

G17-06/07

106.1

Proponent: Kirk Grundhal, P.E., WTCA, representing the Structural Building Components Industry

Revise as follows:

106.1 Submittal documents. Construction documents, statement of special inspections and other data shall be submitted in one or more sets with each permit application. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional. When the construction documents are in compliance with the requirements of this code and are signed and sealed denoting that the registered design professional appropriates responsibility, they shall be approved for permit.

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

Reason: The purpose of this proposed code change is to clarify the code language regarding the responsibilities and legal requirements of registered design professionals pursuant to engineering and architectural statutes enacted in each state.

When a duly registered design professional seals his or her work the legal requirements of the profession apply and by definition they shall assume responsibility for the safety and reliability of their work. While this is implied by the code, the market that registered design professionals work within suggests that this fact needs to be stated explicitly.

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

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

G18-06/07

106.1.1 (New)

Proponent: Maureen Traxler, City of Seattle, WA, representing the Washington Association of Building Officials

Add new text as follows:

106.1.1 Design data. The following design data related to proposed building code criteria shall be specified on the construction documents:

1. Occupancy groups and locations (see Section 302.1).
2. Separated occupancies (see Section 508.3.3).
3. Incidental uses: types, locations and separations (see Section 508.2).
4. Types of construction and locations (see Section 602.1).
5. Grade plane elevation, feet (meters) (see Section 502.1).
6. Building height, feet (meters) (see Section 502.1).
7. Location of first story above grade plane (see Section 202).
8. Number of stories above grade plane (see Section 202).
9. Mezzanines and locations (see Section 502.1).
10. Automatic fire sprinkler system: types and locations (see Section 903.3).
11. Standpipe system: classes and locations (see Section 905.3).
12. Fire alarm system: types and locations (see Section 907.2).

Exception: Subject to the approval of the building official, design data not necessary to obtain compliance with this code need not be specified on the construction documents.

(Renumber subsequent sections)

Reason: A critical component of any set of construction document is knowledge of the criteria assumed in the design of the building or structure. This knowledge should be made readily available to all participants in the design, review, construction and inspection of a building or structure. The best place for the criteria is the construction documents so that it is readily available. Such criteria are common in structural drawings, which typically contain structural notes outlining in detail the design loads, construction materials, special inspections and other aspects of the structural design. IBC Section 1603 on Construction Documents contains specific requirements for the documentation of structural design data including those for floor live loads, roof snow loads, wind loads and earthquake loads. A similar documentation of design data related to building code criteria is equally warranted.

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

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

G19-06/07

106.1.4 (New)

Proponent: Alan Seymour, Oregon Department of Energy

Add new text as follows:

106.1.4 Wood framing moisture content. Documentation certifying that moisture content in wood framing is less than 19 percent moisture content shall be submitted to the building official prior to installation of insulation or any interior wall board.

Reason: There needs to be a requirement that would require moisture content in wood framing to be 19 percent or less. This requirement used to be in the uniform building code, which was adopted by the state of Oregon. Although most material manufacturers require this, contractors do not adhere to it if it is not a code requirement. Nobody blames the drywall or insulation manufacturer if a moisture problem develops from improper drying of a wood framed structure. This is also a HUD requirement for manufactured housing. The challenge with putting this into the residential code as wood framing is addressed in several locations. Many people view the code as a minimum standard and do not feel obligated to do anything that is not required by code. Another reason to have it contained in the code is many trades do not have training programs and rely on code as the minimum that a building must be constructed to. As stated in Reasons above, this requirement or a modification of this requirement must be inserted into codes.

It is not necessary to specify a standard in the code, the following are provided as justification – Part 3280, Manufactured Home Construction and Safety Standards, excerpted from the Code of Federal Regulations, Housing and Urban Development - Section 3280.304 Materials

Cost Impact: This proposal is related to reducing moisture-related problems within a building. Increased levels of moisture in homes contribute to mold, which can become health issues and lead to dry rot damage in wood components of the building. Insurance for a contractor, architect, or homeowner does not cover damages due to moisture related issues.

While most molds are benign, some can cause devastating health problems and lead to dry rot in wood building components. Requiring replacement of wood components due to dry rot after a building is constructed is much more expensive to mitigate and repair than during construction of a new building.

There is an increased cost associated with the proposal. The cost for mitigation during construction would be less a fraction of the cost associated with mitigating and repairing damage. One of the mitigating measures to prevent damage from occurring again may be the measure that being proposed. Due to the magnitude of the potential problems, a cost cannot be associated with this proposal.

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

G20-06/07

106.3.1, 106.4

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

106.3.1 Approval of construction documents. When the building official issues a permit where construction documents are required, the construction documents shall be ~~approved, endorsed~~ in writing ~~or by stamp, as and stamped~~ “Reviewed for Code Compliance.” ~~Such endorsed and stamped construction documents shall not be changed, modified or altered without authorization from the building code official. Work shall be done in accordance with the approved construction documents.~~ One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or a duly authorized representative.

106.3.1.1 106.4 Amended construction documents. ~~Work shall be installed in accordance with the approved construction documents, and any~~ Changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be “new” to this code, it is not new to the I-Code family, since it

already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on correlation of the construction document provisions of the IBC. A section-by-section discussion follows:

106.3.1: The intent of this proposed change is to provide correlation with current Section 106.4.1 of the *International Fuel Gas Code* and *International Mechanical Code*, Section 106.5.1 of the *International Plumbing Code* and Section 106.3.1 of the *International Private Sewage Disposal Code* which include the second sentence being added here.

This revision will make it clear that, once the construction documents have been endorsed, no unapproved changes to them may be made. This proposal will also clarify the intent of the code that these provisions only apply to construction documents that are required by the code.

A similar correlation proposal has been submitted to the *International Residential Code* and *International Existing Building Code*.

106.3.1.1 106.4 : This proposed change relocates the requirements of current Section 106.4 to immediately follow Section 106.3.1 for the purpose of creating a more sequential order of the sections addressing construction documents. Note that The leading portion of the first sentence from Section 106.4 that states, "Work shall be installed in accordance with the approved construction documents, and any", is being deleted because it becomes redundant based on the revision to Section 106.3.1.

A similar correlation proposal has been submitted to the *International Residential Code* and *International Existing Building Code*.

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

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

G21-06/07

106.3.4.1

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing the American Institute of Architects

Revise as follows:

106.3.4.1 General. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge.

The owner shall notify the building official, ~~shall be notified in writing, by the owner~~ if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

To the extent required by the appropriate licensing authority, the registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

Where structural observation is required by Section 1709, the statement of special inspections shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur (see also duties specified in Section 1704).

Reason: This is an editorial change emphasizes that it is the owner that must notify the building official about any changes and to put the authority of the design professional in responsible charge under the authority of the licensing authority. For example, an architect may review documents prepared by another design professional, but is limited in the authority over such documents by the authority granted to the architect. Such limits are common among various professional licenses and the code does not intend to grant authority to such an individual that exceeds their statutory authority.

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

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

G22-06/07

109.1

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

109.1 General. The building code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the

duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be "new" to this code, it is not new to the I-Code family, since it already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

The purpose of this proposed change is to provide correlation with the current text of Section 106.2 of the *International Fire Code*. The added text will provide the code official with the authority to conduct the inspections required by the code.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Plumbing Code*, *International Mechanical Code* and *International Fuel Gas Code*.

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

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

G23-06/07

109.3.6, 109.3.7 (New), Chapter 35

Proponent: Tony Crimi, A.C. Consulting Solutions, Inc., representing the International Firestop Council

1. Revise as follows:

109.3.6 Fire-resistant penetrations. Protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved. The building official is authorized in accordance with Section 109.4 to allow inspection of penetrations of the types specified in 712.3.1.2 and 712.4.1.1.2 by an approved inspection agency in accordance with ASTM E2174 Standard Practice for On-Site Inspection of Installed Fire Stops, or to adopt other policies and procedures in compliance with the intent and purpose of this code.

2. Add new text as follows:

109.3.7 Fire-resistive joints. Protection of joints in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved. The building official is authorized in accordance with Section 109.4 to allow inspection of joints of the types specified in 713.3 and 713.4 by an approved inspection agency in accordance with ASTM E2393 Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barrier, or to adopt other policies and procedures in compliance with the intent and purpose of this code.

(Renumber subsequent sections)

3. Add new standards to Chapter 35 as follows:

ASTM

E2174-04 Standard Practice for On-site Inspection of Installed Fire Stops

E2393-04 Standard practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers

Reason: Add a reference to 2 new Consensus Standards developed at ASTM for inspection of installed penetration firestop systems, fire-resistive joints, and perimeter fire barrier systems.

The Code already mandates proper installation of penetration firestops to maintain the integrity of vertical and horizontal fire or smoke separations. This Standard identifies effective techniques for the field inspection of these systems, and provides consistent procedures needed to conduct and document the on-site assessment of the installations

Firestop and joint system designs and materials are increasing in number and sophistication. The current code relies heavily on Installers, Designers, and Code Officials to verify proper system selection and installation. In response to this reality, two Standard Practice documents were developed within the ASTM process to allow inspections of through-penetration firestops, joints, and perimeter fire barrier systems to be conducted in a thorough and consistent manner, with standardized report formats, regardless of the Trade or individual conducting the inspection. Part of the impetus for the development of that standard was the recognition that jurisdictions sometimes do not have sufficient time or resources themselves to ensure that all penetrations and joints are firestopped properly. In any project, the number of joints and penetrations can range from hundreds to a few thousand in a single building. The addition of these new Standards to the Code would provide and identify a means for both large and small building departments to have effective tools that could be used to instruct either their own staff or third party inspection agencies on good methodologies for inspection of these important systems. The inclusion of consensus standards would ensure that required inspections are conducted consistently, fairly, and adequately, while also standardizing inspection reports, so that they will be of a uniform high quality.

The proposed code change provides the code official the option of having a third party (e.g. approved inspection agency) conduct the inspection of joints and penetrations, while preserving the option to utilize other policies and procedures they may already have in place.
The current editions of ASTM E2174 and ASTM E2393 are dated 2004

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

Analysis: Results of review of the proposed standards will be posted on the ICC Website by August 20, 2006.

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

G24-06/07

109.7 through 109.7.3 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

109.7 Evaluation and follow-up inspection services. Prior to the approval of a prefabricated construction assembly having concealed work and the issuance of a permit, the building official shall require the submittal of an evaluation report on each prefabricated construction assembly, indicating the complete details of the installation, including a description of the system and its components, the basis upon which the system is being evaluated, test results and similar information and other data as necessary for the building official to determine conformance to this code.

109.7.1 Evaluation service. The building official shall designate the evaluation service of an approved agency as the evaluation agency, and review such agency's evaluation report for adequacy and conformance to this code.

109.7.2 Follow-up inspection. Except where ready access is provided to installations, service equipment and accessories for complete inspection at the site without disassembly or dismantling, the building official shall conduct the in plant inspections as frequently as necessary to ensure conformance to the approved evaluation report or shall designate an independent, approved inspection agency to conduct such inspections. The inspection agency shall furnish the building official with the follow-up inspection manual and a report of inspections upon request, and the installation shall have an identifying label permanently affixed to the system indicating that factory inspections have been performed.

109.7.3 Test and inspection records. Required test and inspection records shall be available to the building official at all times during the fabrication of the installation and the erection of the building; or such records as the building official designates shall be filed.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family and improve the correlation among the I-Codes through the code development process. In order to ensure that this correlation process will continue in an orderly fashion, it is also anticipated that future code development and maintenance of the administrative provisions of the I-Codes family will be overseen by a single, multi-discipline code development committee.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. The intent of this correlation effort is not to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes. While some proposed text may be "new" because it was judged by the AHC to be necessary to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

The purpose of this proposed change is to provide needed administrative provisions not currently in the IBC, the source text for which is the current text of Sections 107.1.2, 107.1.2.1, 107.1.2.2 and 107.1.2.3 of the *International Fuel Gas Code*, *International Mechanical Code* and *International Plumbing Code*. These proposed sections would provide the code official with an alternative to the physical inspection by the code official in the plant or location where prefabricated components are made by providing the code official with the option of accepting an evaluation report and special inspection services from an approved agency detailing such inspections. These evaluation reports could serve as the basis from which the code official will determine code compliance.

The provisions also require that all testing and inspection records related to a fabricated assembly would need to be filed with the code official in order to maintain a complete and legal record of the assembly of the building and its systems. A similar correlation change has been submitted to the *International Existing Building Code*, *International Residential Code*, *International Private Sewage Disposal Code* and *International Wildland-Urban Interface Code*.

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

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

G25-06/07

110.1

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

110.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid.

Exceptions:

1. Certificates of occupancy are not required for work exempt from permits under Section 105.2.
2. Accessory buildings or structures.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be “new” to this code, it is not new to the I-Code family, since it already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

The purpose of this proposed change is to provide correlation with Section 110.1 of the *International Residential Code*. The added text in this section will make it clear that though the certificate of occupancy is the legal notification from the department that the building may be occupied for its intended purpose the granting of a certificate of occupancy may not be construed as indicating that no violations of the code or other jurisdictional laws exist if, in fact they do. Any certificate that would imply such approval would be considered void. The added exceptions make it clear that certain work and structures do not need a certificate.

A similar proposal has also been submitted to Section 110.1 of the *International Existing Building Code*.

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

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

G26-06/07

111.3

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

111.3 Authority to disconnect service utilities. The building official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and ~~the codes referenced the~~ referenced codes and standards set forth in Section 102.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by Section 111.1 or 111.2. The building official shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be “new” to this code, it is not new to the I-Code family, since it already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

The purpose of this proposal is to provide correlation with Section 111.3 of the *International Residential Code*. The added text will provide the code official with the needed authority to order that service utilities be disconnected the utility service has been connected without the necessary approvals required by the code. A similar proposal has been submitted to the *International Existing Building Code*.

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

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

G27-06/07

113.2.1 through 113.2.3 (New), 113.4

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise and add new text as follows:

SECTION 113 VIOLATIONS

113.1 Unlawful acts. (No change to current text)

113.2 Notice of violation. (No change to current text)

113.2.1 Service. A notice of violation issued pursuant to this code shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service, mail, or by delivering the same to, and leaving it with, some person of responsibility upon the premises. For unattended or abandoned locations, a copy of such notice of violation shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the notice of violation shall be mailed by certified mail with return receipt requested or a certificate of mailing, to the last known address of the owner, occupant or both.

113.2.2 Unauthorized tampering. Signs, tags or seals posted or affixed by the building code official shall not be mutilated, destroyed or tampered with or removed without authorization from the building code official.

113.2.3 Abatement of violation. In addition to the imposition of the penalties herein described, the building code official is authorized to institute appropriate action to prevent unlawful construction or to restrain, correct or abate a violation; or to prevent illegal occupancy of a structure or premises; or to stop an illegal act, conduct of business or occupancy of a structure on or about any premises.

113.3 Prosecution of violation. (No change to current text)

113.4 Violation penalties. ~~Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.~~ Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the building code official, or of a permit or certificate used under provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be "new" to this code, it is not new to the I-Code family, since it already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on the improvement and correlation of the violation provisions of the IBC. A section-by-section discussion follows:

113.2.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC, the source text for which is Section 109.2.1 of the *International Fire Code*.

The section would provide the code official with useful guidance on what are generally recognized as legally sound methods of service, in descending order of preference.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Mechanical Code*, *International Property Maintenance Code*, *International Energy Conservation Code* and *International Fuel Gas Code*.

113.2.2: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC, the source text for which is Section 109.2.4 of the *International Fire Code*.

When a building element, component or system is found to be in violation and is removed from service by the code official, notice and warning of such action is typically given by signs, tags or seals which must remain in place until the hazard is abated as approved by the code official. The section would provide the code official with a useful enforcement tool by prohibiting any action that would diminish the effectiveness of the warnings since the safety of the occupants may depend on the warning signs posted by the code official remaining intact and in place.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Energy Conservation Code* and *International Fuel Gas Code*.

113.2.3: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC, the source text for which is Section 109.3.1 of the IFC.

The added section would make it clear that, despite the assessment of a penalty in the form of a fine or imprisonment against a violator, the violation itself must still be corrected. Failure to make the necessary corrections would result in the violator being subject to additional penalties as described in proposed Section 113.4.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Plumbing Code*, *International Energy Conservation Code*, *International Wildland-Urban Interface Code* and *International Fuel Gas Code*.

113.4: The purpose of this proposed change is to correlate the text for violation penalties among the I-Codes based on the source text in Section 109.3 of the *International Fire Code* which the AHC considered more comprehensive in that a standard fine or other penalty as deemed appropriate by the jurisdiction is prescribed.

Additionally, the section would codify the principle that "each day that a violation continues...shall be deemed a separate offense" for the purpose of applying the prescribed penalty in order to facilitate prompt abatement of the violation.

A similar correlating proposal has been submitted to *International Existing Building Code*, *International Residential Code*, *International Energy Conservation Code*, *International Property Maintenance Code*, and *International Wildland-Urban Interface Code*.

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

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

G28-06/07

114.2.1 (New), 114.3

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

SECTION 114 STOP WORK ORDER

114.1 Authority. (No change to current text)

114.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

114.2.1 Emergencies. Where an emergency exists, the building code official shall not be required to give a written notice prior to stopping the work.

114.3 Unlawful continuance Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be "new" to this code, it is not new to the I-Code family, since it already exists in one or more of the International Codes, unless otherwise noted. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on the stop work provisions of the IBC. A section-by-section discussion follows:

114.2.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC the source text for which is Section 111.3 of the *International Fire Code*.

This section would give the code official the authority to stop the work in dispute immediately when, in his or her opinion, there is an unsafe emergency condition that has been created by the work. The need for the written notice is suspended for this situation so that the work can be stopped immediately. After the work is stopped, immediate measures should be taken to correct the work at issue.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Energy Conservation Code*, and *International Wildland-Urban Interface Code*.

114.3: The purpose of this proposed change is to correlate the text for failure to comply with stop work orders among the I-Codes based on the source text in Section 111.4 of the *International Fire Code* which the AHC considered more comprehensive in that a standard fine or other penalty as deemed appropriate by the jurisdiction is prescribed.

A similar correlating proposal has also been submitted to the *International Existing Building Code*, *International Residential Code*, *International Energy Conservation Code*, and *International Wildland-Urban Interface Code*.

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

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

G29–06/07

115.6 (New), 115.6.1 (New), 115.7 (New), 115.8 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

115.6 Placarding. Upon failure of the owner or person responsible to comply with the notice provisions within the time given, the code official shall post on the premises or on defective equipment a placard bearing the word “Condemned” and a statement of the penalties provided for occupying the premises, operating the equipment or removing the placard.

115.6.1 Placard removal. The building official shall remove the condemnation placard whenever the defect or defects upon which the condemnation and placarding action were based have been eliminated. Any person who defaces or removes a condemnation placard without the approval of the code official shall be subject to the penalties provided by this code.

115.7 Abatement. The owner, operator, or occupant of a building, premises or equipment deemed unsafe by the code official shall abate or cause to be abated or corrected such unsafe conditions either by repair, rehabilitation, demolition or other approved corrective action.

115.8 Evacuation. The building official shall be authorized to order the immediate evacuation of any occupied building deemed unsafe when such building has hazardous conditions that present imminent danger to building occupants. Persons so notified shall immediately leave the structure or premises and shall not enter or reenter until authorized to do so.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family, improve their correlation among the I-Codes through the code development process and recommend to the ICC Board the mechanism by which code development maintenance of the continuing coordination of administrative provisions can best be achieved.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. While some proposed text may be “new” to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on correlation of the unsafe structures provisions in the IBC. A section-by-section discussion follows:

115.6, 115.6.1: The purpose of this proposed change is to provide needed administrative provisions not currently in the IBC, the source texts for which are Sections 108.4 and 108.4.1 of the *International Property Maintenance Code*.

Proposed Section 115.6 would provide the code official with a useful administrative and enforcement tool by providing for the posting of an unsafe building as being condemned and also the means for having such designation removed by the code official. Because the safety of the occupants may depend on the warning signs posted by the code official remaining in place, proposed Section 115.6.1 would be an important tool placing any other person who removes or defaces a placard in violation of the code and subject to its penalties.

A similar correlating proposal has been submitted to the *International Existing Building Code*, *International Residential Code*, *International Fire Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code* and *International Wildland-Urban Interface Code*.

115.7: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC, the source text for which is Section 110.4 of the *International Fire Code*.

The section would provide the code official with a useful administrative tool by making it clear that the responsible party must take action to abate hazardous systems or conditions. The section also provides guidance on acceptable abatement measures.

A similar correlating proposal has been submitted to the *International Existing Building Code*, *International Residential Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code* and *International Wildland-Urban Interface Code*.

115.8: The purpose of this proposed change is to provide a needed administrative provision not currently in the IBC, the source text for which is Section 110.2 of the *International Fire Code*.

The proposed section would provide the code official with an important tool in the event that a building or system in a building is determined to be in such condition that life safety is compromised and immediate evacuation is needed. The severe and immediate danger anticipated in this proposed section dictates such extreme measures to protect public health, safety and welfare.

A similar correlating proposal has been submitted to the *International Existing Building Code*, *International Residential Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code* and *International Wildland-Urban Interface Code*.

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

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

G30-06/07 202

Proponent: Juli Case, Industrial Fabrics Association International

Revise definition as follows:

SECTION 202 DEFINITIONS

AWNING. An architectural fabric projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight, ~~rigid skeleton~~ frame structure over which a covering is attached.

Reason: To clarify the code. The addition of the word "fabric" differentiates awnings made from fabrics and other pliable materials from those made of other building materials. The change from "lightweight rigid skeleton" structure to "lightweight frame" structure is a simplification of current verbiage.

Members of the Industrial Fabrics Association International, including the Lightweight Structures Association; the Professional Awning Manufacturers Association; the Tent Rental Division; and the Banner, Flag & Graphics Association, worked jointly on assessing terminology. Participants reflected backgrounds in engineering, architecture, end product manufacturing and component suppliers.

The change reflected in the proposed definition is already being used in the membrane structure industry, having been published in the *Fabric Architecture* and *Industrial Fabric Products Review* magazines, published on the Professional Awning Manufacturers Association website, and used by the IFAI International Achievement Awards program.

Bibliography:

"By Any Other Name," *Industrial Fabric Products Review*, volume 91, Number 1, January 2006.
"A Defining Moment for Fabric Structures," *InTents*, volume 12, number 1, February/March 2005
"Defining the Basics," *InTents*, Volume 13, Number 1, February/March 2006
Professional Awning Manufacturers Association website, <http://www.awninginfo.com>
IFAI International Achievement Awards 2006 entry brochure

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

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

G31-06/07 202

Proponent: Juli Case, Industrial Fabrics Association International

Revise definition as follows:

SECTION 202 DEFINITIONS

CANOPY. An architectural fabric projection that provides weather protection, identity or decoration and is supported by the building to which it is attached and at the outer end by not less than one stanchion. A canopy is comprised of a ~~rigid~~ lightweight frame structure over which a covering is attached.

Reason: To clarify the code. The addition of the word "fabric" differentiates canopies made from fabrics or other pliable materials from those made of other building materials. The change from "lightweight rigid skeleton" structure to "lightweight frame" structure is a simplification of current verbiage.

Members of the Industrial Fabrics Association International, including the Lightweight Structures Association; the Professional Awning Manufacturers Association; the Tent Rental Division; and the Banner, Flag & Graphics Association, worked jointly on assessing terminology. Participants reflected backgrounds in engineering, architecture, end product manufacturing and component suppliers.

The change reflected in the proposed definition is already being used in the membrane structure industry, having been published in the *Fabric Architecture* and *Industrial Fabric Products Review* magazines, published on the Professional Awning Manufacturers Association website, and used by the IFAI International Achievement Awards program.

Bibliography:

"By Any Other Name," *Industrial Fabric Products Review*, volume 91, Number 1, January 2006.
"Standardized Industry Definitions" *Fabric Architecture*, Volume 18, No. 2, March/April 2006
"A Defining Moment for Fabric Structures," *InTents*, volume 12, number 1, February/March 2005
"Defining the Basics," *InTents*, Volume 13, Number 1, February/March 2006
Professional Awning Manufacturers Association website, <http://www.awninginfo.com>
IFAI International Achievement Awards 2006 entry brochure

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

Analysis: How would the revisions to the definition affect the application of Sections 406.5.2, 406.5.2.1 and 3105.4?

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

G32-06/07
202

Proponent: Juli Case, Industrial Fabrics Association International

Revise definition as follows:

SECTION 202
DEFINITIONS

MARQUEE. ~~A permanent roofed lightweight frame structure attached to and supported by the building and that projects into the public right of way or series of perimeter poles or masts covered with fabric or pliable material adjoined to one or more structures.~~

Reason: To clarify the code. Marquees are used in tents and other fabric structures, to connect one structure to another or to act as an entrance. The current definition does not reflect that use.

Members of the Industrial Fabrics Association International, including the Lightweight Structures Association; the Professional Awning Manufacturers Association; the Tent Rental Division; and the Banner, Flag & Graphics Association, worked jointly on assessing terminology. Participants reflected backgrounds in engineering, architecture, end product manufacturing and component suppliers.

The change reflected in the proposed definition is already being used in the membrane structure industry, having been published in the *Fabric Architecture* and *Industrial Fabric Products Review* magazines, published in the IFAI Procedural Handbook for the Safe Installation and Maintenance of Tentage, and used by the IFAI International Achievement Awards program.

Bibliography:

"By Any Other Name," *Industrial Fabric Products Review*, volume 91, Number 1, January 2006.
"A Defining Moment for Fabric Structures," *InTents*, volume 12, number 1, February/March 2005
"Defining the Basics," *InTents*, Volume 13, Number 1, February/March 2006
IFAI Procedural Handbook for the Safe Installation and Maintenance of Tentage
IFAI International Achievement Awards 2006 entry brochure

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

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

G33-06/07
202; IEBC 202

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

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND IEBC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Delete and substitute as follows:

SECTION 202
DEFINITIONS

~~**REGISTERED DESIGN PROFESSIONAL.** An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.~~

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A registered design professional engaged by the owner to review and coordinate certain aspects of the project, as determined by the building official, for compatibility with the design of the building or structure, including submittal documents prepared by others, deferred submittal documents and phased submittal documents.

PART I – IEBC

Add new text as follows:

**SECTION 202
DEFINITIONS**

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A registered design professional engaged by the owner to review and coordinate certain aspects of the project, as determined by the building official, for compatibility with the design of the building or structure, including submittal documents prepared by others, deferred submittal documents and phased submittal documents.

Reason: This proposal is in response to Recommendation 28 of the “Final Report on the Collapse of the World Trade Center Towers” (NIST NCSTAR 1). The recommendation assumes that the IBC already defines “design professional in responsible charge,” which is not the case. This proposal will provide a definition in the IBC as well as the IEBC. Note that the term “registered design professional in responsible charge” is used throughout the IBC (i.e., Sections 106.3.4.1, 106.3.4.2, 1704.1, 1704.1.1, 1704.1.2, 1704.7, 1704.8, 1704.9, 1705.1, 1708.4, 1708.5, 1709.2 and 1709.3) as well as the IEBC. Note also that the term is typically not used in other codes published by the International Code Council. Specially, there are no instances of the term “registered design professional in responsible charge” in the 2003 IECC, IFC, IFGC, IMC, IPC or IRC.

The proposed definition is consistent with the role the IBC and IEBC currently specify for the registered design professional in responsible charge, which is typically the review and coordination of submittal documents prepared by others, deferred submittal documents and phased submittal documents for compatibility with the design of the building or structure. Refer to Section 106.3.4 in the IBC and IEBC for specific language.

A related proposal before the Structural Committee revises references to “registered design professional in responsible charge” in the structural chapters of the IBC to eliminate conflicts with Section 106.3.4. Sections 1704.7, 1704.8 and 1704.9 use “registered design professional in responsible charge” when referring to the registered design professional responsible for the structural design of a building or structure. Section 1708.5 uses the same term when referring to the registered design professional responsible for the structural design of a designated seismic system in a building or structure. Section 106.3.4.1, however, states that the registered design professional in responsible charge is “responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.” Sections 1704.7, 1704.8, 1704.9 and 1708.5 are in conflict with Section 106.3.4.1 by using the same term for registered design professionals with responsibilities other than as specified in Section 106.3.4.1.

The IBC currently uses the term “registered design professional” in approximately 50 code sections, in addition to the code sections using the term “registered design professional in responsible charge.” “Registered design professional” refers to an individual responsible for an aspect of the design of a building or structure. Typical examples are the architect, structural engineer, mechanical engineer, electrical engineer, civil engineer, fire protection engineer and others. Referring, instead, to such an individual as a registered design professional in responsible charge is an exercise in stating the obvious. Such individuals are in responsible charge of their individual responsibilities in the design of the building or structure. The term “in responsible charge” is implicit in the term “registered design professional.”

The proposal before the Structural Committee will eliminate the conflict between Section 106.3.4, which assigns responsibilities to a registered design professional acting as the registered design professional in responsible charge of a project, and other sections of the IBC, which use the same term but do not intend that the responsibilities in Section 106.3.4 also apply.

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

Analysis: The term ‘registered design professional’ is currently in the definition section of the IBC, IRC, IFC, IPC, IMC, IFGC, IPSDC and the IZC. The Existing Building Committee will only hear if they want the definition in the IEBC. The decision for the wording of the definition will be the purview of the General Committee.

The General Committee will determine the wording of the definition. The IEBC committee will only be determining if this definition should also be included in Chapter 2 of the IEBC.

PART I – IBC

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

PART II – IRC

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

**G34–06/07
202; IRC R202**

Proponent: Rick Davidson, City of Hopkins, Minnesota

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND IBC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

PART I – IBC

**SECTION 202
DEFINITIONS**

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, except that a basement shall be considered as a story above grade plane where the finished surface of the floor above the basement is meets one of the following:

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

PART II – IRC

Revise as follows:

**SECTION 202
DEFINITIONS**

STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement is meets any one of the following:

1. ~~More~~ Is more than 6 feet (1829 mm) above grade plane.
2. ~~More~~ Is more than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter.
3. ~~More~~ Is more than 12 feet (3658 mm) above the finished ground level at any point.

Reason: IBC. This revision is proposed merely to coordinate with the proposed revision to the IRC.

IRC. It appears that the intent of this code section is that the three conditions are to be treated as 1 or 2 or 3. But as written, it seems that the all three are applicable since the word “or” does not appear after each one. There are numerous provisions in the IRC that have similar applications that the text is much more clear. These would include R301.2.2.2.2, R308.4(7), R308.6.5, or R311.5.6.3.

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

PART I – IBC

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

PART II – IRC

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

**G35–06/07
202**

Proponent: Juli Case, Industrial Fabrics Association International

Add new definition as follows:

**SECTION 202
DEFINITIONS**

TEMPORARY STRUCTURE. Any structure which will be used for a period of not more than 180 days within a 12-month period on a single premise.

Reason: To define a product not addressed by the Code.

Temporary structures such as tents are often installed on a temporary basis, in a number of locations throughout the year. The wording suggested in the definition provides a foundation for assessing the permanence of the structure and, through it, the necessary code requirements.

Members of the Industrial Fabrics Association International, including the Lightweight Structures Association; the Professional Awning Manufacturers Association; the Tent Rental Division; and the Banner, Flag & Graphics Association, worked jointly on assessing terminology. Participants reflected backgrounds in engineering, architecture, end product manufacturing and component suppliers.

The change reflected in the proposed definition is already being used in the membrane structure industry, having been published in the *Fabric Architecture* and *Industrial Fabric Products Review* magazines

Bibliography:

- “By Any Other Name,” *Industrial Fabric Products Review*, volume 91, Number 1, January 2006.
- “Standardized Industry Definitions” *Fabric Architecture*, Volume 18, No. 2, March/April 2006
- “A Defining Moment for Fabric Structures,” *InTents*, volume 12, number 1, February/March 2005
- “Defining the Basics,” *InTents*, Volume 13, Number 1, February/March 2006

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

Analysis: How would the inclusion of this definition affect the application of Sections 107.1 and 3103 of the IBC? Also note that the language found in Section 107.1 is also found in the IRC and IEBC.

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

G36-06/07 202

Proponent: Juli Case, Industrial Fabrics Association International

Revise definition as follows:

SECTION 202 DEFINITIONS

TENT. ~~Any structure, enclosure or shelter which is constructed of canvas fabric or pliable material supported in any manner except by air or the contents it protects.~~

Reason: To revise outdated material. "Canvas" is a fabric term that applies to a woven fabric, traditionally of cotton. This material has not been used in tent construction for decades. The phrase "fabric or pliable material" would apply to tents made of either coated fabric or laminated fabric constructions, were dominate this product niche.

Members of the Industrial Fabrics Association International, including the Lightweight Structures Association; the Professional Awning Manufacturers Association; the Tent Rental Division; and the Banner, Flag & Graphics Association, worked jointly on assessing terminology. Participants reflected backgrounds in engineering, architecture, end product manufacturing and component suppliers.

The change reflected in the proposed definition is already being used in the membrane structure industry, having been published in the *Fabric Architecture* and *Industrial Fabric Products Review* magazines and IFAI Procedural Handbook for the Safe Installation and Maintenance of Tentage

Bibliography: "By Any Other Name," *Industrial Fabric Products Review*, volume 91, Number 1, January 2006.

"Standardized Industry Definitions" *Fabric Architecture*, Volume 18, No. 2, March/April 2006

"A Defining Moment for Fabric Structures," *InTents*, volume 12, number 1, February/March 2005

"Defining the Basics," *InTents*, Volume 13, Number 1, February/March 2006

IFAI Procedural Handbook for the Safe Installation and Maintenance of Tentage, IFAI,

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

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

G37-04/05 202

Proponent: William W. Stewart, FAIA, Chesterfield, MO, representing himself

Add new definition as follows:

SECTION 202 DEFINITIONS

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with open space on at least two sides.

Reason: Townhouse is only used once in the IBC and that one time is very important since it is in the scope of the IBC. This definition is exactly the same as in the IRC and is necessary to eliminate any possible confusion as to which code governs for a specific structure.

Owners, zoning boards and developers can have their own idea of what a townhouse is. That idea can vary between various parts of the country. This needs to be in the IBC.

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

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

G38 - 06/07

303.1, 305.2, 308.5.2; IRC R101.2.1 (New), IFC [B] 202

Proponent: Paul K. Heilstedt, PE, Chair, representing ICC Code Technology Committee (CTC)

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL COMMITTEE AND THE IRC BUILDING/ENERGY COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

PART I – IBC

1. Revise as follows:

303.1 Assembly Group A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation.

Exceptions:

1. A building used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.
2. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
3. A room or space used for assembly purposes that is less than 750 square feet (70 m²) in area and is accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

Assembly occupancies shall include the following:

A-1 Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture theaters
Symphony and concert halls
Television and radio studios admitting an audience
Theaters

A-2 Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls
Night clubs
Restaurants
Taverns and bars

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:

Adult care facilities in accordance with Section 308.5.1
Amusement arcades
Art galleries
Bowling alleys
Places of religious worship
Community halls
Courtrooms
Dance halls (not including food or drink consumption)
Exhibition halls
Funeral parlors
Gymnasiums (without spectator seating)
Indoor swimming pools (without spectator seating)
Indoor tennis courts (without spectator seating)
Lecture halls
Libraries
Museums
Waiting areas in transportation terminals
Pool and billiard parlors

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
Tennis courts

A-5 Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:
Amusement park structures

Bleachers
Grandstands
Stadiums

2. Revise as follows:

305.2 Day-care Child Care Facility. The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five children older than 2¹/₂ years of age for less than 24 hours, shall be classified as a Group E occupancy.

A child care facility that provides care for more than five but no more than 100 children 2½ years or less of age, for less than 24 hours, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as a Group E occupancy.

3. Revise as follows:

308.5.2 Child care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2½ years of age or less shall be classified as Group I-4.

~~Exception: A child day care facility that provides care for more than five but no more than 100 children 2½ years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior,~~ in accordance with Section 305.2 shall be classified as Group E.

PART II – IRC

Add new text as follows:

R101.2.1 Care facilities. Where permitted in accordance with the *International Building Code*, the provisions of the *International Residential Code* shall be permitted to apply to adult care facilities, child care facilities and residential care/assisted living facilities as defined in the *International Building Code*.

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

This proposed change is a result of the CTC’s investigation of the area of study entitled “Day Care/Adult Care/Assisted Living”. The scope of the activity is noted as:

Study issues associated with Day Care/Adult Care and Assisted Living facilities with an emphasis on the number of occupants in relation to the supervision, and the determination of the resident's capability of responding to an emergency situation without physical assistance from the facility's supervision.

CTC notes the use of inconsistent and undefined terms in the codes which warrants further investigation. CTC notes the need for coordination of occupancy classifications within the IBC and the need for coordinating text in the IRC. This proposal is submitted in response to these issues. The CTC further notes that this area of study is not complete with regards to other aspects of the scope of the activity.

Part I - IBC

IBC 303.1: Coordination with the exception to Section 308.5.1 which states that adult care facilities where the occupants are capable of responding to an emergency are considered Group A-3.

IBC 305.2 & 308.5.2: Coordination with the exception to Section 308.5.2 for child care facilities. Where these spaces have a door leading directly outside, the spaces are to be considered Group E.

Part II - IRC

IRC R101.2.1: In IBC Section 310.1, under R-3, both the 2003 and 2006 editions of the IBC permit adult and child care facilities within a single family home to comply with the IRC. This effectively provides for a limited change in scope to the IRC and should be acknowledged within the IRC. A reference to the IBC, in lieu of specific text in the IRC describing such facilities, will allow for subsequent changes to the requirements in the IBC without a necessary correlative change to the IRC as the IRC refers to the IBC for the applicable requirements.

Bibliography: Interim Report No. 1 of the CTC, Area of Study – Day Care/Adult Care/Assisted Living, March 9, 2006.

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

PART I – IBC

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

PART II – IRC

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

G39–06/07

304.1 (IFC [B] 202)

Proponent: Thomas Kinsman, T.A. Kinsman Consulting Company, Bellevue, WA

1. 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, education, professional or service-type transactions, including storage of records and accounts.

Exception: Classrooms contained in educational facilities for students above the 12th grade with an occupant load greater than 75 shall be classified as Group A-3 assembly.

Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- 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

Reason: As the code is currently written, Section 303.1 does not include “education”, in the list of general uses included in assembly occupancies. Sections 304 and 305 includes education depending on whether or not the students are over the 12th grade or not. The 2003 IBC Commentary states that classrooms with an occupant load of more than 50 should be classified as A-3 occupancies. Because classrooms can easily be of a size to generate an occupant load of 50 - 60, such classrooms (and the building that contain them) can readily become A-3 occupancies. The impact of this with respect to Table 503 (allowable height and areas) is quite dramatic, and so warrants clarification. The underlying issue with this code change is whether or not the Commentary best reflects the intent of the code.

The purpose of this code change proposal (as well as a companion code change on Section 303) is to improve the code’s clarity regarding the appropriate occupancy group for educational facilities above the 12th grade. The proposal sets an occupant load limit of 75 for a group B classroom.

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

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

G40–06/07

304.1; IFC [B] 202

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

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, adult education, professional or service-type transactions, including storage of records and accounts.

Exception: Classrooms contained in educational facilities for students above the 12th grade with an occupant load greater than 49 shall be classified as Group A-3 assembly.

Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- 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

Reason: As the code is currently written, Section 303.1 does not include "education" in the list of general uses included in assembly occupancies. Both Sections 304 and 305 include education depending on whether or not the students are over the 12th grade or not. Although not directly supported in the code, the 2003 IBC Commentary states that classrooms with an occupant load of 50 or more should be classified as A-3 occupancies. Because classrooms are commonly of such a size to generate an occupant load of 50 to 60, such classrooms (and the building that contains them) can readily become A-3. The impact of this with respect to Table 503 (allowable height and areas) is quite dramatic, and so warrants clarification. The underlying issue with this code change is whether or not the Commentary best reflects the intent of the code.

The purpose of this code change proposal (as well as a companion code change) is to improve the code's clarity regarding the appropriate occupancy group for educational facilities above the 12th grade. If the Commentary does indeed reflect the intent of the code, this proposal should have merit. If the Commentary does not reflect the intent, then this change should be denied and the companion code change be considered.

Cost Impact: The code change proposal will not change the cost of construction if it is determined to meet the intent of the current code. If it is deemed more restrictive than the current code, it will increase the cost of construction.

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

G41-06/07

304.1, IFC [B] 202, 503.1.4 (New), 508.3.1.3, 508.3.2.3, 508.3.3.4

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

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

2. Add new text as follows:

503.1.4 Ambulatory surgery centers. In Group B ambulatory surgery centers multistory construction shall only be permitted where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

3. Revise as follows:

508.3.1.3 Separation. No separation is required between accessory occupancies or the main occupancy.

Exceptions:

1. Group H-2, H-3, H-4 or H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.3.3.
2. Group B ambulatory surgery centers shall be separated from other tenants and other Group B Occupancies by 1-hour fire barriers in accordance with Section 706 or horizontal assemblies in accordance with Section 711.

508.3.2.3 Separation. No separation is required between occupancies.

Exceptions:

1. Group H-2, H-3, H-4 or H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.3.3.
2. Group B ambulatory surgery centers shall be separated from other tenants and other Group B Occupancies by 1-hour fire barriers in accordance with Section 706 or horizontal assemblies in accordance with Section 711.

508.3.3.4 Separation. Individual occupancies shall be separated from adjacent occupancies in accordance with Table 508.3.3.

Exception: Group B ambulatory surgery centers shall be separated from other tenants and other Group B Occupancies by 1-hour fire barriers in accordance with Section 706 or horizontal assemblies in accordance with Section 711.

Reason: Create specific requirements for Ambulatory Surgery Centers.

The code is currently unclear on the appropriate classification of ambulatory surgery centers. The particular healthcare related occupancy does not fall under the classification of I-2 due to the fact that care is not provided on a 24 hour basis. However, these occupancies render multiple patients incapable of self preservation as part of their normal function. Due to the incapacity of patients, this occupancy is not completely characteristic of the existing B occupancy classification without the following modifications.

The added requirement to new Section 503.1.4 would require ambulatory surgery centers that are housed in multiple story, unprotected buildings (Type IIB, IIIB and IVB) to have an approved automatic sprinkler system. This restriction would only apply to ambulatory surgery centers. Occupants who are incapable of self preservation will require assistance to evacuate in a fire situation. Evacuation is greatly complicated in a multistory building. To mitigate this condition, sprinklers should be required when there is no passive protection of the structure.

The added exceptions to sections 508.3.1.3, 508.3.2.3 and 508.3.3.4 would require ambulatory surgery centers to be separate from other occupancies and other B occupancies by a 1 hour separation. Patients in the areas are being operated on. A one hour separation would allow the physician the additional time required to terminate an operation and stabilize the patient before evacuating.

Previous unsuccessful proposals have placed surgery centers with the I occupancies. These have been defeated. These buildings are not full fledged hospitals in that they do not have 24 hour care and they do not provide the scope of care that hospitals do. But they are also not typical doctors offices because patients are rendered incapable of self preservation; patients are often under general anesthesia; and often patients cannot be evacuated immediately because they are in the middle of a procedure. This proposal recognizes that surgery centers are somewhere in between. Most characteristics are like a B occupancy, while some additional safeguards are required to mitigate the special conditions of this centers.

Outpatient surgery centers are becoming more and more prevalent as certain invasive surgeries move out of hospitals and into business occupancies. The proposed changes are consistent with the requirements found within the National Fire Protection Associates publication 101, Life Safety Code. These requirements are in the Ambulatory healthcare chapter. This code is a requirement for participation in Medicaid/ Medicare.

Cost Impact: The code change proposal would increase the cost of construction for ambulatory surgery centers who are not reimbursed by Medicaid/Medicare. Ambulatory surgery centers who are reimbursed by Medicaid/Medicare must meet NFPA 101 already.

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

G42-06/07

304.1, 304.2 (New), 308.3, 308.6 (New), (IFC [B] 202)

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

1. 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
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash

Civic administration
Clinic—outpatient (See also Section 308.3)
Dry cleaning and laundries: pick-up and delivery stations
and self-service
Educational occupancies for students above the 12th grade
Electronic data processing
Laboratories: testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists,
physicians, engineers, etc.)
Radio and television stations
Telephone exchanges
Training and skill development not within a school or
academic program

2. Add new definitions as follows:

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

CLINIC-OUTPATIENT. Clinic-Outpatient is a medical office or facility serving patients who are capable of self-preservation, or not more than five patients who may be incapable of self-preservation.

3. Revise as follows:

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

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

~~A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2.~~

4. Add new text as follows:

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

AMBULATORY HEALTH CARE FACILITY. An ambulatory Health Care Facility is a Clinic-outpatient facility for more than five patients who are incapable of self-preservation. An ambulatory health care facility provides service on a less than 24-hour basis.

DETOXIFICATION FACILITY. Detoxification facilities serve patients who are provided treatment for substance abuse and who may be incapable of self-preservation or who may be harmful to others.

NURSING HOMES. Nursing homes are long-term care facilities, including both intermediate care facilities and skilled nursing facilities, serving persons who may be incapable of self-preservation.

Reason: This proposal will provide; greater clarity, better justification for protection requirements, and will better align with other mandated national standards.

The IBC is lacking definitions to terms in Sections 304 and 308. Definitions for Clinic-outpatient, Detoxification facilities, Nursing homes, and a new definition for Ambulatory health care facilities would offer greater clarity to the IBC. The IBC does not maintain the level of safety for patients who could be equally incapacitated, but because of the method of determining occupancies, one occupancy would have none of the protection features as the other would have. This proposal will establish a method for determining the requirements for patient safety that is commensurate with the patient's capabilities rather than an arbitrary time factor. This proposal will also eliminate conflicts that otherwise exist with other standards that are applicable to these facilities.

Within the previous ICBO codes adopted by 27 western states were provisions that maintained equitable levels of safety for patients whether in a hospital or an outpatient clinic when conducting surgical procedures that would render patients incapable of self-preservation. These levels of protection are also established in the NFPA 101 Life Safety Code which is used throughout the world for health care standards. The agency responsible for federal funding of health care facilities, Certification of Medicare and Medicaid Services (CMS), also provide requirements which require ambulatory health care facilities (outpatient clinics) that render patients incapable of self-preservation to be protected as a health care facility.

Furthermore, NFPA 101 and CMS are more restrictive yet, in that the 101 requires health care protection when there are more than four patients, and CMS simply states that any time that one patient is incapable of self-preservation the facility shall be classified as a health care facility.

The process that renders patients incapable of self-preservation occurs in both hospitals and ambulatory health care facilities (outpatient clinics) with various numbers of patients and at various rates within a 24-hour period. The fact that certification rules limit ambulatory health care facilities to a maximum procedure duration of not more than ninety minutes, does not lessen the prep time or recovery time which cumulatively could last up to six hours. During this six-hour period, ambulatory health care facilities (outpatient clinics) are no different than hospitals. Whether a single patient occupies a hospital for more than 24 hours, or several patients, cumulatively, occupy an ambulatory health care facility for the same period of time, the incapability for self-preservation is the same to each and all of these patients. It is for this reason that this proposal is also submitted. A 24-hour time period should not be the criteria for determining the classification of an occupancy when the safety parameters for patients who may be incapable of self-preservation for up to six hours could be so extreme. The criteria should be determined by the patient's capability for self-preservation.

Bibliography:

1997 edition, UBC /ICBO, Section 308.1 Division 1.2 (Occupancy classification for outpatient clinics)
2000 edition, 101 Life Safety Code, Sections 20.1.1.1.4 20.1.1.3 (Standards for Ambulatory health care facilities)
CFR 42, 416.44 (b) Certification of Medicare and Medicaid Services (CMS) (Rules for any number of patients who are not capable of self-preservation)
2003 edition, IBC as amended by Oregon, 2004 edition, OSSC Section 304.1 and 308.3

Cost Impact: For those states that are legally in compliance with the rules for outpatient clinics (ambulatory health care facilities) there should not be any increase in the cost of construction. For those states that use the model language of the IBC to construct ambulatory health care facilities as clinic-outpatient facilities, there would be a cost increase. There is also a cost increase when facilities are built without the required protection needed to be certified and then after the fact attempt to become certified for federal funding.

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

G43-06/07

305.2, 308.5.2 (IFC [B] 202)

Proponent: John Haberek, California State Firefighters Association

Revise as follows:

305.2 Day care. The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five children older than 2¹/₂ years of age capable of responding to an emergency situation without physical assistance from staff, shall be classified as a Group E occupancy.

308.5.2 Child care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2¹/₂ years of age or less or a facility that provides educational, supervision or personal care services for more than five children older than 2¹/₂ years of age where occupants are not capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 2¹/₂ years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

Reason: This proposed code change provides clarification that an E Occupancy classification is meant to be used only for children physically or cognitively capable of responding to an emergency situation. The 2003 IBC Commentary, Volume 1 indicates that children less than 2 ½ years of age are generally incapable of responding to emergencies and therefore need to be placed in an occupancy with a higher level of protection (Group I-4). Children over 2 ½ years of age with physical or cognitive impairments that render them incapable of responding to emergency situations can often be placed in day care programs. By nature of their impairments, they require the higher level of life safety protection afforded in Group I-4 and it would be inappropriate to place them in a Group E occupancy.

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

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

G44-06/07

306.1 (IFC [B] 202)

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

Revise as follows:

306.1 Factory Industrial Group F. Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified as a Group H hazardous or ~~Group S storage~~ occupancy. Operations that produce combustible dusts shall be classified as Group H-2 occupancies.

Reason: The list of examples of Group F-1 occupancies in Section 306.2 can be misleading. Many operations, to include woodworking, furniture production and food processing, can produce combustible dusts by definition in Section 307.2. Section 307.4 states, "Buildings or structures containing materials that pose a deflagration hazard or hazard from accelerated burning shall be classified as Group H-2." Combustible dusts are included in the associated product list. Whereas all of the other listed materials have maximum allowable quantities in Table 307.1(1), the presence of specified amounts of hazardous materials per control area generally dictates the occupancy classification. Since combustible dusts have no maximum allowable quantity, any such materials when dispersed in air in the proper proportions that could be ignited, qualify as combustible dusts. Accordingly, it must be demonstrated on a project-by-project basis that collection, filtration and maintenance provisions will mitigate the production of combustible dusts for a given operation. Once this has been accomplished, a given occupancy may qualify as a moderate hazard Group F-1 occupancy. Additionally, the Group S reference has been removed. Buildings that contain process related functions are not classified as Group S occupancies. If such buildings also contain storage facilities, those portions would be appropriately classified and the building would be regarded as a mixed occupancy building in accordance with the provisions of Section 508.3. Approval of this proposal will clarify the very unique combustible dust implications that are potentially associated with many factory industrial operations.

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

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

G45-06/07

308.3 (IFC [B] 202)

Proponent: Gerald Anderson, City of Overland Park, KS

Revise as follows:

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

Hospitals

~~Nursing homes (both intermediate care facilities and skilled nursing facilities)~~

Mental hospitals

Detoxification facilities

Health Care Centers for ambulatory patients receiving outpatient medical care that render the patient incapable of unassisted self preservation.

Nursing homes (both intermediate-care facilities and skilled nursing facilities) that provide care on a 24 hour basis.

A facility of this type caring for five or less persons shall be classified as Group R-3 or shall comply with the *International Residential Code*.

Child care facilities that provide care on a 24-hour basis for children 2 1/2 years of age or less. A facility of this type caring for five or less persons shall be classified as Group R-3 or shall comply with the *International Residential Code*.

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

308.3.1 Child care facility. ~~A child care facility that provides care on a 24-hour basis to more than five children 2¹/₂ years of age or less shall be classified as Group I-2.~~

Reason: The purpose of this code change is to clarify the code and to clearly state that health care facilities that render patients incapable of self preservation as part of their overall care shall be consider as I-2 occupancies. What separates an I-2 facility from other types of occupancies is the fact that within this occupancy we find people of all ages who are incapable of unassisted self-preservation. For that reason and that reason alone the code places more stringent code requirements on these types of facilities. Most recently a lot has been made about the "24 hour clause". When it comes to addressing patients who are incapable of self preservation this component does not make a facility more safe or of less concern. An emergency room in a hospital typically does not treat patients for an extended period of time, yet I know of no one who would suggest that an emergency room should be view as anything other than an I-2. Why would we then suggest that an outpatient facility which may render patients incapable of self-preservation as part of the overall care be classified as anything other than an I-2.

When looking at Nursing homes (both intermediate and skilled) and child care facility, I suggest that the same problem exist. However, since my main focus at this time is to have the code address the health care centers, I have left the 24 hour clause in for these types of facilities.

I have also limited the reference to the R-3 use to those the nursing home and child care facilities caring for 5 for less people. Other types of facilities caring for five or less people would then be designated as some other occupancy type, most likely a group B. The R-3 reference seems inappropriate.

Classifying these types of health care facilities that do day surgeries as use group B is simply not the right thing to do. In the commentary on Group B uses its stated that "the occupants, because of the nature of the use, are alert, ambulatory, conscious, aware of their surroundings and generally familiar with the buildings features, particularly the means of egress". These facilities don't meet the first criteria so how can we classify them as use group B. Group B's can also be located in wood frame buildings, with no fire protection or fire alarm system. Where are the life features for the non-ambulatory patients?

Some comments raised in previous code changes were essentially suggesting that we (the code) do not have to worry about these types of facilities because they are covered by other widely adopted codes and standards in the health care industry or that they are covered by state licensing regulations. This may be true, however, it does not provide any sort of justification for this body not to address facilities of this type. It almost begs the question that if other codes and standards address these types of occupancies then why don't the I-codes.

Cost Impact: Unknown. Undoubtedly there will be cost associated with having to provide for the additional life safety features which are needed for these types of facilities.

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

G46–04/05

308.5.1 (IFC [B] 202)

Proponent: Wayne R. Jewell, City of Southfield, MI

Revise as follows:

308.5.1 Adult care facility. A facility that provides accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

Exception: A facility where occupants are capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group ~~A-3~~ R-3.

Reason: When I had proposed change G-32-00 I had a serious typo an "A" was placed where an "R" should have been. I never intended for these facilities to be considered an Assembly Group and this is a correction of my error. The language in Section 310.1 for R-3 uses does speak to these uses.

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

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

G47–06/07

310.1 (IFC [B] 202)

Proponent: Richard Lyman, Sandy City Fire Department, representing the Utah Chapter

Revise as follows:

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

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

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

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

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

- Apartment houses
- Boarding houses (not transient)
- Convents
- Dormitories
- Fraternities and sororities
- Hotels (nontransient)
- Monasteries
- Motels (nontransient)
- Vacation timeshare properties

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

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

Buildings that do not contain more than two dwelling units.

Adult facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

Congregate living facilities with 16 or fewer persons.

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

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

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

Reason: This change would establish a threshold of 10 for occupancies such as a bed and breakfast or a ski rental which would otherwise be considered an R-1. If a single family dwelling was converted into a bed and breakfast with two bedrooms accommodating just 4 guests the requirements for an R-1 are triggered. One of the Legacy Codes established a threshold of 10 for congregate residences. This concept was brought back into the IBC in the 2006 Code for an R-2 but not an R-1. Because of the transient nature of these types of occupancies and the lack of familiarity with surroundings a maximum of 10 rather than 16 is proposed.

Utah has a statewide amendment to the 2003 IBC that currently addresses R-1 and R-2 occupancies with a similar exception. This statewide amendment would be eliminated with the approval of the proposed change.

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

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

G48-06/07

310.1 (IFC [B] 202)

Proponent: Kevin Kelly, National Fire Sprinkler Association

Revise as follows:

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

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

Boarding houses (transient)

Hotels (transient)

Motels (transient)

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

Apartment houses

Boarding houses (not transient)

Convents

Dormitories

Fraternalities and sororities

Hotels (nontransient)

Monasteries

Motels (nontransient)

Vacation timeshare properties

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

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

- Buildings that do not contain more than two dwelling units.
- Adult facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Congregate living facilities with 16 or fewer persons.
- Adult care and child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*.

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

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

Reason: It is the intent that R-4 residential occupancies be constructed in accordance with the requirements of Group R-3 except as otherwise provided by the IBC. R-4 as currently written would be no different than R-3. The reference to the IRC is not needed in R-4 since the requirements are covered in more detail under R-3, especially with the addition of "Congregate living facilities" and the reference to the IRC for adult and child care facilities. If the language is left as is then all R-4 occupancies could be constructed in accordance with the IRC. R-4 occupancies represent a high risk group and therefore need the additional requirements provided by the IBC. Based on a July 2005 NFPA report, "CHARACTERISTICS OF HOME FIRE VICTIMS", the very old and the very young are at highest risk of death from home fires. Based on 1999-2002 experience, children under age 5 are 74% more likely to die in a home fire than the average person. Older adults age 65 or over are more than twice as likely to die as the average person.

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

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

G49-06/07

311.2, 311.3 (IFC [B] 202)

Proponent: Janet Reed, City of Phoenix, Arizona – Development Services Department

Revise as follows

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

- Aerosols, Levels 2 and 3
- Aircraft repair hangar
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- High Piled storage, Class IV and High Hazard
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.6)
- Photo engravings

Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

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

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

Reason: Based on several problems with spec buildings being proposed and eventually turning into high pile storage facilities resulting in several International Fire Code provisions being required after the building is built. It is recommended that questioning the specific use of any spec building where the zoning would allow the use of storage. In effect, high pile storage is a sub use of the S-1 and S-2 occupancies now listed in the code and this sub use triggers several more code requirements such as 100 feet spacing of access doors, special sprinklers systems, and smoke and heat vents. All of these items can have an adverse effect on the structure.

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

Analysis: The list for what items are considered High Hazard Commodities and Class 1 through IV Commodities is located in IFC, Section 2303.

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

G50-06/07

402.2

Proponent: Sheldon Rucinski, Schirmer Engineering Corporation

Revise definition as follows:

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

MALL. A ~~roofed or covered~~ common pedestrian area within a covered mall building that serves as access for two or more tenants and not to exceed three levels that are open to each other.

Reason: A new trend is emerging in the area of covered malls, commonly referred to as "towne centers" or "life style centers." For all intense purposes these are look and smell just like any covered mall building out there with the exception that the common pedestrian area is "uncovered" to allow the occupants to experience the outside.

The deletion of the words "roofed or covered" from the definition of mall will allow for these designs. All other provisions in Section 402 will still apply, e.g., type of construction, open yard, fire alarm, sprinkler, etc.

Concerns have been expressed that without a roofed over common pedestrian area, the building is not a covered mall, but when one thinks about it - what is lost by uncovering the common pedestrian area? Does the building become inherently less safe without a roof over the common pedestrian area?

A building without a roof will provide one of the best smoke control systems available. Without the roof over the common pedestrian area all covered mall buildings, not just 3-story covered mall buildings, will be equipped with a form of smoke control.

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

Analysis: Would the definition of mall still be limited in application due to the term "covered mall building" remaining in the definition?

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

G51-06/07

402.2, 402.9

Proponent: Kerwin Lee, Rolf Jensen & Associates, Inc. (RJA)

Revise as follows:

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

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

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

OPEN MALL. An unroofed common pedestrian way serving a number of tenants not exceeding three levels. Circulation at levels above grade are permitted to include open exterior balconies leading to exits discharging at grade. The minimum floor and roof openings width above grade shall be 20 feet.

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

402.9 Smoke control. A smoke control system shall be provided where required for atriums in Section 404. A smoke control system is not required in an open mall building.

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

The key to this concept is to have a covered mall building without a roof over the mall area. The definition of an open mall requires a minimum dimension of 20 feet from grade through the roof. This dimension aligns with Section 402.5.1, minimum mall width for egress. This provides a dimensional value for the required open portion. The open portion would be required from the lowest/grade level to the roof. This will provide ventilation from the lowest level. The intent of this requirement should not prevent the use of pedestrian bridges across the opening.

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

Cost Impact: The code change proposal will have no significant impact, potential savings based on design.

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

G52-06/07

402.6.1 (New)

Proponent: Daniel E. Nichols, New York State Department of State

Add new text as follows:

402.6.1 Reduced open space. The permanent open space of 60 feet (18 288 mm) shall be permitted to be reduced to not less than 40 feet (12 192 mm), provided the following requirements are met:

1. The reduced open space shall not be allowed for more than 75 percent of the perimeter of the covered mall building and anchor buildings.
2. The exterior wall facing the reduced open space shall have a minimum fire-resistance rating of 3 hours.
3. Openings in the exterior wall facing the reduced open space shall have opening protectives with a minimum fire protection rating of 3 hours
4. Group E, H, I, or R occupancies are not within the covered mall building or anchor stores.

Reason: The purpose of the code change is to allow covered mall buildings and anchor buildings to reduce the required open space around the building as already permitted in buildings with similar fire hazards.

Unlimited area buildings, where permitted in Section 507, all require an open space around the building of 60 feet to prevent exposure fire spread. Section 507.5 permits sprinklered one- and two-story B, M, F, and S buildings, one-story A-4 buildings, and Type II buildings serving as a group A-3 or as a movie theater to reduce the open space requirement to 40 feet. This reduction is permitted in these locations when the exterior wall in the reduced space area is rated for 3 hours and doesn't include more than 75 percent of the building perimeter.

Looking at the definition of a covered mall building, a vast majority of the uses described therein are found within a covered mall building. Therefore, it can be assumed that the fire load within a mall is similar than the fire load permitted in a code compliant unlimited area building. Since the intent of the open space requirement is to prevent fire spread from one building to another and the fire loads are similar, allowing covered mall buildings to be subject to the same separation requirements as other unlimited area buildings does not reduce the level of fire protection afforded.

Exception #4 is not found in Section 507.5 and has been added to keep this code change proposal aligned with the occupancies permitted to use Section 507.5. Group E, H, I, and R occupancies are not prohibited from being within a covered mall building or an anchor store. This exception would prohibit the use of the reduced open space is one of the occupancies was part of the covered mall building or anchor store design.

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

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

G53-06/07

402.8 (New)

Proponent: Daniel E. Nichols, New York State Department of State

Add new text as follows:

402.8 Interior Finish. Interior wall and ceiling finishes within the mall, exits, and exit passageways shall have a minimum flame spread rating of Class B per Section 803. Interior floor finishes shall meet the requirements of Section 804.

(Renumber subsequent sections)

Reason: The purpose of this code change proposal is to clearly state the interior finish requirements within a covered mall building.

Currently, Sections 402 and 803 do not specifically state the requirements for interior finish within a covered mall building. Since a covered mall building is actually a mixed-use building, the most restrictive occupancy requirements should apply. However, some projects that we have dealt with have stated the mall portion of the covered mall building conforms with Group M requirements since a covered mall building is a Group M with all other uses being accessory.

The use of a mall space has gone beyond its original intent of providing a wide-open walking space to communicate people amongst the various shops and stores within. Mall spaces have become locations to assemble to watch a dance recital, attend a fashion show, or for the local radio station to run a promotion in. It has become clear that mall spaces are assembly spaces themselves, not taking into account the tenant assembly spaces (restaurants, movie theaters, paintball arenas, etc.) that open into them. Therefore, it seems logical to protect the mall space similar to Group A requirements.

The code change proposal adds the performance requirements of interior wall and ceiling finishes into Section 402 and references the code user to Section 803 for specifics. This method of stating performance requirements and referencing to Section 803 is currently found in Section 404 for atriums. Coincidentally, Section 404.7 also requires atrium spaces to have Class B fire spread rating for wall and ceiling finishes. Based on the type of activity occurring in both covered mall buildings and atrium spaces, it is appropriate that these to special use areas correlate with the interior wall and ceiling finish requirements of sprinklered Group A occupancies.

The 1997 Southern Building Code (Section 413.7.1) stated that a covered mall building has a Group M occupancy classification and all other occupancy types, including Group A, were accessory to the Group M. The current definition of a covered mall building has its source from the 1996 BNBC which talks of the components of a covered mall building but doesn't set Group A occupancies accessory to the retail uses. With the recognition of a mall being both a retail and entertainment venue (as specified in the definition), including specific requirements for interior wall and ceiling finishes that mirror the requirements for sprinkler Group A uses is appropriate.

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

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

G54–06/07

402.9

Proponent: Sarah A. Rice, Schirmer Engineering Corporation

Revise as follows:

402.9 Smoke control. Where a covered mall building contains an atrium, a smoke control system shall be provided where required for atriums in accordance with Section 404.4.

Exception: A smoke control system is not required in covered mall buildings, when an atrium connects only two stories.

Reason: The issue is - when does a covered mall building require a smoke control system. As currently written the code has been interpreted as always mandating a smoke control system for any covered mall building regardless of configuration. The reference in Section 402.9 for the code user goes to the Atrium Section (404) seems to be easily missed.

While some may see the proposed language as redundant we feel it clarifies the intent and application of the smoke control provisions as they apply to covered mall buildings. The proposed language does 2 things:

- 1) Makes it clear that only when a covered mall building has an atrium a smoke control system might be needed. This language will make it clear that a single story covered mall building will never be required to have a smoke control system, as it won't have an atrium, and
- 2) For those multi-story covered mall buildings, the inclusion of the exception in Section 402.9 (which is mirrored after the exception in 404.4) allows the code user to know that the smoke control requirements are only for covered mall buildings having 3 stories. This seeks to eliminate the confusion that seems to exist when the user is sent to Section 404.

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

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

G55–06/07

402.11.1, Chapter 35

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

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

1. Revise as follows:

402.11.1 Materials. Children's playground structures shall be constructed of noncombustible materials or of combustible materials that comply with the following:

1. Fire-retardant-treated wood.
2. Light-transmitting plastics complying with Section 2606.
3. Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.
4. Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 8 when tested as an assembly in the maximum thickness intended for use.
5. Textiles and films complying with the flame propagation performance criteria contained in NFPA 701.
6. Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, windows, panels, junction boxes, pipes, slides and decks) meeting UL 94 V-2 classification having a maximum heat release rate of not greater than 100 kW when tested in accordance with UL 94-NFPA 289 using the 20kW burner output for 15 minutes.
7. Ball pool balls, used in soft-contained play equipment structures, having a maximum heat release rate not greater than 100 kW when tested in accordance with UL 1975. The minimum specimen test size shall be 36 inches by 36 inches (914 mm by 914 mm) by an average of 21 inches (533 mm) deep, and the balls shall be held in a box constructed of galvanized steel poultry netting wire mesh.
8. Foam plastics shall be covered by a fabric, coating or film meeting the flame propagation performance criteria of NFPA 701.
9. The floor covering placed under the children's playground structure shall exhibit a Class I interior floor finish classification, as described in Section 804, when tested in accordance with NFPA 253.

2. Add standard to Chapter 35 as follows:

NFPA

289-06 Standard Method of Fire Test for Room Fire Growth Contribution of Individual Fuel Packages

Reason: The purpose is to replace UL 94 with Standard NFPA 289.

The UL 94 Standard Test for Flammability of Plastic Materials for Parts in Devices and Appliances is a small-scale test that is not intended for evaluating the flammability of the plastic structures covered by this application.

UL 94 is a small-scale test that evaluates the flammability characteristics of ½ by 5-inch plastic strips subjected to a ¼ inch test flame. No correlation has been established between UL 94 flammability classifications and the performance of large plastic structures exposed to larger ignition sources.

NFPA 289 is a more true-to-scale fire response test where products acting as individual fuel packages are evaluated for heat release when exposed to a specified gas ignition source. The rate of heat release from the burning sample is determined by the oxygen consumption technique. NFPA 289 is a much more appropriate standard for evaluating the flammability performance of playground structures. This test method is very similar to UL1975, the test Standard for kiosks in covered mall building in Section 402.10, but its Scope is not limited to Foamed Plastics. The proposed 20kW input and 100 kW maximum heat release rate is similar to the UL1975 requirement for kiosks in Section 402.10. This is far and away a better test method than UL 94 for evaluating the flammability performance of these structures.

Bibliography: IBC 402.10, NFPA 289 draft standard (<http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=289>)

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

Analysis: The edition of the standard proposed was not available for review at the time the monograph was published.

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

G56-06/07

402.11.1, Chapter 35

Proponent: Marcelo M. Hirschler, GBH International, representing the American Fire Safety Council

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

1. Revise as follows:

402.11.1 Materials. Children's playground structures shall be constructed of noncombustible materials or of combustible materials that comply with the following:

1. Fire-retardant-treated wood.
2. Light-transmitting plastics complying with Section 2606.
3. Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.
4. Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 8 when tested as an assembly in the maximum thickness intended for use.
5. Textiles and films complying with the flame propagation performance criteria contained in NFPA 701.
6. Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, windows, panels, junction boxes, pipes, slides and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 94 or exhibiting a peak rate of heat release not exceeding 400 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation at a thickness of 6 mm.
7. Ball pool balls, used in soft-contained play equipment structures, having a maximum heat release rate not greater than 100 kW when tested in accordance with UL 1975. The minimum specimen test size shall be 36 inches by 36 inches (914 mm by 914 mm) by an average of 21 inches (533 mm) deep, and the balls shall be held in a box constructed of galvanized steel poultry netting wire mesh.
8. Foam plastics shall be covered by a fabric, coating or film meeting the flame propagation performance criteria of NFPA 701.
9. The floor covering placed under the children's playground structure shall exhibit a Class I interior floor finish classification, as described in Section 804, when tested in accordance with NFPA 253.

2. Add standard to Chapter 35 as follows:

ASTM E1354-04a Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter

Reason: The ASTM E 1534 test (cone calorimeter) is known to be a good predictor of full scale fire performance. Recent tests were conducted in which polyethylene materials (typically used for these components) complying with UL 94 V2 and UL 94 V0 classifications were tested using test method ASTM E 1354 in the vertical orientation at 6 mm thickness and the results (in duplicate) showed peak rates of heat release as follows:

Polyethylene UL 94 V2: 356.8 and 357.6 kW/m²
Polyethylene UL 94 V0: 328.8 and 318.1 kW/m²

Earlier data had already shown that non fire retarded pure polyethylene can give peak rates of heat release that exceed 1,000 kW/m², something found in several publications, including the following two: (a) Hirschler, M. M., "Heat release from plastic materials," Chapter 12a, in Babrauskas, V. and Grayson, S. J. (Eds.), Heat Release in Fires, (1992), pp. 375-422, Elsevier, London, UK and (b) Hirschler, M.M., "Flammability and Fire Performance", Chapter 13 in "PVC Handbook", Ed. C.E. Wilkes, J.W. Summers & C.A. Daniels, Carl Hanser, Cincinnati, OH, 2005, pp. 419-481.

The standard referenced has already been approved for use in the IFC (Chapter 8).

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

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

G57-06/07

403.1.1 (New)

Proponent: Lawrence G. Perry, AIA, BOMA International

Add new text as follows:

403.1.1 Special design requirements. All buildings having an occupied floor level located more than 420 feet (128 m) above the lowest level of fire department vehicle access shall be designed using the *ICC Performance Code for Buildings and Facilities*.

Reason: There will undoubtedly be a large number of code change proposals this cycle seeking to introduce new code requirements for 'mega' high-rise buildings. To date, these issues have been addressed in a piecemeal fashion, with no concerted effort to assess the impact and effectiveness of the various pieces, or to validate requirements based on any rational cost-benefit analysis.

By mandating the use of the *ICC Performance Code*, any new mega high-rise building will require review and analysis by all of the 'stakeholders' in the project.

This code change has been noted as 'increasing the cost' of construction; while use of the Performance Code will likely incur additional up-front design costs, the impact on the construction cost will depend on the design solutions utilized to meet the agreed-upon objectives for the project.

Note that in many cases, the performance-based design will likely utilize portions of the 'prescriptive' I-codes and reference standards. The local jurisdiction (both the building and fire department) are active stakeholders in the process, and will have an active role in determining the goals and objectives for the project, and in approving the resulting design solutions.

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

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

G58-06/07

403.3.1

Proponent: George Thomas, P.E., CBO, City of Pleasanton, representing the Tri-Chapters Code Committee and Laura Blaul, Orange County Fire, representing the California Fire Chiefs Association

Revise as follows:

403.3.1 Type of construction. The following reductions in the minimum construction type allowed in Table 601 shall be allowed as provided in Section 403.3:

1. For buildings not greater than 420 feet (128 m) in height, Type IA construction shall be allowed to be reduced to Type IB.

Exception: The required fire-resistance rating of ~~columns supporting floors~~ the structural frame shall not be allowed to be reduced.

2. In other than Groups F-1, M and S-1, Type IB construction shall be allowed to be reduced to Type IIA.
3. The height and area limitations of the reduced construction type shall be allowed to be the same as for the original construction type.

Reason: It is only logical that if the fire rating for a column in a high rise building is not permitted to be reduced due to the presence of automatic sprinklers, then beams that frame into such columns should likewise retain their full fire-resistive rating. An inconsistency in this regard has occurred with the approval of code change G53-04/05, which only retains the full fire-resistance for the column portion of the structural frame. We believe that beams framing into columns in buildings required to be of Type IA construction should retain a 3-hour fire resistance, because the beams can play an equal or greater role in collapse prevention under fire conditions than would be demanded of the column portion of the structural frame.

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

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

Proponent: Richard Schulte, Schulte & Associates

Add new text as follows:

403.3.1 Type of construction. The following reductions in the minimum construction type allowed in Table 601 shall be allowed as provided in Section 403.3:

- 1. For buildings not greater than 420 feet (128 m) in height, Type IA construction shall be allowed to be reduced to Type IB.

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

- 1. Type IA construction shall be allowed to be reduced to Type IB construction in portions of the building which are classified as light hazard as defined in NFPA 13.
- 2. ~~In other than Groups F-1, M and S-1, Type IB construction shall be allowed to be reduced to Type IIA.~~
- 2. Type IB construction shall be allowed to be reduced to Type IIA construction in portions of the building which are classified as light hazard as defined in NFPA 13.
- 3. The height and area limitations of the reduced construction type shall be allowed to be the same as for the original construction type.

Reason: The purpose of this change is to permit the required fire resistance ratings for portions of a high rise building where the average fire load does not exceed 10 pounds (wood equivalent) per square foot to be reduced by 1 hour.

The intensity of a fire which develops in portions of a building with a fire load of 10 pounds per square foot is roughly equivalent to a 1 hour exposure to the ASTM E119 time-temperature curve. Based upon this, providing Type IIA construction for office and residential portions of buildings which are 180 feet or less in height and Type IB construction for office and residential portions of buildings which are greater than 180 feet in height should provide more than adequate structural fire resistance to prevent the collapse of high rise buildings in a major fire in the event of sprinkler system failure.

NFPA 13 defines the term "light hazard" as a portion of a building where the quantity and combustibility of the contents is low and where fires with only relatively low rates of heat release occur. (NFPA 13 indicates that offices, apartment units, hotel rooms and corridors are typically classified as a light hazard occupancy.) Based upon this, it can be stated that the typical fire load in portions of a building classified as a light hazard is 10 pounds (wood equivalent) per square foot.

The National Bureau of Standards (NBS) determined that there is a correlation between fire loading (measured in pounds of wood equivalent per square foot) and fire severity (as measured by an exposure to ASTM E119) over 80 years ago. (One pound of wood is assumed to have a heat content of 8,000 Btu's. The fire load, measured in pounds of wood equivalent per square foot, is determined by dividing the heat content of the building contents (on a square foot basis) by 8,000 Btu per pound.) The NBS research determined the following correlation:

| Fire Loading (Wood Equivalent) | Fire Severity (ASTM E119 Exposure) |
|-----------------------------------|---------------------------------------|
| 5 psf | 30 minutes |
| 10 psf | 1 hour |
| 20 psf | 2 hours |

Later research conducted by the National Bureau of Standards determined that the fire loading of offices and residential occupancies averaged between 5 and 10 pounds (of wood equivalent) per square foot. Based upon this, the severity of a fire in a typical office or residential occupancy would be equivalent to a maximum 1 hour exposure to the ASTM E119 time-temperature curve.

Recently, the investigation into the collapse of the World Trade Center (WTC) towers conducted by NIST has confirmed the relationship between fire loading and the intensity of the fire exposure for portions of a building classified as light hazard. The NIST investigation determined that the fire loading on the floors of aircraft impact in the WTC towers was between 4 and 5 pounds per square foot (except in areas in the WTC 2 tower where combustible were pushed from one area into another area by the aircraft impact) and that the fires in any one (undisturbed) portion of the floors burned for approximately 20 minutes prior to consuming all the fuel in the area. Given that the recently published NIST research has confirmed the relationship between fire load and fire intensity for portions of buildings classified as light hazard (per NFPA 13), it seems reasonable that we can utilize the NIST research to reduce the required fire resistance ratings by 1 hour as was permitted by the BOCA Code since 1975 and as was permitted in the 2000 and 2003 editions of the International Building Code. In effect, the NIST research has served to confirm the reduction in fire resistance ratings for the structure elements of high rise office and residential buildings was valid.

Table 601 in the International Building Code indicates that the structural frame and floor construction in Type IB construction is required to develop a minimum 2 hour fire resistance rating. Given the correlation between fire loading and fire severity established by the National Bureau of Standards and the recently released NIST WTC investigation, providing Type IB construction in portions of high rise office and residential buildings which exceed 180 feet in height will provide a structural fire resistance which exceeds the maximum fire severity which can occur by one hour. Based upon this, providing Type IB construction in portions of high rise buildings classified as light hazards will provide more than adequate structural fire resistance to prevent building collapse in the event of a typical fire which can occur in these occupancies.

Similarly, providing Type IIA construction for office and residential portions of high rise buildings which are less than 180 feet in height should suffice because the fire resistance ratings will be equal to the maximum severity of a fire which can occur and buildings of this height can be evacuated rapidly.

When considering this proposal, it should be noted that the maximum fire resistance rating required for the floor construction for both Type IA and Type IB construction is 2 hours. This is the same fire resistance rating as the rating of the floor construction in the First Interstate Bank Building in Los Angeles. In May, 1988, the First Interstate Bank Building was subjected to a major fire which spread through 5 floors in the building without floor collapse. The fire in the First Interstate Bank Building is an excellent example of the capability of 2 hour fire resistive construction to provide adequate protection against collapse when exposed to a major fire which occurs in an office occupancy.

Another example of the ability of two hour construction to resist the effects of fire are the fires which occurred in the WTC towers as a result of terrorist attacks on September 11th. Despite the fact that the structural systems supporting the building suffered major damage and that much of the structural fire protection was damaged on the floors where the fires occurred, WTC 1 was able to withstand the effects of fires for approximately 102 minutes (1 hour, 42 minutes) prior to collapsing. The performance of WTC 1 clearly demonstrates that 2 hour structural fire protection is adequate in portions of high rise buildings used for offices. (The WTC 2 tower collapsed in only 56 minutes because the WTC 2 tower initially suffered more serious structural damage than the WTC 1 tower and because the aircraft impact pushed combustible from one area into another portion of the building, thereby increasing the fire loading in a portion of the tower.)

It should be noted that the above discussion assumes that the sprinkler system provided will fail and that the fire department will not attempt to extinguish the fire. Hence, sprinkler protection and manual firefighting provide additional factors of safety in preventing building collapse beyond that provided by the building construction type.

It should also be noted that approval of this code change could result in portions of the structural systems with 2 hour structural fire protection supporting portions of the structure with a 3 hour fire resistance. Although this appears to be contrary to one of the fundamental concepts of the code, this scenario does not actually violate the concept that structural supports have the same or greater fire resistance rating as the structural element being supported because the fire resistance of a 2 hour structural element exposed by a fire with a maximum severity equivalent to a 1 hour exposure to the ASTM E119 time-temperature curve is infinite in a real fire. In other words, the performance of a 2 hour structural element (determined per ASTM E119) exposed to a 1 hour fire is essentially the same as a structural element with an infinite fire resistance rating.

One final note, approval of the above proposal will result in a building with mixed construction types. This code provision could result in the lower stories of a high rise building being constructed to comply with the requirements for Type IA construction, while the upper stories of the building would be permitted to be constructed to comply with the requirements for Type IB construction.

Bibliography:

Fire Protection In Modern Building Codes, 4th Edition (1974), American Iron and Steel Institute (AISI).

Final Report on the Collapse of the World Trade Center Towers, NCSTAR 1 (pages 125 through 149), National Institute of Standards and Technology, October, 2005.

Cost Impact: The code change proposal will in general reduce construction costs.

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

G60-06/07

403.3.1

Proponent: Thomas Kinsman, T.A. Kinsman Consulting Company, Bellevue, WA

Revise as follows:

403.3.1 Type of construction. The following reductions in the ~~minimum construction type allowed minimum fire resistive values of the building elements~~ in Table 601 shall be ~~allowed as provided in Section 403.3~~ permitted as follows:

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

Exception: The required fire-resistance rating of columns supporting floors shall not be ~~allowed~~ permitted to be reduced to the fire resistive value for columns in Type IB.

2. In other than Groups F-1, M and S-1, the fire resistive values of the building elements in Type IB construction shall be ~~allowed~~ permitted to be reduced to the fire resistive elements for columns in Type IIA.
3. The height and area limitations of the a building containing building elements with reduced construction type fire resistive values shall be ~~allowed~~ permitted to be the same as for the original construction type the building without such reductions.

Reason: The purpose of this code change is to clarify the language and make it consistent with the charging 403.3 section title and paragraph which addresses fire resistive reductions rather than construction type reductions. It is not intended to make any substantive changes to the current code.

The construction types haven't changed as indicated by the fact that these buildings, even with the fire resistive reductions in the building elements, are still permitted to use the unreduced construction type with respect to Table 503. In addition, there is now the anomaly of buildings < 420 feet high with all elements reduced to IB, except for the columns – so in such cases, the reduced building really isn't a IB either.

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

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

G61-06/07

403.3.1

Proponent: John Berry, Cole + Russell Architects, Inc., Cincinnati, OH

Revise as follows:

403.3.1 Type of construction. The following reductions in the minimum construction type allowed in Table 601 shall be allowed as provided in Section 403.3. The height and area limitations of the reduced construction type shall be allowed to be the same as for the original construction type:

1. For buildings not greater than 420 feet (128 m) in height, Type IA construction shall be allowed to be reduced to Type IB.

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

2. In other than Groups F-1, M and S-1, Type IB construction shall be allowed to be reduced to Type IIA.
- ~~3. The height and area limitations of the reduced construction type shall be allowed to be the same as for the original construction type.~~

Reason: Item #3 to Section 403.3.1 as it currently is included in the IBC is not a reduction, but rather clarification as to how the reductions are to be applied. Relocating item #3 to the main paragraph clarifies the grammatical structure of the paragraph and reinforces the intent of the code.

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

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

G62-06/07

403.3.1

Proponent: Bob Boyer, Building Officials Association of Florida (BOAF) Code Development Committee, Longwood, FL

Revise as follows:

403.3.1 Type of construction. The following reductions in the minimum construction type allowed in Table 601 shall be allowed as provided in Section 403.3:

1. For buildings not greater than 420 feet (128 m) in height, Type IA construction shall be allowed to be reduced to Type IB.

Exception: The required fire-resistance rating of ~~columns supporting floors~~ the structural frame shall not be allowed to be reduced.

2. In other than Groups F-1, M and S-1, Type IB construction shall be allowed to be reduced to Type IIA.
3. The height and area limitations of the reduced construction type shall be allowed to be the same as for the original construction type.

Reason: The approved code change G53-04/05 in last years cycle now permits the type of construction for buildings less than or equal to 420 feet in height to be reduced from Type IA to Type IB; however, columns supporting floors are not permitted to be reduced. This code change will correct the inconsistency by requiring that the columns and beams framing into the columns have equal ratings.

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

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

G63-06/07

403.10 (New), 3007 (New), Chapter 35 (New)

Proponents: Dave Fable, U.S. General Services Administration; Gerry Jones/Herman Brice, Co-Chairs, NIBS/MMC Committee for Translating the NIST World Trade Center Investigation Recommendations into Building Codes

1. Add new text as follows:

403.10 Fire service access elevator. In buildings with an occupied floor more than 120 feet above the lowest level of fire department vehicle access, a minimum of one fire service access elevator shall be provided in accordance with Section 3007.

(Renumber subsequent sections)

SECTION 3007 **FIRE SERVICE ACCESS ELEVATOR**

3007.1 General. Where required by Section 403.10, every floor of the building shall be served by a fire service access elevator. Except as modified in this section, the fire service access elevator shall be installed in accordance with this chapter and ASME A17.1.

3007.2 Hoistway enclosures protection. The fire service access elevator shall be located in a shaft enclosure complying with Section 707.

3007.3 Fire service access elevator lobby. The fire service access elevator shall have a door opening into a fire service access elevator lobby complying with Sections 3007.3.1 through 3007.3.3.

Exception: Where fire service access elevators have multiple door openings on a floor, additional door openings shall be permitted to open to lobbies protected in accordance with Section 707.14.1.

3007.3.1 Access. The fire service access elevator lobby shall have direct access to a building stair.

3007.3.2 Lobby enclosure. The fire service access elevator lobby enclosure shall have a minimum 1-hour fire resistance rating.

3007.3.3 Lobby fire door assemblies. Each fire service access elevator lobby fire door shall have a fire protection rating of not less than 1 hour and shall be self closing or automatic closing.

3007.4 Standpipe hose connection. Each building exit stair having direct access to the fire service access elevator lobby shall be provided with a standpipe hose connection in accordance with Section 905.

3007.5 Two-way fire department communication system. The fire service access elevator and every associated fire service access elevator lobby shall be provided with an approved two-way fire department communication system. It shall operate between a fire command center complying with Section 911 and the fire service access elevator and every associated fire service access elevator lobby. The two-way fire department communication system shall be designed and installed in accordance with NFPA 72.

Exception: Fire department radio systems where approved by the fire department.

3007.6 Elevator car size. The elevator car size shall be in accordance with Section 3002.4.

3007.7 Elevator system monitoring. Conditions necessary for the continued safe operation of the fire service access elevator shall be continuously monitored at the fire command center by a *Standard Fire Service Interface* system meeting the requirements of NFPA 72 and NEMA SB30.

3007.8 Electrical power. The following features associated with fire service access elevators shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment
2. Elevator machine room ventilation and cooling equipment
3. Elevator controller cooling equipment

3007.8.1 Control wiring The normal and standby power control wiring supplying the fire service access elevators shall be protected by construction having a minimum 1 hour fire resistive rating.

3007.9 Standby power. The fire service access elevator shall be provided with standby power in accordance with Sections 2702 and 3003.

3007.10 Elevator machine rooms and machinery spaces. Automatic fire sprinklers shall not be installed in fire service access elevator machine rooms and machinery spaces.

2. Add new standards organization and standard to Chapter 35 as follows:

National Electrical Manufacturer's Association (NEMA)
1300 N. 17th Street
Suite 1847
Rosslyn, VA 22209

SB30-05 Fire Service Annunciator and Interface

Reason: Following the events of September 11, 2001, the U.S. General Services Administration (GSA) undertook a research initiative for the development of performance requirements for the use of elevators for occupant egress and fire service access in buildings. This research initiative is currently being conducted by the National Institute of Standards and Technology (NIST). The proposed code change is a by-product of the research currently being conducted by NIST as well preliminary information provided by a task group of ASME A17.1 for determining the required system features necessary for safe operation by trained firefighters during a fire emergency.

We feel that the requirements included in this proposal provide a reasonable degree of safety for firefighters operating the fire service access elevator to a location for staging firefighters and equipment one or two floors below the fire. The staging location will have access to a stair and standpipe that will allow for firefighting operations to be conducted from just above the staging area.

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

Analysis: Results of review of the proposed standard will be posted on the ICC Website by August 20, 2006.

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

G64-06/07

403.15 (New), 708.1

Proponents: George Thomas, PE, CBO, Pleasanton, CA, representing the California Fire Chiefs Association and Tri-Chapter Code Committee

1. Add new text as follows:

403.15 Corridors in Group B occupancies. For buildings greater than 420 feet in height, corridors serving more than one tenant space and providing direct access to at least one exit shall be enclosed by walls constructed as 1-hour fire-resistance rated fire partitions complying with Section 708.

2. Revise as follows:

708.1 General. The following wall assemblies shall comply with this section:

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by Section 1017.1.
5. Elevator lobby separation as required by Section 707.14.1.
6. Residential aircraft hangars.
7. Corridor walls in Group B occupancies in high-rise buildings greater than 420 feet in height as required by Section 403.15.

Reason: Compartmentation of floors in Group B occupancies provides an important life safety function during a fire event. During a previous code change cycle we and other ICC Chapters submitted Public Comments on G55-03/04 which were successful in eliminating the sprinkler trade-off that would reduce the fire-resistance ratings of exit enclosures (shafts) from 3-hours to 2-hours for high rise buildings over 420 feet. This code change will add a requirement that a corridor serving floors more than one tenant space in a Group B Occupancy in high rise buildings in excess of 420 feet shall have a 1-hour minimum fire-resistance rating. This is necessary because the fire service does not have access to apparatus capable of providing adequate water pressure or flow to floors located greater than 420 feet in height. Without the sprinkler system's ability to provide the level of reliability as is possible in high rise buildings of lesser height, we believe that compartmentation of corridors should be provided as an additional life safety measure.

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

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

G65-06/07

403.15 (New), 708.1, Table 1017.1 (IFC [B] Table 1017.1)

Proponent: Bob Boyer, Building Officials Association of Florida (BOAF) Code Development Committee

1. Add new text as follows:

403.15 Corridors in Group B occupancies. For Group B occupancies in buildings greater than 420 feet in height, corridors serving more than one tenant space and providing direct access to an exit shall be constructed as 1-hour fire-resistance rated fire partitions in accordance with Section 708.

2. Revise as follows:

708.1 General. The following wall assemblies shall comply with this section:

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.

3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by Section 1017.1.
5. Elevator lobby separation as required by Section 707.14.1.
6. Residential aircraft hangars.
7. Corridor walls in Group B occupants in high-rise buildings greater than 420 feet in height as required by Section 403.15.

**TABLE 1017.1
CORRIDOR FIRE-RESISTANCE RATING**

| OCCUPANCY | OCCUPANT LOAD SERVED BY CORRIDOR | REQUIRED FIRE-RESISTANCE RATING (hours) | |
|------------------------|----------------------------------|---|------------------------------------|
| | | Without sprinkler system | With sprinkler system ^c |
| H-1, H-2, H-3 | All | Not Permitted | 1 |
| H-4, H-5 | Greater than 30 | Not Permitted | 1 |
| A, B, E, F, M, S, U | Greater than 30 | 1 | 0 ^d |
| R | Greater than 10 | Not Permitted | 0.5 |
| I-2 ^a , I-4 | All | Not Permitted | 0 |
| I-1, I-3 | All | Not Permitted | 1 ^b |

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. Corridor walls in Group B occupancies in high-rise buildings greater than 420 feet in height shall be in accordance with Section 403.15.

Reason: Fire department apparatus is generally not capable of supplying adequate water in terms of pressure and flow to floors located above 420 feet in height. So if the water supply fails, there is no practical means for fighting a fire on those upper floors of such buildings, so the building must be able to stand on its own, and the occupants must have adequate time to safely egress such tall buildings. Super high rises must provide additional protection for the occupants of those buildings who may experience longer periods of time to evacuate or to be rescued.

Corridors should be maintained relatively smoke free because of the requirements that the doors be smoke and draft control type doors to prevent smoke from entering the corridor from a fire in an adjacent compartment. Protection of duct openings with smoke dampers is also required to minimize the spread of smoke into the means of egress route providing access to the exits. And any penetrations of the corridor walls and ceilings are required to be protected against the spread of fire and hot gases.

However, there the compounding effect of other sprinkler trade-offs that should be taken into consideration if the sprinklers fail to activate satisfactorily due to any cause. The travel distances are allowed to be increased 50% from 200 feet to 300 feet where automatic sprinkler systems are provided. The separation of exits (remoteness) is also allowed to be reduced where automatic sprinkler systems are installed. Interior finish requirements are relaxed within corridors where Class C interior finish can be used in lieu of Class B interior finish and Class B interior finish can be used where Class A interior finish would otherwise be required if not for the installation of automatic sprinklers. And dead end corridors are allowed to be increased in length by 150%, i.e. from 20 feet to 50 feet, where automatic sprinkler systems are provided. Therefore, the fortifying of corridors should effectively provide an area for both the occupants and emergency responders to rely on for protection.

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

Analysis: The action on the proposed change to Section 708.1 and Table 1017.1 is dependent on the decision of the General Committee to Section 403.15 of the proposal, therefore, for consistency, the General Committee will make the determination for this entire proposal instead of being split with the MOE and FS Committees.

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

G66-06/07

403.15 (New), 708.1

Proponents: George Thomas, PE, CBO, Pleasanton, CA, representing the California Fire Chiefs Association and Tri-Chapter Code Committee; Laura Blaul and Lorin Neyer, representing the California Fire Chief's Association

1. Add new text as follows:

403.15 Corridors in Group R occupancies. For buildings greater than 420 feet in height, the fire-resistance rating required by Table 1017.1 for corridors in Group R occupancies shall be increased to 1-hour.

2. Revise as follows:

708.1 General. The following wall assemblies shall comply with this section:

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.

4. Corridor walls as required by Section 1017.1.
5. Elevator lobby separation as required by Section 707.14.1.
6. Residential aircraft hangars.
7. Corridor walls in Group R occupancies in high-rise buildings greater than 420 feet in height as required by Section 403.15.

Reason: Compartmentation of floors in Group R occupancies provides an important life safety function during a fire event. During a previous code change cycle we and other ICC Chapters submitted Public Comments on G55-03/04 which were successful in eliminating the sprinkler trade-off that would reduce the fire-resistance ratings of exit enclosures (shafts) from 3-hours to 2-hours for high rise buildings over 420 feet. This code change which will add a requirement that a corridor serving floors more than one tenant space in a Group R Occupancy in high rise buildings in excess of 420 feet shall have a 1-hour minimum fire-resistance rating. This is necessary because the fire service does not have access to apparatus capable of providing adequate water pressure or flow to floors located greater than 420 feet in height. Without the sprinkler system's ability to provide the level of reliability as is possible in high rise buildings of lesser height, we believe that compartmentation of corridors should be provided as an additional life safety measure.

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

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

G67-06/07

403.15 (New), 708.1, Table 1017.1 (IFC [B] Table 1017.1)

Proponent: Bob Boyer, Building Officials Association of Florida (BOAF) Code Development Committee

1. Add new text as follows:

403.15 Corridors in Group R occupancies. For buildings greater than 420 feet in height, the fire-resistance rating for corridors in Group R occupancies shall be constructed of 1-hour fire partitions in accordance with Section 708.

2. Revise as follows:

708.1 General. The following wall assemblies shall comply with this section:

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by Section 1017.1.
5. Elevator lobby separation as required by Section 707.14.1.
6. Residential aircraft hangars.
7. Corridor walls in Group R occupancies in high-rise buildings greater than 420 feet in height as required by Section 403.15.

TABLE 1017.1
CORRIDOR FIRE-RESISTANCE RATING

| OCCUPANCY | OCCUPANT LOAD SERVED BY CORRIDOR | REQUIRED FIRE-RESISTANCE RATING (hours) | |
|------------------------|----------------------------------|---|------------------------------------|
| | | Without sprinkler system | With sprinkler system ^c |
| H-1, H-2, H-3 | All | Not Permitted | 1 |
| H-4, H-5 | Greater than 30 | Not Permitted | 1 |
| A, B, E, F, M, S, U | Greater than 30 | 1 | 0 |
| R | Greater than 10 | Not Permitted | 0.5 ^d |
| I-2 ^a , I-4 | All | Not Permitted | 0 |
| I-1, I-3 | All | Not Permitted | 1 ^b |

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. Corridor walls in Group R occupancies in high-rise buildings greater than 420 feet in height shall be in accordance with Section 403.15.

Reason: This code change proposal increases the required fire resistance rating of corridors serving Group R occupancies in greater than 420 feet in height (super high rises) from 30 minutes to 1-hour.

The people who reside in super high rise buildings should be provided with an enhanced level of fire safety for the means of egress as they wait in queue for the stairs, or for the appropriate exiting sequence, or for rescue by the responding fire department or other emergency services. A 1-hour fire resistance rated corridors also assists emergency responders.

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

Analysis: The action on the proposed change to Section 708.1 and Table 1017.1 is dependent on the decision of the General Committee to Section 403.15 of the proposal, therefore, for consistency, the General Committee will make the determination for this entire proposal instead of being split with the MOE and FS Committees.

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

G68–06/07

403.15 (New), Table 403.15 (New)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

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

Add new text as follows:

403.15 Spray-Applied Fire Resistive Materials (SFRM). The bond strength of the SFRM shall be in accordance with Table 403.15.

**TABLE 403.15
MINIMUM BOND STRENGTH**

| HEIGHT OF BUILDING | SFRM MINIMUM BOND STRENGTH |
|---|----------------------------|
| More than 75 feet ^a and up to 420 feet | 430 psf |
| More than 420 feet | 1,000 psf |

a. Above the lowest level of fire department vehicle access

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this proposal is to increase the required adhesions of Spray Applied Fire Resistant Materials (SFRM).

The National Institute of Standards and Technology's (NIST) investigation into the World Trade Center (WTC) tragedy documented that the proximate cause of the actual collapse was the action of a building contents fire on light steel members in the absence of spray applied fire resistant material, which had been dislodged. Events far less dramatic than an airplane attack have been known to dislodge SFRM. The initiating events can be as simple as elevator movement, building sway or maintenance activities.

Recommendation 6 of the NIST WTC Report calls for improvement of the in-place performance of SFRM. This proposal is one of three that seeks to achieve that objective. The other two are a proposal for a new Section 714.8 dealing with the application of SFRM and a strengthened Section 1704.10 dealing with special inspections of SFRM installations.

The current code specifies a SFRM bond strength of 150 psf when tested in accordance with ASTM E736, no matter how large the building or how high the risk. This proposal requires the use of higher bond strength material for buildings over 75 feet in height and yet again higher strength for those that exceed 420 feet. These higher standards are warranted by the higher risk associated with taller buildings. Products that meet this standard are available in the marketplace.

Bond strength is not the only material characteristic that affects in-place durability. Density does as well. This proposal does not establish a separate density standard because density and bond strength are linked to one another. High bond strength entails high density.

Some might argue that more research is needed to establish appropriate bond strengths for different levels of risk. The proponents agree but believe something needs to be done now to improve the in-place durability of SFRM. This code provision will have that result. It should be recognized as a beginning, not an end.

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

Cost Impact: The code change proposal will increase the cost of construction but only marginally so. Many tall buildings already utilize these higher strength materials.

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

G69–06/07

403.15 (New), 403.2 (New)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

Add new text as follows:

403.15 Structural performance. Buildings that are more than 420 feet (128 m) in height shall be designed to survive a building contents fire to burnout without more than local failure of the structural frame. The building contents fire shall be analyzed in accordance with the *International Performance Code for Buildings and Facilities* and shall be

based on a design fire without sprinkler activation approved by the authority having jurisdiction. The design fire shall take into consideration the following: fuel loading; peak heat release rate(s); amount of air available; and confinement of the fire(s). Minimum fire load densities for each specific occupancy within a building shall be based upon approved fire engineering guidelines and shall take into account appropriate safety factors. In a mixed used building, the appropriate fire load for each portion of the building based on the occupancy classification for that space shall be applied. The fire resistance rating of the structural frame shall not be less than the fire resistance ratings prescribed in Table 601.

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

LOCAL FAILURE. A failure of the area of floor at any story at risk of collapse that does not exceed 15% of the floor area of that story or 750 square feet, whichever is smaller, or does not extend further than the immediate adjacent story.

STRUCTURAL FRAME. The columns and the girders, beams, trusses, and spandrels having direct connections to the columns and bracing members designed to carry gravity loads as described in footnote "a" of Table 601.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this change is to establish a specific performance objective: that very tall buildings (those over 420 feet in height) be analyzed to ensure that they will survive a building contents fire without collapse. The change is intended to implement Recommendations of the National Institute of Standards and Technology's (NIST) World Trade Center (WTC) report.

The proponents believe that it needs to be understood that this proposal is not intended to make buildings immune to a massive assault such as that which took place in the World Trade Center (WTC) tragedy. It is intended to prudently increase the robustness of structural fire protection by ensuring that factors not considered by the Code's current prescriptive approach are taken into account where risk is very high because the building is very tall. Risk is a combination of probability and consequence. The probability of the scenario contemplated by this proposal, a full contents burnout, in the absence of working sprinkler protection is very low but the consequences of the collapse of a very tall building can be cataclysmic. Accordingly, risk is significant and additional analysis is warranted.

A recent NIST study documented 22 cases of fire induced building collapses (15 if the WTC and Pentagon events are excluded) involving buildings greater than four stories in height. The possibility clearly exists. There are many possible causes of fires in buildings. The WTC tragedy adds another to the list – a mindful and technically sophisticated attempt to bring a very tall building down using carefully set fires. The terrorist threat alone may not warrant additional code considerations but when taken together with existing hazards and the human and economic consequences of the collapse of a very tall building, the proponents believe additional code provisions are warranted. It should be noted that the NIST report documents that the immediate cause of the WTC collapse was structural weakening induced by a contents fire which occurred at locations remote from the initial damage.

The Code has long protected building structure against fire hazards through a prescriptive system of fire ratings based upon the testing of specific assemblies. The fire rating of the structural frame required by Table 601 is intended to prevent collapse. The problem with this system is that it is largely empirical and does not have a strong theoretical basis. We know that it seems to work, and work well, although not without exception.

More importantly, the systems we have do not consider the interplay between the specific design of structural members and fire resistance protection. The NIST WTC report, for example, documents that the rating obtained for protected steel members varies by length. A steel member that has a two (2) hour rating when tested at a specific length, say 25 feet, may have a significantly lower rating if the actual installed member is longer than the tested specimen. The current rating system doesn't consider the interplay between individual member characteristics that do affect performance nor does it consider the very different characteristics of the fires that the member might be exposed to based on the differing heat release characteristics and the quantity of the varying fire loads that can be anticipated in different buildings.

The NIST WTC report points out that a great deal of research will be required to resolve these issues. The proponents believe that something can and should be done now to address this manifest risk. The proposal is but the first step on a long road, but it is a step that must be taken without delay. The proponents believe the tools exist.

The proposal is a new Section 403.15, which is proposed to be applicable to those high rise buildings that exceed 420 feet in height.

It establishes a performance requirement that the building structure and passive fire protection systems be designed to enable the building to survive a building contents fire to burnout without suffering more than a local collapse of the structural frame. Local collapse is defined within the text. This is the same definition as used in the proponents disproportionate collapse proposal for a new Section 1605.

A performance requirement is only possible if there is a predictable and reputable way to analyze a given building for conformity with that requirement. The proposal references the ICC Performance Code for Building and Facilities as the prescribed method of analysis. The proponents believe that this will be the first mandatory scoping of the Performance Code as the IBC. It will surely not be the last. The Performance Code does not specify the design fire, so the proposal requires that the design fire(s) be based upon approved engineering guidelines. An example would be the ICC's 2005 International Fire Engineering Guidelines in which ICC participated in the development with the publishers, the Australian Building Codes Board, which distill worldwide research and experience with this subject.

The proposal requires the analysis to be performed assuming that a fire suppression system is not working. Obviously, if fire loads are as anticipated and a fire suppression system functions as intended, no building will even approach structural frame collapse. Sprinkler systems are highly reliable. This change depends on that reliability for smaller buildings and requires a "sprinkler out" performance analysis only in very tall buildings when collapse has cataclysmic human and economic consequences. The probability of the "sprinkler out" scenario is low but the potential consequences are very high.

The proposal specifies that the results of this performance analysis shall be used in addition to the requirements of Table 601. Some might argue that this "belt and suspenders" approach is not warranted. The proponents believe that it is. The amount of field experience we have with the ICC Performance Code is not sufficient to permit its use instead of Table 601. The hazard being guarded against here is a building specific combination of structural design and fire risk that might make Table 601 inadequate. The performance analysis will be used to increase fire protection, not reduce it. With time and experience, it might become prudent to substitute a performance analysis for Table 601. The proponents believe that time has not yet come.

Bibliography:

Beitel, Jesse and Nestor Iwankiv, PhD., P.Ej. "Historical Survey of Multistory Building Collapses Due to Fire." Fire Protection Engineering, Number 27.

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

ICC Performance Code for Buildings and Facilities. Country Club Hills, Illinois: International Code Council, 2001.

International Fire Engineering Guidelines. ABCB, Canberra, Australia

Cost Impact: The code change proposal may increase the amount of passive fire protection in very tall buildings and so increase costs. The proponents believe that there will be some increased costs in many very tall buildings, but that costs will be both moderate and warranted when the performance analysis demonstrates a potential weakness.

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

G70-06/07

403.15 (New)

Proponent: Jason T. Thompson, National Concrete Masonry Association (NCMA), representing Masonry Alliance for Codes and Standards (MACS)

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

Add new text as follows:

403.15 Exit stairway and elevator hoistway shaft enclosure integrity. For buildings greater than 420 feet in height, exit stairways and elevator hoistways shall be enclosed with fire barriers tested in accordance with ASTM E119 with the hose stream test conducted at the end of the fire-resistance test to determine structural integrity.

Reason: This proposed code change basically establishes an enhanced structural integrity requirement for elevator shaft hoistway and exit stairway enclosures in what we call super high rise buildings, i.e. those buildings greater than 420 feet in height. The basis for the enhanced structural integrity performance is the option to conduct the hose stream test in the ASTM E119 fire resistance test at the end of the entire fire test. This method for conducting the hose stream test is based on Section 11.3 of that standard. The hose stream option under Section 11.3 specifies that the hose stream test be applied at the end of the fire resistance test. In the case of these shaft enclosures regulated by the high rise building requirements of the International Building Code (IBC), that would occur at the end of the 2 hour fire resistance test. Passing this test would indicate an enhanced structural integrity of these shaft enclosures as compared to walls tested using the standard hose stream test which is conducted after a duplicate specimen has been fire tested for one half the fire resistance rating period (not to exceed 1 hour) after which the hose stream test is then applied as specified in Section 11.2 of ASTM E119.

Final recommendations from the NIST World Trade Center fire and collapse investigation suggest that there is a need to provide minimum structural integrity for the means of egress including the stairwells and the elevator shafts that may be used for emergency access by emergency responders, as well as a secondary method for emergency evacuation. Key findings of the NIST Final Report of the National Construction Safety Team on the Collapse of the World Trade Center Towers can be found on the NIST website at www.nist.gov. Chapter 9 Recommendation 18 indicates the following:

“NIST recommends that egress systems (i.e., stairs, elevators, exits) should be designed... (2) to maintain their functional integrity and survivability under foreseeable building-specific or large-scale emergencies...”

Item b in this recommendation further states: “The design, functional integrity, and survivability of the egress and other life safety systems, (e.g., stairwell and elevator shafts...) should be enhanced by considering accidental structural loads such as those induced by overpressures (e.g., gas explosions), impacts, or major hurricanes and earthquakes, in addition to fire separation requirements... The stairwells and elevator shafts... should have adequate structural integrity to withstand accidental structural loads and anticipated risks.”

Shaft enclosures provided for exit stairways and elevator hoistways should be designed to be as robust as possible in order to withstand the dynamic effects of an out of control fire. Unfortunately, the E119 fire endurance test by itself does not replicate the types of physical insults a wall may suffer during a fire. The fire test furnace is a rather static environment in which the test wall is exposed to natural gas burner flames (that don't even impinge on the wall) under a slightly negative pressure differential, whereas real fire situations are normally very dynamic and occur under positive pressure conditions within compartments of buildings. Because the fire test furnace does not replicate real fires, it was determined that some type of physical stress test was needed as part of the ASTM E119 test method. The hose stream test was determined to be the most appropriate method for evaluating the relative robustness, i.e. strength, integrity, and impact resistance, of fire resistance rated wall assemblies. In fact, Section 11.1 of the E119 Test Method states that “The hose stream test shall be conducted to subject the specimen... to the impact, erosion, and cooling effects of a hose stream.” Also, the Appendix X5. Commentary Section X5.9 Integrity states: “In this hose stream test, the ability of the construction to resist disintegration under adverse conditions is examined.”

Not only are actual fire hose streams employed by fire fighters during their activities on the fire scene, but there are other impacts and stresses that may be imposed on walls such as:

Falling debris including ceilings and fixtures

Collapsing shelving and storage racks

Thermal expansion of the wall

Differential movement between the wall and the supporting floor and restraining walls and floor/roof above

Explosions

Liquid pool fires or similar fire exposures that can result from burning plastics, which have a rapid temperature rise and more severe upper layer gas temperatures

Projectiles such as aerosol cans, pressurized gas cylinders, and other pressure sealed containers

The hose stream test is an attempt to address some of the dynamics of a real fire scenario since it applies stresses, including orthogonal loading to the wall assembly, immediately after the fire endurance test has been completed and the wall is weakest.

Because the use of fire resistance wall varies, the ASTM E119 test method includes 3 options for applying the hose stream test as follows:

1. No hose stream test is required for walls that have a fire resistance rating of less than one hour. (Section 11.1.1)
2. The hose stream test is applied to a duplicate wall assembly which is fire tested for one-half the fire resistance rating period of the original wall assembly, but not to exceed one hour. (Section 11.2) Thus, walls having a fire resistance rating greater than 2 hours need only be retested for one hour for the application of the hose stream test.
3. The hose stream test may be applied at the end of the fire test. (Section 11.3)

We believe that this proposal which invokes the third option is an appropriate performance provision for assuring an enhanced robustness and integrity of the shaft enclosures for exit stairways and elevator hoistways in super high-rise buildings. That is because, generally speaking, walls of solid construction with adequate thickness, such as concrete and masonry walls, can readily pass the hose stream test when it is applied at the end of the fire endurance test. However, most framed walls which are designed to just meet the fire resistance ratings required by the code generally can not. Those walls are accommodated by Option 2 for the hose stream test as indicated above.

We believe the structural integrity issue goes beyond the problems associated with the stairway shaft enclosures and elevator hoistway shaft enclosures in the World Trade Center tragedies. This is especially critical since the NIST report has estimated that the fire department response using stairs to gain access to the 58th floor of a hypothetical 60 story building to effect fire fighting operations and rescue would require at least 90 minutes if the fire department personnel did not carry any equipment or breathing apparatus and as much as 125 minutes if they were carrying equipment and breathing apparatus. Furthermore, it has been estimated that the evacuation of a fully occupied World Trade Center Tower would take approximately 4 hours. Thus, it is critical that not only do the shaft enclosures resist fire exposure for the specified 2 hours but they demonstrate adequate structural integrity to be able to withstand the dynamics of a fire condition involved in an uncontrolled fire in a building.

Providing this additional level of physical performance for shaft enclosures of exit stairways and elevator hoistways in super high-rise buildings is essential for life safety. These super high-rise buildings will likely require staged evacuations necessitating that the exit stairways and elevator shaft enclosures remain in place for very extended periods of time during a fire. The hose stream test proposed in this code change proposal will help to provide that additional factor of safety.

Staged evacuations become necessary in super high-rise buildings because of the extremely high occupant loads which make total evacuation impractical within a reasonable period of time. An example of the very high occupant loads that can occur in super high-rise buildings follows. Take a typical office building having a floor plate of 10,000 sq. ft. per floor. The resultant calculated occupant load for each floor is 100 based on Table 1004.1.2 which specifies that business areas (offices) have an occupant load of 100 gross sq. ft. per occupant. A 420 foot tall building having a story height of approximately 13 feet per story would contain approximately 32 stories. Thus, the total occupant load of the building would be equal to 100 occupants per story times 32 stories which is 3,200 occupants. This is the equivalent of a small community. This is further exacerbated if there is an assembly occupancy located on the top of the building which would not be unusual. In that case, the occupant load can be significantly higher. For example, take the same typical office building and locate a 7,500 net sq. ft. restaurant in the top story. Based on an occupant load of 15 sq. ft. net per occupant, there would be 500 more occupants (15% more) added to the occupant load calculated above which could be even more if the restaurant contained a bar area as well. This would result in a total occupant load of 3,700 people.

Along with the high occupant loads comes a large number of mobility impaired occupants. These occupants can constitute as much as 10% or more of the total occupant load depending upon the use of the building. For the typical example we cited above, this means there could be as many as 320 mobility impaired occupants in the office portion of the building and 50 in the restaurant portion for a total of 370 mobility impaired occupants. Obviously, this large number of mobility impaired occupants will increase the evacuation time and put greater pressure on the rescue operations of the responding fire department, requiring additional resources and time to assist those mobility impaired occupants in evacuating the building or moving to a suitable area of refuge within the building. Thus, it is critical that the shaft enclosures provided for the exit stairways and elevator hoistways be able to withstand the effects of an out of control fire in a super high-rise building.

In conclusion, we believe that this code change will provide an important enhancement to the level of fire and life safety provided in buildings greater than 420 feet in height by mandating that the shaft enclosures for the exit stairways and elevator hoistways in those buildings be more resistant to the dynamic forces that occur during an uncontrolled fire by requiring such walls to have their fire resistance rating determined in accordance with ASTM E119 with the application of the hose stream test conducted at the end of the fire resistance rating period for the fire endurance test in that test method.

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

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

G71-06/07

403.15 (New), 1019.1 (IFC [B] 1019.1)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

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

1. Add new text as follows:

403.15 Additional exit stairway. For buildings other than Group R-2 that are more than 420 feet (128 m) in height, one additional exit stairway meeting the requirements of Sections 1009 and 1020 shall be provided in addition to the minimum number of exits required by Section 1019.1. The total width of any combination of remaining stairways with one stairway removed shall not be less than the total width required by Section 1005.1. Scissor stairs shall not be considered the additional exit stair required by this section.

2. Revise as follows:

1019.1 Minimum number of exits. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, except as modified in Sections 403.15, 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

This proposed change is intended to enable rapid full evacuation of very tall buildings by ensuring that ongoing and critical firefighting activity does not reduce the total required exit capacity needed to evacuate the remaining occupants of the building. It implements, in part, Recommendation 17 of the National Institute of Standards and Technology (NIST) World Trade Center (WTC) report.

The basic purpose behind the Code's current egress provisions for very tall buildings is to evacuate several floors near the fire floor. The provisions do not contemplate prompt full building evacuation. The NIST WTC report calls for Codes to consider that criterion. It is important to note that the need for full evacuation may be the result of a terrorist event, but that a range of other natural occurrences or man-made failures might also necessitate full building evacuation.

If the need for a full building evacuation occurs because of or at the same time as a fire then there will be very real problems. Necessary firefighting operations will reduce the capacity of the egress system. The extended period of time needed to fully evacuate a very tall building means that people will still be evacuating while full firefighting operations are taking place. Sound high rise fire fighting doctrine provides that the fire

department take control of one stair, the one most appropriate to the circumstances of the given fire condition, in order to conduct suppression activities. In a building having two required stairs, each of the same width, this means that one-half of the exit capacity has been lost in a building which is still being evacuated.

This proposal calls for an additional stair so that egress capacity will be maintained through the time that full evacuation is complete. It is important to note that this additional stair is not proposed to be a dedicated fire department stair. The intent of the proposed provision is that the fire department be able to choose the stair which is most appropriate for the actual fire event. The principal purpose of this change is to maintain egress capacity in the case of fire events, but the additional stair will also significantly shorten the time needed for full evacuation in non-fire events.

The proponents recognize that effective use of this feature will require emergency responders to manage evacuation flow to the available stairs. The proponents have submitted proposed changes to Articles 4, 7, and 9 of the IBC that will assist in that management. It should be pointed out, however, that this management problem exists under current code provisions; it is just magnified by the loss of egress capacity for full building evacuation.

The issue of "counter flow" has been much discussed since the WTC tragedy --counter flow meaning the fire fighters going up interfere with occupants moving down. The NIST report suggests that counter flow did not slow evacuation rates, but it did affect firefighter ascent rates. Some have suggested that widening the minimum width of stairs will resolve the counter flow problem.

The proponents disagree and believe that dedicating a stair to the fire service while maintaining necessary egress capacity in the remaining stairs is a better solution. There is a practical limit to how rapidly occupants can descend, no matter how wide the stair. Whether minimum width should be expanded because the practical limit cannot be obtained at the current minimum is a different code issue than the one addressed here. The proponents have not seen data or analysis which suggest that additional minimum width is needed, independent of counter flow considerations.

Really rapid evacuation of all occupants, but especially those with disabilities, depends upon the development of robust and safe evacuation elevators. That is the long term solution. The elevator industry and the ASME A-117.1 Committee are working hard on this important challenge but a lot of work remains to be done. The proponents recognize that evacuation elevators might one day eliminate the need for the extra stair proposed here, but believe that something must be done now to address this very real problem.

The proposal adds a new Section 403.15 which requires one more stair than is otherwise required by Section 1019.1. It requires that the stair meet the minimum width requirements of Section 1009.1. More importantly, it also requires that the additional stair and the two (or more) stairs required by Section 1019.1 be sized, in terms of width, such that any combination of all stairs, less one, will provide for the required total width required by Section 1009.1. This meets the intent of the change that the required egress width be available even with one stair being used for firefighting operations.

It is important to note that the proposal does not require the additional stair to be located in accordance with other applicable requirements such as travel distance and separation. Those provisions of the Code will be met by the other stairs. The proponents believe that those requirements might be very difficult to meet with the additional stair and are not needed given the intent of the change.

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

Cost Impact: The code change proposal will increase the cost of construction for very tall buildings.

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

G72-06/07

403.15 (New)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

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

Add new text as follows:

403.15 Remoteness of exit stairway enclosures. Exit stairway enclosures shall be located in different structural bays. The nearest wall of separate required exit stairway enclosures shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the stairway enclosure. In buildings with three or more exit stairway enclosures, the exit stairway enclosures shall be placed a distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the exit stairway enclosure. Scissor stairs shall be counted as one exit stairway.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this change is to add a new Section 403.15 that will require stair shafts to meet remoteness criteria, in addition to the separation distance requirements for exit access doorways of Section 1015.2.

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

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

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

The proposal actually introduces two remoteness criteria. The first is a traditional standard based upon diagonal distances. The second requires that two stairs not be located in the same bay. This requirement correlates with two other changes submitted by the proponents. The

proposed disproportionate collapse provisions of the proposed new Section 1605 and the proposed burnout without excessive collapse provisions of proposed new Section 403.15 both work to limit the extent of collapse. The structural bay aspect of this proposal is intended to exclude the possibility that two shafts might be in the same collapse zone.

The proposal requires the nearest points of two stair enclosures to be separated by a distance exceeding one-half the maximum overall diagonal dimension (one third in the case of buildings having three or more required stairs). The proposal also requires that multiple stair shafts not be located in the same bay for the reasons described above.

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

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

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

G73–06/07

403.15 (New)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

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

Add new text as follows:

403.15 Structural integrity of exit stairway enclosures. For all buildings that are more than 420 feet (128 m) in height, exit stairway enclosure wall surfaces, from the top of the floor to the underside of the floor or roof above and connections to supporting members, shall be capable of resisting a static load expressed as a uniform pressure of not less than 2 pounds per square inch (psi) applied perpendicular to the exterior of the enclosure. This load need not be assumed to act concurrently with the loads specified in Chapter 16.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this change is to establish a standard for the structural robustness of exit stairway enclosures. It implements Recommendation 18 of the National Institute of Standards and Technology (NIST) report on the World Trade Center (WTC) tragedy.

The Code has traditionally looked upon a stair enclosure as a place of relative safety. There are any number of carefully crafted code provisions designed to ensure that goal, but they are based upon only one hazard – fire. The enclosures of these stairs are made fire resistive through the traditional rating and listing system, but the Code does not establish a criterion for structural robustness. The proponents do not believe that the existing “hose stream” test addresses this issue. The hose stream does not and cannot represent the real world impact of blast loads that a stair shaft might encounter. Neither does the ongoing industry work designed to develop an impact resistance test standard. That work relates to durability rather than safety. The proponents believe that a structural standard is needed.

The stair enclosures of the WTC were destroyed by an aircraft impact. Far lesser events, such as a gas explosion or a vehicle impact (on lower floors) can destroy a stair enclosure, especially when one considers that the Code contains no structural criteria at all. Any structural robustness that existing stair shaft enclosures have is a by-product of the fire rating process; a process that was never intended to provide structural integrity.

A new criterion is needed for exit stair enclosures – a structural one.

The NIST WTC Report suggests a standard based upon resistance to over-pressure. This approach has two real advantages. It reflects one possible damage scenario and can represent others as well. Secondly, it is a performance standard. All materials can be analyzed and engineered to comply.

Compliance with this standard is determined by engineering analysis, not a test. This is a simple and direct approach that can be implemented immediately.

The requirement is expressed as a simple static load of 2 psi acting perpendicular to the shaft. The criterion is very similar to that already established for guardrails. It is expressed in the same way as the existing guardrail structural requirement so that the manner in which it is to be applied is clear. The proponents believe that traditional forms of enclosure, such as 8” full mortar bedded and reinforced CMU walls, will meet the requirement. There is no question that less traditional and more lightweight systems can be designed to meet it as well.

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

Cost Impact: The code change proposal will increase the cost of construction but the continued absence of structural criteria for exit stairway enclosures is not possible. This is a cost that must be met for safety’s sake.

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

G74–06/07

IBC 403.15 (New), [F] 909.2 (IFC 909.2), 909.20.2.1(New), 909.20.2.2 (New)

Proponent: Tony Crimi, A.C., Consulting Solutions Inc., representing International Firestop Council

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Add new text as follows:

403.15 Stair pressurization. Every required interior exit stairway serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the relevant provisions of Sections 909.20 and 1020.1.7, and shall be pressurized to a minimum of 0.15 inch of water (37 Pa) and a maximum of 0.35 inch of water (87 Pa) in the shaft relative to the building measured with all stairway doors closed under maximum anticipated stack pressures.

2. Revise as follows:

[F] 909.2 General design requirements. Buildings, structures or parts thereof required by this code to have a smoke control system or systems, or a stair pressurization system shall have such systems designed in accordance with the applicable requirements of Section 909 and the generally accepted and well-established principles of engineering relevant to the design. The construction documents shall include sufficient information and detail to adequately describe the elements of the design necessary for the proper implementation of the smoke control systems. These documents shall be accompanied by sufficient information and analysis to demonstrate compliance with these provisions.

PART II – IBC FIRE SAFETY

Add new text as follows:

909.20.2.1 Stair pressurization ducts. Ducts used to supply uncontaminated air for pressurized interior exit stairways required by Section 403 shall be a classified and labeled materials, systems, methods of construction, or products specifically evaluated for such purpose, in accordance with nationally recognized standards for such fire resistive enclosure systems.

909.20.2.2 Stair pressurization duct penetrations. Penetrations by stairwell pressurization ducts through a ceiling, wall or floor from the inlet terminal to the outlet terminals shall be protected in accordance with Section 712 with a through-penetration fire stop system having an F and T rating equal to the fire-resistance rating of the assembly being penetrated.

Reason: To introduce Code language which would require Stair pressurization for all high rise buildings with required interior stairwells serving floors over 75 ft, and introduce performance requirements for the protection of pressurized supply air duct systems.

Stair pressurization to provide uncontaminated air within required interior exit stairwells in high-rise buildings should be required in all cases, regardless of whether the building is sprinklered or not. In order to ensure the continuity of fresh air supply, air ducts to the interior stairwells need to be protected from the effect of fire, or constructed as fire resistant systems.

Smoke control systems have been required in nearly two thirds of the United States for over a decade. Conversely, the IBC does not require stairwell pressurization in high-rise buildings, and only requires smoke control in underground buildings, atriums, and covered mall buildings. Section 403.13 of the 2006 IBC requires Smokeproof exit enclosures for high-rise buildings in every required stairway serving floors more than 75 feet (22.86 m) above the ground. Section 909.20.5 permits sprinklered Buildings to use stairwell pressurization as an alternate to the smokeproof enclosures. As a first step, the IBC needs to provide more effective means to prevent smoke from entering critical exit stairwells in high-rise buildings. Pressurization results in airflows of high velocity in the gaps around closed doors and construction cracks, thereby preventing smoke from flowing back into the pressurized space through these openings. Pressurized stairwells are provided with the goal of maintaining a tenable environment within the escape routes in the event of a building fire.

Smoke can behave very differently in tall buildings than in low buildings. The predominant factors that cause smoke movement in tall buildings are stack effects, the affect of external wind forces, and forced air movement within the building. Smoke removal and venting practices are complicated by stack effects, which will tend to favour natural air movement vertically through the building as a results of differences in temperature and densities between the inside and outside air.¹

During the final hearing for the 2003 IBC, the majority of the voting membership voted to support engineered smoke control in high-rise buildings, narrowly missing the two thirds majority required to overturn the committee's recommendation for disapproval. Clearly, many building officials recognize the obvious problem with tall buildings and the challenge of controlling smoke. This proposal seeks to introduce Stairwell pressurization in every required stairway serving floors more than 75 feet (22.86 m) above the ground using the existing design requirements of Section 909 of the IBC.

Several incidents in North America during the past 40 years have demonstrated that serious fires can occur in modern high-rise buildings, that these fires can generate tremendous quantities of smoke, and that smoke can spread rapidly throughout these buildings. Most notable were the 1970 One New York Plaza fire, the 1973 Hyatt Regency O'Hare Hotel fire, the 1980 MGM Grand Hotel in Las Vegas, a 1981 fire in North York Ontario at the Inn on the Park Hotel, the 1983 First Canadian Place in Toronto, Ontario, One Meridian Plaza, Philadelphia, Pennsylvania and the First Interstate Bank in Los Angeles, California in the 1990's.

More recently, the NIST Reports on the World Trade Center disaster discuss various aspects of the post impact condition of the exit stairwell. The NYC Building Code did not require stairwell pressurization in sprinklered buildings. However, the *NIST NCSTAR 1-7, WTC Investigation Report* contains the following quotations and comments:

"A survivor from a floor in the 20s in WTC 1: "The stairwell was lit the entire way down. There was a grayish color smoke which smelled like fuel. The more we reached the lower floors the stronger the smell became. On the 6th floor, the sprinklers were on, which slowed us down because we wanted to be cautious and not slip or fall." Interview 1000044 (NIST 2004)"²

"The explosion significantly damaged floors, walls, and doorways in subgrade levels and forced large amounts of smoke well away from the immediate area. In one report, visibility was reduced to 0.3 m (1 ft) within about 1 min at the 44th floor of WTC 1, largely through the spread of smoke in elevator and stairwell shafts (Isner and Klem 1993b). Before beginning evacuation, many occupants experienced smoke on occupied floors and encountered even heavier smoke as they descended the buildings in the stairwells."²

This proposed Code change also introduces language into the IBC to address systems used for covering and protection of these pressurization HVAC air ducts. The text is similar to the language that had previously been used for grease duct enclosure assemblies in the IMC. In November of 2005, ICC-ES approved the publication of AC 179, *Acceptance Criteria for Metallic HVAC Duct Enclosure Assemblies*, which can be used to evaluate products used for these applications. The purpose of the acceptance criteria is to establish requirements for fire protection enclosure systems applied to metallic HVAC ducts, as alternatives to shaft enclosures for vertical ducts with required fire-resistance-rated shafts under specified conditions, with limitations on their application. The criteria also provide an alternate to fire dampers in horizontal ducts (penetrating fire barriers, fire partitions, and or smoke barriers) and vertical ducts connecting not more than two stories.

AC 179 evaluates the enclosure materials and the HVAC duct enclosure systems using the following test methods: Flame spread, smoulder resistance, a fire engulfment test based on ISO 6944 with a through-penetration fire stop, durability tests, and thermal conductivity. Work is currently

underway on the development of an ASTM Consensus Standard for this application, but until such time as that process is complete, the proposed language incorporated here will provide a means of evaluating the performance of these products and systems, which are becoming more widespread in their use, while not restricting the choice of acceptable solutions available to designers.

High-rise buildings constructed to the requirements of International Building Code, but without any specific measures to control smoke migration, are all the more vulnerable to property damage and occupants' loss of life. In reality, all the available research indicates that the need for smoke control is more pressing in tall buildings than in any other type of construction. As a minimum, the IBC needs to provide more effective means to prevent smoke from entering critical exit stairwells in high-rise buildings.

Bibliography:

¹ Klote, J.H. and Milke, J.A. Fire Protection Handbook, NFPA 19th Edition, Volume II, Smoke Movement in Buildings, Chapter 6, Section 12-113 – 12-126

² NIST NCSTAR 1-7 (Draft), Federal Building and Fire Safety Investigation of the World Trade Center Disaster Occupant Behavior, Egress, and Emergency Communications (Draft)

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

Analysis. While Section 909.2 is typically the purview of the Fire Code Development Committees, for consistency, the General Committee will make the determination for Part I of this proposal.

PART I – IBC GENERAL

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

PART II – IBC FIRE SAFETY

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

G75 – 06/07
403.15 (New)

Proponent: Lorin Neyer, Office of Statewide Health, Planning & Development, State of California

Add new text as follows:

403.15 Smoke management. Each story shall be provided with an approved means to restrict smoke originating from a fire in the story from spreading to any other story in the building utilizing the design criteria in Section 909. The approved means shall be capable of exhausting the smoke to the exterior without recirculating to other stories.

Reason: Our organization believes that smoke management is an essential component of an overall fire protection strategy for protecting against unwanted fires in high-rise buildings. In California we have had the requirement for smoke management/control in high-rises since we first incorporated provisions for high-rise buildings in the 1970s. They have proven to be a very important and useful tool in our fire fighting operations since they have the ability to limit the smoke from an unwanted fire to the story of origin, minimizing its spread to adjacent stories and exit paths. It provides a tool for property protection, as well as for life safety, by preventing smoke exposure to occupants on floors remote from the fire and by containing the smoke so that it does not cause damage which can be very significant, especially to sensitive electronic equipment that is found in many buildings today.

The approach we have taken by proposing this requirement for smoke management is to keep the system simple when we refer to Section 909. Our approach is to provide the performance criteria that simply restricts the smoke from a fire from spreading to any other story in the building using an approved means which is capable of exhausting the smoke to the exterior without having it recirculated to other stories. This was the basic concept behind smoke control requirements in our current legacy model building code, the 1997 ICBO Uniform Building Code (UBC). We believe that if we can contain the smoke to the fire floor of origin, we have a better chance of containing the fire and its impacts, as well as in evacuating the occupants to safe areas of refuge within the building or completely out of the building without having to deal with a panic situation. Our experience has shown that smoke can cause extensive property damage and often requires buildings to be shut down for long periods of time while they are rehabilitated and cleaned to eliminate the smoke damage and the smoke odor.

These systems also help us to mop up the fire scene and release our personnel earlier from the fire ground so that they are available for other emergency calls in our communities. It is often a challenge to deal with smoke in high-rise buildings since we cannot use the traditional methods of ventilating through the roof for obvious reasons. A simple basic smoke management system can provide the fire department with the necessary tools to contain smoke to the floor of origin and eventually exhaust it from the building with minimal man-power required to accomplish the task. This is especially important in today's economic climate in our state where there is not a lot of money available to invest in the fire department and their personnel, so we have to get by with minimal manning to provide the necessary services expected by our citizens. Certainly, a smoke management system is one way we can better accomplish our mission in a way that also provides a higher level of fire and life safety protection to the building and its occupants. Therefore, we encourage the Committee to approve this code change proposal to require a means of smoke management in high-rise buildings.

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

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

G76-06/07

403.15 (New), 708.1

Proponent: Lorin Neyer, Office of Statewide Health, Planning & Development, State of California

1. Add new text as follows:

403.15 Tenant separations. For buildings greater than 420 feet in height, walls and partitions used to separate adjacent tenant spaces shall be constructed as 1-hour fire-resistance rated fire partitions complying with Section 708.

2. Revise as follows:

708.1 General. The following wall assemblies shall comply with this section:

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by Section 1017.1.
5. Elevator lobby separation as required by Section 707.14.1.
6. Residential aircraft hangars.
7. Walls separating tenant spaces in high-rise buildings greater than 420 feet in height as required by Section 403.15.

Reason: This code change applies to high-rise buildings greater than 420 feet tall. Such buildings must be able to withstand the impact of an uncontrolled fire which may completely burn out in the event that the water supply fails to the building. Such a failure could be either internally or externally. This is because fire department apparatus is generally not capable of supplying adequate water pressure and flow to floors located above 420 feet in height. So if the public water supply fails, then there is no practical means for fighting a fire on those upper floors of such buildings, so the building must be able to stand on its own.

These very tall buildings should also provide additional protection for the occupants who may have to wait for long periods of time to evacuate or to be rescued depending upon the severity of the fire and the demands on the responding fire department, as well as the exiting system in the building. One way of achieving the additional degree of protection for the building occupants is to provide for 1-hour fire resistive rated partitions to separate adjacent tenants. For example, these partitions are already required for multiple tenant buildings in Group R occupancies since the dwelling units and hotel sleeping rooms are required by Section 708.1 to be separated from each other by fire partitions having a 1-hour fire resistance rating. This code change proposal would simply extend that concept to these very tall buildings to include other occupancy types where multiple tenants are located on a floor so that they are afforded the same degree of protection from fire.

These tenant separations serve an important function of protecting adjacent tenants from their neighbors should the neighbor suffer a fire. These separations provide not only for property protection to minimize the impact of an adjacent fire by containing it until the fire department can respond, control, and eventually extinguish the fire, but also for life safety purposes by providing the adjacent tenants additional time to become aware of a fire condition in an adjacent space and appropriately responding to evacuate the building. The tenant space can also serve as an "area of refuge" for those occupants who can not readily escape and need to wait for rescue.

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

Analysis: The action on the proposed change to Section 708.1 is dependent on the decision of the General Committee to Section 403.15, therefore, for consistency, the General Committee will make the determination for this section instead of the Fire Safety Committee.

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

G77-06/07

405.1

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

Revise as follows:

405.1 General. The provisions of this section apply to building spaces having a floor level used for human occupancy more than 30 feet (9144 mm) below the lowest level of exit discharge.

Exceptions:

1. One- and two-family dwellings, sprinklered in accordance with Section 903.3.1.3.
2. Parking garages with automatic sprinkler systems in compliance with Section 405.3.
3. Fixed guideway transit systems.
4. Grandstands, bleachers, stadiums, arenas and similar facilities.
5. Where the lowest story is the only story that would qualify the building as an underground building and has an area not exceeding 1,500 square feet (139 m²) and has an occupant load less than 10.

6. Pumping stations and other similar mechanical spaces where human occupancy involves only intermittent labor relating to maintenance and repair.

Reason: The purpose of this proposal is exempt floor levels containing pumping stations and similar mechanical uses from the requirements of Section 405. The intent of the proposal is to apply this exception to only those pumping stations (water supply, sewage handling, etc.) and other similar mechanical spaces that involve human occupancy only relating maintenance and repairs rather than regular daily use.

The code does not define "human occupancy" found in the charging paragraph. It does define the term "occupiable space" in Section 202 which includes spaces that are used for human labor. Because of its similarity to "human occupancy", this can be, and has been, interpreted broadly to include even labor involving repair and maintenance. Such an interpretation seems beyond the intent of Section 405 given the flavor of the existing exceptions. The safety features required by 405 are overly excessive for such spaces with only intermittent occupancy.

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

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

G78–06/07

406.2.6

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing the American Institute of Architects

Revise as follows:

406.2.6 Floor surface. Parking surfaces shall be of concrete or similar noncombustible and nonabsorbent materials.

~~**Exception:** Asphalt parking surfaces are permitted at ground level.~~

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:

1. Asphalt parking surfaces shall be permitted at ground level.
2. Floors of S-2 parking garages shall not be required to have a sloped surface.

Reason: Many larger parking structures are constructed with prefabricated materials that are difficult if not impossible to design to slope all surfaces. The need to maintain slopes to drains isn't an absolute in such garages.

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

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

G79–06/07

406.1.4

Proponent: Lawrence Brown, CBO, National Association of Home Builders (NAHB)

Revise as follows:

406.1.4 Separation. Separations shall comply with the following:

- The private garage shall be separated from the dwelling unit and its attic area by means of a minimum 1/2-inch (12.7 mm) gypsum board 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 Type X gypsum board or equivalent. 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 13/8 inches (34.9 mm) thick, or doors in compliance with Section 715.4.3. 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.~~
- Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit from the garage shall be constructed of a minimum 0.019-inch (0.48 mm) sheet steel and shall have no openings into the garage.
- 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 IRC-BE Code Committee "Reason" for Disapproval of this same proposal for the IRC during the last Code Development Cycle shows they do not believe, "There was insufficient technical justification presented to support this change to the code." In looking at Proponents Reason on G69-04/05, no specific fire data was presented to show there is a problem with these doors when a closer is not installed. One incident was mentioned, but in that case door from the garage to the dwelling WAS closed. Also, the Reason is incorrect in stating that all of the legacy codes required a rated door. In fact, the 1999 SBCCI Standard Building Code did not require any separation whatsoever between a garage and the dwelling unit. (i.e., §411.2.6 Exception: "Separation is not required between a Group R3 and an attached garage." §504.0 Exception: "Fire resistance separation shall not be required between a dwelling and its detached private garage.") The Proponents Reason does go to show why there is little problem with these doors. The aspect of the door being closed by the occupant to save energy is true. Most people do not leave doors to unconditioned spaces open to the habitable portion of their home. On the other hand there is no way to prevent someone from keeping the door in the open position for ventilation purposes if they so desire. Your support for disapproval, and supporting the IRC-BE Committee Action, is encouraged at this time. If future data presents itself to support this change it should then be reconsidered.

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

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

G80-06/07

406.1.5 (New), Chapter 35

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Add new text as follows:

406.1.5 Automatic garage door openers. Automatic garage door openers, if provided, shall be listed in accordance with UL 325.

2. Add standard to Chapter 35 as follows:

UL

325-02 Door, Drapery, Louver and Window Operations and Systems, with revisions through January 2006

Reason: The purpose of this change is to add a new requirement in the IBC, consistent with an existing requirement in Section R309.6 of the IRC. The reason for this proposal is to assure consistency in the safety requirements for garage door openers, where provided, regardless if whether the IRC or the IBC is the code applied. This proposal does not require automatic garage door openers to be installed, but when a choice is made to install the openers, that the openers comply with ANSI approved safety requirements.

UL 325-02, Door, Drapery, Louver and Window Operations and Systems, with revisions through January 17, 2006 is an ANSI approved standard under continuous maintenance.

Bibliography: IRC R309.6

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

Analysis: Results of review of the proposed standard will be posted on the ICC Website by August 20, 2006.

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

G81-06/07

406.3.6, 412.3.1, 412.3.6, [F] 415.6.1.6, Ch. 5, [F] 905.3.1 (IFC 905.3.1), 1406.2.2, 1509.5.1, 1808.2.5, 1915.5

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

1. Revise as follows:

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

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

yard accessible to a street with a width of at least 30 feet (9144 mm) for the full length of the opening, and standpipes shall be provided in each such tier.

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

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

RESIDENTIAL AIRCRAFT HANGAR. An accessory building less than 2,000 square feet (186 m²) and 20 feet (6096 mm) in building height, constructed on a one- or two-family residential property where aircraft are stored. Such use will be considered as a residential accessory use incidental to the dwelling.

412.3.6 Height and area limits. Residential aircraft hangars shall not exceed 2,000 square feet (186 m²) in area and 20 feet (6096 mm) in building height.

[F] 415.6.1.6 Coal pockets. Coal pockets located less than 30 feet (9144 mm) from interior lot lines or from structures on the same lot shall be constructed of not less than Type IB construction. Where more than 30 feet (9144 mm) from interior lot lines, or where erected along a railroad right-of-way, the minimum type of construction of such structures not more than 65 feet (19 812 mm) in building height shall be Type IV.

CHAPTER 5 GENERAL BUILDING HEIGHTS AND BUILDING AREAS

[F] 905.3.1 (IFC 905.3.1) Building Height. Class III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
3. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
4. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
5. In determining the lowest level of fire department vehicle access, it shall not be required to consider:
 - 5.1. Recessed loading docks for four vehicles or less; and
 - 5.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

1406.2.2 Architectural trim. In buildings of Type I, II, III and IV construction that do not exceed three stories or 40 feet (12 192 mm) in building height ~~above grade plane~~, exterior wall coverings shall be permitted to be constructed of wood where permitted by Section 1405.4 or other equivalent combustible material. Combustible exterior wall coverings, other than fire-retardant-treated wood complying with Section 2303.2 for exterior installation, shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less. Architectural trim that exceeds 40 feet (12 192 mm) in height above grade plane shall be constructed of approved noncombustible materials and shall be secured to the wall with metal or other approved noncombustible brackets.

1509.5.1 Noncombustible construction required. Any tower, spire, dome or cupola that exceeds 60 feet (18 288) in height above the highest point at which it comes in contact with the roof, or that exceeds 200 square feet (18.6 m²) in area at any horizontal section, or which is intended to be used for any purpose other than a belfry or architectural embellishment, shall be entirely constructed of and supported by noncombustible materials. Such structures shall be separated from the building below by construction having fire-resistance rating of not less than 1.5 hours with openings protected with a minimum 1.5-hour fire-protection rating. Structures, except aerial supports 12 feet (3658 mm) high or less, flagpoles, water tanks and cooling towers, placed above the roof of any building more than 50 feet (15 240 mm) in building height, shall be of noncombustible material and shall be supported by construction of noncombustible material.

1808.2.5 Stability. Piers or piles shall be braced to provide lateral stability in all directions. Three or more piles connected by a rigid cap shall be considered braced, provided that the piles are located in radial directions from the centroid of the group not less than 60 degrees (1 rad) apart. A two-pile group in a rigid cap shall be considered to be braced along the axis connecting the two piles. Methods used to brace piers or piles shall be subject to the approval of the building official.

Piles supporting walls shall be driven alternately in lines spaced at least 1 foot (305 mm) apart and located symmetrically under the center of gravity of the wall load carried, unless effective measures are taken to provide for eccentricity and lateral forces, or the wall piles are adequately braced to provide for lateral stability. A single row of piles without lateral bracing is permitted for one- and two-family dwellings and lightweight construction not exceeding two stories or 35 feet (10 668 mm) in building height, provided the centers of the piles are located within the width of the foundation

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

Reason: The code sections in this proposal have one thing in common. They specify requirements for a building based on its height. The IBC does not specify how to determine a building's height and the code user is left with a subjective standard for the measurement. Section 502.1, however, defines "building height" as "the vertical distance from grade plane to the average height of the highest roof surface." Grade plane is also defined in Section 502.1. The proposal will change "height" to "building height" so that the determination is an objective one based on the definitions for building height and grade plane.

This proposal does not include each code section in the IBC that specifies requirements for a building or structure based on its height. There are cases where the determination of their height from grade plane to the average height of the highest roof surface is not warranted or not applicable (e.g., towers, spires, domes, cupolas, etc.). Please refer to Sections 412.1.5, 903.2.10.3, 1509.5, 2109.1.1, 3108.3, 3202.2 and 3310.1.

This proposal also does not include references to the height of a building in terms of distance and number of stories. In these cases, the defined term of building height is not appropriate because it is limited to the height of a building in terms of distance. Please refer to Sections 503.1, 508.3.1.2, 508.3.2.2 and 508.3.3.3, and Table 503.

Note that "building height" is currently used in other sections of the IBC. Please refer to Sections 509.2(5) and 1709.3(2).

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

Analysis. While some sections listed are typically the purview of other committees, for consistency, the General Committee will make the determination for entire proposal.

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

G82-06/07

407.4

Proponent: Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing the Building Performance Research Institute

Revise as follows:

407.4 Smoke barriers. Smoke barriers shall be provided to subdivide every story used by patients for sleeping or treatment and to divide other stories with an occupant load of 50 or more persons, into at least two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m²) and the travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709 for horizontal and vertical smoke barriers that subdivide such stories. Floor/ceiling assemblies shall form smoke barriers for each story.

Reason: Revised language more clearly defines that a smoke compartment subdivides every story for patient sleeping or treatment and therefore a smoke barrier has both horizontal and vertical components.

Group I-2 Occupancies rely upon a defend-in-place approach to occupant fire safety. The construction of smoke barriers on each floor is important to the defend-in-place philosophy. In Section 702 a Smoke Barrier is defined as: "A continuous membrane, either vertical or horizontal, such as a wall, floor, or ceiling assembly, that is designed and constructed to restrict the movement of smoke." In the Section 704.9 exception there is currently language that ceilings "provide resistance to the passage of fire and smoke equivalent to that provided by the smoke-barrier walls."

Smoke from a fire is separated on each floor by a horizontal exit that allows for the movement of occupants away from the fire to safe refuge. If the floor/ceiling assembly above a fire does not resist the passage of smoke the floor or floors above will also have an immediate need to evacuate patients horizontally taxing staff response on multiple floors versus one floor early in a fire before emergency responders are present to assist. Occupants in Group I-2 occupancies are more susceptible to the effects of smoke at low levels due to their physical condition as evidenced by historical patient deaths remote from fires in health care facilities.

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

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

G83– 06/07

407.8 (New)

Proponent: Jay Hall, Virginia Dept. of Housing and Community Development, representing VBCOA, VFPA, DHCD

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

Add new text as follows:

407.8 Special locking arrangement. Means of egress doors shall be permitted to contain locking devices restricting the means of egress in areas in which the clinical needs of the patients require restraint of movement, where all of the following conditions are met:

1. The locks release upon activation of the fire alarm system or the loss of power.
2. The building is equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
3. A manual release device is provided at a nursing station responsible for the area.
4. A key-operated switch or other manual device is provided adjacent to each door equipped with the locking device. Such switch or other device, when operated, shall result in direct interruption of power to the lock – independent of the control system electronics.
5. All staff shall have keys or other means to unlock the switch or other device on each door provided with the locking device.

Reason: Elopement of occupants with dementia and Alzheimer's is a very serious national problem. Delayed egress locks, even with 30 seconds or up to 2 minute delay, fail to always alert the staff when they maybe performing critical care functions with other patients. With the 5 conditions, patients are provided life safety protection and their well being is protected from elopement from the building.

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

Analysis: Would these provisions be better located in Chapter 10 with a cross reference in Section 407 to these requirements? There are two similar proposals being heard by the Means of Egress Development Committee – Ms. All for revisions to Section 1008.1.8.3 and Mr. Kraft for a new Section 1008.1.8.6.1.

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

G84–06/07

408.2, 1014.2 (IFC [B] 1014.2)

Proponent: Maureen Traxler, City of Seattle, WA, representing the Washington Association of Building Officials

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

PART I – IBC GENERAL

Revise as follows:

408.2 Mixed occupancies. Portions of buildings with an occupancy in Group I-3 that are classified as a different occupancy shall meet the applicable requirements of this code for such occupancies. Where security operations necessitate the locking of required means of egress, provisions shall be made for the release of occupants at all times.

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

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

PART II – IBC MEANS OF EGRESS

Revise as follows:

1014.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

- Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas are accessory to the area served, are not a ~~high-hazard~~ Group H occupancy and provide a discernible path of egress travel to an exit.

Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
 - 2.1. The stock is of the same hazard classification as that found in the main retail area;
 - 2.2. Not more than 50 percent of the exit access is through the stockroom;
 - 2.3. The stockroom is not subject to locking from the egress side; and
 - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full or partial height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.
3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

Reason: This proposed change clarifies the application of the code section. "High-hazard occupancy" is a vague, undefined term. "Group H occupancy" is the designation commonly used in the IBC for high hazard occupancies—Section 307 is titled "High-hazard Group H". The Commentary to the 2003 IBC states "egress paths ... must not pass through an extraordinary fire hazard, such as an area of high-hazard use (Group H)." If these provisions are not intended to apply to Group H occupancies, then what is intended?

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

PART I – IBC GENERAL

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

PART II – IBC MEANS OF EGRESS

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

G85–06/07

410.3.4

Proponent: Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing Thermotex Industries

Revise as follows:

410.3.4 Proscenium wall. Where the stage height is greater than ~~50~~ 40 feet (15 240 mm), all portions of the stage shall be completely separated from the seating area by a proscenium wall with not less than a 2-hour fire-resistance rating extending continuously from the foundation to the roof.

Reason: The change lowers the proscenium-opening threshold where a fire barrier between the audience and the stage must be constructed. This will also become the threshold at which a fabric fire curtain or deluge water spray system is also installed in the proscenium opening.

Legitimate stages of heights greater than 45 feet have the ability to store flying scenery and other stage effects that can add significantly to stage fuel loads.

The last two code cycles have seen proposals which have attempted to be all-encompassing, addressing all types of stages to narrow the scope of height changes and various methods to determine the fuel load threshold at which a proscenium wall and proscenium opening protection must be provided. The committee found fault in an expanded scope that attempted to define all types of stages and did not accept that a fuel load basis could be used for new construction. This proposal lowers the current 50-foot limit to 40 feet where significant storage begins to occur.

A stage where significant combustibles can be stored is the point at which the threshold for a barrier should be established. Following the lead of the committees current simple language while lowering the threshold will insure the design and construction requirements of the building code are clearly stated. Proscenium openings are typically in the 18-22 foot height range. At a height of 40 feet scenery and effects can still be stored above the stage creating a fire hazard that justifies protection.

The existing 50-foot stage height qualifier for proscenium walls should be lowered for several substantial reasons:

1. In the mid to late 90's, the model codes moved to redefine stages based solely upon stage height based upon a BCMC report. Stages to 40 feet in height can have similar fuel loads from hanging scenery and many stages are now being constructed to 49 feet to avoid the proscenium requirement while being able to store significant quantities of flying scenery above newly constructed stages.

2. Data provided by the NFPA Fire Analysis & Research Division as a part of the BCMC action was updated in July 2001 that provides some definitive insight into fires in theatres over a 19-year period. Annualized data of the report indicates there was one structural fire every four days in legitimate theaters with fixed seats. Approximately 8% of those fires were occurring in the performance or stage areas.

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

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

G86–06/07

410.3.5

Proponent: William Conner, ASTC, Bill Conner Associates LLC, representing the American Society of Theatre Consultants

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 of approved material 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 1025.6.2, 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. The fire curtain shall be designed and installed to intercept hot gases, flames and smoke and to prevent a glow from a severe fire on the stage from showing on the auditorium side for a period of 20 minutes. The closing of the fire curtain from the full open position shall be accomplished in less than 30 seconds, with the last 8 feet (2438 mm) of travel requiring 5 or more seconds for full closure.

Reason: The proscenium opening protection is provide to afford occupants more time for egress. This change will permit facilities designed for entertainment better and more options to do this. In many large venues such as arenas where the amount of combustible materials may exceed that found on stages by an order of magnitude, smoke control is relied upon to protect the audience from burning scenery, curtains, properties, mobile homes, boats, etc. Fire safety curtains don't fit or obstruct the production in many modern theatres. The requirements for m.o.e. today are vastly superior to the era before electricity when stage fires were a hazard; sprinkler technology is well developed and very effective; and the construction type limits combustibles. Together with engineered smoke control systems, the occupants will be much better protected from the hazards of fire than with a proscenium curtain or deluge system. This change would be a move towards a more performance-based design. The cost impact would be no significant change or actually lower cost of construction.

A similar proposal was submitted in the 2002 code change cycle and the reason given for rejection was that combining smoke protected assembly seating with proscenium opening protection was "double dipping". This proposal eliminates that possibility of utilizing smoke control for both proscenium opening protection and increased egress time.

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

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

G87–06/07

410.3.5, 410.3.5.1, 410.3.5.2, 410.3.5.3, 410.3.5.4, Chapter 35

Proponent: William Conner, ASTC, Bill Conner Associates LLC, representing the American Society of Theatre Consultants

1. 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 ~~of approved material complying with NFPA 80 or an approved water curtain complying with Section 903.3.1.1. The fire curtain shall be designed and installed to intercept hot gases, flames and smoke and to prevent a glow from a severe fire on the stage from showing on the auditorium side for a period of 20 minutes. The closing of the fire curtain from the full open position shall be accomplished in less than 30 seconds, with the last 8 feet (2438 mm) of travel requiring 5 or more seconds for full closure.~~

1. Delete without substitution:

410.3.5.1 Activation. ~~The curtain shall be activated by rate of rise heat detection installed in accordance with Section 907.10 operating at a rate of temperature rise of 15 to 20°F per minute (8 to 11°C per minute), and by an auxiliary manual control.~~

410.3.5.2 Fire test. ~~A sample curtain with a minimum of two vertical seams shall be subjected to the standard fire test specified in ASTM E 119 for a period of 30 minutes. The curtain shall overlap the furnace edges by an amount that is appropriate to seal the top and sides. The curtain shall have a bottom pocket containing a minimum of 4 pounds per linear foot (5.9 kg/m) of batten. The exposed surface of the curtain shall not glow, and flame or smoke shall not penetrate the curtain during the test period. Unexposed surface temperature and hose stream test requirements are not applicable to the proscenium fire safety curtain test.~~