known attributes.

Public Hearing Results

Parts I and II of this code change were heard by the IBC Structural code development committee.

PART I – IBC STRUCTURAL
Committee Action: **Disapproved**

Committee Reason: The proposed definition of priority building is vague. Technical triggers are preferable. These provisions should be in an appendix where local options reside.

Assembly Action: **None**

G220-12
3405.1.1 (New) [IEBC [B] 404.1.1 (New)

Proposed Change as Submitted

Proponent: Dan Casella, Chair, ICC 300 Development Committee, Standard for Bleachers, Folding and Telescopic Seating and Grandstands

Add new text as follows:

3405.1.1 (IEBC [B] 404.1.1) Bleacher systems. Existing bleachers, folding and telescopic seating and grandstands being repaired shall comply with ICC 300.

Reason: Directs the code user to the applicable ICC 300 Chapter 5 that specifically deals with gap, guard, repair and maintenance requirements of existing bleachers, folding and telescopic seating and grandstands. Provisions include inspections, maintenance and repairs, guard and openings between the floor boards and the seats. There will be a correlative change to IEBC Section 601.4.

The purpose of the ICC 300 standard is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, and safety to life and property relative to the construction, alteration, repair, operation, and maintenance of new and existing temporary and permanent bench bleachers, folding and telescopic seating, and grandstands. Information can be downloaded from the following website: http://www.iccsafe.org/cs/standards/IS-BLE/Pages/default.aspx.

Cost Impact: The proposed changes will not increase the cost of construction.

3405.1.1 (NEW)-G-CASELLA-ADHOC.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The exception to section 3401.1 already addresses the application of this standard and a new reference was not felt necessary.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Dan Casella, ICC 300 – Bleacher Safety Committee, requests Approval as Submitted.

Commenter's Reason: The general reference to the ICC 300 standard at the beginning of the chapter is lost when someone is looking for repairs or relocations. When existing buildings are repaired, there are issue of safety and liability tied to changes in configuration, loads and weathering. The reference to the ICC 300 to let users know that this standard does address this issue is important. The ICC 300 committee also has a code change in Group B to add this requirement in IEBC Chapter 6, Repair.

The purpose of the ICC 300 standard is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, and safety to life and property relative to the construction, alteration, repair, operation, and maintenance of new and existing temporary and permanent bench bleachers, folding and telescopic seating, and grandstands. Information can be downloaded from the following website: http://www.iccsafe.org/cs/standards/IS-BLE/Pages/default.aspx.

G220-12

Final Action: AS AM AMPC____ D

G222-12
3405.2.2, 3405.4 (IEBC [B] 404.2.2, 404.4)

Proposed Change as Submitted

Proponent: David Bonowitz, David Bonowitz, S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee (dbonowitz@att.net)

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:

3405.2.2 (IEBC [B] 404.2.2) Extent of repair for compliant buildings. If the evaluation establishes compliance of the pre-damage building in accordance with Section 3405.2.1, then repairs shall be permitted that restore the building to its pre-damage state, based on material properties and design strengths applicable at the time of ~~original~~ the most recently permitted construction.

3405.4 (IEBC [B] 404.4) 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, based on material properties and design strengths applicable at the time of ~~original~~ the most recently permitted construction. 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.

Reason: In both provisions, the intent is to refer back to the pre-damage condition. In many cases this is not the "original" condition of the building when it was first erected. The "most recently permitted" condition better conveys the intent.

Cost Impact: The proposed changes will not increase the cost of construction.

3405.2.2-G-BONOWITZ

Public Hearing Results

This code change was heard by the IBC Structural code development committee.

Committee Action: **Disapproved**

Committee Reason: In referring to a building's pre-damaged condition, "original construction" may at time be misunderstood, but the proposed revision to "most recently permitted" raises questions. For one, this could refer you to unrelated non-structural work or even an unattached accessory structure. It would be more relevant to refer to the particular element being repaired.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Bonowitz, David Bonowitz, S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3405.2.2 Extent of repair for compliant buildings. If the evaluation establishes compliance of the pre-damage building in accordance with Section 3405.2.1, then repairs shall be permitted that restore the building to its pre-damage state~~, based on~~

~~material properties and design strengths applicable at the time of original construction~~.

3405.4 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~~, based on material properties and design strengths applicable at the time of original construction~~. 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.

Commenter's Reason: In both provisions, the intent is to refer back to the pre-damage condition. In many cases this is not the "original" condition of the building when it was first erected. The "most recently permitted" condition better conveys the intent.

However, the ICC Structural committee did not like the revised wording originally proposed. This comment solves the problem in an even simpler and cleaner way – and in a way that the ICC committee has already approved in IEBC sections 606.2.1 and 606.2.2.2.

G222-12

Final Action: AS AM AMPC____ D

G224-12, Part I
3405.3.1 (IEBC [B] 404.3.1)

Proposed Change as Submitted

Proponent: Paul Bennett, Knott Laboratory, LLC, representing Colorado Chapter of ICC (pbennett@knottlab.com)

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC STRUCTURAL CODE DEVELOPMENT COMMITTEE.

PART I- IBC STRUCTURAL

Revise as follows:

3405.3.1 (IEBC [B] 404.3.1) 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 3405.2.1 and, if noncompliant, rehabilitated in accordance with Section 3405.2.3.

Exceptions:

1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. Buildings assigned to Seismic Design Category A, B, or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
3. Buildings damaged solely by vehicle impact or fire.

Reason: Older structures may be damaged by vehicle impacts or fires, triggering a "substantial structural damage" threshold assessment and subsequent structural evaluation. When substantial structural damage has been caused by wind, snow or seismic forces, it is recognized that structural strengthening of undamaged building elements is warranted and prudent for life safety purposes. When damage has been caused by vehicle impact or fire, it is unreasonable to require the structural evaluation and likely upgrades to undamaged building elements. This effectively penalizes a building owner for unintended damage that was not initiated as the result of an inherently weak or inadequate structure.

Structural evaluations typically reveal that older structures (pre 1940) will require extensive strengthening, to undamaged building elements to satisfy the current code provisions. This is particularly true for older masonry structures.

Often the property owner's insurance will provide law and ordinance coverage (building code upgrade coverage) for a value equal to 10% of the policy limits. In many instances, this coverage amount is insufficiently adequate to cover the required upgrades. Ultimately the building owner must pay for the building upgrades on their own.

This change allows a building damaged solely by fire or a vehicle impact to be repaired in accordance with the current code requirements, but not mandate that undamaged components be evaluated and potentially be upgraded or replaced.

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

3405.3.1-G-BENNETT.doc

Public Hearing Results

Both parts of this code change was heard by the IBC Structural code development committee.

PART I – IBC STRUCTURAL
Committee Action: **Disapproved**

Committee Reason: Disapproval of this proposal is also consistent with the committee's action on G221-12. It is unclear what vehicle impacts have to do with the building's lateral system. Without a threshold it is not when or if the exception would apply.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Paul Bennett, Knott Laboratory. LLC, representing Colorado Chapter of the ICC, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3405.3 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. Nondamaged 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.

Exceptions:

1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. Buildings assigned to Seismic Design Category A, B, or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
3. Buildings damaged solely by vehicle impact or an individual structure fire in which the damage does not constitute *substantial damage*.

Commenter's Reason: Based on feedback from the structural committee, this modification proposes a threshold. It is recognized that a threshold in the code is prudent. However, by utilizing the *substantial structural damage* definition as a threshold for damage caused by fire or vehicle impact creates dilemmas. For instance, a vehicle impact or individual structure fire could damage a significant column or a corner shear wall wherein the cost and scope of repair is relatively minor but *substantial structural damage* has been triggered. Thus, the cost of repair could change substantially, particularly for unreinforced masonry structures. For these reasons, the code change has been modified to include a threshold that is not based on the percent of damage to the lateral or gravity force carrying system, rather, the threshold is based on the cost of the repair. Thresholds based on the cost of damage have existed in the codes for years and have been successfully been used to enforce upgrades to flood plain and accessibility provisions for existing buildings. The *substantial damage* definition which currently exists in the code is better than the *substantial structural damage* threshold for structures damaged by a individual structure fire or vehicle impacts. Hence, this modification proposes utilizing the existing *substantial damage* definition as the threshold. By utilizing the *substantial damage* threshold, as opposed to the *substantial structural damage* threshold, it requires structures that have been substantially damaged by fire or vehicle or impact to be evaluated but it solves the current dilemma in which a fire or vehicle impact could cause minimal damage (financially speaking) and then the entire structure has to be evaluated and upgraded. By adding the term "individual structure" fire, this code change does not apply to damage caused by a wild fire.

G224-12
Final Action: AS AM AMPC____ D

NOTE: PART II REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

PART II – IEBC [B] 606.2.3.1

BOTH PARTS WILL BE HEARD BY THE IBC STRUCTURAL COMMITTEE.

PART II – IEBC

IEBC [B] 606.2.3.1 Lateral force-resisting elements. Regardless of the level of damage to gravity elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section 606.2.2.1 and, if noncompliant, rehabilitated in accordance with Section 606.2.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
3. Buildings damaged solely by vehicle impact or fire.

PART II - IEBC
Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the action taken on G224-12, Part I.

Assembly Action: **None**

G225-12
3407, 3407.1, 3407.2 (New) [IEBC [B] 406, 406.1, 406.2 (New)]

Proposed Change as Submitted

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Revise as follows:

SECTION 3407 (IEBC 406)
GLASS REPLACEMENT AND EXISTING WINDOWS

3407.1 (IEBC [B] 406.1) ~~Conformance~~ Replacement glass. The installation or replacement of glass shall be as required for new installations.

3407.2 (IEBC 406.2) Replacement Windows. All windows in Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22.86 m) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other 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 April, 2005, the CTC has held twenty-two meetings – all open to the public.

The CTC Study Group on Child Window Safety has been fostering changes to the code over the past few cycles to clarify the application and specify the appropriate standards to be included in the code regarding child window safety. Suring the last cycle changes to incorporate those changes were successful in both the IBC and IRC. One of the areas that had not been the focus of CTC was existing windows in existing windows.

This code change incorporates parallel requirements to Section 1013.8 when an existing window is replaced, including the sash and the frame in an R-2 or R-3 building containing dwelling units. By incorporating this section in Chapter 34 and a companion change to the IEBC we can achieve a higher level of safety for children with minimum cost impact.

Cost Impact: The proposed changes will increase the cost of construction.

3407-G-BALDASSARRA-CTC.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was felt necessary to improved child safety in existing buildings where windows are being replaced.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 3407 (IEBC 406)
GLASS REPLACEMENT AND ~~EXISTING~~ REPLACEMENT WINDOWS

3407.1 (IEBC [B] 406.1) Replacement glass. The installation or replacement of glass shall be as required for new installations.

3407.2 (IEBC 406.2) Replacement Window Opening Control Devices. ~~All windows~~ In Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22.86 m) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.

Commenter's Reason: The committee noted in its reason for approval that this will improve child safety in existing building which is of paramount importance. The public comment clarifies in Section 3407.2 that not all windows must be installed with window opening control devices but rather only those that meet the 5 criteria noted. In addition there are two editorial revisions to clarify that we are dealing with replacement windows and not all existing windows (title to 3407) and that in Section 3407.2, the subject matter of the section is the opening control devices.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Child Window Safety". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/ChildWindowSafety.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

G225-12

Final Action: AS AM AMPC____ D

G227-12
3408 (New) (IEBC [B] 407 (New))

Proposed Change as Submitted

Proponent: Jeff Inks, Window and Door Manufacturers Association (jinks@wdma.com)

Add new text as follows:

SECTION 3408 (IEBC 407)
REPLACEMENT WINDOW OPENINGS

3408.1 (IEBC [B] 407.1) Replacement window openings. Where windows are required to provide *emergency escape and rescue openings* in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1029.2, 1029.3 and 1029.5 provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.

Reason: The intent of this proposal is to ensure that the IBC does not discourage or prevent improvements in fire safety in older residential occupancies by requiring replacement windows meet all of the provisions of Section 1029 when doing so would require increasing the size of the rough opening or altering the interior wall. Because many of these older buildings were constructed under codes that did not include the same emergency escape and rescue opening provisions that the IBC now requires for new construction, the only way to fully meet all of the requirements of Section 1029 for new construction if required when windows are replaced is to enlarge the rough opening and/or make significant alterations to the interior wall in order to accommodate any increase in window size or lowering of a sill.

At the very least, the significant cost and design challenges of altering the rough opening or interior wall can discourage window replacement and at worst can prevent the replacement of older windows that are harder to operate or inoperable all together because of their age and, that are significantly less energy efficient. When that happens, safety in compromised.

On the whole, while older bedroom windows in older buildings may not provide the full clear opening that is required for new construction or may have a sill height above 44 inches, they nonetheless still provide a viable emergency and escape rescue opening which is the primary intent of the code. Replacement of these windows with the same type of operating window or other type that can provide an equal or greater clear opening than the existing window -- even if they do not fully meet the clear opening or sill height requirements of Section 1029 – is always an improvement in safety, especially when a replacement opening can provide a larger clear opening than the existing window. Such improvements in safety should not be discouraged or prevented by overly onerous requirements for replacement windows.

This proposal is intended to ensure that doesn't happen by providing limited exceptions to the requirements of Section 1029 that can only be applied when certain conditions are met. The requirements that emergency escape and rescue openings be provided and the operational requirements for windows providing them are maintained for replacement windows as for new construction.

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

3408 (NEW)-G-INKS.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This proposal allows the installation of new windows without additional burden and at the same time increases energy efficiency. Clarification of Item 1 of proposed Section 3408.1 is necessary although the intent to prevent window openings from becoming smaller is understood.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

~~SECTION 3408 (IEBC 407)~~
~~REPLACEMENT WINDOW OPENINGS~~

~~3408.1 (IEBC [B] 407.1) Replacement window openings~~ 3407.3 Replacement Window Emergency Escape and Rescue Openings. Where windows are required to provide *emergency escape and rescue openings* in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1029.2, 1029.3 and 1029.5 provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.

Commenter's Reason: This is purely a correlative revision with the approved action on code change G225-12. G225 was approved to address replacement windows in Groups R-2 and R-3 in order to improve child safety from the standpoint of children falling out of windows in existing buildings. As noted by the committee it is approval of G227, this proposal relieves the burden on replacement windows and thus will encourage replacement with safer windows. The public comment, in turn, meshes these two approved proposals by consolidating them in a single section dealing with replacement windows.

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "Areas of Study". The Area of Study for this code change and public comment is called "Child Window Safety". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/CTC/Pages/ChildWindowSafety.aspx. Since its inception in April, 2005, the CTC has held twenty-four meetings – all open to the public. In addition to holding face-to-face meetings, the CTC established Study Groups where any interested party can participate in conference calls on specific subjects such as this area of study without having to attend the face-to-face meetings.

G227-12
Final Action: AS AM AMPC____ D

G229-12
3408.1 (IEBC [B] 407.1)

Proposed Change as Submitted

Proponent: Maureen Traxler, City of Seattle Dept. of Planning & Development, representing Washington Association of Building Officials Technical Code Development (maureen.traxler@seattle.gov)

Revise as follows:

3408.1 (IEBC [B] 407.1) Conformance. No change shall be made in the use or occupancy of any building ~~that would place the building in a different division of the same group of occupancies or in a different group of occupancies,~~ or portion thereof unless such building is made to comply with the requirements of this code for ~~such division or group of occupancies.~~ the occupancy. Changes in use or occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the existing building or structure was prior to the change. Subject to the approval of the *building official*, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use. Change of tenants will be permitted without complying with this Section 3408 so long as the use is not changed.

Reason: This code change updates the charging language for change of occupancy. The term "division of occupancy" is deleted because the term is only used once elsewhere in the Code (Section 111.2), and its meaning is vague. When a building changes to a use that has special Building Code requirements, the building, or the portions of the building where the new use is located, should be made to comply with those code requirements. For example, if an ambulatory care facility expands from treatment of 3 patients to treatment of 6, Section 903.2.2 would require a sprinkler system to be installed. If an S-1 occupancy changes from the storage of clothing to storage of furniture, Section 903.2.9 would require sprinklers. Hazardous materials storage might not be allowed to move to a higher floor. There are many other similar examples. Even though the code official would not always be aware of these changes, this proposal would provide authority to require compliance when changed conditions are known, and prohibits changes in use that reduce a building's compliance.

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

3408.1-G-TRAXLER.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal does not add clarification to the change of occupancy requirements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Maureen Traxler, City of Seattle, representing Department of Planning & Development, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3408.1 (IEBC [B] 407.1) Conformance. No change shall be made in the use or occupancy of any building or portion thereof unless such building is made to comply with the requirements of this code for the use or occupancy. Changes in use or occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the

existing building or structure was prior to the change. Subject to the approval of the *building official*, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use. ~~Change of tenants will be permitted without complying with this Section 3408 so long as the use is not changed.~~

Commenter's Reason: The published reason for disapproval misses the main point of this code change proposal. The primary objective of the proposal is to require compliance with code requirements for new uses when a change of use occurs. When the use of a building changes to a use that is subject to special code requirements, the building should comply with those requirements.

We are proposing to modify the proposal by removing the last sentence because it is not necessary, and may be confusing. The sentence merely states an example of how the section would be applied, and is an interpretation that would be more appropriate to appear in the Commentary.

G229-12

Final Action: AS AM AMPC____ D

G231-12
202, 3408.1.1 (New) [IEBC [B] 202, 407.1.1 (New)]

Proposed Change as Submitted

Proponent: Al Godwin, CBO, CPM, Aon Fire Protection Engineering (al.godwin@aon.com)

Add new text as follow:

3408.1.1 (IEBC [B] 407.1.1) Change of Character. A change in occupancy with no change of occupancy classification shall not be made to any structure that will subject the structure to any special provisions of the applicable *International Codes*, without approval of the *building official*. Compliance shall be only as necessary to meet the specific provisions and is not intended to require the entire building be brought into compliance.

Add new definition as follows:

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

Reason: In the last code cycle, Code Change EB27-09/10 added "10. Ambulatory health care facilities" to IEBC Section 902.1 (now 1002.1) under the classification of "change of character. This section in the IEBC, along with The IEBC definition of Change of Use, in general verbiage, recognizes that there are changes of use that do not involve changing occupancy groups.

IEBC Section 1001.2 states:

> "**1001.2 Change in occupancy with no change in occupancy classification.** A change in occupancy, as defined in Section 202, with no *change of occupancy* classification shall not be made to any structure that will subject the structure to any special provisions of the applicable *International Codes*, including the provisions of Section 1002 through 1011, without the approval of the code official."

This proposal is to bring those provisions from IEBC Section 1001.2 over into Chapter 34 of the IBC.

As noted in the IEBC, it is possible to change a use without changing the occupancy classification. Some examples are as follows:

1. Group A-2 bar with an occupant load of 275 to a Group A-2 bar with an occupant load of 350. Increasing occupant loads is permitted under Section 1004.2.
2. Group B office to Group B Ambulatory Health Care
3. Group B office to Group B café
4. Group F-1 factory to a Group F-1 woodworking shop.
5. Group H-3 Oxidizing gases to Group H-3 Flammable solids
6. Group M retail to Group M retail of upholstered furniture
7. Group S-1 warehouse to Group S-1 tire warehouse over 20,000 cubic feet
8. Group S-1 warehouse to Group S-1 motor vehicle repair garage
9. Group R-2 apartment to Group R-2 Live/Work unit.

Each of these classifications has particular code provisions that would apply if the occupancy had been originally identified. Some items might be fire protection, alarms, fresh air, restroom facilities, accessibility, smoke barriers, etc. The IBC currently does not specifically address these changes since they do not change Groups or change Divisions within Groups.

When making a change of character, it is not necessary to totally re-evaluate the building. Only the new applicable provisions should be addressed.

For example:

Group A-2 bar with an occupant load of 275 to a Group A-2 bar with an occupant load of 350.

Items that might require review:

Means of egress – 1004.2, to the public way
Sprinklers – 903.2.1.2, only in this space
Alarms – 907.2.1, only in this space
Restrooms – Chapter 29
Fresh air – IMC

Accessibility – see Section 3411
If food – upgrade of interceptor provisions of the IPC

Items that might not require a new review:

Height and area
Exterior walls and openings

As this is a confusing issue, the code official will need to define what items of correction are appropriate. While the wording may be new, code officials have performed this service for years. This proposal just puts it in the code.

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

3408.1.1 (NEW)-G-GODWIN

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposed language needs to be revised with terminology such as "change in the character of use." There was some discussion that the definition proposed could be beneficial in the IBC. Some committee members felt that this language was unnecessary.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Al Godwin, CBO, CPM, Aon Fire Protection Engineering Corporation, requests Approval as Submitted.

Commenter Reason: The Committee made the comment that the wording should be changed to "change in the character of use." Therefore the title of Section 3408.1.1 has been amended to reflect the new provision. This provision already exists in IEBC Section 1001.2. However, according to IEBC Section 301.1 compliance can be achieved by one of the three methods. The provision for Change of Character only exists in the Work Area Method of Section 301.1.2. Change of Character should also occur under the Prescriptive Compliance Method of Chapter 4 which is IBC Section 3408.1.1.

Therefore, this provision is a good change. It merely duplicates an existing IEBC provision and copies it in IEBC 407.1.1, which is also IBC 3408.1.1.

G231-12

Final Action: AS AM AMPC____ D

G232-12
3409.1, 3409.2 [IEBC [B] 408.1, 408.2 (New)]

Proposed Change as Submitted

Proponent: David Bonowitz, David Bonowitz, S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee (dbonowitz@att.net)

Revise as follows:

SECTION 3409 (IEBC [B] 408)
HISTORIC BUILDINGS

3409.1 (IEBC [B] 408.1) ~~Historic buildings~~ General. The provisions of this code that require improvements relative to a building's existing condition or, in the case of repairs, that require improvements relative to a building's pre-damage condition, shall not be mandatory for historic buildings unless specifically required by this Section. ~~relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.~~

3409.2 (IEBC [B] 408.2) Life safety hazards. The provisions of this code shall apply to historic buildings judged by the building official to constitute a distinct life safety hazard.

~~3409.2~~ 3409.3 (IEBC [B] ~~408.2~~ 408.3) Flood hazard areas. Within flood hazard areas established in accordance with Section 1612.3, where the work proposed constitutes substantial improvement as defined in Section 1612.2, the building shall be brought into compliance with Section 1612.

Exception: Historic buildings that are:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

Reason: This proposal clarifies what we believe to be the intent of the code with respect to historic buildings: they should be maintained, and new work should be to code standards (with allowances for historic materials already in 3401.4), but upgrades normally triggered in non-historic buildings generally should not be triggered in historic buildings.

The current provision waives all of the code's Existing Buildings provisions for any historic building. We believe this is too broad a waiver, and likely unintended. The better approach, consistent with the more lengthy and detailed IEBC provisions, is to enforce maintenance provisions but to waive triggered upgrades.

Specifically, the proposal maintains the current provisions regarding "distinct life safety hazards" and flood hazard areas" but does the following:

- Editorially changes the title of Section 3409.1 to avoid duplication of title of whole Section 3409.
- Modifies Section 3409.1 to exempt only "improvements" relative to the existing condition before an addition, alteration, repair, change of occupancy, or relocation project begins.
- Moves the current provision regarding "distinct life safety hazards" to its own subsection and rewords it to remove a confusing double negative. Note that in doing so the proposal has the effect of saying that an historic building is *not* a distinct life safety hazard unless it is explicitly judged to be one. This is a change relative to the current provision.
- Renumbers 3409.2 to 3409.3 but otherwise leave the flood provisions untouched.

Note to ICC: A similar change is appropriate for IEBC Section 408. As in past cycles, we expect this to be made as an automatic coordination change, so we have not submitted a corresponding proposal to the IEBC.

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

3409.1-G-BONOWITZ

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved because it does not provide further clarification for historic buildings and would possibly be considered more restrictive.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Bonowitz, S.E., representing NCSEA Code Advisory Committee, Existing Buildings Subcommittee, requests Approval as Submitted.

Commenter's Reason: This proposal clarifies the intent of the code with respect to historic buildings: they should be maintained, and new work should be to code standards (with allowances for historic materials already in 3401.4), but upgrades normally triggered in non-historic buildings generally should not be triggered in historic buildings.

The current provision waives *all* of the code's Existing Building provisions for any historic building. This is too broad a waiver, and not the one intended. The better approach, consistent with the more lengthy and detailed IEBC provisions, is to enforce maintenance provisions but to waive triggered upgrades.

The ICC Structural Committee's reason for disapproving the proposal, from the ROH, reads, in its entirety, "The proposal was disapproved because it does not provide further clarification for historic buildings and would possibly be considered more restrictive."

With respect, this does not make sense. It suggests that the committee either did not understand the proposal or does not understand the preferred approach taken by the IEBC. The committee's reason has two parts:

- "The proposal … does not provide further clarification for historic buildings …" As the proponents we do not know what this means. Presumably it means either that even more revisions to the 2012 text are needed or that the proposal would have no effect at all and therefore is of no value. Neither of these objections is valid. The first interpretation is invalid because no clarification beyond that proposed is necessary for the proposal to be seen as an improvement relative to the existing 2012 provision. The second interpretation does not make sense because it directly conflicts with the balance of the committee's reason, as explained in the next bullet.
- "The proposal … would possibly be considered more restrictive." Yes, that's correct, but not more restrictive than intended. On the contrary, it is the existing language that is *less* restrictive than almost any code user would want or reasonably expect it to be. The existing language says that the whole of Chapter 34 can be ignored for any historic building that isn't already – that is, prior to the intended project – "a distinct life safety hazard." Can that really be the intent? Additions, alterations, and changes of occupancy can be made without restriction to any historic building? If that's truly the intent, then ICC members should uphold the committee's disapproval. But if members agree with us that the intent is to relax the *upgrade* requirements but otherwise to maintain the existing level of safety in an historic building, then ICC members should approve proposal G232 as submitted.

G232-12

Final Action: AS AM AMPC____ D

G233-12
3410.2(New) [IEBC [B] 409.2 (New)]

Proposed Change as Submitted

Proponent: Dan Casella, Chair, ICC 300 Development Committee, Standard for Bleachers, Folding and Telescopic Seating and Grandstands

Revise as follows:

3410.1 (IEBC [B] 409.1) Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

3410.2 (IEBC [B] 409.2) Bleacher systems. Bleachers, folding or telescopic seating or grandstands that are being relocated shall comply with ICC 300.

Reason: The purpose is for coordination with ICC 300 Section 505. There is also a correlative change to IEBC Section 1301. Directs code users to the ICC-300 for correct rules on relocation of an existing bleacher (due to floor replacement or gym layout redesign or other conditions) and other related rules on seating that may apply during building repairs or remodeling. Sections 305, 309 and 311 are addressed in Chapter 5. Section 310, Accessibility, is required when the alteration would require movement of major structural elements for the bleacher.

ICC 300 text is indicated below.

SECTION 505
SEATING RELOCATION

Section 505.1 Relocating existing bleachers. Relocating existing bleachers to a new location shall be permitted provided the existing bleacher complies with Sections 303.6, 304, 306, 307, 308 and 310 and Chapter 5.

> **Exception:** Where full compliance with Sections 310.1 and 501.4 is *technically infeasible*, the relocated existing bleachers shall provide access in compliance with the building code to the maximum extent technically feasible.

The purpose of the ICC 300 standard is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, and safety to life and property relative to the construction, alteration, repair, operation, and maintenance of new and existing temporary and permanent bench bleachers, folding and telescopic seating, and grandstands. Information can be downloaded from the following website: http://www.iccsafe.org/cs/standards/IS-BLE/Pages/default.aspx.

Cost Impact: The proposed changes will not increase the cost of construction.

3410.2 (NEW)-G-CASELLA-ADHOC.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: This proposal was disapproved based upon the action taken on G220-12. An additional reference to the ICC 300 was not felt necessary.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Dan Casella, ICC 300 – Bleacher Safety Committee, requests Approval as Submitted.

Commenter's Reason: The general reference to the ICC 300 standard at the beginning of the chapter is lost when someone is looking for repairs or relocations. When existing buildings are relocated, there are issue of safety and liability tied to changes in configuration, loads and weathering. The reference to the ICC 300 to let users know that this standard does address this issue is important. The ICC 300 committee also has a code change in Group B to add this requirement in IEBC, Chapter 13, Relocation.

The purpose of the ICC 300 standard is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, and safety to life and property relative to the construction, alteration, repair, operation, and maintenance of new and existing temporary and permanent bench bleachers, folding and telescopic seating, and grandstands. Information can be downloaded from the following website: http://www.iccsafe.org/cs/standards/IS-BLE/Pages/default.aspx.

G233-12

Final Action: AS AM AMPC____ D

G234-12
3411.3 (IEBC [B] 410.3)

Proposed Change as Submitted

Proponent: Clare Ray Allshouse AIA, CBO, City of Shoreline, WA, representing Washington Association of Building Officials Technical Code Development Committee (rallshouse@shorelinewa.gov)

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

Revise as follows:

3411.3 (IEBC [B] 410.3) Extent of application. An *alteration* of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility* to less than that which would be required for new construction.

Reason: The current specific requirement to restrict any reduction of existing accessibility has the unintended consequence of not allowing for a lesser level of accessibility otherwise allowed by current code. This is inconsistent with the code language in the first sentence of this section that prohibits imposing a requirement for greater accessibility than that which be required for new construction. In addition, current ADA and ABA Accessibility Guidelines for Buildings and Facilities Section 202.3.1 Prohibited Reduction in Access, as published in the Federal Register, states: “An alteration that decreases or has the effect of decreasing the accessibility of a building or facility below the requirements for new construction at the time of the alteration is prohibited." To be consistent with this standard, an alteration to an existing fully accessible space should be allowed to have an area that is not accessible provided that such area would not be required to be accessible in new construction.

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

3411.3-G-ALLSHOUSE

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Disapproved**

Committee Reason: The proposed language does not appear to address the concern brought up in the reason statement. The added language could be read to require the elements being repaired to upgrade to new construction rather than just maintain the level of accessibility required at the time of initial construction. If something was constructed to exceed current requirements, the existing language would already let the designer use new construction requirements.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Clare Ray Allshouse AIA, CBO, City of Shoreline, WA representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

3411.3 (IEBC [B] 410.3) Extent of application. An *alteration* of an existing facility shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility* and shall not impose a requirement for greater accessibility than that which would be

required for new construction. ~~Alterations shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*.~~

Commenter's Reason: The Committee action reason statement accurately pointed out that the original proposal wording would have the unintended consequence of retroactively requiring that all accessibility features would have to be brought up to no less than that required for new construction. This modification corrects this discrepancy and achieves the intended result of this change to remove the apparent restriction against adding less accessible features through alteration, otherwise allowed by current code, merely by joining these two existing code requirements into a single statement.

G234-12

Final Action: AS AM AMPC____ D

G236-12
3411.4 [IEBC [B] 410.4], 3411.6 [IEBC [B] 410.6], 3411.8.9 [IEBC [B] 410.8.9]

Proposed Change as Submitted

Proponent: Ron Nickson, National Multi Housing Council (rnickson@nmhc.org)

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

Revise as follows:

3411.4 (IEBC [B] 410.4) Change of occupancy. Existing buildings that undergo a change of group or occupancy shall comply with this section.

> **Exception:** Type B *dwelling units* or *sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities ~~undergoing a change of occupancy in conjunction with *alterations* where the work area is 50 percent or less of the aggregate area of the building~~.

3411.6 (IEBC [B] 410.6) Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, 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 3411.7.
> 2. *Accessible means of egress* required by Chapter 10 are not required to be provided in existing facilities.
> 3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a *Type B dwelling unit*.
> 4. *Type B dwelling or sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities <u>that were first occupied prior to March 13, 1991.</u> ~~undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building~~.

3411.8.9 (IEBC [B] 410.8.9) Type B dwelling or sleeping units. Where four 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. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 *dwelling or sleeping units* <u>in buildings first occupied March 13, 1991 or later</u> are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements Section 1107 for *Type B units* apply only to the quantity of the spaces being altered.

Reason: To revise Section 3411.6, Exception 4 to comply with the Fair Housing Act as it applies to existing construction. The Fair Housing Act specifically applies to new buildings for first occupancy after March 13, 1991 and the requirement of Section 3411.6, Exception 4, should not apply to buildings constructed and occupied prior to the effective date of the Fair Housing Act. The section as written would place an undue burden on renovation of existing buildings as costly structural changes and other building modification needed to accommodate the accessibility provisions of the Fair Housing Act could impact the feasibility of upgrading apartments and other existing buildings that are modified to R occupancy.

Cost Impact: The proposed changes will not increase the cost of construction. Reduce the cost of construction.

3411.6-G-NICKSON.doc

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Disapproved**

Committee Reason: Change of occupancy should comply with new construction requirements. The term "first occupied", while used in the Fair Housing Act, is too variable for good code language. The March 13, 1991 date is a concern because of issues with vesting dates, start of construction, and shell buildings for as-built units. The current requirement is beneficial for housing constructed in violation of the Fair Housing Act.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Ron Nickson and Steve Orlowski, representing National Multi Housing Council and National Association of Home Builders, requests Approval as Submitted.

Commenter's Reason: Approval as submitted of G236 will align the ICC codes with the provisions of the Fair Housing Accessible Guidelines (FHAG) as the act was initially intended to apply to residential buildings constructed and first occupied March 13, 1991 or later. Compliance with the current code places a costly burden on upgrading of existing apartments that were constructed prior to the implication of the FHAG. The provisions of the current code also place a costly requirement on buildings when an existing structure is converted to an R-occupancy. The cost burden for compliance with the ICC codes, for properties that were never intended to have accessibility provision, as now required for compliance with the FHAG is a detriment to upgrading of existing housing and may in fact be blight on existing neighborhoods.

G236-12

Final Action: AS AM AMPC____ D

G237-12

1007.1, 3411.5, 3411.6, 3411.7, 3411.8 (New), 3411.8.1 (New) [IFC [B] 1007.1, IEBC [B] 410.5, 410.6, 410.7, 410.8 (New), 410.8.1(New)]

Proposed Change as Submitted

Proponent: Gene Boecker, AIA, Code Consultants, Inc, representing himself

THIS CODE CHANGE PROPOSAL WILL BE HEARD BY THE IBC MEANS OF EGRESS COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEE.

Revise as follows:

3411.5 (IEBC [B] 410.5) Additions. Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, a primary function shall comply with the requirements in Section 3411.7 and 3411.8.

3411.6 (IEBC [B] 410.6) Alterations. A facility or element that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible. Accessible means of egress complying with Section 1007 shall be provided as required in Section 3411.8.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3411.7.
2. ~~Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.~~
3. ~~3~~ 2. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. ~~4~~ 3. Type B dwelling or sleeping units required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

3411.7 (IEBC [B] 410.7) Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. ~~This provision does not apply to alterations~~ Alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. ~~This provision does not apply to alterations~~ Alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. ~~This provision does not apply to alterations~~ Alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility or element.

5. ~~This provision does not apply to altered~~ Altered areas limited to Type B dwelling and sleeping units.

3411.8 (IEBC [B] 410.8) Accessible means of egress. Not less than one accessible means of egress shall be provided in accordance with Section 1007 and 3411.8.1 in alterations affecting an area containing a primary function and in additions.

Exceptions:

1. Existing buildings where the alterations are less than 50 percent of the aggregate building area.
2. Historic buildings.
3. Accessible means of egress is not required to exceed 20 percent of the costs of the alterations including any costs associated with compliance for Section 3411.7. Where the costs to provide accessibility cannot accommodate compliance with both this Section and Section 3411.7, Section 3411.7 shall take precedence.
4. Alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
5. Alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
6. Alterations undertaken for the primary purpose of increasing the accessibility of a facility.
7. Altered areas limited to Type B dwelling and sleeping units

3411.8.1 (IEBC [B] 410.8.1) Means of egress through the existing building. Where the accessible means of egress from an portion of a building being altered, undergoing a change of occupancy or addition requires occupants to egress through portions of the existing building, compliance with Section 1007 is required through the existing building, unless technically infeasible. Where compliance with this provision is technically infeasible, the accessible means of egress through the existing building shall provide access to the maximum extent technically feasible.

1007.1 (IFC [B] 1007.1) Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required by Section 1015.1 or 1021.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress ~~are not required in alterations to~~ for existing buildings shall be provided as required in Section 3411.8.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly areas with ~~sloped~~ ramped or stepped aisles, one accessible means of egress is permitted where the common path of travel is accessible and meets the requirements in Section 1028.8.

Reason: During last code change cycle, a proposal similar to this was presented. The committee felt it was too confusing and that it did not address the concept of disproportionate cost effectively. This proposal seeks to address those issues more clearly. Where possible the language was changed to be uniform among the various codes and sections.

Common sense should dictate that where major alterations occur consideration for at least one accessible means of egress should be provided. Additionally, the simple idea that an accessible means of egress should be intentionally denied to a segment of the population does not seem appropriate. As the codes now stand, a building can be completely gutted with only the facades remaining and no accessible means of egress must be provided.

It is important to remember that the new construction requirements in the IBC only require a maximum of two accessible means of egress as noted in Section 1007.1 (assuming travel distance compliance is accommodated).

This proposal affects sections in both eth IBC and the IEBC with the intent that the changes in the IBC are reflected in the IEBC as well.

1007.1: The first exception to the section is changed to indicate that existing building provisions are noted in Chapter 34. This is the proper scoping location for issues dealing with existing buildings – not Chapter 10. A language change is provided to the third exception based on consistency with the term usage elsewhere in the code.
3411.5/410.5: A cross reference to the section addressing accessible means of egress is added. The addition is required to comply with new construction in every other aspect. It makes sense to reference this aspect as well.
3411.6/410.6: Under the current code, the exception makes reference to Chapter 10 but the main text does not. This closes that loop. Where accessible means of egress are required, it is necessary to direct the code user to the proper section. The reference to 1007 does that. Additionally, the word "element" is included in the charging language. It was unclear previously what should be done for the specific element under an alteration. For example, if a door is being replaced with one that has a vision lite, the door surface, hardware and vision lite location are subject to the "element" portion of the requirement but the accessible route to and maneuverable approach to the door are not part of the element so they would not be required to be altered. Similarly, if new electrical controls are installed, they are subject to the mounting height requirements but the entire space is not required to be altered for any other accessible elements not being altered. This is consistent with the approach taken in the Federal 2010 ADA Standards for Accessible Design. On the other hand, if an exterior stairway is being replaced in a non-sprinklered building then the clear width between handrails should be taken into consideration in the design.
3411.6/410.6, exception #2: The exception states that nothing is required for the existing building relative to accessible means of egress. However, an addition impacts the existing building to which it is attached. Egress through the existing building from an addition is more similar to an alteration of the existing egress system. The revised text points to the new code text in 3411.8.1 for what must be done for these conditions.
3411.7/410.7: (No change)
3411.8/410.8: A new section is added to specifically address accessible means of egress. Rather than the blanket statement in Section 1007.1 of the building code, this section will address the scope and extent of work necessary to address accessible means of egress for existing buildings. It directs the code user to Section 1007 for the technical requirements when an accessible means of egress is necessary as well as clearly delineate that when an alteration occurs affecting an area containing a primary function, an accessible means of egress must be provided. This is similar to the general requirements in 3404.1/403.1 which require alterations to meet "new code." The threshold is limited to alterations affecting a primary function because that threshold relates to the importance of changes to an area and is understood due to its relationship with the Federal accessibility regulations for the past 20 years. The intent is to provide at least one accessible means of egress.
3411.8/410.8, exception #1: Alterations with some magnitude should address accessible means of egress; if the alteration is relatively small then there is reason to limit the requirement. The threshold of 50% of the building area is intended to correspond to IEBC Alterations – Level 3. Alterations with less than 50% would not require an accessible means of egress to be provided. Even if the accessible means of egress would not be a disproportionate cost (exception #2), in small alterations the area required to create the accessible means of egress may be disproportionate to the space allowed for the alteration. If so, it may "steal" too much space from an otherwise small area and would not be appropriate.
3411.8/410.8, exception #2: The exception makes it clear that an accessible means of egress is not required for alterations to historic buildings. To do so, may alter the historic character. While an accessible means of egress should be provided wherever possible, the exception recognizes that in historic buildings the ability to make the necessary changes to comply may be detrimental to the historic integrity.
3411.8/410.8, exception #3: Existing buildings come in all shapes and sizes and the work proposed for creating an accessible means of egress can be a small part or major portion of the effort. This exception identifies that and uses the same 20% rule for the accessible route relative to the primary use area. The exception also clarifies that where funds cannot provide the accessible route *and* an accessible means of egress, it is more important to provide the accessible route. This maintains consistency with the Federal requirements for alterations affecting an area containing a primary function.
3411.8/410.8, exceptions #4, #5, #6, #7: These are the same as exceptions #2, #3, #4 and #5 in Section 3411.7 for alterations affecting an area containing a primary function. These are included here for consistency.
3411.8.1/410.8.1: If an addition is designed such that the means of egress must enter the existing building then the general rule is that the egress design in the existing building must meet the requirements for egress as it passes through the existing building. This is simply the continuation of the means of egress from the addition for egress width, panic hardware (as applicable) and similar concerns. The same should be true for the design of the accessible means of egress. If one of the accessible egress paths leads through the existing building, it too needs to meet/continue the level of protection as designed in the addition. The limitation to this is that if the effort to make the existing means of egress accessible is "technically infeasible" then work should be done to what is possible. One example of this may be making sure that the slopes along the egress path in the existing building's corridor are proper even if the width cannot be altered to allow the proper maneuverability approach to the exit door.

The codes identify the minimums necessary for life safety. These proposed changes provide the disabled community with similar levels of life safety to the general public and still sets reasonable thresholds based on the extent of work for the project. With the adoption of the new 2010 ADA Standards for Accessible Design, it is clear that the IBC will set the standard for accessible means of egress. This organization has a responsibility to act in the best interests of the general public and all its diversity. Where major changes are proposed to an existing building due to a large alteration or an addition, it should be the desire of the ICC to incorporate appropriate accessible means of egress where possible.

Cost Impact: The code change proposal will increase the cost of construction in many situations but may have no effect in others.

It is not easy to address what costs could be affecting this due to the myriad possible configurations for a building. A building that is a single story at grade may have no additional cost. Because an accessible entrance would be required, it would function as the accessible means of egress. Hence, a single story building with a total gut renovation may be unaffected cost-wise by this proposal.

The main costs are those involving an elevator of adequate size on emergency standby power and a two-way communications system. If the elevator is too small, the costs to alter that would be disproportionate and it would not be required according to IBC Section 3411.8, exception 2 or IEBC Section 905.4, exception #3.

At the opposite end of the spectrum could be a nine story high-rise building that is being gutted on five floors. It would be required to have an accessible route to the upper floors. The IFC would require the emergency power for fire fighter operation

so that cost for that part of the accessible means of egress is covered. In that situation only the two-way communication systems costs would apply.

Buildings without elevators would likely similarly fall into the category of disproportionate costs since the addition of an elevator can be costly. Moreover, the accessible means of egress is tied into alterations that affect an area containing a primary function. This already has accessibility requirements for access such as toilet room and accessible route renovations. If the costs to add an elevator are within the 20 percent cap but the cost to add emergency standby power would be beyond the 20 percent, the exceptions in IBC Section 3411.8, exception 2 and IEBC Section 905.4, exception #3 make it clear that the costs for access take precedence over the costs for egress and that combined they are not required to exceed the 20 percent figure.

In many cases the 20 percent cap will be met by the required access features and there may be no funds remaining for an accessible egress. The important thing is that we should recognize the need to provide a means of egress for all of the occupants within the building to the greatest extent possible. No definitive numbers can be provided because the variations are so many. This discussion attempts to address the possibilities only.

Staff Note: A correlative change was proposed to IEBC Chapters 7, 9, 10 and 11.

1007.1 #1-E-Boecker.doc

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Disapproved**

Committee Reason: While the committee applauds the idea of providing accessible means of egress in existing buildings, there are concerns for misunderstanding with the proposed language. Designers should do what they can in alterations as part of their concerns for proper general building evacuations.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Gene Boecker, AIA, Code Consults, Inc. (CCI), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

3411.8 (IEBC [B] 410.8) Accessible means of egress. Not less than one accessible means of egress shall be provided in accordance with Section 1007 and 3411.8.1 in alterations affecting an area containing a primary function and in additions.

Exceptions:

1. Existing buildings where the alterations are less than 50 percent of the aggregate building area.
2. Historic buildings <u>in conformance with Section 3409.1.</u>
3. Accessible means of egress is not required to exceed 20 percent of the costs of the alterations including any costs associated with compliance for Section 3411.7. Where the costs to provide accessibility cannot accommodate compliance with both this Section and Section 3411.7, Section 3411.7 shall take precedence.
4. Alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
5. Alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
6. Alterations undertaken for the primary purpose of increasing the accessibility of a facility.
7. Altered areas limited to Type B dwelling and sleeping units

(Portions of proposal not shown remain unchanged)

Commenter's Reason: It is not clear from the committee's comments how the proposed language can lead to misunderstanding. They committee's stated position is vague and not consistent with their vote. It is true that designers should do all that they can in alterations to address concerns for general evacuation. That sentiment is valid. However, it falls short of reality. An accessible means of egress will not be intentionally created for many buildings unless there is a requirement to address it. The proposed language places a responsibility on designers to address the issue. It avoids this nebulous "good idea" approach and is therefore an improvement to the code.

To recap, Sections 3411.8 and 3411.8.1 are new and deal with the issue of an accessible means of regress in existing buildings. The other text is clearing up language or pointing toward the new section. The threshold is for major alterations, additions and alterations affecting a primary function. Where alterations affect a primary area, one of the requirements is an accessible route to the area. This is not new and has been a requirement in the ADA as well as the IBC for some time. If the accessible route "to" the area is provided, it can often be designed to coincide with the accessible means of egress. In additions, the new work must be designed to comply with the new requirements so an accessible means of egress is already required. The added text is informative with regard to how the juncture with the existing building is to be treated if it involves the accessible means of egress. The current code is lacking in that area, so this provides improvement.

For buildings that are one story, the requirement will be met because the accessible route in will be the accessible route out. Therefore, one accessible means of egress will be provided. For high-rise buildings, the elevator must be on standby power so an accessible egress is assured as well. The concern is what happens for the mid-rise and low-rise buildings. The threshold is set at major renovations. A clause is added to limit accessibility expenses to 20 percent of the overall cost.

The proposed language change to 3411.8 is intended to make a more specific reference to the section on historic buildings already present in the code. This modification should add clarity and address some of the committee's concern regarding language.

The ICC is responsible for establishing what the minimum level of safety is for new and existing buildings. The codes contain requirements for access for the disabled and egress for everyone when it has to do with new buildings. But when the issue is about existing buildings, the code seems lacking is concern for the safety of those in the disabled community. With over 20 years of the ADA and many more years of accessibility provision in the legacy codes, it is now time to include at least some language regarding accessible means of egress for existing buildings to address that segment of the population. To do otherwise is to ignore the life safety of an entire group of the public as well as employees.

G237-12

Final Action: AS AM AMPC____ D

G240-12
3411.7.1 (New) [IEBC [B] 410.7.1 (New)]

Proposed Change as Submitted

Proponent: Gene Boecker, AIA, Code Consultants, Inc., representing self

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

Add new text as follows:

3411.7 (IEBC [B] 410.7) Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility or element.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

3411.7.1 (IEBC [B] 410.7.1) Priorities. In choosing which accessible elements to provide, subject to exception #1 above, priority should be given to those elements that will provide the greatest access, in the following order:

1. An accessible entrance;
2. An accessible route to the altered area;
3. At least one accessible restroom for each sex or a single unisex restroom;
4. Accessible telephones;
5. Accessible drinking fountains; and
6. When possible, additional accessible elements such as parking, storage, and alarms.

Reason: The recent adoption of the 2010 ADA Standards for Accessible Design includes the list of priorities noted in the proposal where disproportionate cost is an issue (Subpart D of 28 CFR Section 36.403(g)(2)). Disproportionate cost is what is described in exception #1 for all of the main sections noted above.

This proposal is to coordinate with the Federal Standard. It makes sense to provide this information to the Design Professional to help in prioritizing efforts and helps the Code Official in reviewing and inspecting to verify that the most important elements are provided.

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

Staff Note: A correlative change was proposed to IEBC Section 705.2 to add a new section 705.2.1.

3411.7.1-G-Boecker.doc

Public Hearing Results

This code change was heard by the IBC Means of Egress code development committee.

Committee Action: **Approved as Modified**

Modify proposal as follows:

3411.7.1 (IEBC [B] 410.7.1) Priorities. In choosing which accessible elements to provide, subject to Exception #1 ~~above~~ of Section 3411.7, priority should be given to those elements that will provide the greatest access, in the following order:

1. An accessible entrance;
2. An accessible route to the altered area;
3. At least one accessible restroom for each sex or a single unisex restroom;
4. Accessible telephones;
5. Accessible drinking fountains; and
6. When possible, additional accessible elements such as parking, storage, and alarms.

Committee Reason: The modification was to clarify the specific section referenced. The proposed language matches guidance language from the Department of Justice regulations for Title II and Title III that is difficult to find in their document. While the committee felt the guidance was needed for code officials and designers, it may be necessary to strengthen that this is guidance language, not mandatory language. There is a concern that it needs to be made clearer that this list would be elements tied to the area being altered, not the entire building. The order of the list is also a concern. For example: should the accessible parking not be associated with the accessible entrance as the main way of accessing a building?

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Clare Ray Allshouse AIA, CBO, City of Shoreline, WA representing Washington Association of Building Officials Technical Code Development Committee; Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee; requests Disapproval.

Commenter's Reason (Allshouse): The Committee's reason for approval of G240 as modified reads as though they had disapproved it as not yet ready for inclusion in the code. It is therefore proposed that the approval be overturned based on the later portion of the same reason statement provided by the Committee. Namely, "While the committee felt the guidance was needed for code officials and designers, it may be necessary to strengthen that this is guidance language, not mandatory language. There is a concern that it needs to be made clearer that this list would be elements tied to the area being altered, not the entire building. The order of the list is also a concern. For example: should the accessible parking not be associated with the accessible entrance as the main way of accessing a building?" Furthermore, we submit that the proposal reads like commentary rather than code language.

Commenter's Reason (Baldassarra) : The Department of Justice has this list as recommendations only. It is definitely not intended to be a mandatory priority list. There are many times where the cost of the project, or the effects of the alterations would have influence on what would be the most effective use of resources. As a recommendation, this language belongs in the commentary and not in building code text. Non-mandatory language does not belong in codes. Interpretation and enforcement would not be consistent between jurisdictions

In addition, the order of the list is not always logical. What is the logic for parking and fire alarms to be behind telephones?

The existing commentary addresses this issue and expands to clarify the intent of these provisions as guidance that depends on the facility being altered.

G240-12

Final Action: AS AM AMPC____ D

G244-12
3412 (IEBC [B] Chapter 14)

Proposed Change as Submitted

Proponent: David S. Collins, The Preview Group, Inc., representing the American Institute of Architects (dcollins@preview-group.com); Michael A. Crowley, P.E., FSFPE, RJA Group (mcrowley@rjagroup.com)

Revise as follows:

3412.2 (IFC [B] 1401.2) Applicability. Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. NOTE: IT IS RECOMMENDED THAT THIS DATE COINCIDE WITH THE EFFECTIVE DATE OF BUILDING CODES WITHIN THE JURISDICTION], in which there is work involving *additions*, *alterations* or changes of occupancy shall be made to comply with the requirements of this section or the provisions of Sections 3403 through 3409. The provisions in Sections 3412.2.1 through 3412.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or ~~I.~~ I-1, I-3 or I-4.

3412.6 (IFC [B] 1401.6) Evaluation process. The evaluation process specified herein shall be followed in its entirety to evaluate existing buildings in Groups A, B, E, F, M, R, S and U. For existing buildings in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table 3412.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 3412.6.16, the score for each occupancy shall be determined and the lower score determined for each section of the evaluation process shall apply to the entire building, or to each smoke compartment for Group I-2 occupancies.

Where the separation between mixed occupancies qualifies for any category indicated in Section 3412.6.16, the score for each occupancy shall apply to each portion, or smoke compartment of the building based on the occupancy of the space.

3412.6.2 (IFC [B] 1401.6.2) Building area. The value for building area shall be determined by the formula in Section 3412.6.2.2. Section 503 and the formula in Section 3412.6.2.1 shall be used to determine the allowable area of the building. This shall include any allowable increases due to frontage and automatic sprinklers as provided for in Section 506. Subtract the actual *building area* in square feet from the allowable area and divide by 1,200 square feet. Enter the area value and its sign (positive or negative) in Table 3412.7 under Safety Parameter 3412.6.2, 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 3412.8, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

3412.6.4 (IFC [B] 1401.6.4) Tenant and dwelling unit separations. Evaluate the *fire-resistance rating* of floors and walls separating tenants, including *dwelling units*, and not evaluated under Sections 3412.6.3 and 3412.6.5. Group I-2 occupancies shall evaluate the rating of the separations between patient sleeping rooms.

Under the categories and occupancies in Table 3412.6.4, determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.4, Tenant and Dwelling Unit Separations, for fire safety, means of egress and general safety.

TABLE 3412.6.4 (IFC [B] TABLE 1401.6.4)
SEPARATION VALUES

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1	0	0	0	0	1
I-2	0	1	2	3	4

(Portions of table not shown remain unchanged)

3412.6.5 (IFC [B] 1401.6.5) Corridor walls. Evaluate the *fire-resistance rating* and degree of completeness of walls which create *corridors* serving the floor, and constructed in accordance with Section 1018. This evaluation shall not include the wall elements considered under Sections 3412.6.3 and 3412.6.4. Under the categories and groups in Table 3412.6.5, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.5, Corridor Walls, for fire safety, means of egress and general safety.

TABLE 3412.6.5 (IFC [B] TABLE 1401.6.5)
CORRIDOR WALL VALUES

OCCUPANCY	CATEGORIES			
	a	b	c[a]	d[a]
A-1	-10	-4	0	2
I-2	-10	0	1	2

(Portions of table not shown remain unchanged)

3412.6.7 (IFC [B] 1401.6.7) HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section 3412.6.7.1, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.7, HVAC Systems, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Categories a, b or c shall be considered to fail the evaluation.

3412.6.8 (IFC [B] 1401.6.8) Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of *automatic fire detectors* in accordance with Section 907 and the *International Mechanical Code*. Under the categories and occupancies in Table 3412.6.8, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.8, Automatic Fire Detection, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Categories a, b or c shall be considered to fail the evaluation.

TABLE 3412.6.8 (IFC [B] TABLE 1401.6.8)
AUTOMATIC FIRE DETECTION VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-10	-5	0	2	6	-
A-2	-25	-5	0	5	9	-
A-4,B,E,S-2	-4	-2	0	4	8	-
I-2	NP	NP	0	4	5	2

3412.6.8.1 (IFC [B] 1401.6.8.1) Categories. The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing *smoke detectors* in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—*Smoke detectors* in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—*Smoke detectors* throughout all floor areas other than individual *sleeping units*, tenant spaces and *dwelling units*.
5. Category e—*Smoke detectors* installed throughout the floor area.

6. Category f – Smoke detectors in corridors only.

3412.6.9 (IFC [B] 1401.6.9) Fire alarm systems. Evaluate the capability of the *fire alarm system* in accordance with Section 907. Under the categories and occupancies in Table 3412.6.9, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.9, Fire Alarm Systems, for fire safety, means of egress and general safety.

TABLE 3412.6.9 (IFC [B] TABLE 1401.6.9)
FIRE ALARM SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a	b[a]	c	d
A-1, A-2, A-3, A-4, B, E, R	-10	-5	0	5
F, M, S	0	5	10	15
I-2	-4	1	2	5

a. For buildings equipped throughout with an automatic sprinkler system, add 2 points for activation by a sprinkler water flow device.

3412.6.10 (IFC [B] 1401.6.10) Smoke control. Evaluate the ability of a natural or mechanical venting, exhaust or pressurization system to control the movement of smoke from a fire. Under the categories and occupancies in Table 3412.6.10, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.10, Smoke Control, for means of egress and general safety.

TABLE 3412.6.10 (IFC [B] TABLE 1401.6.10)
SMOKE CONTROL VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-2, A-3	0	1	2	3	6	6
A-4, E	0	0	0	1	3	5
B, M, R	0	2(a)	3(a)	3(a)	3(a)	4(a)
F, S	0	2(a)	2(a)	3(a)	3(a)	3(a)
I-2	-4	0	0	0	3	0

a. This value shall be 0 if compliance with Category d or e in Section 3412.6.8.1 has not been obtained.

3412.6.11 (IFC [B] 1401.6.11) Means of egress capacity and number. Evaluate the *means of egress* capacity and the number of exits available to the building occupants. In applying this section, the *means of egress* are required to conform to the following sections of this code: 1003.7, 1004, 1005, 1014.2, 1014.3, 1015.2, 1021, 1024.1, 1027.2, 1027.5, 1028.2, 1028.3, 1028.4 and 1029. The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the *means of egress* when conforming to Section 3406.

Under the categories and occupancies in Table 3412.6.11, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.11, Means of Egress Capacity, for means of egress and general safety.

TABLE 3412.6.11 (IFC [B] TABLE 1401.6.11)
MEANS OF EGRESS VALUES

OCCUPANCY	CATEGORIES				
	a[a]	b	c	d	e
A-1, A-2, A-3, A-4, E	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0
I-2	-10	0	2	8	10

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

3412.6.12 (IFC [B] 1401.6.12) Dead ends. In spaces required to be served by more than one *means of egress*, evaluate the length of the *exit* access travel path in which the building occupants are confined to a single path of travel. Under the categories and occupancies in Table 3412.6.12, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.12, Dead Ends, for means of egress and general safety.

TABLE 3412.6.12 (IFC [B] TABLE 1401.6.12)
DEAD-END VALUES

OCCUPANCY	CATEGORIES			
	a	b	c	d
A-1, A-3, A-4, B, E, F, M, R, S	-2	0	2	-
A-2, E	-2	0	2	-
I-2	-2	0	2	-6

a. For dead-end distances between categories, the dead-end value shall be obtained by linear interpolation.

3412.6.12.1 (IFC [B] 1401.6.12.1) Categories. The categories for dead ends are:

1. Category a—Dead end of 35 feet (10 670 mm) in nonsprinklered buildings or 70 feet (21 340 mm) in sprinklered buildings.
2. Category b—Dead end of 20 feet (6096 mm); or 50 feet (15 240 mm) in Group B in accordance with Section 1018.4, exception 2.
3. Category c—No dead ends; or ratio of length to width (l/w) is less than 2.5:1.
4. Category d – Dead ends exceeding Category a.

3412.6.16 (IFC [B] 1401.6.16) Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 3412.6.16.1, the building shall be evaluated as indicated in Section 3412.6 and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 3412.6.16, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero.

3412.6.16.1 (IFC [B] 1401.6.16.1) Categories. The categories for mixed occupancies are:

1. Category a—Occupancies separated by minimum 1-hour *fire barriers* or minimum 1-hour *horizontal assemblies*, or both.
2. Category b—Separations between occupancies in accordance with Section 508.4.
3. Category c—Separations between occupancies having a *fire-resistance rating* of not less than twice that required by Section 508.4.4.

TABLE 3412.6.16 (IFC [B] TABLE 1401.6.16)
MIXED OCCUPANCY VALUES[a]

OCCUPANCY	CATEGORIES		
	a	b	c
A-1, A-2, R	-10	0	10
A-3, A-4, B, E, F, M, S	-5	0	5
I-2	NP	0	5

a. For fire-resistance ratings between categories, the value shall be obtained by linear interpolation.

3412.6.17 (IFC [B] 1401.6.17) Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an *automatic sprinkler system* in accordance with Section 903.3.1.1. “Required sprinklers” shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.17, determine the appropriate value and enter that value into Table 3412.7 under Safety

Parameter 3412.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2 and general safety.

TABLE 3412.6.17 (IFC [B] TABLE 1401.6.17)
SPRINKLER SYSTEM VALUES

OCCUPANCY	CATEGORIES					
	a	**b**	**c**	**d**	**e**	**f**
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12
I-2	NP	NP	NP	8	10	NA

NP not permitted
NA not applicable

3412.6.18 (IFC [B] 1401.6.18) Standpipes. Evaluate the ability to initiate attack on a fire by making a supply of water available readily through the installation of standpipes in accordance with Section 905. Required standpipes shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.18, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.18, Standpipes, for fire safety, means of egress and general safety.

TABLE 3412.6.18 (IFC [B] TABLE 1401.6.18)
STANDPIPE SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a[a]	**b**	**c**	**d**
A-1, A-3, F, M, R, S-1	-6	0	4	6
A-2	-4	0	2	4
A-4, B, E, S-2	-12	0	6	12
I-2	-2	0	1	2

a. This option cannot be taken if Category a or b in Section 3412.6.17 is used.

3412.6.20 (IFC [B] 1401.6.20) Smoke Compartmentation. Evaluate the smoke compartments for compliance with Section 417.5. Using Table 3412.6.20, determine the appropriate smoke compartmentation value (*SCV*) and enter that value into Table 3412.7 under Safety Parameter 3412.6.20, Smoke Compartmentation, for fire safety, means of egress and general safety.

TABLE 3412.6.20 (IFC [B] TABLE 1401.6.20)
SMOKE COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES[a]		
	a Compartment size equal to or less than 22,500 square feet	**b Compartment size greater than 22,500 square feet**	**c No smoke Compartment**
A, B, E, F, M, R and S	0	0	0
I-2	0	NP	NP

For SI: 1 square foot = 0.093 m^2.
a. For areas between categories, the smoke compartmentation value shall be obtained by linear interpolation.

3412.6.21 (IFC [B] 1401.6.21) Patient ability, concentration, smoke compartment location and ratio to attendant. In I-2 occupancies, the ability of patients, their concentration and ratio to attendants shall be evaluated and applied per this section. Evaluate each smoke compartment using the categories in Sections 3412.6.21.1, 3412.6.21.2 and 3412.6.21.3 and enter the value in Table 3412.8. To determine the safety factor, multiply the three values together, if the sum is 9 or greater, compliance has failed.

3412.6.21.1 (IFC [B] 1401.6.21.1) Patient ability for self-preservation. Evaluate the ability of the patients for self-preservation in each smoke compartment in an emergency. Under the categories and occupancies in Table 3412.6.21.1 determine the appropriate value and enter that value in Table 3412.7

under Safety Parameter 3412.6.21.1, Patient Ability for Self-Preservation, for means of egress and general safety.

3412.6.21.1.1 (IFC [B] 1401.6.21.1.1) Categories: The categories for patient ability for self-preservation are:

1. Category a – (mobile) Patients are capable of self preservation without assistance.
3. Category c – (not mobile) Patients rely on assistance for evacuation or relocation.
4. Category d – (not movable) Patients cannot be evacuated or relocated

TABLE 3412.6.21.1 (IFC [B] TABLE 1401.6.21.1)
PATIENT ABILITY VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

3412.6.21.2 (IFC [B] 1401.6.21.2) Patient Concentration. Evaluate the concentration of patients in each smoke compartment under Section 3412.6.21.2. Under the categories and occupancies in Table 3412.6.21.2 determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.21.2, Patient Concentration, for means of egress and general safety.

3412.6.21.2.1 (IFC [B] 1401.6.21.2.1) Categories: The categories for patient concentration are:

1. Category a – smoke compartment has 1 to 10 patients.
2. Category b – smoke compartment has more than 10 to 40 patients
3. Category d – smoke compartment has greater than 40 patients

TABLE 3412.6.21.2 (IFC [B] TABLE 1401.6.21.2)
PATIENT CONCENTRATION VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

3412.6.21.3 (IFC [B] 1401.6.21.3) Attendant-to-Patient Ratio. Evaluate the attendant-to-patient ratio for each compartment under Section 3412.6.21.3. Under the categories and occupancies in Table 3412.6.21.3 determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.21.3, Attendant-to-Patient Ratio, for means of egress and general safety.

3412.6.21.3.1 (IFC [B] 1401.6.21.3.1) Categories: The categories for attendant-to-patient concentrations are:

1. Category a – attendant-to-patient concentrations is 1:5.
3. Category b – attendant-to-patient concentrations is 1:6 to 1:10.
4. Category c – attendant-to-patient concentrations is greater than 1:10 or no patients

TABLE 3412.6.21.3 (IFC [B] 1401.6.21.3)
ATTENDANT-TO-PATIENT RATIO VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

TABLE 3412.7 (IFC [B] 1401.7)
SUMMARY SHEET – BUILDING CODE

Existing occupancy		_____
Proposed occupancy		_____
Year building was constructed		_____
Number of stories		_____
Height in feet		_____
Type of construction		_____
Area per floor		_____
Percentage of open perimeter increase		_____%
Completely suppressed:		Yes_____ No _____
Type		_____
Corridor wall rating		_____
Compartmentation:		Yes_____ No _____
Required door closers:		Yes_____ No _____
Fire-resistance rating of vertical opening enclosures		_____
Type of HVAC system:		_____
Serving number of floors		_____
Automatic fire detection:		Yes_____ No _____
Type and location		_____
Fire alarm system:		Yes_____ No _____
Type		_____
Smoke control:		Yes_____ No _____
Type		_____
Adequate exit routes:		Yes_____ No _____
Dead ends:		Yes_____ No _____
Maximum exit access travel distance		_____
Elevator controls:		Yes_____ No _____
Means of egress emergency lighting:		Yes_____ No _____
Mixed occupancies:		Yes_____ No _____
Standpipes:		Yes_____ No _____
Incidental Use:		Yes_____ No _____
Smoke Compartmentation less than 22,500		Yes_____ No_____
Patient Ability for Self-preservation:		_____
Patient Concentration:		_____
Attendant-to-Patient Ratio:		_____

3412.8 (IFC [B] 1401.8) Safety scores. The values in Table 3412.8 are the required mandatory safety scores for the evaluation process listed in Section 3412.6.

TABLE 3412.8 (IFC [B] 1401.8)
MANDATORY SAFETY SCORES[a]

OCCUPANCY	FIRE SAFETY (MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
I-2	19	34	34

a.
MFS = Mandatory Fire Safety;
MME = Mandatory Means of Egress;
MGS = Mandatory General Safety.

(Portions of table not shown remain unchanged)

Reason: When initially developed, Chapter 34 did not include provisions for I-2 or H occupancies. The rationale was that the life safety system developed by NFPA was adequate for those I-2 occupancies and H occupancies were not likely to be a part of a building renovation, nor were the drafters of the original code change comfortable with development of values for an H occupancy.

Recently, ICC and ASHE have begun working together to develop changes to the IBC to remove some of the conflicts that exist between the I-Codes and the licensing and funding standards used for hospitals. Part of that effort included discussion of the process for evaluation of an existing I-2. A small group of volunteers has developed this code change to incorporate I-2 into Chapter 34's compliance alternatives.

The ongoing issue is how to identify the appropriate levels of performance and how to integrate the criteria in in Chapter 34. The following is an approach identified by the volunteers demonstrating how this can best be achieved. The original Chapter 34 used "risk factors" as an element of the analysis. Chapter 34 was developed using risk factors that formed the basis for development of the BOCA building code and the criteria in NYC Local Law 5 for high-rise business occupancies. Other occupancies were extrapolated using those numbers.

When the IBC was developed a "zero based" revision was undertaken to establish compliance as a zero in all categories of compliance in Chapter 34's compliance alternatives. Values have been inserted into the categories where Chapter 34 is silent. Additional text has been developed to describe how these categories will be satisfied and some categories have been added to address specific elements of an existing I-2 occupancy which should play a role in achieving compliance.

Because the building is an existing I-2, elements that would not be known in a new building such as the ability of the patients or the number of persons providing care are documented as part of the ongoing licensing for these facilities. (WHAT DO WE DO ABOUT CHANGE OF OCCUPANCY?)

Evaluations were performed on several existing buildings to determine the appropriateness of the scoring. Areas of evaluation which would be untenable for typical patients and other persons in an I-2 occupancy were found and successful changes to upgrade the facility were identified, although not all would pass.

Cost Impact: The increased utility of Chapter 34 to address an I-2 occupancy will significantly reduce the cost of design and review.

3412.2-G-COLLINS-CROWLEY.doc

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved as it provides another option for evaluation of Group I-2 occupancies in existing buildings. It should be noted that in Sections 3412.6.16, 3412.6.17 and 3412.6.20 it was suggested that verbiage related to the buildings that fall in a "NP" category should be noted as failing as is done in 3412.6.8.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

TABLE 3412.6.8
AUTOMATIC FIRE DETECTION VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-10	-5	0	2	6	-
A-2	-25	-5	0	5	9	-
A-4,B,E,S-2	-4	-2	0	4	8	-
I-2	NP	NP	~~0~~ NP	4	5	2

TABLE 3412.6.12
DEAD-END VALUES

OCCUPANCY	CATEGORIES			
	a	b	c	d
A-1, A-3, A-4, B, E, F, M, R, S	-2	0	2	- -4
A-2, E	-2	0	2	- -4
I-2	-2	0	2	-6

3412.6.16 Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 3412.6.16.1, the building shall be evaluated as indicated in Section 3412.6 and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 3412.6.16, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero. Facilities in Group I-2 occupancies meeting Categories a shall be considered to fail the evaluation.

3412.6.17 Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1.1. "Required sprinklers" shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.17, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2 and general safety. Facilities in Group I-2 occupancies meeting Categories a, b, c, or f shall be considered to fail the evaluation.

TABLE 3412.6.17
SPRINKLER SYSTEM VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12
I-2	NP	NP	NP	8	10	~~NA~~ NP

NP not permitted
~~NA not applicable~~

3412.6.20 Smoke Compartmentation. Evaluate the smoke compartments for compliance with Section 417.5. Using Table 3412.6.20, determine the appropriate smoke compartmentation value (*SCV*) and enter that value into Table 3412.7 under Safety Parameter 3412.6.20, Smoke Compartmentation, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Categories b or c shall be considered to fail the evaluation.

(Portions of proposal not shown remain unchanged)

Reason: During the hearing committee members pointed out that there were some inconsistencies in the way the provisions were incorporated into the code when something was shown as not permitted. This comment clarifies that where the tables indicate that an I-2 is not permitted to use that category, if the building is found to be in that category the building has failed the evaluation.

In Table 3412.6.12, a new line was created to address dead ends beyond the 35 and 70 foot limits for I-2, but similar provisions for the other occupancies were not included. This comment adds negative points for those occupancies based on a relative risk of -4 points.

There are no changes to the other tables shown, they are simply included to show how the text relates to the provisions in them.

G244-12

Final Action: AS AM AMPC____ D

G254-12
Appendix N (New)

Proposed Change as Submitted

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

Add new text as follows:

APPENDIX N
REPLICABLE BUILDINGS

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

SECTION N101
GENERAL

N101.1 Scope. The purpose of this appendix shall establish the minimum requirements for a replicable building review and approval process.

N101.2 Design. Buildings and facilities shall be designed and constructed in accordance with all applicable provisions of this code and referenced standards.

SECTION N102
DEFINITIONS

N102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

QUALIFIED AGENCY. A qualified individual, company, or jurisdiction approved by the code official.

REPLICABLE BUILDINGS. A building whose construction plans have been reviewed and deemed code compliant by an *approved* designated third party.

REPLICABLE BUILDING DESIGN. A proposed design, whether it be a new building or remodel, that is based on a given prototype to be built it in a variety of locations but that maintains consistent overall design parameters.

SECTION N103
SCOPING REQUIREMENTS

N103.1. General Design Requirements. A *replicable building* shall be based on a prototype design and several building elements that must be considered.

1. The building shall have the same use, occupancy, construction type, fire resistance, fire protection system, means of egress, and accessibility regardless of location.
2. The building form shall be consistent height and square footage with variations complying with Section N103.2
3. The building shall incorporate the same general *approved* structural design and address various regional conditions such as wind, hurricane, snow, and seismic loads.
4. The building shall have consistent basic mechanical, electrical and plumbing systems.

5. The building shall include *approved* options for various exterior of finish materials, veneers and details based on regional architectural styles. Changes to the façade shall have no impact on the operation, function or life safety requirement of the building.
6. Where the interior décor is different, the same materials, or materials of the same Class in accordance with their flame spread and smoke-developed indexes shall be used.
7. The building plans shall be reviewed and *approved* within the context of the site and other applicable, locally adopted development regulations and standards.

N103.2 Allowable Variations to the Replicable Design. The following are allowable variations to a *replicable building design*.

1. Reductions to the design height or square footage that have no impact on egress requirements.
2. Increases of no more than 5 percent to the design height or square footage to accommodate local requirements such as planning/zoning, development agreements and design image issues.
3. Modifications to the building envelope and mechanical, electrical and plumbing systems to accommodate local conditions and requirements, such as energy efficiency, ventilation, climate and local codes.

SECTION N104
REPLICABLE BUILDING REVIEW

N104.1 General. *Replicable buildings* shall be reviewed by an approved third party agency or the local jurisdiction.

N104.2. Qualified Agency Requirements. When using a third party agency or other qualified individuals the desired level of expertise provided for the review shall be approved by the code official and in accordance with one or more of the following.

1. Any *qualified agency* involved in the review shall be certified by *International Code Council* or equivalent organization for every code discipline reviewed.
2. Acceptable professional individuals, including but not limited to registered engineers or licensed architects shall have a minimum number of years of experience as determined by the jurisdiction.
3. A peer review process shall be in place requiring a registered design professional or certified building official to provide oversight of the final replicable review.
4. A uniform checklist similar to the ICC plan review records shall be used to maintain consistency in the review process.

Reason: August 2010 the International Code Council published a document titled the "IGG G1-2010 Guideline for Replicable Buildings". The intent of this guideline is to give jurisdictions a tool that they could adopt to help streamline their document review process to ensure code compliance. This code change proposal adds it to an Appendix chapter so jurisdictions have an easy way of adding this concept into their building code adoption process. The intent is to streamline the plan review process at the local level allowing the plan reviewer to focus on any state and local amendments to the International Family of Codes.

Bibliography: ICC G1 – 2010 Guideline for Replicable Buildings

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

APPENDIX N (NEW)-G-GRIEVE

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved with concerns related to the potential level of variations potentially taking away the prototypical intent of the buildings. There was also a concern that many small communities would not have a list of approved agencies and some states do not have state building codes. It was suggested that such provisions may be better suited for an appendix and perhaps this is more a planning department issue than building department.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

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

Modify the proposal as follows:

N103.2 Allowable Variations to the Replicable Design. The following are allowable variations to a *replicable building design*.

~~1. Reductions to the design height or square footage that have no impact on egress requirements.~~
1.~~2.~~ Increases of no more than 5 percent to the design height or square footage to accommodate local requirements such as planning/zoning, development agreements and design image issues.
2.~~3.~~ Modifications to the building envelope and mechanical, electrical and plumbing systems to accommodate local conditions and requirements, such as energy efficiency, ventilation, climate and local codes.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: During the Committee Hearings there were two similar proposals heard, G254 and G255, these proposals brought forth a document to be inserted as a new appendix chapter, this document is published by the International Code Council and titled the "ICC G1–2010 Guideline for Replicable Buildings".

The development of this Guideline was a collaborative effort, with representation from Building Officials representing large and small jurisdictions from across the country, ICC representatives, and at least 5 different stakeholders who are end users of the code and utilize the "proto-type concept".

The two proposals were heard concurrently with G254 heard first; this proposal took a condensed approach to converting the Guideline, while G255 was more comprehensive. The Committee noted that G255 was more detailed, and subsequently disapproved G254 on the basis that G255 would be heard in more detail. . Both proposals in the end were disapproved.

The Committee's main concern was over the variations allowed within the proposals, the one subjective item that would have given the owner/designer some latitude has been removed by this public comment, the other two items in N103.2 remain to address any locally required minor changes. This public comment addresses the committee's concerns regarding any variations. One concern was that small communities may not have a list of approved agencies to do the initial prototype plan review. There are many nationally known consulting firms that could do the review as well as the ICC or a state agency. Given the internet as a viability tool this information is readily available with a simple search.

Another item that was brought forth was that in many cases delays in permitting are caused by the planning departments and that having timely plan approval is not a building department issue thus this is not needed. While that issue may be the case in some jurisdictions, it is not for all. This proposal is to establish an appendix chapter; in most situations this would need to be adopted separately to become an enforceable code. This is a great addition to the code for communities that already have a concept such as this, or for a community thinking of drafting similar local ordinance.

Public Comment 2:

Eirene Oliphant, MCP, BRR Architecture, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

APPENDIX N
REPLICABLE BUILDINGS

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

SECTION N101
GENERAL

N101.1 Scope. The purpose of this appendix shall establish the minimum requirements for a replicable building review and approval process.

N101.2 Design. Buildings and facilities shall be designed and constructed in accordance with all applicable provisions of this code and referenced standards.

SECTION N102
DEFINITIONS

N102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

QUALIFIED AGENCY. A qualified individual~~, company, or jurisdiction~~ or organization approved by the code official.

REPLICABLE BUILDINGS~~.~~ A building ~~whose construction plans have been reviewed and deemed code compliant by an *approved* designated third party~~ utilizing a *replicable design*.

REPLICABLE ~~BUILDING~~ DESIGN. A proposed design, whether it be a new building or remodel, that is based on a given prototype to be built it in a variety of locations but that maintains consistent overall design parameters.

SECTION N103
SCOPING REQUIREMENTS

N103.1 General Design Requirements. ~~A *replicable building* shall be based on a prototype design and several building elements that must be considered.~~ Replicable buildings shall follow the provisions established in ICC G1, Guideline for Replicable Buildings.

~~1. The building shall have the same use, occupancy, construction type, fire resistance, fire protection system, means of egress, and accessibility regardless of location.~~
~~2. The building form shall be consistent height and square footage with variations complying with Section N103.2~~
~~3. The building shall incorporate the same general *approved* structural design and address various regional conditions such as wind, hurricane, snow, and seismic loads.~~
~~4. The building shall have consistent basic mechanical, electrical and plumbing systems.~~
~~5. The building shall include *approved* options for various exterior of finish materials, veneers and details based on regional architectural styles. Changes to the façade shall have no impact on the operation, function or life safety requirement of the building.~~
~~6. Where the interior décor is different, the same materials, or materials of the same Class in accordance with their flame spread and smoke-developed indexes shall be used.~~
~~7. The building plans shall be reviewed and *approved* within the context of the site and other applicable, locally adopted development regulations and standards.~~

~~**N103.2 Allowable Variations to the Replicable Design.** The following are allowable variations to a *replicable building design*.~~

~~1. Reductions to the design height or square footage that have no impact on egress requirements.~~
~~2. Increases of no more than 5 percent to the design height or square footage to accommodate local requirements such as planning/zoning, development agreements and design image issues.~~
~~3. Modifications to the building envelope and mechanical, electrical and plumbing systems to accommodate local conditions and requirements, such as energy efficiency, ventilation, climate and local codes.~~

~~**SECTION N104**~~
~~**REPLICABLE BUILDING REVIEW**~~

~~**N104.1 General.** *Replicable buildings* shall be reviewed by an approved third party agency or the local jurisdiction.~~

~~**N104.2. Qualified Agency Requirements.** When using a third party agency or other qualified individuals the desired level of expertise provided for the review shall be approved by the code official and in accordance with one or more of the following.~~

~~1. Any *qualified agency* involved in the review shall be certified by *International Code Council* or equivalent organization for every code discipline reviewed.~~
~~2. Acceptable professional individuals, including but not limited to registered engineers or licensed architects shall have a minimum number of years of experience as determined by the jurisdiction.~~
~~3. A peer review process shall be in place requiring a registered design professional or certified building official to provide oversight of the final replicable review.~~
~~4. A uniform checklist similar to the ICC plan review records shall be used to maintain consistency in the review process.~~

Commenter's Reason: The committee had several arguments for disapproving this code change. One of the reasons was that the committee felt that the matter of replicable buildings was more of a planning department issue than building department. While this may be true in many jurisdictions as the planning department will have concerns with aesthetics of the building, as far as building codes issues, prototypes are not going to vary greatly from jurisdiction to jurisdiction as the building code will vary strictly on local amendments.

It was also suggested that the provisions be better suited for an appendix. The proposed code change was to be in the appendix, not in any other location.

Another concern was that many small communities would not have a list of approved agencies and some states do not have state building codes. The proposed code change does not suggest that a jurisdiction develop a list of approved agencies but rather that the agency be approved by the code official. The code official already has the authority to determine what an "approved agency" is with regards to special inspections. Why should a "qualified agency" be any different? It would be up to the agency to prove to the code official they have the qualifications to perform the review just like it's up to the third party agency to prove their qualifications when it comes to special inspections.

The final concern expressed by the committee was the potential level of variations to the replicable design was potentially taking away from the prototypical intent of the buildings. By removing the language referencing the variations in design and in addition referencing the provisions established in ICC G1, Guideline to Replicable Buildings the concern should be addressed.

G254-12

Final Action: AS AM AMPC____ D

G255-12
Appendix N (New)

Proposed Change as Submitted

Proponent: Dru Meadows, the Green Team, Inc., representing Wal-Mart Stores, Inc. (dmeadows@thegreenteaminc.com)

Add new text as follows:

APPENDIX N
REPLICABLE BUILDINGS

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

SECTION N101
GENERAL

N101.1 Scope. The provisions of this appendix shall apply to *replicable design* for new buildings and structures and for the alteration, repair, and addition of existing buildings and structures.

SECTION N102
DEFINITIONS

N102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

APPROVED AGENCY. An independent person, firm or corporation, or other agency or organization, acceptable to the building official or authority having jurisdiction.

REPLICABLE BUILDING. Building or structure utilizing a *replicable design*.

REPLICABLE DESIGN. A prototypical design developed for application in multiple locations with minimal variation or modification.

SECTION N103
REPLICABLE DESIGN REQUIREMENTS

N103.1 Prototypical construction documents. A *replicable design* shall establish prototypical construction documents for application at multiple locations. The construction documents shall include details appropriate to each wind region, seismic design category, and climate zone for locations in which the *replicable design* is intended for application. Application of *replicable design* shall not vary with regard to the following, except for allowable variations in accordance with Section N106.1.1.

1. Use and occupancy classification
2. Building height and area limitations
3. Type of construction classification
4. Fire resistance ratings
5. Interior finishes
6. Fire protection system
7. Means of egress
8. Accessibility
9. Structural design criteria

10. Energy efficiency
11. Type of mechanical and electrical systems
12. Type of plumbing system and number of fixtures

SECTION N104
REPLICABLE DESIGN SUBMITTAL REQUIREMENTS

N104.1 General. A summary description of the *replicable design* and related construction documents shall be submitted. Where approval is requested for elements of the *replicable design* not within the scope of the *International Building Code*, the construction documents shall specifically designate the codes for which review is sought. Construction documents shall be signed, sealed and dated by the registered design professional.

N104.1.1 Architectural plans and specifications. Where approval of the architectural requirements of the *replicable design* is sought, the submittal documents shall include architectural plans and specifications as follows:

1. Description of uses and the proposed occupancy groups for all portions of the building.
2. Proposed type of construction of the building.
3. Fully dimensioned drawings to determine building areas and height.
4. Adequate details and dimensions to evaluate means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs.
5. Exit signs and means of egress lighting, including power supply.
6. Accessibility scoping provisions.
7. Description and details of proposed special occupancies such as a covered mall, high-rise, mezzanine, atrium, and public garage.
8. Adequate details to evaluate fire resistive construction requirements, including data substantiating required ratings.
9. Details of plastic, insulation, and safety glazing installation.
10. Details of required fire protection systems.

N104.1.2 Structural plans, specifications, and engineering details. Where approval of the structural requirements of the *replicable design* is sought, the submittal documents shall include details for each wind region, seismic design category and climate zone for which approval is sought; and, shall include the following:

1. Signed and sealed structural design calculations which support the member sizes on the drawings.
2. Design load criteria, including: frost depth; live loads; snow loads; wind loads; earthquake design data; other special loads.
3. Details of foundations and superstructure.
4. Provisions for required special inspections.
5. Material specifications demonstrating fire resistance criteria.

N104.1.3 Energy conservation details. Where approval of the energy conservation requirements of the *replicable design* is sought, the submittal documents shall include details for each climate zone for which approval is sought; and, shall include the following:

1. Climate zones for which approval is sought.
2. Building envelope details.
3. Building mechanical systems details.
4. Details of electrical power and lighting systems.
5. Provisions for system commissioning.

SECTION N105
REVIEW AND APPROVAL OF REPLICABLE DESIGN

N105.1 General. Proposed *replicable design* shall be reviewed by an *approved agency*. The review shall be applicable only to the *replicable design* features submitted in accordance with Section N104. The review shall determine compliance with this code and additional codes specified under Section N104.1.

N105.2 Documentation. The results of the review shall be documented indicating compliance with the code requirements.

N105.3 Deficiencies. Where the review of the submitted construction documents identifies elements where the design is deficient and will not comply with the applicable code requirements, the *approved agency* shall notify the proponent of the *replicable design*, in writing, of the specific areas of non-compliance and request correction.

N105.4 Approval. Where the review of the submitted construction documents determines that the design is in compliance with the codes designated in Section N104.1, and where deficiencies identified in Section N105.3 have been corrected, the *approved agency* shall issue a Summary Report of Approved Replicable Design. The Summary Report shall include a reference to the specific plans approved and shall include any limitations on the approved *replicable design* including, but not limited to climate zones, wind regions and seismic design categories.

SECTION N106
SITE SPECIFIC APPLICATION OF APPROVED REPLICABLE DESIGN

N106.1 General. Where site specific application of a *replicable design* which has been approved under the provisions of Section N105 is sought, the construction documents submitted to the jurisdiction shall comply with this section.

N106.1.1 Allowable Variations. Where an approved *replicable design* is proposed for use in a specific location, variations to the approved design shall be limited to the following:

1. Reductions in the building height that do not impact compliance with the means of egress requirements.
2. Reductions in the building area that do not impact compliance with the means of egress requirements.
3. Increases to height that do not exceed 5 percent of the approved replicable design or that are necessary to comply with local requirements.
4. Increases to area that do not exceed 5 percent of the approved replicable design or that are necessary to comply with local requirements.
5. Modifications to the exterior walls, roof assemblies, mechanical, electrical, or plumbing to accommodate local conditions such as climate and energy requirements of the jurisdiction.
6. Modifications *to interior finishes* which are of the same classification, or better, than those provided in the approved *replicable design*.
7. Modifications to the exterior walls which are of the same classification, or higher, than those provided in the approved *replicable design*.
8. Modifications to mechanical, electrical, or plumbing systems that increase efficiency and that do not alter type of system or fixture count.
9. Modifications as approved by the building official.

N106.2 Submittal Documents. A summary description of the *replicable design* and related construction documents shall be submitted. Construction documents shall be signed, sealed and dated by the registered design professional. Construction documents shall identify allowable variations to the *replicable design* reviewed by the *approved agency*. A statement, signed, sealed and dated by the registered design professional, that the *replicable design* submitted for local review is the same as the *replicable design* reviewed by the *approved agency* shall be submitted.

N106.2.1 Architectural plans and specifications. Architectural plans and specifications shall include the following:

1. Construction documents for variations from the *replicable design*.
2. Construction documents for portions of the building that are not part of the *replicable design*.
3. Documents for local requirements as identified by the building official.

N106.2.2 Structural plans, specifications, and engineering details. Structural plans, specifications, and engineering details shall include the following:

1. Construction documents for variations from the *replicable design*.
2. Construction documents for portions of the building that are not part of the *replicable design*.
3. Documents for local requirements as identified by the building official.
4. Soils report indicating the soil type and recommended allowable bearing pressure and foundation type.

N106.2.3 Site plans. Site plans shall include the following:

1. Size and location of all new construction and all existing structures on the site.
2. Distances from lot lines and existing buildings or structures.
3. Established street grades and proposed finish grades.

SECTION N107
SITE SPECIFIC REVIEW AND APPROVAL OF REPLICABLE DESIGN

N107.1 General. Proposed site specific application of *replicable design* shall be submitted for permit in accordance with the provisions of Chapter 1 and Appendix N.

N107.2 Site specific review and approval of *replicable design*. The building official shall verify that the *replicable design* submitted for site specific application is the same as the approved *replicable design* reviewed by the *approved agency*. In addition, the building official shall review the following for code compliance:

1. Variations, other than allowable variations, from *replicable design*.
2. Portions of the building that are not part of the *replicable design*.
3. Local requirements as identified by the building official.

Reason: This proposed code change is intended to provide the specific requirements for replicable building review, consistent with the ICC GI-2010 Guideline for Replicable Buildings. Replicable buildings use a prototypical design developed for application in multiple locations with minimal variation or modification.

ICC GI-2010 was developed to "help state and local jurisdictions—as well as owners, architects, builders and engineers—to streamline a building document review process to examine and verify replicable construction documents; thus eliminating repetitive code compliance reviews."

The ICC guideline outlines the principles of a centralized or "global" review for prototypical design elements. However, it does not provide specific requirements.

This addition is needed to provide specific requirements. This addition will expand on the objectives of the ICC guideline.

- It responds to changing technology and capabilities. As owners, architects, builders and engineers continue to utilize technology and systems to increase their efficiencies, regulatory efficiency must also continue to advance.
- It promotes efficiency. A centralized review of prototypical design elements can save considerable state and local resources and time by eliminating repetitive code-compliance reviews. Local jurisdictions can then utilize their resources to focus on reviews of complex and high-risk projects.
- It supports quality control. By coupling centralized review of prototypical design elements with a local review of unique jurisdictional requirements, replicable buildings that utilize this process can be constructed with greater consistency.

Bibliography: ICC GI-2010 Guideline for Replicable Buildings

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

APPENDIX X (NEW)-G-MEADOWS.doc

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal was disapproved based upon the previous action on G254 and with the continued concerns for variations from the prototype buildings.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Dru Meadows, theGreen Team, Inc., representing Walmart Stores, Inc., requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

Appendix N
REPLICABLE BUILDINGS

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

SECTION N101
GENERAL

N101.1 Scope. Where approved by the *building official* the provisions of this appendix shall apply to *replicable design* for new buildings and structures and for the alteration, ~~repair,~~ and addition of existing buildings and structures.

SECTION N102
DEFINITIONS

N102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

~~**APPROVED AGENCY.** An independent person, firm or corporation, or other agency or organization, acceptable to the building official or authority having jurisdiction.~~

REPLICABLE BUILDING. Building or structure utilizing a *replicable design*.

REPLICABLE DESIGN. A prototypical design developed for application in multiple locations with minimal variation or modification.

SECTION N103
REPLICABLE DESIGN REQUIREMENTS

N103.1 Prototypical construction documents. A *replicable design* shall establish prototypical construction documents for application at multiple locations. The construction documents shall include details appropriate to each wind region, seismic design category, and climate zone for locations in which the *replicable design* is intended for application. Application of *replicable design* shall not vary with regard to the following~~, except for allowable variations in accordance with Section N106.1.1.~~

1. Use and occupancy classification
2. Building height and area limitations
3. Type of construction classification
4. Fire resistance ratings
5. Interior finishes
6. Fire protection system
7. Means of egress
8. Accessibility
9. Structural design criteria
10. Energy efficiency
11. Type of mechanical and electrical systems
12. Type of plumbing system and number of fixtures

SECTION N104
REPLICABLE DESIGN SUBMITTAL REQUIREMENTS

N104.1 General. A summary description of the *replicable design* and related construction documents shall be submitted to an *approved agency*. Where approval is requested for elements of the *replicable design* not within the scope of the International Building Code, the construction documents shall specifically designate the codes for which review is sought. Construction documents shall be signed, sealed and dated by the registered design professional.

N104.1.1 Architectural plans and specifications. Where approval of the architectural requirements of the *replicable design* is sought, the submittal documents shall include architectural plans and specifications as follows:

1. Description of uses and the proposed occupancy groups for all portions of the building.
2. Proposed type of construction of the building.
3. Fully dimensioned drawings to determine building areas and height.
4. Adequate details and dimensions to evaluate means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs.
5. Exit signs and means of egress lighting, including power supply.
6. Accessibility scoping provisions.
7. Description and details of proposed special occupancies such as a covered mall, high-rise, mezzanine, atrium, and public garage.
8. Adequate details to evaluate fire resistive construction requirements, including data substantiating required ratings.
9. Details of plastic, insulation, and safety glazing installation.
10. Details of required fire protection systems.
11. Material specifications demonstrating fire resistance criteria.

N104.1.2 Structural plans, specifications, and engineering details. Where approval of the structural requirements of the *replicable design* is sought, the submittal documents shall include details for each wind region, seismic design category and climate zone for which approval is sought; and, shall include the following:

1. Signed and sealed structural design calculations which support the member sizes on the drawings.
2. Design load criteria, including: frost depth; live loads; snow loads; wind loads; earthquake design data; other special loads.
3. Details of foundations and superstructure.
4. Provisions for required special inspections.
5. ~~Material specifications demonstrating fire resistance criteria.~~

SECTION N106
SITE SPECIFIC APPLICATION OF APPROVED REPLICABLE DESIGN

N106.1 General. Where site specific application of a *replicable design* which has been approved under the provisions of Section N105 is sought, the construction documents submitted to the ~~jurisdiction~~ building official shall comply with this section.

~~**N106.1.1 Allowable Variations.** Where an approved *replicable design* is proposed for use in a specific location, variations to the approved design shall be limited to the following:~~

~~1. Reductions in the building height that do not impact compliance with the means of egress requirements.~~
~~2. Reductions in the building area that do not impact compliance with the means of egress requirements.~~
~~4. Increases to height that do not exceed 5 percent of the approved replicable design or that are necessary to comply with local requirements.~~
~~4. Increases to area that do not exceed 5 percent of the approved replicable design or that are necessary to comply with local requirements.~~
~~5. Modifications to the exterior walls, roof assemblies, mechanical, electrical, or plumbing to accommodate local conditions such as climate and energy requirements of the jurisdiction.~~
~~6. Modifications *to interior finishes* which are of the same classification, or better, than those provided in the approved *replicable design*.~~
~~7. Modifications to the exterior walls which are of the same classification, or higher, than those provided in the approved *replicable design*.~~
~~8. Modifications to mechanical, electrical, or plumbing systems that increase efficiency and that do not alter type of system or fixture count.~~
~~10. Modifications as approved by the building official.~~

N106.2 Submittal Documents. A summary description of the *replicable design* and related construction documents shall be submitted. Construction documents shall be signed, sealed and dated by the registered design professional. ~~Construction documents shall identify allowable variations to the *replicable design* reviewed by the *approved agency*~~. A statement, signed, sealed and dated by the registered design professional, that the *replicable design* submitted for local review is the same as the *replicable design* reviewed by the *approved agency* shall be submitted.

N106.2.1 Architectural plans and specifications. Architectural plans and specifications shall include the following:

1. Construction documents for variations from the *replicable design*.

2. Construction documents for portions of the building that are not part of the *replicable design*.
3. Documents for local requirements as identified by the building official.
4. Construction documents detailing the foundation system.

SECTION N107
SITE SPECIFIC REVIEW AND APPROVAL OF REPLICABLE DESIGN

N107.1 General. Proposed site specific application of *replicable design* shall be submitted ~~for permit~~ to the building official in accordance with the provisions of Chapter 1 and Appendix N.

N107.2 Site specific review and approval of *replicable design*. The building official shall verify that the *replicable design* submitted for site specific application is the same as the approved *replicable design* reviewed by the *approved agency*. In addition, the building official shall review the following for code compliance:

1. Variations~~, other than allowable variations,~~ from *replicable design*.
2. Portions of the building that are not part of the *replicable design*.
3. Local requirements as identified by the building official.

(Portions of proposal not shown remain unchanged.)

Commenter's Reason: Many areas already have some form of expedited review process for replicable buildings. The basic approach is captured in the ICC GI-2010 *Guideline for Replicable Buildings*. This proposed new Appendix provides a model process, consistent with the ICC Guidelines.

The proposal was disapproved due to concerns for variations from the prototype buildings.
--- This modification deletes the allowable variations.

Additionally, the proposal was disapproved due to concerns that it may not be useful in some jurisdictions. Small communities, for example may not have a list of approved agencies. Or, areas that already have a process may elect not to adopt this language.
--- This is proposed as an Appendix. As such, it allows flexibility in adoption as may (or may not) be appropriate for a particular jurisdiction.

Finally, this modification incorporates several revisions that respond to specific suggestions offered at the Public Hearing and subsequently. It:
--- Adds language to the scope to clarify that the building official maintains full control.
--- Deletes the definition for "approved agency" to avoid redundancy or conflict with the current IBC definition.
--- Relocates submittal requirements for fire resistance criteria.
--- Identifies submittal requirements for foundation details.
--- Clarifies to whom submissions are made.

This proposed new Appendix provides a model expedited review process. The intent is to expedite the time in permitting. Only the time. There is no intent to alter compliance requirements or circumvent the authority of the local building official.

Bibliography: ICC GI-2010 Guideline for Replicable Buildings

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

G255-12

Final Action: AS AM AMPC____ D