

# 2015 GROUP A PROPOSED CHANGES TO THE I-CODES MEMPHIS COMMITTEE ACTION HEARINGS

April 19–28, 2015 Memphis Cook Convention Center Memphis, Tennessee



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# 2015 GROUP A – PROPOSED CHANGES TO THE INTERNATIONAL EXISTING BUILDING CODE

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# TENTATIVE ORDER OF DISCUSSION 2015 PROPOSED CHANGES TO THE INTERNATIONAL EXISTING BUILDING CODE

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation does not necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some EB code change proposals may not be included on this list, as they are being heard by another committee.

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# EB 1-15 [A] 101.4.2, 301.1.1, 301.1.3, 301.1.2, 1301.2, 1401.3.2

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

### 2015 International Existing Building Code

### Revise as follows:

[A] 101.4.2 Buildings previously occupied. The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the <u>retroactive and maintenance provisions of the</u> *International Fire Code*, or the *International Property Maintenance Code*, or as is deemed necessary by the *code official* for the general safety and welfare of the occupants and the public.

**301.1.1 Prescriptive compliance method.** Repairs, alterations, additions and changes of occupancy complying with Chapter 4 of this code in buildings, and complying with the retroactive and maintenance provisions of the International Fire Code shall be considered in compliance with the provisions of this code.

**301.1.3 Performance compliance method.** Repairs, alterations, additions, changes in occupancy and relocated buildings complying with Chapter 14 of this code. and complying with the retroactive and maintenance provisions of the International Fire Code shall be considered in compliance with the provisions of this code.

**301.1.2 Work area compliance method.** Repairs, alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5 through 13 of this code, and complying with the retroactive and maintenance provisions of the International Fire Code shall be considered in compliance with the provisions of this code.

**1301.2 Conformance.** The building shall be safe for human occupancy as determined by the <u>retroactive and maintenance provisions of the International Fire Code</u> and the International Property Maintenance Code. Any repair, alteration, or change of occupancy undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the International Building Code or the International Residential Code as applicable.

1401.3.2 Compliance with other codes. Buildings that are evaluated in accordance with this section shall comply with the <u>retroactive and maintenance provisions of</u> the International Fire Code and International Property Maintenance Code.

**Reason:** This proposal is intended to clarify the intended scope of the reference to the IFC. The IFC has many roles that address new construction, retroactive construction requirements, maintenance and operational requirements. The sections addressed in this proposal are believed to focus primarily on provisions related to maintenance and retroactive provisions minimally. The IEBC itself will address what is intended to be addressed as far as further construction provisions. This is really meant as a clarification. A reference to the IFC in general should lead users to Chapter 1 which would, in Section 102 should explain how the reference is intended to be applied but this is sometimes misinterpreted.

Currently, the general reference to the IFC as in Section 1401.3.2 is sometimes interpreted as meaning the entire fire code thus negating the scoring methods benefits. Compliance in full with the new construction requirements of IFC Chapters 9 and 10 would require most aspects of fire protection and egress to be upgraded regardless of the score the current building would obtain. This was not the intent of the reference to the IFC.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

### Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction as these revisions will simply clarify that the IEBC was only intended to reference the IFC for retroactive and maintenance provisions. Therefore the level of applicability of the IFC will not change.

EB 1-15 : [A] 101.4.2-KULIK4744

# EB 2-15

# [A] 104.2.1, 302.3, 401.2.1, 401.3, [BS] 404.2.1, 407.1, 407.1.1, 408.2, [BS] A106.2, [BS] A107.1, [BS] A108.1, [BS] A113.7, [BS] A206.2, [BS] A505.1

Proponent: Maureen Traxler, City of Seattle, representing City of Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

### 2015 International Existing Building Code

Revise as follows:

[A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the building official shall determine where the proposed work constitutes substantial improvement or repair of substantial damage. Where the building official determines that the proposed work constitutes substantial damage, and where required by this code, the buildingcode official shall require the building to meet the requirements of Section 1612 of the International Building Code.

**302.3 Existing materials.** Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the buildingcode official to be unsafe.

**401.2.1 Existing materials.** Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the <u>buildingcode</u> official to be unsafe per Section 115.

401.3 Dangerous conditions. The buildingcode official shall have the authority to require the elimination of conditions deemed dangerous.

**[BS] 404.2.1 Evaluation.** The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building official*<u>ode official</u>. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *International Building Code* for wind and earthquake loads.

Wind loads for this evaluation shall be those prescribed in Section 1609 of the *International Building Code*. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the *International Building Code*. Alternatively, compliance with ASCE 41, using the performance objective in Table 301.1.4.2 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.

**407.1 Conformance.** No change shall be made in the use or occupancy of any building unless such building is made to comply with the requirements of the *International Building Code* for the use or occupancy. Changes in use or occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the existing building or structure was prior to the change. Subject to the approval of the <del>buildingcode</del> official, the use or occupancy of *existing buildings* shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all of the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

Exception: The building need not be made to comply with the seismic requirements for a new structure unless required by Section 407.4.

**407.1.1 Change in the character of use.** A change in occupancy with no change of occupancy classification shall not be made to any structure that will subject the structure to any special provisions of the applicable *International Codes*, without approval of the *building official* code *official*. Compliance shall be only as necessary to meet the specific provisions and is not intended to require the entire building be brought into compliance.

408.2 Life safety hazards. The provisions of this code shall apply to historic buildings judged by the buildingcode official to constitute a distinct life safety hazard.

**[BS]** A106.2 Existing materials. Existing materials used as part of the required vertical load-carrying or lateral forceresisting system shall be in sound condition, or shall be repaired or removed and replaced with new materials. All other unreinforced masonry materials shall comply with the following requirements:

- 1. The lay-up of the masonry units shall comply with Section A106.3.2, and the quality of bond between the units has been verified to the satisfaction of the building official;
- 2. Concrete masonry units are verified to be load-bearing units complying with ASTM C 90 or such other standard as is acceptable to the building code official; and
- 3. The compressive strength of plain concrete walls shall be determined based on cores taken from each class of concrete wall. The location and number of tests shall be the same as those prescribed for tensile-splitting strength tests in Sections A106.3.3.3 and A106.3.3.4, or in Section A108.1.

The use of materials not specified herein or in Section A108.1 shall be based on substantiating research data or engineering judgment, with the approval of the building <u>code</u> official.

[BS] A107.1 Pointing. Preparation and mortar pointing shall be performed with special inspection.

Exception: At the discretion of the building code official, incidental pointing may be performed without special inspection.

### [BS] A108.1 Values.

- 1. Strength values for existing materials are given in Table A1-D and for new materials in Table A1-E.
- 2. Capacity reduction factors need not be used.
- 3. The use of new materials not specified herein shall be based on substantiating research data or engineering judgment, with the approval of the building code official.

#### [BS] A113.7 Veneer.

 Veneer shall be anchored with approved anchor ties conforming to the required design capacity specified in the building code and shall be placed at a maximum spacing of 24 inches (610 mm) with a maximum supported area of 4 square feet (0.372 m<sup>2</sup>).

Exception: Existing anchor ties for attaching brick veneer to brick backing may be acceptable, provided the ties are in good condition and conform to the following minimum size and material requirements.

Existing veneer anchor ties may be considered adequate if they are of corrugated galvanized iron strips not less than 1 inch (25 mm) in width, 8 inches (203 mm) in length and  $\frac{1}{16}$  inch (1.6 mm) in thickness, or the equivalent.

- 2. The location and condition of existing veneer anchor ties shall be verified as follows:
  - 2.1. An approved testing laboratory shall verify the location and spacing of the ties and shall submit a report to the building code official for approval as part of the structural analysis.
  - 2.2. The veneer in a selected area shall be removed to expose a representative sample of ties (not less than four) for inspection by the building <u>code</u> official.

**[BS] A206.2 Special requirements for wall anchorage systems.** The steel elements of the wall anchorage system shall be designed in accordance with the building code without the use of the 1.33 short duration allowable stress increase when using allowable stress design. Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

Exception: Existing cast-in-place shear anchors are allowed to be used as wall anchors if the tie element can be readily attached to the anchors, and if the

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engineer or architect can establish tension values for the existing anchors through the use of approved as-built plans or testing and through analysis showing that the bolts are capable of resisting the total shear load (including dead load) while being acted upon by the maximum tension force due to an earthquake. Criteria for analysis and testing shall be determined by the building code official.

Expansion anchors are only allowed with special inspection and approved testing for seismic loading.

Attaching the edge of plywood sheathing to steel ledgers is not considered compliant with the positive anchoring requirements of this chapter. Attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this chapter unless testing and/or analysis are performed to establish shear values for the attachment perpendicular to the edge of the deck. Where steel decking is used as a wall anchor system, the existing connections shall be subject to field verification and the new connections shall be subject to special inspection.

[BS] A505.1 General. Structures conforming to the requirements of the ASCE 41 Chapter 4, Screening Phase, are permitted to be shown to be in conformance to this chapter by submission of a report to the building code official, as described in this section.

Reason: The IEBC defines the term "code official" but it then uses both "building official" and "code official." Both terms are used in other International codes, but none of the codes uses both. "Code official" is more appropriate for the IEBC because the IEBC addresses more than Building Code issues. It includes mechanical sections-the IMC uses the term "code official." It includes plumbing sections-the IPC uses the term "code official." The term "code official" is defined in Chapter 2, and is the more general term.

Note that Figure A3-1 and A3-2 also contain the term "building official" and should also be revised to "code official." The figures could not be added to the proposal.

Cost Impact: Will not increase the cost of construction This is an editorial change that will not affect the cost of construction.

Staff Note: Figures A3-1 and A3-2 will be revised to use the term "code official" in place of "building official" if this code change is approved based upon the intent of this proposal as noted in the proponents reason statement.

EB 2-15 : 302.3-TRAXLER3299

# EB 3-15

# 202 (New), 501.2.1 (New)

Proponent: Aaron Wilson, representing Associated Design Partners (awilson@adpengineering.com)

### 2015 International Existing Building Code

Add new definition as follows:

### SECTION 202 DEFINITIONS

**DAMAGE.** Physical distortion or deterioration to any building element, component, or system due to sudden and accidental events or progressive wear and tear, such that the element, component, or system requires either removal and replacement or repair.

### Add new text as follows:

501.2.1 Reconfiguration of space. Where determining what portions of the building are part of the work area, the reconfigured space shall include the rearrangement or relocation of interior and exterior; walls, floors, ceilings, and roofs, where the spacial volume of any habitable spaces is changed by more the 5%.

#### Exceptions:

- 1. The alteration or expansion of electrical and mechanical systems incidental to, and within the renovation work scope, required for compliance to this code, provided that the expansion serves the same purpose as the previous system without inclusion of new equipment and fixtures not required for compliance to this code.
- 2. Changing the size of existing windows and doors for purposes of improving means of egress and compliance with this code.

Reason: For improved clarity of what is considered damage and what is considered a reconfiguration of space.

#### Cost Impact: Will not increase the cost of construction

This proposed code change (added definition) will not increase the cost of construction. It will add clarity, avoid confusion and not make incidental code upgrades push a repair project into an alteration Level 2 classification. The 5% volume alteration clause will allow minor code mandated alterations without triggering a reconfiguration of space. Example, replacing 1/2" GWB with one or even two layers of 5/8" fire rated GWB over a 1" layer of rigid foam insulation needed for improved fire rating and improved insulation performance, should be allowed without being construed by some Architects and CEO as a reconfiguration and thus an alteration level 2 or 3.

EB 3-15 : 202-DAMAGE (New)-WILSON5704

# EB 4-15

202 (New)

Proponent: Maureen Traxler, representing Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

### 2015 International Existing Building Code

Revise as follows:

### SECTION 202 DEFINITIONS

[A] EXISTING BUILDING. A building erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.

### Add new text as follows:

[A] EXISTING STRUCTURE A structure erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued. For application of provisions in flood hazard areas, an existing structure is any building or structure for which the start of construction commenced before the effective date of the community's first flood plain management code, ordinance or standard.

Reason: The IEBC uses both the terms "existing building" and "existing structure" but only defines "existing building." Some code sections use "existing building"; some use "existing structure"; other sections use "existing building or structure." Section 501.1 is an example. "501.1 Scope. The provisions of this chapter shall ... apply to the alteration, repair, addition and change of occupancy of existing structures.... The work performed on an existing building shall be classified in accordance with this chapter."

After reviewing the use of the terms "existing building" and "existing structure" in the IBC and IEBC, we concluded that the terms are used interchangeably, and that including both definitions is the most reasonable way to coordinate the use of these terms. This proposal adds the IBC definition of "existing structure" to the IEBC. The definition for "existing building" will be modified to include a sentence about flood hazard areas that is copied from the definition of "existing structure" in Group B. The definition for "existing building" is controlled by the Admin committee.

The IBC defines "existing structure" but not "existing building." This proposal is the first step in correlating the two definitions in the IEBC and IBC. Changes to the IBC will be considered in Group B; if this proposal is successful, we will propose similar changes to the IBC.

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

Staff note: The term existing building is maintained by the Administrative Committee. This is an errata to the IEBC.

EB 4-15 : 202-EXISTING BUILDING-TRAXLER4261

# EB 5-15

301.1

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

# 2015 International Existing Building Code

Revise as follows:

**301.1 General.** The *repair, alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to *repair, alteration, change of occupancy, addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4 regardless of which compliance method is used.

Exception: Other than in flood hazard areas or regarding structural provisions, and Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode. Alterations* of *existing buildings in flood hazardareas* shall comply with Section 701.3.

Reason: This proposal retains the exception that allows the code official to waive certain architectural and other requirements that the IEBC would normally trigger in alteration projects. It removes that exception, however, regarding structural provisions that would have been triggered by alterations.

The current exception already does not apply to alterations in flood hazard areas (which sometimes trigger structural improvements) or to substantial structural alterations. So the proposal does not change those cases at all.

The proposal eliminates the potential that the IEBC's basic structural requirements might be undermined by a code official's discretion, or, more likely, by a permit applicant who reads this exception as a way to demand a discretionary waiver. Since very few code officials would be comfortable waiving these structural safety provisions, the proposal actually helps them enforce the code as intended.

Further, the existing exception is unclear. It refers to "laws in existence at the time the building ... was built." But if the intent is to waive requirements triggered by alterations, this language ignores, or forgets, the fact that older codes for a long time had alteration provisions that triggered structural upgrade -- often with requirements more onerous than those in the current IEBC. So does a permit applicant claiming compliance with the "laws in existence" a generation ago also intend to comply with those outdated triggers? This proposal removes that potential confusion.

Since the existing structural provisions for alterations are already measured, already allow reduced loads and alternative criteria in many cases, and already trigger structural improvements only in rare and severe cases, the proposed change to this exception should have little impact except to affirm that structural safety is fundamental to the code's intent.

#### Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction, but it could, hypothetically, limit the cases in which the code official could effectively reduce the cost of construction by waiving structural safety requirements. In practice, no increase in the cost of construction should be expected, however, since the proposal does not change any of the code's provisions, but only changes what was a discretionary waiver.

EB 5-15 : 301.1 -BONOWITZ5196

# EB 6-15 301.1

**Proponent:** Maureen Traxler, Seattle Dept of Planning & Development, representing Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

# 2015 International Existing Building Code

Revise as follows:

**301.1 General.** The *repair, alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to *repair, alteration, change of occupancy, addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode. Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 403.2, 701.3 or 1401.3.3.

Reason: This exception refers only the work area method for alterations in flood hazard areas. The prescriptive and performance methods have provisions similar to Section 701.3, so this exception should also refer to them.

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

EB 6-15 : 301.1-TRAXLER3457

# EB 7-15 301.1, 301.2 (New)

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

### 2015 International Existing Building Code

Revise as follows:

**301.1 General.** The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to *repair*, *alteration*, *change of occupancy*, *addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode*. *Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 701.3.

### Add new text as follows:

301.2 Seismic evaluation and design criteria Where required, seismic evaluation or design shall be based on the criteria given in this section, regardless of which compliance method is used.

### Renumber as follows:

[BS] 301.1.4.1301.2.1 Compliance with International Building Code-level seismic forces. (No change to text)

### TABLE [BS] <del>301.1.4.1</del>301.2.1

PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH INTERNATIONAL BUILDING CODE-LEVEL SEISMIC FORCES (No change to table)

[BS] 301.1.4301.2.1 Seismic evaluation and design procedures. (No change to text)

[BS] 301.1.4.2301.2.2 Compliance with reduced International Building Code-level seismic forces. (No change to text)

### TABLE [BS] <del>301.1.4.2</del>301.2.2

PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH REDUCED INTERNATIONAL BUILDING CODE-LEVEL SEISMIC FORCES (No change to table)

Reason: The last sentence of Section 301.1 does not belong with the first two. In fact, its presence makes the Exception to Section 301.1 confusing -- does the exception apply to the first two sentences or to the third?

The easy solution is to pull out this sentence and put it with the seismic criteria currently in Section 301.1.4. Ideally, all the seismic provisions here should be in their own section within Chapter 3 -- either new section 301.2, or better still, new section 303 -- but the rest of 301.1.4 cannot be touched in Group A. If this proposal is approved, a coordinating proposal will be submitted in Group B (or, this entirely editorial reorganization can be left to staff).

**Cost Impact:** Will not increase the cost of construction The proposal is entirely editorial.

EB 7-15 : 301.1 -BONOWITZ5197

# EB 8-15 301.1, [BS] 301.1.4, [BS] 301.1.4.1, [BS] Table 301.1.1.4.1, [BS] 301.1.4.2, [BS] Table 301.1.1.4.2, 303 (New)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee(bcac@iccsafe.org)

### 2015 International Existing Building Code

Revise as follows:

### SECTION 301 ADMINISTRATION

**301.1 General.** The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to *repair*, *alteration*, *change of occupancy*, *addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section <del>301.1.4303.1</del> regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode. Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 701.3.

**301.1.1 Prescriptive compliance method.** Repairs, alterations, additions and changes of occupancy complying with Chapter 4 of this code in buildings complying with the International Fire Code shall be considered in compliance with the provisions of this code.

**301.1.2 Work area compliance method.** Repairs, alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5 through 13 of this code shall be considered in compliance with the provisions of this code.

301.1.3 Performance compliance method. Repairs, alterations, additions, changes in occupancy and relocated buildings complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

#### Add new section as follows:

### SECTION303 SEISMIC EVALUATION AND DESIGN PROCEDURES

Renumber subsequent sections:

[BS] 301.1.4 303.1 Seismic evaluation and design procedures General. (No change to text)

[BS] 301.1.4.1 303.1.1 Compliance with International Building Code-level seismic forces. (No change to text)

#### TABLE [BS] 3<del>301.1.4.1<u>303.1.1</u></del>

PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH INTERNATIONAL BUILDING CODE-LEVEL SEISMIC FORCES (No change to Table)

[BS] 301.1.4.2 303.1.2 Compliance with reduced International Building Code-level seismic forces. (No change to text)

#### TABLE [BS] 301.1.4.2303.1.2

PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH REDUCED INTERNATIONAL BUILDING CODE-LEVEL SEISMIC FORCES (No change to Table)

Reason: The code change proposal is to move the seismic evaluation and design procedures out of the same section and code hierarchy as the three compliance methods and places it in its own section. With the location of the seismic evaluation and design procedure reference in 301.1, it can potentially confuse the code user since two items need to happen in the current 301; choose a method and do a seismic evaluation.

Since the topic is separate and distinct, the proposal moves it to a separate section to ensure it is independent of the compliance method choice by the applicant.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: Will not increase the cost of construction

Cost impact: Code proposal is only to clarify the existing code requirements through a relocation (reorganization) of code sections, so there is no intended increase or decrease expected by approving this proposal.

EB 8-15 : 301.1-KULIK4888

# EB 9-15

### 301.1, 301.1.1, Chapter 4, 1401.2.5, [BS] B101.3, [BS] B101.4

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

### 2015 International Existing Building Code

Delete without substitution:

### **CHAPTER 4 PRESCRIPTIVE COMPLIANCE METHOD**

(Delete entire chapter) (Renumber subsequent chapters)

### Revise as follows:

**301.1 General.** The *repair, alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1 through 301.1.2 or 301.1.2 as selected by the applicant. Sections 301.1.1 through 301.1.2 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to *repair, alteration, change of occupancy, addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode. Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 701.3.

#### Delete without substitution:

301.1.1 Prescriptive compliance method. Repairs, alterations, additions and changes of occupancy complying with Chapter 4 of this code in buildings complying with the International Fire Code shall be considered in compliance with the provisions of this code.

### Revise as follows:

**301.1.2301.1.1** Work area compliance method. Repairs, alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5 through 13 of this code shall be considered in compliance with the provisions of this code.

301.1.3301.1.2 Performance compliance method. Repairs, alterations, additions, changes in occupancy and relocated buildings complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

#### (Renumber subsequent sections)

1401.2.5 Accessibility requirements. Accessibility shall be provided in accordance with Section 410 or 605705.

**[BS] B101.3 Qualified historic buildings and facilities subject to Section 106 of the National Historic Preservation Act.** Where an *alteration* or *change of occupancy* is undertaken to a qualified *historic building* or facility that is subject to Section 106 of the National Historic Preservation Act, the federal agency with jurisdiction over the undertaking shall follow the Section 106 process. Where the state historic preservation officer or Advisory Council on Historic Preservation determines that compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, the alternative requirements of Section <del>100.1204.1</del> for that element are permitted.

**[BS] B101.4 Qualified historic buildings and facilities not subject to Section 106 of the National Historic Preservation Act.** Where an *alteration* or *change of occupancy* is undertaken to a qualified *historic building* or facility that is not subject to Section 106 of the National Historic Preservation Act, and the entity undertaking the alterations believes that compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, the entity shall consult with the state historic preservation officer. Where the state historic preservation officer determines that compliance with the accessibility requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historical significance of the building or facility, the alternative requirements of Section 410.9-1204.1 for that element are permitted.

Reason: The intent of this proposal is to <u>consider</u> removing the Prescriptive compliance method from the IEBC, leaving the Work Area compliance method and the Performance compliance method in place.

Note: For purposes of brevity, the balance of Chapter 4 is not shown, but the intent is that Chapter 4 would be removed in its entirety, with corresponding changes to chapter and section numbers and related cross-referencing throughout the code.

The IEBC was created to implement the Work Area method. For continuity purposes, the two methods already in IBC Chapter 34 -- the Prescriptive and Performance methods -- were added to the IEBC upon its initial publication over a decade ago. The idea was that having three broad options would aid transition to the new code. Since then, the IEBC has enjoyed wide adoption, the Work Area method has become known and used, and revisions have been made to all three methods to reconcile many of the differences among them. Indeed, over the last three cycles, the structural provisions of the Prescriptive and Work Area methods have been made nearly identical.

Meanwhile, and especially because the IBC now refers to the IEBC in lieu of its own Chapter 34, many are questioning why the IEBC still needs multiple methods. It makes implementation confusing, and it puts a burden on jurisdiction adoption committees, code officials, design professionals, and permit applicants to weigh the advantages and disadvantages of each method. In some cases it leads to garning. Some jurisdictions have simply not adopted one or another method, to facilitate consistent enforcement. Unfortunately, some proposals to solve the problem of multiple methods would link or cross-reference them, just to minimize duplication of text. While well-intentioned, this will only make using the IEBC more confusing and difficult (and will violate the intent of Section 301.1 that the methods should remain distinct and not used in a mix-and-match fashion). The better approach is to reconcile differences between the methods, and then eliminate the older, less accommodating Prescriptive method.

Perhaps the time for that is now. Perhaps it is time, after four code cycles, to reconsider the initial intent of the IEBC: To regulate work on existing buildings by project type, with nuances and considerations that require more than a single code chapter.

If the code's users, writers, and stakeholders agree that the Prescriptive and Work Area methods are by now sufficiently similar, we can eliminate the older Prescriptive method with little or no impact, using the public comment period and the time between now and 2018 to iron out the necessary editorial, administrative and coordination changes. If not - that is, if there is even a significant minority in rational opposition -- then we can approve the proposal at the hearings, use the public comment period to identify irreconcilable differences, disapprove or withdraw the proposal if necessary as a final action, and work on reconciliation for the 2021 IEBC. At the very least, however, this proposal represents an opportunity to hear from the IEBC committee and the code's users about whether and when the Prescriptive method ought to be retired.

#### Cost Impact: Will not increase the cost of construction

If the Prescriptive Method and the Work Area Method are similar enough to justify approval of this proposal, then removal of the Prescriptive method cannot result in a significant cost increase.

EB 9-15 : 301.1-BONOWITZ5264

# EB 10-15

301.1 (New), 301.2 (New), 301.1, 301.1.1, 301.1.2, 301.1.3, 401.1, 401.1.1, 401.2.2, 404, 501.1, 501.1.1, 502, 1401.1, 1401.1.1, 1401.2.4

Proponent: Edward Kulik, Chair, representing Building Code Action Committee(bcac@iccsafe.org)

### 2015 International Existing Building Code

# Relocate Chapter 6 as follows:

64 REPAIRS (Runumber Subsequent sections in this Chapter) (Renumber Chapters 4 and 5)

Revise as follows:

### SECTION 301 ADMINISTRATION

301.1 General. The repair, alteration, change of occupancy, addition or relocation of all existing buildings shall comply with Section 301.2 or 301.3, as applicable.

### 301.2 Repairs Repairs shall comply with the requirements of Chapter 4.

**301.1301.3 General-Alteration, change of occupancy, addition or relocation** The*repair,*\_*alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 301.1.1301.3.1 through 301.1.3301.3.3 as selected by the applicant. Sections 301.1.1301.3.1 through 301.1.3301.3.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic forceresisting system of an *existing building* subject to*repair,*\_*alteration, change of occupancy, addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4301.3.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode*. *Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 701.3.

**301.1.1301.3.1** Prescriptive compliance method. *Repairs, alterations*, *additions* and *changes of occupancy* complying with Chapter 45 of this code in buildings complying with the *International Fire Code* shall be considered in compliance with the provisions of this code.

301.1.2301.3.2 Work area compliance method. *Repairs, alterations* Alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5-6 through 13 of this code shall be considered in compliance with the provisions of this code.

301.1.3301.3.3 Performance compliance method. *Repairs, alterations*, *Alterations, additions*, changes in occupancy and relocated buildings complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

(Renumber subsequent sections)

**401.1 Scope.** The provisions of this chapter shall control the *alteration, repair, addition* and *change of occupancy* or relocation of *existing buildings* and structures, including *historic buildings* and structures as referenced in Section <del>301.1.1301.3.1</del>.

Exception: Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

401.1.1 Compliance with other methods. Alterations, repairs, additions and changes of occupancy to or relocation of, existing buildings and structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1301.3.

**401.2.2 New and replacement materials.** Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for*repairs andalterations*, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

### Delete without substitution:

#### **SECTION 404 REPAIRS**

404.1 General. Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2 and 404. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2, ordinary repairs exempt from permit in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

[BS] 404.2 Substantial structural damage to vertical elements of the lateral force-resisting system. A building that has sustained substantial structural damage to the vertical elements of its lateral force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 404.2.1 through 404.2.3.

#### Exceptions:

- 1. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
- 2. One- and two family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

**[BS]** 404.2.1 Evaluation. The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *International Building Code* for wind and earthquake loads.

Wind loads for this evaluation shall be those prescribed in Section 1609 of the *International Building Code*. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the *International Building Code*. Alternatively, compliance with ASCE 41, using the performance objective in Table 301.1.4.2 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.

[BS] 404.2.2 Extent of repair for compliant buildings. If the evaluation establishes compliance of the predamage building in accordance with Section 404.2.1, then repairs shall be permitted that restore the building to its predamage state.

**[BS] 404.2.3 Extent of repair for noncompliant buildings.** If the evaluation does not establish compliance of the predamage building in accordance with Section 404.2.1, then the building shall be rehabilitated to comply with applicable provisions of the *International Building Code* for load combinations that include wind or seismic loads. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be as required by the *International Building Code*. Earthquake loads for this rehabilitation design shall be those required for the design of the predamage building, but not less than 75 percent of those prescribed in Section 1613 of the *International Building Code*. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the *International Building Code* for new buildings of similar

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structure, purpose and location. Alternatively, compliance with ASCE 41, using the performance objective in Table 301.1.4.2 for the applicable risk category, shall be deemed to meet the earthquake rehabilitation requirement.

**[BS] 404.3 Substantial structural damage to gravity loadcarrying components.** Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions of the *International Building Code* for dead and live loads. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of *approved* design indicating the *approved* live load. Nondamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the *rehabilitation* design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.

[BS] 404.3.1 Lateral force-resisting elements. Regardless of the level of damage to vertical elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building shall be evaluated in accordance with Section 404.2.1 and, if noncompliant, rehabilitated in accordance with Section 404.2.3.

#### Exceptions:

- 1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
- 2. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

[BS] 404.4 Less than substantial structural damage. For damage less than substantial structural damage, repairs shall be allowed that restore the building to its predamage state. New structural members and connections used for this repair shall comply with the detailing provisions of the International Building Code for new buildings of similar structure, purpose and location.

**[BS] 404.5 Flood hazard areas.** For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable, any repair that constitutes *substantial improvement* or repair of *substantial damage* of the existing structure shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the International Building Code, or Section R322 of the International Residential Code, as applicable, any repairs that do not constitute substantial improvement or repair of substantial damage of the existing structure are not required to comply with the flood design requirements for new construction.

### Revise as follows:

**501.1 Scope.** The provisions of this chapter shall be used in conjunction with Chapters 6-7 through 13 and shall apply to the *alteration, repair, addition* and *change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.2. The work performed on an *existing building* shall be classified in accordance with this chapter.

501.1.1 Compliance with other alternatives. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of Chapters 6-7 through 13 or with one of the alternatives provided in Section 301.1.

#### Delete without substitution:

### SECTION 502 REPAIRS

502.1 Scope. *Repairs*, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

502.2 Application. Repairs shall comply with the provisions of Chapter 6.

502.3 Related work. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the provisions of Chapter 7, 8, 9, 10 or 11.

#### **Revise as follows:**

**1401.1 Scope.** The provisions of this chapter shall apply to the *alteration, repair, addition* and *change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.3 301.3.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings* while permitting *repair, alteration, addition* and *change of occupancy* without requiring full compliance with Chapters 5 6 through 13, except where compliance with other provisions of this code is specifically required in this chapter.

1401.1.1 Compliance with other methods. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1\_301.3.

1401.2.4 Alterations and repairs. An existing building or portion thereof that does not comply with the requirements of this code for new construction shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. If, in the *alteration* or *repair*, the current level of safety or sanitation is to be reduced, the portion altered or <del>repaired</del> shall conform to the requirements of Chapters 2 through 12 and Chapters 14 through 33 of the *International Building Code*.

Reason: The purpose of this code change is to remove the topic of repair from the three compliance methods and to move repair into one standalone chapter. The topic of repairs is fairly simple but the way the three methods handle the topic very differently:

Prescriptive method- Specific requirements on structural repairs only, general statement on other topics with code official discretion on 'dangerous' situations

• Work area method- Specific requirements for structural (identical to prescriptive method), building materials, fire protection, accessibility, mechanical, plumbing, and electrical.

• Performance method- General requirements only and reference to the IBC for thresholds.

The IEBC has three different methods to give choices in the design of existing buildings. The reason for the choice to the applicant is to give options since every existing building is different, using legacy materials and having legacy code requirements. This is not the case for repairs.

As an example, the prescriptive method would allow items like glazing in hazardous locations non-NEMA electrical receptacles in hospitals to be replaced in kind whereas the work area method sets a baseline on these items. Since repair items don't usually get a permit or inspection, there is really little need for options in replacing something for the sole purpose of it's maintenance.

The proposal moves this topic to right before the prescriptive method and the chapters would be:

- 1-Admin
- 2-Definitions 3-General Requirements for all compliance methods 4-Repairs 5-Prescriptive
- 6-Work Area Classification of Work
- 7-Alt. 1
- 8- Alt. 2
- 9- Alt. 3
- 10- Change of Occupancy

- 13- Relocated Buildings
- 14- Performance Method
- 15- Safeguards
- 16- Referenced Standards

One item that would generally require a building permit would be damaged buildings. However, damaged buildings only specifically address structural items of which are currently identical in the prescriptive and work area methods. Therefore, no technical change is created by this change.

The alternative to this change would be to correlate repairs in the three methods and copy them into the three applicable chapters. However, a single chapter does not remove any options currently available, is correlated for the code user, and will minimize different requirements on the same topic in future code cycles.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

### $\label{eq:cost_cost_cost_cost} \textbf{Cost Impact:} \ \textbf{Will not increase the cost of construction}$

Cost impact: Code proposal is only to clarify the existing code requirements through a relocation (reorganization) of code sections, so there is no intended increase or decrease expected by approving this proposal.

EB 10-15 : 301.1 (New)-KULIK4786

<sup>12-</sup> Historic Buildings

# EB 11-15 301.1, 301.2 (New), 301.1.2, 301.1.3, 301.3 (New), 401.1, 401.1.1, 409, Chapter 13, 1401.1

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

### 2015 International Existing Building Code

### Relocate Chapter 13 as follows:

# 1314 RELOCATED OR MOVED BUILDINGS

(Renumber all subsequent sections in this chapter) (Renumber Chapter 14 Prescriptive Method to be Chapter 13)

### SECTION 301 ADMINISTRATION

**301.1 General.** The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with one301.2 or 301.3 of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other<u>this section</u>. Where this code requires consideration of the seismic forceresistingforce resisting system of an *existing building* subject to *repair*, *alteration*, *change of occupancy*, *addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 301.1.4 solution 201.1.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 907.4.4. New structural members added as part of the *alteration* shall comply with the *International BuildingCode. Alterations* of *existing buildings* in *flood hazardareas* shall comply with Section 701.3.

#### Add new text as follows:

301.2 Repairs, alterations, change of occupancy, and additions. The repair, alteration, change of occupancy, or addition of all existing buildings shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.2.1 through 301.2.3 shall not be applied in combination with each other.

#### Revise as follows:

301.1.1301.2.1 Prescriptive compliance method. Repairs, alterations, additions and changes of occupancy complying with Chapter 4 of this code in buildings complying with the International Fire Code shall be considered in compliance with the provisions of this code.

301.1.2301.2.2 Work area compliance method. Repairs, alterations, additions, and changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5 through 1312 of this code shall be considered in compliance with the provisions of this code.

301.1.3301.2.3 Performance compliance method. Repairs, alterations, additions, and changes in occupancy and relocated buildings complying with Chapter 1413 of this code shall be considered in compliance with the provisions of this code.

(Renumber subsequent sections)

### Add new text as follows:

301.3 Relocated Buildings Relocated buildings shall comply with the requirements of Chapter 14.

### Revise as follows:

**401.1 Scope.** The provisions of this chapter shall control the *alteration, repair, addition* and *change of occupancy or relocation* of *existing buildings* and structures, including *historic buildings* and structures as referenced in Section 301.1.1 301.2.1.

Exception: Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

401.1.1 Compliance with other methods. Alterations, repairs, additions and changes of occupancy to or relocation of, existing buildings and structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1301.2.

#### SECTION409 MOVED STRUCTURES

409.1 Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

(Renumber subsequent sections)

**1401.1 Scope.** The provisions of this chapter shall apply to the *alteration, repair, addition* and *change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.3301.2.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings* while permitting *repair, alteration, addition* and *change of occupancy* without requiring full compliance with Chapters 5 through 1312, except where compliance with other provisions of this code is specifically required in this chapter.

(Renumber subsequent sections)

Reason: The purpose of this code change is to adequately address relocated or moved buildings in the IEBC. Currently, the three compliance methods address relocated/moved buildings in their respective scopes. This change will relocate Chapter 13, Relocated or Moved Buildings, and make it generally applicable for all three methods. The topic is currently handled the following way:

Prescriptive Method- "Meet this code for new structures" [IEBC doesn't deal with new structures] Work Area Method- Specific chapter that is not based upon the hierarchy of the work area method Performance Method- No requirements provided

In short, the only method that has technical requirements is Chapter 13. Since the IBC covers relocated buildings in its scope, the use of new structure requirements for relocated or moved buildings is always an option anyway.

The IEBC has three different methods to give choices in the design of existing buildings. The reason for the choice to the applicant is to give options since every existing building is different, using legacy materials and having legacy code requirements. This is not the case for relocated buildings as the intent is to reuse an existing building in a different location rather than complete other rehabilitation work.

The Chapter layout would look like this:

1-Admin

2-Definitions

3-Prescriptive

4-General Requirements for all compliance methods

16- Referenced Standards

In the alternative, a code change could be to modify the prescriptive method to have an appropriate reference to the IBC as well as the performance method to have some direction on the issue within it.

As a correlation note; if this proposal is denied by either the BCAC or the code development committee, a proposal has to go forward to repair IEBC 409.1 to reference the IBC.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

### Cost Impact: Will not increase the cost of construction

Code proposal is only to clarify the existing code requirements through a relocation (reorganization) of code sections, so there is no intended increase or decrease expected by approving this proposal.

EB 11-15 : 301.1-KULIK4755

# EB 12-15

# 301.1.1, 301.1.2, 301.1.3

Proponent: Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

### 2015 International Existing Building Code

### Revise as follows:

**301.1.1 Prescriptive compliance method.** Repairs, alterations, additions\_and\_changes of occupancy and relocation of existing buildings and structures, including historical buildings\_complying with Chapter 4 of this code in buildings complying with the International Fire Code shall be considered in compliance with the provisions of this code.

**301.1.2** Work area compliance method. *Repairs, alterations, additions, changes inof occupancy of existing structures, including historic and relocated buildingsmoved structures* complying with the applicable requirements of Chapters 5 through 13 of this code shall be considered in compliance with the provisions of this code.

**301.1.3 Performance compliance method.** *Repairs, alterations, additions,* changes in of occupancy of existing structures, including historic and relocated buildingsmoved structures complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

Reason: This change brings these sections in line with Sections 401.1, 501.1 and 1401.1, respectively.

**Cost Impact:** Will not increase the cost of construction This proposal is editorial.

EB 12-15 : 301.1.1-MAIEL4689

# EB 13-15 301.1.5 (New)

**Proponent:** David Collins, representing The American Institute of Architects (dcollins@preview-group.com); Ronald Nickson (rnickson@nmhc.org), representing National Multi-housing Council; Kevin Fry, BOMA International (Kfry@BOMA.org), representing BOMA International; Dan Buuck (dbuuck@nahb.org), representing NAHB

### 2015 International Existing Building Code

Add new text as follows:

301.1.5 Compliance with accessibility Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.

**Reason:** Dramatic changes are being proposed in the next edition of the ICC A117.1 standard that will accommodate a higher number of individuals. For example, the turning radius is being changed from 60" diameter to a 67" diameter, and clear floor space from 30"x48" to 30"x52" and related access to features. While these changes are able to be incorporated into new construction relatively easily, existing buildings that have been designed to conform with earlier standards or were modified to meet those earlier standards are likely to find that full compliance will create problems. Even using provisions based on the technical infeasibility for compliance will still require compliance in some circumstances that aren't justifiable financially and physically. The Department of Justice in development of the 2010 ADA Standard allows for "grandfathering" of elements in an existing building that have already been made to conform and are found to comply with the earlier ADA standard. The 2009 edition of A117.1 provides the most comprehensively structured provisions for compliance will the original ADA and HUD standard, which is why a specific alterations or change of occupancy must be modified.

### Cost Impact: Will not increase the cost of construction

This change will reduce the cost of construction where changes have already been made to features of a building to conform to older accessibility standards. Under the proposed changes to A117.1 significant cost would be required to conform to these requirements often in areas where upgrades have already been performed in areas such as toilet rooms to meet the barrier removal requirements of the ADA or because of alterations and change of occupancy under the I-Codes when that work had been done prior to the adoption of this new standard.

Staff Note: If this code change is successful, the edition referenced for ICC A117.1 in Chapter 16 will remain the 2009 edition.

EB 13-15 : 301.1.5 (New)-COLLINS4462

# EB 14-15

## 401.2, 401.2.1, 401.2.2, 401.2.3, 403.1, 404.1, 602.1, 602.2

**Proponent:** David Bonowitz, representing Existing Buildings Subcommittee, National Counci of Structural Engineers Associations (dbonowitz@att.net)

## 2015 International Existing Building Code

Delete without substitution:

401.2 Building materials and systems. Building materials and systems shall comply with the requirements of this section.

401.2.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be unsafe per Section 115.

401.2.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

401.2.3 Existing seismic force-resisting systems. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of *R*, <sub>0</sub> and *C*<sub>o</sub>for the existing seismic force-resisting system shall be those specified by the *International Building Code* for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a detailed, intermediate or special system.

#### Revise as follows:

**403.1 General.** Except as provided by Section 401.2Sections 302.3. 302.4. or this section, *alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*.

#### Exceptions:

- 1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
- Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

**404.1 General.** Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2 and 404<u>this section</u>. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2<u>Maintenance</u>, ordinary repairs exempt from permit in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

### Delete without substitution:

602.1 Existing building materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to render the building or structure unsafe or dangerous as defined in Chapter 2.

602.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no *dangerous* or *unsafe* condition, as defined in Chapter 2, is created. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

Reason: The proposal removes provisions that were already moved to Chapter 3 in the last cycle. When they were moved, however, the remaining duplicate provisions addressed by this proposal could not be deleted because of Group assignments.

Sections 401.2.1, 401.2.2, 602.1, and 602.2 are now in Sections 302.3 and 302.4. Section 401.2.3 is now in Sections 301.1.4.1 and 301.1.4.2.

If 401.2.1 - 401.2.3 are deleted as proposed, the balance of 401.2 can be deleted as well.

Section 403.1 is revised accordingly to cite the existing sections that cover new and existing materials.

In Section 404.1, the two references to Section 401.2 are removed and not replaced because they are actually erroneous references that should have been removed in a previous cycle. Their removal here is at most editorial, but could even be construed as errata. The reference to 401.2 used to match a provision in IBC Chapter 34 that referred to Section 3401.2 Maintenance, but that section no longer exists in the IEBC in any of its compliance methods. The first instance could be revised to refer instead to 302.4, but it is frankly not needed, as 302.4 applies even without a direct reference. The second instance is clearly a mistaken reference to the old maintenance provision, not a reference to the current provisions about new and existing materials.

| Cost Impact: Will not increase the cost of construction |
|---|
| The proposal is entirely editorial.                     |

EB 14-15 : 401.2-BONOWITZ5169

# EB 15-15 401.2.1, 401.2.2, 602.1, 602.2

Proponent: Kathleen Petrie, representing City of Seattle, Department of Planning and Development (kathleen.petrie@seattle.gov)

### 2015 International Existing Building Code

Delete without substitution:

401.2.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be unsafe per Section 115.

401.2.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

602.1 Existing building materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to render the building or structure unsafe or dangerous as defined in Chapter 2.

602.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no *dangerous* or *unsafe* condition, as defined in Chapter 2, is created. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

Reason: This proposal deletes the "Existing [Building] Materials" and "New and Replacement Materials" sections from Chapters 4 and 6 because they are already inserted in chapter 3. The content in Chapter 3 applies to all methods in the IEBC so deleting these sections in the other method chapters reduces redundancy.

Cost Impact: Will not increase the cost of construction

This modification does not change the requirement. It removes unnecessary redundancy from other chapters, so costs are not increased or decreased

EB 15-15 : 401.2.1-PETRIE3587

# EB 16-15

# 401.2.4 (New)

**Proponent:** Maureen Traxler, Seattle Dept of Planning & Development, representing Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

# 2015 International Existing Building Code

Add new text as follows:

401.2.4 Fire resistance ratings Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Building Code has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the International Building Code.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means-of-egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

Reason: The proposed language is identical to Section 803.6. The language was added to the 2015 IEBC by EB 26-13. The reason offered for EB26-13 was:

"The topic of allowing the ability to apply sprinkler protection trade-offs that exist in the current code has been a matter of discussion in the code development arena for some time. How to apply the allowance for a potential reduction in fire-resistance ratings and in what code they belong have been discussed without a consensus.

"The concept is that once a building without sprinkler protection has been sprinklered throughout, whether due to renovations or retroactive code application, the designer should be permitted to allow the same fire resistance rating provisions for new construction in an existing sprinklered building. The issue is how to provide for that application of code and ensure a proper review by the building code official is performed to ensure there are no impediments to granting an approval that may result in the reduction of existing levels of protection.

"This proposal attempts to provide for that process by adding a new section to the IEBC under Section 806 Building Elements and Materials. The suggested language provides that once an existing building is sprinklered throughout and meets the other fire protection requirements of Chapter 9 of the IBC, plans, investigation and evaluation reports, and other data can be submitted seeking approval of the code official for the assignment of the new fire-resistance ratings which might me a reduction, or potentially an increase.

"The suggested language also requires that any special construction features, conditions of occupancy, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted. This is to ensure special conditions are identified that may prevent a reduction in fire-resistance ratings."

In the 2015 IEBC, the new section applies only to the work area method of compliance, but the reasoning applies equally well to the prescriptive method. The proposed language doesn't work well with the performance method because that method relies heavily on consideration of individual building features.

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

EB 16-15 : 401.2.4 (New)· TRAXLER3416

# EB 17-15

# 401.3, 1401.3.1

Proponent: Maureen Traxler, representing Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

# 2015 International Existing Building Code

### Delete without substitution:

401.3 Dangerous conditions. The building official shall have the authority to require the elimination of conditions deemed dangerous.

1401.3.1 Hazards. Where the code official determines that an unsafe condition exists as provided for in Section 115, such unsafe condition shall be abated in accordance with Section 115.

**Reason:** These two sections are unnecessary. Section 115 covers unsafe buildings more comprehensively than Section 401 and Section 1401.3. The subject of unsafe buildings is also addressed in two other sections, but those sections serve different purposes. Section 1202.2 states that historic buildings are not required to have more work than is necessary to correct the unsafe condition. Section 1008.2 serves a similar purpose with regard to electrical systems and change of occupancy.

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

EB 17-15 : 401.3-TRAXLER3300

# EB 18-15

# 401.4 (New), 804.2.4.1 (New)

Proponent: Richard Wood, University of Massachusetts-Lowell, representing University of Massachusetts-Lowell (richard\_wood@uml.edu)

### 2015 International Existing Building Code

### Add new text as follows:

401.4 Pyrophoric materials. Pyrophoric materials shall be permitted to be stored or used in existing buildings in accordance with any one of the following conditions.

- 1. <u>One hundred percent of the maximum allowable quantity in accordance with IBC Table 307.1(1) in buildings equipped throughout with an approved</u> automatic sprinkler system.
- 2. Fifty percent of the maximum allowable quantity in accordance with IBC Table 307.1(1) for storage or use in buildings on floors equipped throughout with an approved automatic sprinkler system.
- 3. <u>Twenty five percent of the maximum allowable quantity in accordance with IBC Table 307.1(1) in buildings where all locations of storage and use are protected with an approved special hazards point suppression system.</u>

**804.2.4.1** Pyrophoric materials. Pyrophoric materials shall be permitted to be stored or used in existing buildings in accordance with any one of the following conditions.

- 1. <u>One hundred percent of the maximum allowable quantity in accordance with IBC Table 307.1(1) in buildings equipped throughout with an approved automatic sprinkler system, or</u>
- 2. Fifty percent of the maximum allowable quantity in accordance with IBC Table 307.1(1) for storage or use in buildings on floors equipped throughout with an approved automatic sprinkler system, or
- 3. <u>Twenty five percent of the maximum allowable quantity in accordance with IBC Table 307.1(1)in buildings where all locations of storage and use are protected with an approved special hazards point suppression system.</u>

Reason: The stated intent of the IEBC is to provide alternative approaches for remodel, repair, and alterations in existing buildings. This proposal recognizes the challenges associated with renovations in existing buildings and offers reasonable levels of safety as indicated in the "Effective Use of the International Existing Building Code" section of the IEBC.

Pyrophoric product usage in laboratories, located in other than the high hazard use groups, are generally in very small quantities, usually measured in grams. The presences of these quantities do not significantly elevate the risk.

Currently, compliance with the requirement for an automatic sprinkler system throughout an entire building may be implicated once a building permittable activity is sought. Full compliance would in some cases be so cost prohibitive, the owner might choose to make no improvements to the existing building. This decision may reduce the overall level of safety as time goes on. This proposal would allow for an alternate, more focused approach to risk mitigation for a specific hazard.

Cost Impact: Will not increase the cost of construction

This proposal will not increase, but rather decrease cost by allowing alernative, less costly, compliance methods in existing buildings utilizing these materials.

EB 18-15 : 401.2.4 (New)-WOOD5068

# EB 19-15

# 402.1, 403.1, [BS] 403.9, 407.1, 601.2, 608.1, 805.2, [BS] 807.6

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

# 2015 International Existing Building Code

Revise as follows:

**402.1 General.** Additions to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations to the existing building or structure shall be made to ensure that the existing building or structure together with the addition are no less conforming to complying with the provisions of the International BuildingCode than the existing building or structure was prior to the addition. An existing building together with its additions shall comply with the height and area provisions of Chapter 5 of the International Building Code.

**403.1 General.** Except as provided by Section 401.2 or this section, *alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is no less conforming to complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*.

### Exceptions:

- 1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.
- 2. Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

**[BS]** 403.9 Voluntary seismic improvements. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

- 1. The altered structure and the altered nonstructural elements are no less conforming to complying with the provisions of the International Building Code with respect to earthquake design than they were prior to the alteration.
- New structural elements are detailed as required for new construction.
- 3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.
- 4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

**407.1** ConformanceCompliance. No change shall be made in the use or occupancy of any building unless such building is made to comply with the requirements of the *International Building Code* for the use or occupancy. Changes in use or occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the existing building or structure was prior to the change. Subject to the approval of the building official, the use or occupancy of *existing buildings* shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without <del>conforming to complying with</del> all of the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

Exception: The building need not be made to comply with the seismic requirements for a new structure unless required by Section 407.4.

601.2 ConformanceCompliance. The work shall not make the building less conformingcomplying than it was before the repair was undertaken.

608.1 General. Existing mechanical systems undergoing repair shall not make the building less conforming complying than it was before the repair was undertaken.

805.2 General. The means of egress shall comply with the requirements of this section.

### Exceptions:

- 1. Where the work area and the means of egress serving it complies with NFPA 101.
- 2. Means of egress conforming to complying with the requirements of the building code under which the building was constructed shall be considered compliant means of egress if, in the opinion of the *code official*, they do not constitute a distinct hazard to life.

**[BS] 807.6 Voluntary lateral force-resisting system alterations.** Alterations of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to complying with the International Building Code, provided that an engineering analysis is submitted to show that:

- 1. The capacity of existing structural elements required to resist forces is not reduced;
- 2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
- 3. New structural elements are detailed and connected to the existing structural elements as required by the International Building Code;
- 4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the International Building Code; and
- 5. A *dangerous* condition as defined in this code is not created. Voluntary *alterations* to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.

Reason: This is an editorial proposal that adds clarity and consistency. The appropriate phrase is "no less complying," not "no less conforming." "Complying" is also the term with greater precedent and preference, as seen in sections 301.1, 406.2, 407.1, 410, 702, 705, 803, 805, 903, 1012, 1203, and 1204.

**Cost Impact:** Will not increase the cost of construction The proposal is entirely editorial.

EB 19-15 : 402.1-BONOWITZ5181

# EB 20-15 402.1.1 (New), 410.6, 705.1, 1105.2 (New)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

### 2015 International Existing Building Code

### Add new text as follows:

402.1.1 Accessible Means of Egress Additions shall provide accessible means of egress in accordance with Section 1009 of the *International BuildingCode*. Where the accessible means of egress from the addition leads through the existing building, the associated accessible means of egress path in the existing building shall be altered to be in accordance with Section 1009 of the *International Building Code*. Means of egress in the addition and existing building that are not accessible shall be provided with directional signage in accordance with Section 1009 of the *International Building Code*. Means of egress in the addition and existing building that are not accessible shall be provided with directional signage in accordance with Section 1009 of the *International Building Code* at the non-accessible portion of the means of egress.

### Revise as follows:

**410.6** Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the *International Building Code*, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

### Exceptions:

- 1. The altered element or space is not required to be on an accessible route, unless required by Section 410.7.
- 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities except as required by Section 402.1.1.
- 3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
- 4. Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

**705.1 General.** A *facility* that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the *International Building Code* unless it is *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

### Exceptions:

- 1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
- 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities except as required by Section 1101.1.1.
- 3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
- 4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

### Add new text as follows:

**1105.2** Accessible means of egress Additions shall provide accessible means of egress in accordance with Section 1009 of the International Building Code. Where the accessible means of egress from the addition leads through the existing building, the associated accessible means of egress path in the existing building shall be altered to be in accordance with Section 1009 of the International Building Code. Means of egress in the addition and existing building that are not accessible shall be provided with directional signage in accordance with Section 1009 of the International Building Code at the non-accessible portion of the means of egress.

Reason: The proposal clarifies the application of the requirement for accessible means of egress (AMOE) in additions. The concept is the same for both the Prescriptive Compliance Method and Work Area Compliance Method. No proposal is made for Chapter 14 because Section 1401.2.5 already refers back to Sections 410 and 705 for accessibility complaince when using the Performance Compliance Method.

402.1.1 and 1101.1.1 - Because Section 410.6 of the IEBC (and Section 1009.1 of the IBC) contains an exception that states that the AMOE is not requried in existing buildings, it creates confusion regarding what needs to be done when the AMOE from the addition leads through the existing building; whether it must continue through the existing building and require modification to the existing building as is implied in Section 402.1 or whether it can stop at the existing building due the explicit language in exception 2 of Section 410.6.

The proposed langage makes it clear that if the path of egress within the existing building cannot be made to comply with the requirements for an accessible means of egress, then the addition will need to provide all the AMOE requirements for the addition. This is the only option.

Finally, signage is required at the means of egress for both the addition and the existing building where those egress elements do not comply with the AMOE provisions of the IBC. If the means of egress in either the addition or existing building cannot meet the requirements as an AMOE then the directinoal signage must be provided so that the occupants can find the AMOE.

410.6 and 705.1 - It is clear that the blanket exception that the existing building is not required to have any acessible means of egress is not completely true. The requirements for the addition may force that upon the existing building. The text of these two sections should recognize and reflect that.

**Cost Impact:** Will not increase the cost of construction The text is a clarification of the current interpretation.

> EB 20-15 : 402.1.1 (New)-BOECKER5786

# EB 21-15 402.6 (New), 403.11 (New), 804.4.4 (New), 1105 (New), 1105.1 (New)

Proponent: Adolf Zubia, representing IAFC Fire & Life Safety Section

## 2015 International Existing Building Code

### Add new text as follows:

402.6 Carbon monoxide alarms in existing portions of a building. Where an addition is made to a building or structure of a Group I-1, I-2, I-4 or R occupancy, the existing building shall be provided with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code or Section R315of the International Residential Code, as applicable.

403.11 Carbon monoxide alarms. Carbon monoxide alarms shall be provided to protect sleeping units and dwelling units in Group I-1, I-2, I-4 and R occupancies in accordance with Section 1103.9 of the International Fire Code.

804.4.4 Carbon monoxide alarms. Sleeping units and dwelling units in any work area in Group I-1, I-2, I-4 and R occupancies shall be equipped with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code.

### SECTION1105 CARBON MONOXIDE ALARMS IN GROUPS I-1, I-2, I-4 AND R

1105.1 Carbon monoxide alarms in existing portions of a building Where an addition is made to a building or structure of a Group I-1, I-2, I-4 or R occupancy, the existing building shall be equipped with carbon monoxide alarms in accordance with Section 1103.9 of the International Fire Code or Section R315 of the International Residential Code, as applicable.

Reason: This proposal is submitted by the Fire and Life Safety Section of the International Association of Fire Chiefs.

IFC Section 1103.8 contains requirements for installing smoke alarms in existing occupancies. Those requirements are reflected in the IEBC Sections 402.5. 403.10, 804.4.3 and 1104.1. IFC Section 1103.9 contains requirements for installing carbon monoxide alarms in existing occupancies; however, those requirements are currently not reflected in the IEBC.

This proposal corrects this oversight with the new proposed code sections.

This proposal will provide consistency between the IFC, IRC and the IEBC with regard to the installation and requirements of carbon monoxide alarms.

### Cost Impact: Will not increase the cost of construction

The cost of construction will not increase since the existing buildings should already be in compliance with the requirements in IFC Section 1103.9. This proposal simply provides correlation between the I-Codes.

EB 21-15 : 402.6 (New)-ZUBIA4683

# EB 22-15 403.1, 801.3, 1401.2.6 (New)

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

### 2015 International Existing Building Code

### Revise as follows:

**403.1 General.** Except as provided by Section 401.2 or this section, *alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*.

### Exceptions:

- 1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.
- 2. Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.
- 3. Where provided in below grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

801.3 Compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code.

#### Exceptions:

- 1. Windows may be added without requiring compliance with the light and ventilation requirements of the International Building Code.
- 2. Newly installed electrical equipment shall comply with the requirements of Section 808.
- 3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 805.6.
- 4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).
- 5. Where provided in below grade transportation stations, existing and new escalators shall be permitted to have a clear withd of less than 32 inches (815 mm).

#### Add new text as follows:

1401.2.6 Escalators Where escalators are provided in below grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

Reason: Section 3004.2.2 of the IBC includes an exception for escalators serving below-grade transportation systems allowing their minimum width to be less than 32". Since the criteria for existing buildings is in the IEBC this change is to bring that exception into the appropriate code.

#### Cost Impact: Will not increase the cost of construction

This is simply putting the provisions found in the IBC into the IEBC for work involving an alteration and will not increase the cost of construction.

EB 22-15 : 403.1-COLLINS5113

# EB 23-15 403.2 (New), 704.1, 704.2 (New)

Proponent: Adolf Zubia, representing IAFC Fire & Life Safety Section

### 2015 International Existing Building Code

### Add new text as follows:

**403.2** Locking arrangements in Group E occupancies. Where approved by the code official, egress doors from classrooms, offices and other occupied rooms in Group E occupancies shall be allowed to be provided with locking arrangements designed to keep intruders from entering the room that require a key, special knowledge or effort when all of the following conditions are met:

- 1. The door shall be capable of being unlocked from outside the room with a key or other approved means.
- 2. Modifications shall not be made to existing listed panic hardware, fire door hardware or door closers.
- 3. <u>Modifications to fire door assemblies shall be in accordance with NFPA 80.</u>
- 4. The unlatching of the door or leaf shall be allowed to require two operations.

### Revise as follows:

704.1 General. Alterations shall be done in a manner that maintains the level of protection provided for the means of egress. except as allowed in Section 704.2.

### Add new text as follows:

704.2 Locking arrangements in Group E occupancies. Where approved by the code official, egress doors from classrooms, offices and other occupied rooms in Group E occupancies shall be allowed to be provided with locking arrangements designed to keep intruders from entering the room that require a key, special knowledge or effort when all of the following conditions are met:

- 1. The door shall be capable of being unlocked from outside the room with a key or other approved means.
- 2. Modifications shall not be made to existing listed panic hardware, fire door hardware or door closers.
- 3. <u>Modifications to fire door assemblies shall be in accordance with NFPA 80.</u>
- 4. The unlatching of the door or leaf shall be allowed to require two operations.

Reason: This proposal is submitted by Fire and Life Safety Section of the International Association of Fire Chiefs. Unfortunately active shooter incidents in schools are a threat in modern society that have resulted in the need to quickly secure classrooms and other occupied areas to keep unwanted intruders from entering.

Many unlisted devices are being used to secure the doors from being opened. Many of these devices have not been evaluated to insure they operate properly and do not impair door operation. These devices are being deployed in periodic lockdown drills, and present the potential to for students or unauthorized personnel to secure the doors so the rooms cannot be entered.

This proposal allows key actuated deadbolts or other locks to be provided on classroom doors, where the teacher can choose to lock the door and provide shelter-in-place in the classroom. The proposed change also requires the door to be able to be unlocked from the opposite side in cases where the school administrator or responders wish to enter the room without having to make a forcible entry.

Door hardware is currently available that allows classroom to be provided with lockdown capabilities that comply with applicable IBC Chapter 10 requirements. However the costs of retrofitting doors with that hardware far exceed the cost of retrofitting with a simple deadbolt lock. This is a significant issue for school systems who are continually facing budget restrictions.

This code change limits this optional locking method only when the building is undergoing alternations. This allowance is intentionally not provided for buildings undergoing additions or a change of occupancy.

It is not necessary to add new language to the Chapter 9 alteration provisions since Section 905.1 references Section 805 means of egress requirements.

### Cost Impact: Will not increase the cost of construction

This proposal allows an option that may result in lower costs than retrofitting egress doors with locking hardware that complies with IBC Chapter 10 requirements.

EB 23-15 : 704.1-ZUBIA4731

# EB 24-15

### 403.10

Proponent: Anthony Apfelbeck, City of Altamonte Springs, representing City of Altamonte Springs (ACApfelbeck@altamonte.org)

# 2015 International Existing Building Code

### Revise as follows:

### 403.10 Smoke alarms. Individual sleeping units and individual dwelling units in

Where an alteration is made to a building or structure of a Group R andor I-1 occupancies-occupancy, the existing building shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code.

Reason: This proposal makes the language in 403.10 consistent with the reading of 402.5. The commentary indicates that both of these sections are intended to be consistent as to application. The current different language appears to infer a differing intent of the two sections. If the two sections have the same intent as to application, they should read the same.

### Cost Impact: Will not increase the cost of construction

Editorial revision to impove consistency between similar code language.

EB 24-15 : 403.10-APFELBECK4258

# EB 25-15

### 403.11 (New), 703.2 (New)

Proponent: Jonathan Wilson, National Center for Healthy Housing, representing National Center for Healthy Housing (jwilson@nchh.org)

### 2015 International Existing Building Code

### Add new text as follows:

403.11 Carbon monoxide alarms. Carbon monoxide alarms shall be installed in accordance with Section 1103.9 of the International Fire Code in Groups I-1, I-2, I-4 and R occupancies.

703.2 Carbon monoxide alarms Carbon monoxide alarms shall be installed in accordance with Section 1103.9 of the International Fire Code in Groups I-1, I-2, I-4 and R occupancies.

**Reason:** In 2011, 49 million homes had carbon monoxide alarms.<sup>1</sup> Almost 4.5 million more homes had an alarm in 2011, compared to 2009.<sup>2</sup> These alarms protect residents and their guests from carbon monoxide poisoning which kills more than 300 people annually and hurts thousands more.<sup>3</sup> The carbon monoxide typically results from incomplete combustion of a fuel, usually when a vehicle, furnace, water heater, or fireplace is either functioning poorly or is warming up and has not yet reached optimum performance.<sup>4</sup> The risk is greatest where there are older appliances or where the garage is not properly isolated from the occupied area.

When carbon monoxide exposes residents to dangerous levels of this odorless, tasteless, invisible gas, the alarm warns them to get to safety before their brains are so starved of oxygen that they become sleepy or disoriented and unable to escape.<sup>3</sup> The alarm complements the many educational and code-related efforts to reduce carbon monoxide generation and exposure and serves to prevent death and serious harm much as a smoke alarm does.

According to health and safety experts at the Centers for Disease Control and Prevention (CDC),<sup>3</sup> the Consumer Product Safety Commission (CDC)<sup>5</sup> and the National Fire Protection Association (NFPA),<sup>6</sup> all dwellings with either an attached garage or a fuel-burning appliance should have a functioning carbon monoxide alarm. Recognizing the gaps in the existing codes, elected officials in the many states have adopted laws requiring the alarms, often in response to a tragedy.<sup>7</sup> The National Electric Manufacturers Association (NEMA)<sup>8</sup> also agrees. A decade ago, a five-year Underwriters Laboratory study confirmed the reliability of the alarms and concluded the alarms are not susceptible to nuisance activations.<sup>9</sup>

The ICC's International Fire Code (IFC) section 1103.9 and International Residential Code (IRC) section R315.3 now require carbon monoxide alarms in almost all dwellings with an attached garage or fuel-burning appliance. The IRC requirement is triggered by new construction or work requiring any permit without regard to whether the work affected a fuel-burning appliance. The IFC requirement applies to Group I and R occupancies (with a limited exception) and, therefore, not to homes covered by the IRC. Because the IFC alarm requirement is in a maintenance provision in Chapter 11, it applies to existing conditions and operations pursuant to section 102.2 and not only construction. While the maintenance provisions of section 1103 may result in the need for a permit pursuant to section 1103.1 to correct deficiencies, they are not triggered solely by a permit.

This proposal adds two new sections to the IEBC. New section 403.11 would require alarms in homes in accordance with the IFC as part of the prescriptive compliance methods covered by Chapter 4. New section 703.2 would do the same as part of work area compliance methods for Level 1 alterations.

In those jurisdictions that have both the IFC and the IEBC, this proposal is designed to improve compliance in those communities. In those jurisdictions with the IEBC but not the IFC, a more protective state law may apply. If no state law applies, this proposal would require an installation of a carbon monoxide alarm when a permit is triggered by the IEBC. Owners of these units will incur costs of about \$42 each, but these costs will be far outweighed by the many millions saved on emergency hospitalizations and victim rehabilitation. See the cost-benefit analysis below for details.

#### Bibliography:

<sup>1</sup> American Housing Survey for the United States: 2011, U.S. Census Bureau, 2013, p. 37, http://www.census.gov/content/dam/Census/programs-surveys/ahs/data/2011/h150-11.pdf.

<sup>2</sup> American Housing Survey for the United States: 2009, U.S. Census Bureau, 2011, p. 18, http://www.census.gov/programs-surveys/ahs/data/2009/h150-09.html.

<sup>3</sup> Carbon Monoxide Poisoning Frequently Asked Questions webpage, Centers for Disease Control and Prevention, accessed January 8, 2015, http://www.cdc.gov/co/faqs.htm.

<sup>4</sup> Carbon Monoxide: Background, American Gas Association, accessed January 8, 2015, https://www.aga.org/carbon-monoxide.

<sup>5</sup> CPSC Recommends Carbon Monoxide Alarm for Every Home, Consumer Products Safety Commission,

Release#01-069, 2001, http://www.cpsc.gov/en/Recalls/2001/CPSC-Recommends-Carbon-Monoxide-Alarm-for-EveryHome/.

<sup>6</sup> Carbon Monoxide Safety Tips, National Fire Protection Association, accessed January 8, 2015 at http://www.nfpa.org/safety-information/forconsumers/fire-and-safety-equipment/carbon-monoxide/carbon-monoxide/safety-tips.

<sup>7</sup> CO Detection Requirements webpage, Life Safety Solutions Online, accessed January 8, 2015 at

http://www.lifesafetysolutionsonline.org/co-detection-requirements/.

<sup>8</sup> Recommend Policies, State and Local Legislation for Carbon Monoxide Life Safety Device Legislation and Local Ordinance Drafting, National Electric Manufacturers Association, 2013, http://www.lifesafetysolutionsonline.org/wp-content/uploads/2014/03/NEMA-Recommendations-on-State-CO-Legislation-2013.pdf.

<sup>9</sup> Carbon Monoxide Alarm Field Study, Underwriters Laboratories, 2002, http://ulstandardsinfonet.ul.com/stp/addlinfo/old/CARBON%20MONOXIDE%20ALARM%20FIELD%20STUDY.pdf

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<sup>11</sup> 2007 Performance and Accountability Report, U.S. Consumer Products Safety Commission, 2007, p. 41, http://www.cpsc.gov/en/Media/Documents/About/Budget-and-Performance/Annual-Performance-Reports/Archive/2007-Performance-and-Accountability-Report/.

12 Hospital burden of unintentional carbon monoxide poisoning in the Unites States, 2007, Am J Emerg Med 2012 Jun;30(5):657-64. doi: 10.1016/j.ajem.2011.03.003, lqbal S, Law HZ, Clower JH, Yip FY, Elixhauser A, http://www.ajemjournal.com/article/S0735-6757%2811%2900105-7/abstract.

<sup>13</sup> Carbon Monoxide-Related Hospitalizations in the U.S.: Evaluation of a Web-Based Query System for Public Health Surveillance, Public Health Rep. 2010 May-Jun; 125(3): 423–432, lqbal S, Clower JH, Boehmer TK, Yip FY, Garbe P, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2848267/.

<sup>14</sup> Non-Fire Carbon Monoxide Incidents, National Fire Protection Association, 2012,

http://www.nfpa.org/~/media/Files/Research/NFPA%20reports/Non%20fire%20Incidents/osnonfirecarbonmonoxide.pdf.

### Cost Impact: Will increase the cost of construction

#### COSTS

Carbon monoxide (CO) alarms listed as complying with ANSI/UL 2034 typically costs approximately \$25 per unit and are relatively simple to install. We estimate the total installed cost to be \$42 per dwelling.

According to the 2011 American Housing Survey (AHS),<sup>1</sup> an estimated 49 of 115 million occupied homes (41.6% of all homes) had working carbon monoxide detectors. About half of these detectors were powered only by batteries. Overall, 46% of owner-occupied homes and 33% of renters had detectors. The rates varied by region of the country with the Northeast at 65%, the Midwest at 54%, the West at 30%, and the South at 27%. The AHS does not track garages that are attached separately from those that are not attached.

The IFC has been adopted statewide in 28 states and locally in 11 more.<sup>10</sup> Unless the state or locality opted not to adopt Section 1103.9 of the IFC or a limited exception applies, a CO alarm is required all dwelling units in Group I or R occupancies containing a fuel-burning appliance or that has an attached garage (other than an open parking garage or ventilated enclosed parking garage). The units must be equipped with a single station CO alarm list as complying with UL 2034 installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. In these jurisdictions, the proposal will only improve compliance with IFC and not increase construction cost.

In states without a statewide IFC, 17 have adopted the IEBC statewide or locally.<sup>10</sup>

- For the seven with no state or local IFC, Illinois and Massachusetts have state laws requiring CO alarms in all dwellings, West Virginia requires it in most dwellings covered by the IEBC, and Maine requires alarms when the property is sold.<sup>7</sup> Therefore, only Florida, Michigan, and Maryland
- would be impacted by the proposal. Michigan legislature has already given the Code Commission authority to require CO alarms.<sup>7</sup>
   Of the remaining ten with local IFCs, Colorado requires CO alarms in all dwellings, Montana requires alarms in rental property, Wisconsin requires them in multifamily housing, and New Hampshire on substantial rehabilitation.<sup>7</sup> Therefore, Louisiana, Nevada, Delaware, Missouri, Nebraska, North Dakota, and Texas would be impacted by the proposal in Group I and R occupancies.

### BENEFITS:

The benefits of a CO alarm in fewer deaths, emergency room visits, hospitalizations, treatment, and rehabilitation far outweigh the \$42 per home cost. The U.S. Consumer Product Safety Commission (CPSC) estimated the societal costs of unintentional non-fire CO poisoning deaths associated with consumer products at \$705 million annually from 1999 to 2002.<sup>9</sup>

A 2012 study<sup>10</sup> estimated that the hospitalization cost for confirmed carbon monoxide poisonings was more than \$26 million in 2007, based on 21,304 emergency room visits and 2,302 hospitalizations. This estimate only includes the cost of confirmed hospitalizations and not (1) the rehabilitation and long-term treatment costs, and (2) the thousands of cases where the poisoning occurred but was not confirmed, usually because the person was unaware of the exposure. In 2007, for every confirmed case there were an estimated five probable or suspected cases.<sup>11</sup> More recent numbers are not available though they should have decreased due to the actions by state and local legislatures, as well as implementation of the 2012 editions of the IRC and IFC.

Beyond victim hospitalization and treatment costs, carbon monoxide costs communities whose emergency responders respond to non-fire-related incidents. In 2012, the National Fire Protection Association estimated that municipal fire departments responded to an annual average of 72,000 of these incidents between 2006 and 2010, with 94% of the incidents occurring in residential properties and 73% in one- or two-family homes.<sup>12</sup> The alarms are likely to increase the number of responses, but, based on the UL study, few will be the result of nuisance alarms.<sup>9</sup>

| EB 2 | 25-15 | : 403.11 | (New)-WILSON5120 |
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# EB 26-15

### 404.1, 502.1

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

## 2015 International Existing Building Code

### Revise as follows:

**404.1 General.** Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2 and 404this section. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2 Maintenance, ordinary repairs work exempt from permit in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

**502.1 Scope.** Repairs, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or soundrestoring the predamage condition with respect to existing loads or performance requirements.

Reason: This proposal clarifies a distinction between the scopes of the IEBC and the IPMC. The distinction between maintenance and repair is already implied by the two codes, but some of the codes' wording has led to confusion. In particular, use of the words "maintenance" or "maintain" in various provisions for repairs has led some users and code officials to think that repair provisions either apply to maintenance work or may be used in lieu of maintenance provisions (in the IPMC or elsewhere).

The key conceptual distinction, as the current IEBC infers, is that "maintenance" preserves an acceptable condition, while "repair" corrects an unacceptable condition. Thus, maintenance applies even to an element in good condition and working order, while repair applies only after some damage has occurred.

The evidence is clear that the IEBC and IPMC intend to distinguish maintenance from repair: Maintenance is not defined in the IEBC. The IEBC makes an explicit distinction between the two types of work in Sections 404.1, 1301.2, and 1501.6.6. Sections 410.1, 410.2, and 1505.2 use the term "maintenance" to refer to preservation of an acceptable condition, not remedy of an unacceptable one. Section 105 makes the same distinction indirectly by acknowledging that some repairs, even though they correct damage, are as "ordinary" and commonplace as maintenance and thus also do not require a permit.

IPMC Section 101.3 distinguishes maintenance from repair, and Section 102.3 says repair is to be done in accordance with the IEBC. IEBC Section 101.7 acknowledges the same thing, namely that the IPMC may mandate repairs to correct violations and may refer to the IEBC as the basis for compliance.

The evidence is also clear that the IEBC intends its repair provisions to correct damage: Chapters 4 and 6 refer repeatedly to the "predamage" condition. Section 502.1, though it uses the verb "maintain" in its plain English sense, is explicit that repair means "restoration or replacement of damaged materials, elements, equipment or fixtures." Section 502.3 addresses the "repair of damaged components" and specifically distinguishes them from the undamaged components that do not need repair but might be affected by a repair procedure. Section 1302.7 speaks of repair specifically in the context of damage to a relocated building.

To clarify these distinctions, this proposal makes the following revisions:

In Section 404.1, it makes three edits:

- It deletes the unnecessary word "routine." There are not multiple types of maintenance, routine and non-routine.
- It replaces" ordinary repairs" with a more proper and generic term. The important point is to refer to Section 105.2 for work that does not require permits.
- It removes the incorrect reference to Section 401.2 in two places. The first instance could refer instead to Section 302.4 but is not needed. The second instance is clearly a mistake, as Section 401.2 is not about maintenance at all. This used to be a matching reference to IBC Section 3401.2, which addressed maintenance, but that provision no longer exists anywhere in the IFBC.

In Section 502.1, it makes two edits:

- It replaces the word "maintaining" with "restoring," to avoid confusion between maintenance and repair.
- It replaces the phrase "good or sound" (removed elsewhere in past cycles) with "predamage," as used elsewhere in Chapters 4 and 6.

If approved, coordinating proposals will be made in Group B as follows:

- · Revise the definition of Repair to remove the confusing word "maintenance" and to clarify that repair addresses damage.
- Revise the definition of Roof Repair similarly.
- Revise Section 105.2 as needed for consistency

Cost Impact: Will not increase the cost of construction

The proposal is editorial, for purposes of clarifying an existing distinction in scope between the IEBC and IPMC.

EB 26-15 : 404.1-BONOWITZ5251

# EB 27-15

# 405.1.3, 805.3.1.2.1

Proponent: John Coleman, representing JOMY Fire Escape Ladder and Fire Escape Systems

### 2015 International Existing Building Code

### Revise as follows:

405.1.3 New fire escapes. New fire escapes for *existing buildings* shall be permitted only where exterior stairways cannot be utilized due to lot lines limiting stairway size or due to the sidewalks, alleys or roads at grade level.-New

Exception: Where approved by the code official fire escapesescape ladders shall not incorporate ladders or access by windows-be permitted.

805.3.1.2.1 Fire escape access and details. Fire escapes shall comply with all of the following requirements:

- 1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
- Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
  - 2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m<sup>2</sup>) or 5 square feet (0.46 m<sup>2</sup>) where located at grade.
  - 2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).
    - 2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.
    - 2.4. The operation of the window shall comply with the operational constraints of the International Building Code.
- 3. Newly constructed fire escapes shall be permitted only where exterior stairways cannot be utilized because of lot lines limiting the stairway size or because of the sidewalks, alleys, or roads at grade level.
  - Exception: Where approved by the code official fire escape ladders shall be permitted.
- 4. Openings within 10 feet (3048 mm) of fire escape stairways shall be protected by fire assemblies having minimum  $\frac{3}{4}$  -hour fire-resistance ratings.
- Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.
  In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

Reason: Permenently affixed retractable fire escape ladders and counterbalanced ladders now exist and are available. These are used in major cities in Europe. They serve where individuals or companies want alternate means of egress in the event of fire that are not currently in the existing building.

In major cities, some existing buildings have limited space for new fire escapes due to lot lines which limit stairs or due to sidewalks, alleys and or roads. These permenently affixed retractable fire escape ladders and counterbalanced ladders now allow a building owner a safe means of secondary egress in the event of fire.

Systems are approved currently in NFPA 101. NFPA 101 2015 edition p.75 section 101.7.2.9 Fire Escape Ladders (5)

http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=101

#### Images of fire escape ladders.

Below are two examples. The first is a "permanently affixed collapsible fire escape system" and the second is a "permanently affixed counter-balanced fire escape system."



Previous System <u>Next System</u> Permanent Collapsible Fire Escape Ladder! by Jomy. The escape ladder that's always there!

The Fixed-Escape<sup>™</sup> permanent collapsible fire escape ladder is mounted to the outside of any structure and provides a ready method of emergency escape. It folds up to look like a drainpipe when not in use. It is constructed of durable extruded anodized aluminum alloy and will support 650 pounds per rung and a total weight of 5,500 pounds. This system offers the maximum degree of confidence before and during an emergency situation. The perfect solution, for homes with first or second story roof over hangs underneath windows.

- Extruded 6063-T6 Aluminum Alloy and 18/8 Stainless Steel Construction.
- 22 inch rungs each have 650 pound load capacity per rung-5,500 pound load per ladder.
- Collapses into an architecturally discreet 3 ¼" by 3 ¾" aluminum case.
- Latch and spring operation makes use extremely easy-can be security locked at top of ladder.
- Meets all OSHA and local code specifications.
- Underwriters Laboratory listed.




Previous System Next System



Counter Balanced Fixed-Escape<sup>™</sup> by JOMY ladders are all aluminum construction and have nylon bushings and stainless steel cables and fasteners to provide a life-time of rust-free and maintenance free service. Counter-balanced lead weights are concealed inside the patented side rails of the ladder to provide trouble-free use regardless of weather conditions.

The ladder can be released from top or bottom (you select). When from the top, it provides safe egress from roof, window or door. When from the bottom, it provides lockable access to mezzanines and roofs. Caged ladders for lengths over 20 feet to be OSHA compliant.Also can be equipped with Fixed Escape Fall Restraint Systems. Available in stock standard lengths and custom lengths for special situations. Fixed ladders with and without cage and security door are also available- contact us for details.



## Various acceptance reports.

Below are links to three reports obtained from the company that manufactures these fire escape ladders

- UL Underwriters Laboratories UL
- ICBO International Conference of Building Officials
  ICBO
- BOCA Building Officials and Code Administrators
  BOCA

## Bibliography: 2015 NFPA 101

Cost Impact: Will not increase the cost of construction

This will not increase the cost of construction. Systems are not mandated, however if wanted and approved by the Authority Having Jurisdiction, prices range from \$2000.00 up depending on type and size.

EB 27-15 : 405.1.3-COLEMAN5368

# EB 28-15

## 405.5

Proponent: Jeff Hugo, National Fire Sprinkler Association, representing National Fire Sprinkler Association (hugo@nfsa.org)

## 2015 International Existing Building Code

Revise as follows:

405.5 Opening protectives. Doors and windows along the within 10 feet of fire escape stairways shall be protected with <sup>3</sup>/<sub>4</sub> -hour opening protectives.

Exception: Opening protection shall not be required in buildings equipped throughout with an automatic sprinkler system.

Reason: Section 805.3.1.2.1 permits this exception for Level 2 Alterations. This proposal would provide the same exception for fire doors and windows along the fire escape when using the prescriptive compliance method.

## Cost Impact: Will not increase the cost of construction

When fire sprinkler systems are installed there would be no need to install new opening protectives.

EB 28-15 : 405.5-HUGO4696

## EB 29-15 406.2, 406.3, 702.4, 702.5

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## Revise as follows:

**406.2 Replacement window opening control devices.** In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

- 1. The window is operable;
- 2. The window replacement includes replacement of the sash and the frame;
- 3. The One of the following applies:
  - 1. In Group R-2 or R-3 building containing dwelling units. the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
  - 2. In one- and two-family dwellings and townhouses regulated by the International Residential Code, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
- 4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
- 5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the International Building Code.

#### Exceptions:

- Operable windows where the top of the sill of the window opening is located more than 75 feet (22860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
- 2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

**406.3 Replacement window emergency escape and rescue openings.** Where windows are required to provide *emergency escape* and *rescue openings* in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *International Building Code* and Sections R310.2.1 and R310.2.3 of the *International Residential Code* accordingly provided the replacement window meets the following conditions:

- 1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
- 2. The replacement of the window is not part of a change of occupancy.

Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.

**702.4 Window opening control devices** <u>on replacement windows</u>. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

- 1. The window is operable;
- 2. The window replacement includes replacement of the sash and the frame;
- 3. One of the following applies:
  - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
  - 3.2. In one- and two-family dwellings and town-houses regulated by the *International Residential Code*, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
  - 4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and 5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the International Building Code.

## Exceptions:

 Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
 Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

702.5 EmergencyReplacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *International Building Code* and Sections R310.21 and R310.2.3 of the *International Residential Code* accordingly, provided the replacement window meets the following conditions:

- 1. <u>The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.</u>
- 2. The replacement of the window is not part of a change of occupancy.

Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.

Reason: This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx. The intent of this proposal is for consistent terminology in the IEBC between Chapter 4 and 7 when dealing with replacement windows. The added language also clarifies that this applies to windows in IRC dwellings.

Staff note: An errata was addressed in Section 406.3 where reference to Sections 1030.2, 1030.3 and 1030.5 should have referenced "of the International Building Code." Therefore the phrase did not need to be underlined.

# EB 30-15

## 407.1, 410.4

Proponent: Maureen Traxler, representing Seattle Dept of Planning & Development (maureen.traxler@seattle.gov)

## 2015 International Existing Building Code

## Revise as follows:

**407.1 Conformance.** No change <u>of occupancy</u> shall be made in the use or occupancy of any building unless <u>suchthe</u> building is made to comply with the requirements of the *International Building Code* for the use or occupancy. Changes in use or<u>of</u> occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the existing building or structure was prior to the change. Subject to the approval of the building official, the use or<u>changes of</u> occupancy of <u>existing buildings</u> shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all of the requirements of this code for those groups the new occupancy, provided the new or proposed use<u>occupancy</u> is less hazardous, based on life and fire risk, than the existing <u>useoccupancy</u>.

Exception: The building need not be made to comply with the seismic requirements for a new structure unless required by Section 407.4.

410.4 Change of occupancy. Existing buildings that undergo a change of group or occupancy shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

Reason: These changes are proposed for consistency with EB52-12 from the last code cycle. EB52 modified the definition of "change of occupancy" and made other changes consistent with the revised definition. EB52, however, only modified Chapter 10 for the work area method of compliance. This proposal makes changes that make the prescriptive compliance method consistent with EB52 and the work area method.

EB52-12 modified the definition of "change of occupancy" to make clear distinctions between changing occupancy classifications (e.g., B to R), changing occupancy group (e.g., R-1 to R-2), and changing use within a group (e.g., R-2 dormitory to R-2 boarding house). However, any of those changes are still under the umbrella "change of occupancy" definition, which is why this proposal changes the terms "group" and "use" to "occupancy."

Cost Impact: Will not increase the cost of construction This proposal makes editorial changes for consistency within the code

EB 30-15 : 407.1-TRAXLER5575

# EB 31-15

## 408.3 (New), 1203.2 (New)

Proponent: Anthony Apfelbeck, City of Altamonte Springs, representing City of Altamonte Springs (ACApfelbeck@altamonte.org)

## 2015 International Existing Building Code

## Add new text as follows:

408.3 Fire protection plan. Additions, alterations, changes in occupancy or repairs to historic buildings shall be in compliance with the approved fire protection plan developed in accordance with Section 1103.1.1 of the International Fire Code.

**1203.2 Fire protection plan.** Additions, alterations, changes in occupancy or repairs to historic buildings shall be in compliance with the approved fire protection plan developed in accordance with Section 1103.1.1 of the International Fire Code.

**Reason:** Section 1103.1.1 of the IFC requires that each historic building have an approved fire protection plan in accordance with NFPA 914. Any repairs, alterations, additions or changes of occupancy should only occur in accordance with the approved fire protection plan. The fire protection plan is a key component for the life safety and property preservation of historic buildings. Referencing the fire protection plan in Section 408 and Section 1203 of the IEBC will ensure the building official, design professional, owner and contractor all understand the fire protection plan under the IFC is applicable and need to be consulted.

## Cost Impact: Will not increase the cost of construction

This code change does not change an existing technical provision but does provide a more obvious pointer to the important provision of IFC applicable to historic buildings.

EB 31-15 : 408.3 (New)-APFELBECK4260 Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Delete without substitution:

## SECTION 409 MOVED STRUCTURES

#### 409.1 Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

Reason: The purpose of this proposal is to remove Section 409 altogether since the IEBC does not contain requirements for new construction. That requirement as written presents an unresolvable conflict within the IEBC, and also between the IBC with the IEBC.

Previous editions of the IBC contained requirements for both new and existing buildings. This specific language appeared in the 2012 IBC as Section 3410. All of the requirements for existing buildings that were previously located in IBC Chapter 34 were moved from the IBC to the IEBC in the 2015 Edition.

In the context of the 2015 IEBC, this section is a technically inaccurate statement since existing structures that are moved are no longer required by the IEBC to comply with the requirements for new buildings.

Although there is nothing in any code that would preclude an owner from bringing an existing building or a moved structure up to the new building code requirements, the IEBC code permits an owner other, more practical options.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

### Cost Impact: Will not increase the cost of construction

This code change proposal will not increase the cost of construction because it simply eliminates a conflict that exists in the IEBC and between the IBC and IEBC which only helps to clarify the requirements already in place.

EB 32-15 : 409-KULIK4923

# EB 33-15

## 410, 705, 801.1, 806, 901.2, 906, 1006, 1012.1.4, 1012.8, 1105, 1204, 1401.2.5, B101.3, B101.4, B102.2.3

**Proponent:** David Collins, representing The American Institute of Architects (dcollins@preview-group.com); Maureen Traxler, City of Seattle (maureen.traxler@seattle.gov) representing City of Seattle Dept of Planning and Development; Steven Winkel (swinkel@preview-group.com) representing the Preview Group

## 2015 International Existing Building Code

Revise as follows:

**410.1303.1** Scope. The provisions of Sections **410.1**303.1 through **410.9**303.9 apply to maintenance, *change of occupancy*, *additions* and *alterations* to *existing buildings*, including those identified as *historic buildings*.

410.2303.2 Maintenance of facilities. No change to text.

410.3303.3 Extent of application. No change to text.

410.4303.4 Change of occupancy. No change to text.

**410.4.1303.4.1** Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections **410.6**303.6, **410.7**303.7 and **410.8**303.8.

410.4.2303.4.2 Complete change of occupancy. Where an entire building undergoes a *change of occupancy*, it shall comply with Section 410.4.1303.4.1 and shall have all of the following accessible features:

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is being provided.
- 5. At least one accessible passenger loading zone, when loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

**Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

410.5303.5 Additions. Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, a primary function shall comply with the requirements in Section 410.7303.7.

**410.6303.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the *International Building Code*, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

## Exceptions:

- 1. The altered element or space is not required to be on an accessible route, unless required by Section 410.7303.7.
- 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.
- 3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
- 4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

#### 410.7303.7 Alterations affecting an area containing a primary function. No change to text.

410.8303.8 Scoping for alterations. The provisions of Sections 410.8.1303.8.1 through 410.8.14303.8.15 shall apply to alterations to existing buildings and facilities.

410.8.1303.8.1 Entrances. No change to text.

410.8.2303.8.2 Elevators. No change to text.

410.8.3303.8.3 Platform lifts. No change to text.

410.8.4303.8.4 Stairways and escalators in existing buildings. No change to text.

410.8.5303.8.5 Ramps. Where slopes steeper than allowed by Section 1012.2 of the *International Building Code* are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 410.8.5303.8.5.

## TABLE 303.8.5 RAMPS

| SLOPE                                       | MAXIMUM RISE |  |  |
|---|--------------|--|--|
| Steeper than 1:10 but not steeper than 1:8  | 3 inches     |  |  |
| Steeper than 1:12 but not steeper than 1:10 | 6 inches     |  |  |

For SI: 1 inch = 25.4 mm.

410.8.6303.8.6 Accessible dwelling or sleeping units. No change to text.

410.8.7303.8.7 Type A dwelling or sleeping units. No change to text.

410.8.8303.8.8 Type B dwelling or sleeping units. No change to text.

303.8.9 Dining areas An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor

are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

410.8.9303.8.10 Jury boxes and witness stands. No change to text.

410.8.10303.8.11 Toilet rooms. No change to text.

410.8.11303.8.12 Dressing, fitting and locker rooms. No change to text.

410.8.12303.8.13 Fuel dispensers. No change to text.

410.8.13303.8.14 Thresholds. No change to text.

410.8.14303.8.15 Amusement rides. No change to text.

**410.9303.9 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the applicable governing authority, the alternative requirements of Sections **410.9.1**303.9.1 through **410.9.4**303.9.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

410.9.1303.9.1 Site arrival points. No change to text.

410.9.2303.9.2 Multilevel buildings and facilities. No change to text.

410.9.3303.9.3 Entrances. No change to text.

410.9.4303.9.4 Toilet and bathing facilities. No change to text.

801.1 Scope. Level 2 alterations as described in Section 504 shall comply with the requirements of this chapter.

Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2-303.7 shall be permitted to comply with Chapter 7.

**901.2 Compliance.** In addition to the provisions of this chapter, work shall comply with all of the requirements of Chapters 7 and 8. The requirements of Sections 803, 804 and 805 shall apply within all *work areas* whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

**Exception:** Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 705.2-303.7 shall not be required to comply with this chapter.

**(BS)** B101.3 Qualified historic buildings and facilities subject to Section 106 of the National Historic Preservation Act. Where an *alteration* or *change of occupancy* is undertaken to a qualified *historic building* or facility that is subject to Section 106 of the National Historic Preservation Act, the federal agency with jurisdiction over the undertaking shall follow the Section 106 process. Where the state historic preservation officer or Advisory Council on Historic Preservation determines that compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, the alternative requirements of Section 410.9303.9 for that element are permitted.

**(BS)**B101.4 Qualified historic buildings and facilities not subject to Section 106 of the National Historic Preservation Act. Where an *alteration* or *change of occupancy* is undertaken to a qualified *historic building* or facility that is not subject to Section 106 of the National Historic Preservation Act, and the entity undertaking the alterations believes that compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, the entity shall consult with the state historic preservation officer. Where the state historic preservation officer determines that compliance with the accessibility requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historical significance of the building or facility, the alternative requirements of Section 410.9303.9 for that element are permitted.

**[BS] B102.2.3 Direct connections.** New direct connections to commercial, retail, or residential facilities shall, to the maximum extent feasible, have an accessible route complying with Section <del>705.2.303.7</del> from the point of connection to boarding platforms and transportation system elements used by the public. Any elements provided to facilitate future direct connections shall be on an accessible route connecting boarding platforms and transportation system elements used by the public.

### Delete without substitution:

#### SECTION705 ACCESSIBILITY

705.1 General. A facility that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the International Building Code unless it is technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

#### Exceptions:

- 1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
- 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.
- Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
- 4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

705.1.1 Entrances. Where an alteration includes alterations to an entrance, and the facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 705.2. Signs complying with Section 1111 of the International Building Code shall be provided.

705.1.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

705.1.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

705.1.4 Ramps. Where steeper slopes than allowed by Section 1012.2 of the International Building Code are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 705.1.4.

#### RAMPS

SLOPE RISE

| <del>Steeper than 1:10 but not steeper than<br/>1:8</del> | <del>3 inches</del> |
|---|---------------------|
| Steeper than 1:12 but not steeper than<br>1:10            | <del>6 inches</del> |

For SI: 1 inch = 25.4 mm

705.1.5 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

705.1.6 Jury boxes and witness stands. In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of earess.

**705.1.7 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Accessible units apply only to the quantity of the spaces being altered.

705.1.8 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type A units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

705.1.9 Toilet rooms. Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The family or assisted use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

705.1.10 Dressing, fitting and locker rooms. Where it is technically infeasible to provide accessible dressing, fitting, or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

705.1.11 Fuel dispensers. Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

705.1.12 Thresholds. The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

705.1.13 Extent of application. An alteration of an existing element, space, or area of a facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

705.1.14 Amusement rides. Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in accordance with Section 1110.4.8 of the International Building Code.

705.2 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to a, or contains an area of, primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.

Exceptions:

- 1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
- 2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
- 3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
- 4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
- 5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

#### SECTION806 ACCESSIBILITY

806.1 General. A building, facility, or element that is altered shall comply with this section and Section 705.

806.2 Stairways and escalators in existing buildings. In *alterations* where an escalator or stairway is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the *International Building Code*.

#### SECTION906 ACCESSIBILITY

906.1 General. A building, facility or element that is altered shall comply with this section and Sections 705 and 806.

906.2 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

#### SECTION1006 ACCESSIBILITY

1006.1 General. Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.8.

1012.1.4 Accessibility. All buildings undergoing a change of occupancy classification shall comply with Section 1012.8.

1012.8 Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with less than a Level 3 alteration.

1012.8.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alteration shall comply with Sections 705, 806 and 906, as applicable.

1012.8.2 Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 1012.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.

- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is provided.
- 5. At least one accessible passenger loading zone, where loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

#### SECTION1105 ACCESSIBILITY

1105.1 Minimum requirements. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of. primary function shall comply with the requirements of Sections 705. 806 and 906. as applicable.

**1105.2** Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for accessible units apply only to the quantity of spaces being added.

1105.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type A units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being added.

1105.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of spaces being added.

#### **CHAPTER 12 HISTORIC BUILDINGS**

#### SECTION1204 ALTERATIONS

**1204.1** Accessibility requirements. The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo *alterations*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or *facility*, as determined by the *code official*, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

1204.1.1 Site arrival points. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

1204.1.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

1204.1.3 Entrances. At least one main entrance shall be accessible.

#### Exceptions:

- If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
- 2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

1204.1.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the International Building Code shall be provided.

**1205.15** Accessibility requirements. The provisions of Section 1012.8 shall apply to facilities designated as historic structures that undergo a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet rooms would threaten or destroy the historic significance of the building or *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for those elements shall be permitted

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

1401.2.5 Accessibility requirements. Accessibility shall be provided in accordance with Section 410 or 605.

## SECTION 410 ACCESSIBILITY FOR EXISTING BUILDINGS

**Reason:** This change is written to move all of the accessibility requirements into a single section in new IEBC Section 303. New 303 is editorial with no change in criteria or requirements and simply renumbers Section 410 to Section 303. All accessibility requirements for existing buildings are placed in one section (303) allowing a focused and clear set of requirements for users to understand. In the existing IEBC, two of the three compliance methods (prescriptive and work area methods) have provisions for accessibility that are virtually identical. In addition, the existing performance method refers to the accessibility provisions of the other compliance methods.

The intent of this change is a reorganization of accessibility provisions to avoid duplication of the same requirements in multiple code sections. The text of requirements is relocated, but the content of the moved sections is not changed. There is no intent to change code requirements, only to recognize them. Note that Section 303.8.9 addressing dining areas is included only because that section has not yet been deleted from Chapter 7 as it was in current Section 410.

The identical provisions in all subsequent sections have been deleted.

We understand that there are several proposals from BCAC to coordinate the provisions between Chapter 4 and 7. Our intent is that those proposals would be incorporated into the change. This move is editorial only.

Cost Impact: Will not increase the cost of construction

This change simply consolidate the various crieria in the IEBC, and should not change the cost of construction.

Staff Note: The deletion to the committee scoping of [BS] to Sections B101.3, B101.4 and B102.2.3 is an errata and is not part of the proposal.

EB 33-15 : 410-COLLINS4528

# EB 34-15 410.2 (New), 410.7, 705.1.1 (New), 705.1.13, 705.2, 1012.8.2

**Proponent:** David Collins, representing The American Institute of Architects (dcollins@preview-group.com); Ronald Nickson (rnickson@nmhc.org), representing National Multi-Housing Council; Kevin Fry, BOMA International (Kfry@BOMA.org), representing BOMA International; Dan Buuck (dbuuck@nahb.org), representing NAHB

## 2015 International Existing Building Code

## Add new text as follows:

410.2 Compliance with accessibility Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.

### Revise as follows:

**410.7** Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*.

## Exceptions:

- 1. Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.
- 2. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
- 3. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
- 4. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
- 5. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
- 6. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

## Add new text as follows:

705.1.1 Compliance with accessibility. Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.

705.1.2 Extent of application. An alteration of an existing element, space, or area of a facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility...

705.2 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to a, or contains an area of, *primary function*, the route to the primary function area shall be accessible. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*.

#### Exceptions:

- 1. Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.
- 2. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of *primary function*.
- 3. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
- 4. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
- 5. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
- 6. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

## Revise as follows:

**1012.8.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section 1012.8.1 and shall have all of the following accessible features:

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is provided.
- 5. At least one accessible passenger loading zone, where loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

## ExceptionExceptions:

1. The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units. 2. Accessible requirements for existing buildings shall comply with the 2009 edition of ICC A117.1.

**Reason:** Dramatic changes are being proposed in the next edition of the ANSI A117.1 standard that will accommodate a higher number of individuals. For example, the turning radius is being changed from 60" diameter to a 67" diameter, and clear floor space from 30"x48" to 30"x52" and related access to features. While these changes are able to be incorporated into new construction relatively easily, existing buildings that have been designed to conform with earlier standards or were modified to meet those earlier standards are likely to find that full compliance will create problems. Even using provisions based on the technical infeasibility for compliance will still require compliance in some circumstances that aren't justifiable financially and physically.

The Department of Justice in development of the 2010 ADA Standard allows for "grandfathering" of elements in an existing building that have already been made to conform and are found to comply with the earlier ADA standard. The 2009 edition of A117.1 provides the most comprehensively structured provisions for compliance with the original ADA and HUD standard, which is why a specific reference to that edition of the Standard for determining whether areas outside the specific alterations or change of occupancy must be modified.

In the other chapters (806.1, 906.1, 1012.8.1, 1105.1, 1204.1, 1401.2.5), by a reference back to Sections 410 and/or 705, this allowance would be applicable to all existing buildings.

## Bibliography: None

## Cost Impact: Will not increase the cost of construction

This change will reduce the cost of construction where changes have already been made to features of a building to conform to older accessibility standards. Under the proposed changes to A117.1 significant cost would be required to conform to these requirements often in areas where upgrades have already been performed in areas such as toilet rooms to meet the barrier removal requirements of the ADA or because of alterations and change of occupancy under the I-Codes when that work had been done prior to the adoption of this new standard.

EB 34-15 : 410.2 (New)-COLLINS4459

## EB 35-15 410.2, 705.1, 1508.2 (New)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

410.2 Maintenance of facilities. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy to the maximum extent feasible.

**705.1 General.** A *facility* that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the *International Building Code* unless it is *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access comply with these requirements to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

## Exceptions:

- 1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
- 2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities .
- 3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
- 4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

#### Add new text as follows:

1508.2 During construction. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy to the maximum extent feasible.

**Reason:** There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for maintenance of facilities during construction in Sections 410.2 and 705.1 should match. However, it was also felt that maintenance of facilities during construction would be more appropriately located under Chapter 15, Construction Safeguards. Maintenance/repairs to maintain accessibility is already addressed in Section 605.1.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

#### Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 35-15 : 410.2-KULIK3344

# EB 36-15

## 410.3, 705.1.13

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

## 2015 International Existing Building Code

## **Revise as follows:**

410.3 Extent of application. An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility, including the accessible means of egress.

**705.1.13 Extent of application.** An *alteration* of an existing element, space, or area of a *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. *Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*. <u>including the accessible means of egress</u>.

Reason: These two secions of the code already address the issue of the extent of application of accessibility to alterations. However, Sections 410.6 and 705.1 contains exceptions which state that accessible means of egress are not requried in existing buildings. This leads to a conflict where it could be construed that it would be acceptable for the existing accessible means of egress to be reduced. The added text clarifies that this is not the case. By placing the added langauge in this section, it is also clear that the intent is not to impose any requirement greater than what would be allowed for new construction. Therefore, if the builting was originally constructed in compliance with the 2006 IBC, with areas of refuge in a building which is protected throughout with an automatic fire sprinkler system, it would be acceptable to remove those areas of refuge since the 2015 IBC does not require areas of refuge where the building is protected throughout with an automatic fire sprinkler system. However, so as not to "reduce" the accessibility, two-way communications devices would need to be provided, consitent with the current code under which the request for removal of the areas of refuge is made.

### Cost Impact: Will not increase the cost of construction

No increase in cost would be a part of this proposal since the least that would be done is to maintain the status quo. A possible cost savings can be made by allowing use of current code.

EB 36-15 : 410.3-BOECKER5613

## EB 37-15 410.4.1, 410.4.2, 1012.8.1, 1012.8.2

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

410.4 Change of occupancy. Existing buildings that undergo a change of group or occupancy shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

**410.4.1 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification <u>or the building has an aggregate area of not</u> <u>more than 3.000 square feet (278.7 m<sup>2</sup>)</u>, any *alterations* shall comply with Sections 410.6, 410.7 and 410.8.

**410.4.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*and has an aggregate are of more than 3,000 square feet (<u>278.7 m<sup>2</sup></u>), it shall comply with Section 410.4.1 and shall have all of the following accessible features:

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is being provided.
- 5. At least one accessible passenger loading zone, when loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

1012.8 Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with less than a Level 3 alteration.

**1012.8.1 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification or the building has an aggregate area of not more than 3.000 square feet (278.7 m<sup>2</sup>), any *alteration* shall comply with Sections 705, 806 and 906, as applicable.

**1012.8.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy* and has an aggregate area of more than 3,000 square feet (<u>278.7 m<sup>2</sup></u>), it shall comply with Section 1012.8.1 and shall have all of the following accessible features:

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code .
- 4. Accessible parking, where parking is provided.
- 5. At least one accessible passenger loading zone, where loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

**Reason:** The current provisions for a complete change of occupancy is sometimes very difficult or costly for small facilities undergoing a complete change of occupancy. The 3,000 sq.ft. limit proposed is consistent with Live/work units. These small facilities will have the same accessibility requirements, regardless if the alteration is a change of occupancy or not. Changes of occupancy are probably more likely to include alterations, so a small facility would be looking at improvements to the accessible route up to the 20% cost limitation. The larger facilities will still have to provide an accessible route when the entire facility undergoes a complete change of occupancy.

The current list of 6 items can be read to require an accessible route, including an elevator, regardless of the cost of the items and how much is spent on any alterations. For the small building, this can result in an existing building being so expensive to fix that it cannot be used for anything other than its original purpose.

What is currently proposed for small buildings is similar to what is allowed for historic buildings in Section 410.9, 1204.1 and 1205.15.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

As indicated in the reason, this would be a possible reduction in cost for small buildings undergoing a complete change in occupancy.

EB 37-15 : 410.4.1-KULIK3363

# EB 38-15

410.4.2, 1012.8.2

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

**Revise as follows:** 

410.4.2 Complete change of occupancy. Where an entire building undergoes a *change of occupancy*, it shall comply with Section 410.4.1 and shall have <u>at least</u> one accessible route throughout the building.all of the following accessible features:

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is being provided.
- 5. At least one accessible passenger loading zone, when loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy an accessible route, the above items accessible route shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are route is not required for an accessible route to Type B units required by Section 410.8.8.

**1012.8.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section 1012.8.1 and shall have <u>at least</u> one accessible route throughout the building.<u>all of the following accessible features:</u>

- 1. At least one accessible building entrance.
- 2. At least one accessible route from an accessible building entrance to primary function areas.
- 3. Signage complying with Section 1111 of the International Building Code.
- 4. Accessible parking, where parking is being provided.
- 5. At least one accessible passenger loading zone, when loading zones are provided.
- 6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy an accessible route, the above items accessible route shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are route is not required for an accessible route to Type B units required by Section 906.2 and 1105.4.

**Reason:** The intent of this proposal is to clarify what is expected when a building undergoes a complete change of occupancy, regardless if it has alterations or not. The list of six items is basically describing the items on an accessible route. Stating it simply will increase understanding of the requirement. This should also eliminate the question as to if this list is intended to over ride new construction exceptions for percentages of accessible entrances or where an elevator is not required. It was never intended to ask for an existing building to exceed new construction requirements. There is a wide variety of interpretations for the list of 6 items in Section 410.42 and 1202.82. This list was originally from a draft of the new ADAAG during development. This was a list of priority items for accessible routes that ended up not being included in ADA. It was decided that designers should be able to use the money where there was the best advantage with the goal of existing building become as accessible as feasible over time. In addition, ADA does not address a change in occupancy; the 2010 ADA standard treats alterations the same, change of occupancy or not. Toilet rooms and drinking fountains are not in the current list. These items would require improvements for accessibility if the complete change of occupancy also included alterations to a primary function area in accordance with Sections 410.7 and 705.2.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

EB 38-15 : 410.4.2-KULIK3402

## EB 39-15 410.6

**Proponent:** Dominic Marinelli, United Spinal Association (DMarinelli@accessibility-services.com);Lee Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee

## 2015 International Existing Building Code

## Revise as follows:

**410.6** Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the *International Building Code*, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

Exceptions:

- 1. The altered element or space is not required to be on an accessible route, unless required by Section 410.7.
- Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.
  The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
- 4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

Reason: Dominic Marinelli: The purpose of this code change proposal is to eliminate a conflict in the IEBC between the requirements in the Prescriptive and Work Area methods. United Spinal Association and its partners supports requiring Type B units in existing buildings when that building is undergoing a major alteration (i.e., greater than 50% or Level 3). We do not believe that this requirement should depend on this also being a change in occupancy. We were successful in getting this requirement into the International Existing Building Code three (3) cycles ago. Previous editions exempted Type B units in any existing building.

We believe that there is a technical conflict in Section 410.6, Exception 4. The exception literally says that a minor alteration with a change of occupancy does not have to provide Type B units. The exception does not allow for minor alterations with no change in occupancy to be exempted from Type B units. That would be in conflict with the requirements in 410.8.8, 705.1 and 906.2. These three indicate Type B units are required only in major alterations.

United spinal also has a proposal in for Section 906.2 that is a different discussion.

410.8.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added.

Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

**705.1 General.** A facility that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the International Building Code unless it is technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent that is technically feasible. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

Exceptions:

1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.

2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.

3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.

4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

906.2 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107

of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered. Exception:

Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

Lee Kranz: The text in exception #4 of Section 410.6 is intended to address alternations to existing buildings but currently includes change of occupancy language. The exception in Section 410.4 deals with change of occupancy issues so the language in exception #4 of Section 410.6 is redundent and is not misplaced under the Alterations section. This proposal corrects exception #4 of Section 410.6 relating to alterations by deleting the change of occupancy text which is already covered in the exception to Section 410.4. Also, the revision creates consistency with exception #3 of Section 705.1.

Cost Impact: Will not increase the cost of construction

This is a correction to clarfly the code and will not impact the cost of construction.

EB 39-15 : 410.6-KRANZ4115

# EB 40-15

410.8.1, 705.1.1

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

410.8.1 Entrances. Accessible entrances shall be provided in accordance with Section 1105.

Exception: Where an *alteration* includes alterations to an entrance <u>that is not accessible</u>, and the *facility* has an *accessible* entrance, the altered entrance is not required to be *accessible*, unless required by Section 410.7. Signs complying with Section 1111 of the *International Building Code* shall be provided.

**705.1.1 Entrances.** Where an *alteration* includes alterations to an entrance <u>that is not accessible</u>, and the *facility* has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 705.2. Signs complying with Section 1111 of the *International Building Code* shall be provided.

**Reason:** There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for entrances in Sections 410.8.2 and 705.1.1 should match. In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

## Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 40-15 : 410.8.1-KULIK3346

# EB 41-15

410.8.4, 806.2

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

## 410.8.4 Stairways and escalators in existing buildings. In alterations, change of occupancy or additions where

<u>Where</u> an escalator or stainway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stainways in accordance with Section 1104.4 of the *International Building Code*.

**806.2 Stairways and escalators in existing buildings.** In *alterations* where Where an escalator or stairway is added where none existed previously and major <u>structural modifications are necessary for installation</u>, an accessible route shall be provided <u>between the levels served by the escalator or stairways in accordance</u> with Sections 1104.4 and 1104.5 of the International Building Code.

Reason: There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for stairways in Sections 410.8.4 and 806.2 should match. While 806.2 is Level II alteration, change of occupancy and additions reference this section. Adding "change or occupancy or additions" under Level 2 could be confusing, so the best alternative is to remove the list from both 410.8.4 and 806.2. Where this is applicable will be handled through the references to this section.

G208-06/07 added the language in Section 410.8.4 as part of coordination with ADA 206.2.3.1. The ADA approach seems more reasonable for when and elevator or platform lift would be required. G241-12 struck the reference to 1104.5 in Section 410.8.4 so that the accessible route will be permitted to be provided in the same area as the new construction, and is not require it to be located elsewhere in the building. A reference to Section 1104.5 could be interpreted to require the accessible route to be provided in another part of the building if the new stairway was not on a general circulation route (such as a 2nd egress stairway).

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 41-15 : 410.8.4-KULIK3347

# EB 42-15 410.8.6, 410.8.7, 410.8.8

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

## Revise as follows:

**410.8.6 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the *International Building Code* for Accessible units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being altered or added.

410.8.7 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered or added.

**410.8.8 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

Reason: There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. This phrase was deleted from Sections 410.8.7, 410.8.8 and 410.8.9 by code change G215-07/08. The reason given was that when visible alarms are required to be added or altered is addressed in IBC/IFC Chapter 9. However, in Chapter 9, if a system is touched, the whole building system needs to be upgraded. This would limit the change to just the units being altered. ALTERATIONS – LEVEL 1

705.1.8 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type A units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

#### ALTERATIONS - LEVEL 3

906.2 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

#### ADDITION

1105.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type A units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being added.

**1105.4 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Areas of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: Will not increase the cost of construction

The proposal limits the revisions to the fire alarm system. Therefore, there will be no additional costs to construction.

EB 42-15 : 410.8.6-KULIK3350

## EB 43-15 410.8.8, 410.8.9 (New)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

## 410.8.8 Additions with Type B dwelling or sleeping units.

Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added.

410.8.9 Alterations with Type B dwelling and sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

Reason: There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Section 410.8.8 is being split to separate additions and alterations. This is a clarification that is consistent with Sections 906.2, 1012.8 and 1105.4.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

#### Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 43-15 : 410.8.8-KULIK3358

# EB 44-15

## 410.8.8

Proponent: Dan Buuck, National Association of Home Builders, representing National Association of Home Builders (dbuuck@nahb.org)

## 2015 International Existing Building Code

## Revise as follows:

410.8.8 Additions with Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added.

410.8.9 Alterations with Type B dwelling and sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

Reason: Section 410.8.8 is being split to separate additions and alterations (similar to Section 906.2 and 1105.4). The addition of the exception to Section 410.8.9 is to coordinate with Section 906.2. The intent is to coordinate the requirements for Type B dwelling units within the options available in the IEBC.

This same exception was added to Section 906.2 during the last code cycle to bring it in line with the provisions of FHA. It was approved by the committee and had no public comments. This proposal fixes the unintended omission of the same language in Section 410.8.9. These provisions need to include similar language, because they are parallel sections.

Having this language in the IEBC allows buildings that were previously occupied to be revitalized without triggering requirements that would exceed the federal legislation. Too often existing building owners who submit plans to alter an existing residential building which was built before the FHA guidelines went into effect are told that they must comply with the accessible requirements for new buildings. This exception brings the IEBC in line with the federal audielines.

For reference, FHA regulations state "The design requirements apply to buildings built for first occupancy after March 13, 1991, which fall under the definition of "covered multifamily dwellings." Sections 906.2 and 1105.4 are shown below for comparison:

906.2 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

1105.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units and Chapter 9 of the International Building Code for visible alarms apply only to the quantity of spaces being added.

## Cost Impact: Will not increase the cost of construction

This proposal limits the Type B units requirements to only buildings that should have complied with the Fair Housing Act at the time of initial construction. Therefore, older institutional and residential buildings would not have the additional costs of upgrading for accessibility.

EB 44-15 : 410.8.8-BUUCK4900

# EB 45-15

410.8.9, 705.1.6

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

**Revise as follows:** 

**410.8.9 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the <u>required</u> means of egress.

**705.1.6 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restrictingrestricts or projecting projects into a required means of egress.

**Reason:** There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for courtrooms in Sections 410.8.9 and 705.1.6 should match. In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 45-15 : 410.8.9-KULIK3351

## EB 46-15 410.8.10, 410.9.4, 705.1.9, 1204.1.4

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

## 2015 International Existing Building Code

## Revise as follows:

**410.8.10 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, <u>a unisex toilet room or bathing room shall be</u> <u>provided</u>. The unisex toilet room or bathing room shall be constructed as an *accessible* family or assisted-use toilet or bathing room <del>constructed</del> in accordance with Section <del>1109.2.1.1109.2.1.2, 1109.2.1.3, 1109.2.1.5, 1109.2.1.6</del> and 1109.2.1.7 of the *International Building Code\_isA* unisex toilet room shall be permitted to contain two water closets. The family or assisted-useunisex toilet or bathing rooms, provide directional signs <u>shall be provided</u> indicating the location of the nearest family or assisted-useunisex toilet room or bathing rooms. At the inaccessible toilet and bathing rooms, provide directional signs <u>shall be provided</u> indicating the location of the nearest family or assisted-useunisex toilet room or bathing room. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**410.9.4 Toilet and bathing facilities.** Where toilet rooms are provided, at least one <u>unisex toilet shall be provided</u>. The <u>unisex toil room shall be constructed as an</u> accessible family or assisted-use toilet room complying with <u>Section 1109.2.1Sections 1109.2.1.2, 1109.2.1.5, 1109.2.1.6 and 1109.2.1.7</u> of the *International Building Code.* A unisex toilet room shall be provided permitted to contain two water closets.

**705.1.9 Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, <u>a unisex toilet room or bathing room shall be</u> <u>provided. The unisex toilet room or bathing room shall be constructed as</u> an accessible family or assisted-use toilet or bathing room <u>constructed</u> in accordance with Section <del>1109.2.1.109.2.1.2, 1109.2.1.3, 1109.2.1.5, 1109.2.1.6</del> and 1109.2.1.7 of the *International Building Code* is <u>A unisex toilet room shall be</u> permitted to contain two water closets. The family or assisted-use unisex toilet or bathing rooms, directional signs indicating the located on the same floor and in the same area as the existing toilet or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**1204.1.4 Toilet and bathing facilities.** Where toilet rooms are provided, at least one <u>unises toilet shall be provided</u>. The <u>unisex toilet room shall be constructed as</u> <u>an</u> accessible family or assisted-use toilet room complying with Section 1109.2.1.Sections 1109.2.1.2, 1109.2.1.5, 1109.2.1.6 and 1109.2.1.7 of the *International Building Code*. A unisex toilet room shall be provided permitted to contain two water closets.

Reason: The proposals to Sections 410.9.4 and 705.1.9 are for altered buildings and are exactly the same. The proposals to Section 410.9.4 and 1204.1.4 are for historic buildings, and are the same. The code change seeks to address all in the same manner.

The concept of the alternative toilet/bathing room has been confused between the IBC's intent to provide <u>additional</u> access and usability in the family and assisted-use toilet and bathing rooms; and, the unisex toilet/bathing rooms intended to provide <u>some</u> accessibility where none would otherwise be available. The former is intended to be required only in mercantile and assembly occupnacies where other accessible group toilet/bathing rooms are provided. The latter is intended to provide at least one accessible set of plumbing fixtures in an existing building where no other accessible plumbing fixtures are provided. One is for new construction and one is for existing construction. These are different needs and should be identified as such and given different names accordingly.

It would be easy to simply have a "one size fits all" approach to both of these. However, the federal 2010 ADA Standards for Accessible Design includes different fixtures within the room than what is included in the IBC. Both sets of rules allow two options for the toilet room fixture counts and two for the bathing room fixture counts:

|              | IBC Family or Assisted Use Toilet and Bathing Rooms (current) |               |                |                | 2010 Standards Unisex Toilet Room and Unisex Bathing Room |               |                |                |
|--------------|---|---------------|----------------|----------------|---|---------------|----------------|----------------|
|              | Toilet Room A   | Toilet Room B | Bathing Room A | Bathing Room B | Toilet Room A   | Toilet Room B | Bathing Room A | Bathing Room B |
| Lavatory     | 1   | 1             | 1              | 1              | 1   | 1             | 1              | 1              |
| Water Closet | 1   | 1             | 1              | 1              | 2   | 1             | 1              | 1              |
| Urinal       | 0   | 1             | 0              | 0              | 0   | 1             | 0              | 0              |
| Shower       | n/a   | n/a           | 1              | 0              | n/a   | n/a           | 1              | 1              |
| Bathtub      | n/a   | n/a           | 0              | 1              | n/a   | n/a           | 0              | 1              |

In some cases the two sets of rules align. In others they do not. These proposed changes would place the IEBC unisex toilet/bathing rooms in line with the provisions of the 2010 Standards for unisex toilet/bathing rooms.

The 2010 ADA Standards for Accessible Design:

Section 213.2 identifies, in exceptions 1 and 2 when the unisex toilet room is required.

213.2 Toilet Rooms and Bathing Rooms. Where toilet rooms are provided, each toilet room shall comply with 603. Where bathing rooms are provided, each bathing room shall comply with 603.

**EXCEPTIONS:** 1. In alterations where it is technically infeasible to comply with 603, altering existing toilet or bathing rooms shall not be required where a single unisex toilet room or bathing room complying with 213.2.1 is provided and located in the same area and on the same floor as existing inaccessible toilet or bathing rooms.

2. Where exceptions for alterations to qualified historic buildings or facilities are permitted by 202.5, no fewer than one toilet room for each sex complying with 603 or one unisex toilet room complying with 213.2.1 shall be provided.

Section 213.2.1 of the 2010 Standards identifies what should be included in a unisex toilet room to meet the federal guidelines.

213.2.1 Unisex (Single-Use or Family) Toilet and Unisex Bathing Rooms. Unisex toilet rooms shall contain not more than one lavatory, and two water closets without urinals or one water closet and one urinal. Unisex bathing rooms shall contain one shower or one shower and one bathtub, one lavatory, and one water closet. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches.

Cost Impact: Will not increase the cost of construction

The revision is a clarification. It should not increase or decrease costs of construction. It may reduce administration costs because it clarifies something.

EB 46-15 : 410.8.10-BOECKER5781

## EB 47-15 410.9, 1204.1, 1205.15

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

## Revise as follows:

**410.9 Historic buildings.** These provisions shall apply to *facilities* designated as historic structures that undergo *alterations* or a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *facility*, as determined by the applicable governing authority authority having jurisdiction, the alternative requirements of Sections 410.9.1 through 410.9.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

**1204.1** Accessibility requirements. The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo *alterations*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the *building or facility*, as determined by the *code official*authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

**1205.15** Accessibility requirements. The provisions of Section 1012.8 shall apply to facilities designated as historic structures that undergo a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for those elements shall be permitted

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

Reason: There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for historic building in Sections 410.9, 1204.1 and 1205.5 should match. By changing 410.9 and 1204.1 to match 1205.15, 'the authority having jurisdiction' can include historical preservation offices and oversight. In Section 1205.15, 'tamps" are not part of the list of requirements in the following sections; therefore, they should not be in this list. The definition for the term 'facility' includes buildings, therefore you can use one descriptor. In July/2014 the ICC Board decided to sunset the activities of the Cote Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

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**Cost Impact:** Will not increase the cost of construction The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 47-15 : 410.9-KULIK3343

# EB 48-15

410.9.3, 1204.1.3

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

## Revise as follows:

410.9.3 Entrances. At least one main public entrance shall be accessible.

#### Exceptions:

- 1. If a main public entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
- If a main public entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 of the International Building Code shall be provided at the primary public entrance and the accessible entrance.

1204.1.3 Entrances. At least one main public entrance shall be accessible.

#### Exceptions:

- 1. If a main public entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
- If a mainpublic entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

#### Signs complying with Section 1111 of the International Building Code shall be provided at the public entrance and the accessible entrance.

Reason: There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. Requirements for toilet rooms in Sections 410.9.3 and 1204.1.3 should match. The term 'public' is used in ADA instead of 'main'. The term 'nonpublic' is removed from exception 1 so that this can be any entrance to the building; also this is consistent with Exception 2. Adding the signage reference is consistent with Entrances in Sections 410.8.1 and 705.1.1.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

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## Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 48-15 : 410.9.3-KULIK3355

## EB 49-15 410.8.11 (New), 806.3 (New)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

## 2015 International Existing Building Code

**410.8.10 Toilet rooms.** Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, provide directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

## Add new text as follows:

**410.8.11** Additional toilet and bathing facilities In assembly and mercantile occupancies, where additional toilet fixtures are added, at least one accessible family or assisted-use toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, at least one family or assisted-use bathing rooms shall be provided where required by Section 1109.2.1 of the International Building Code.

**705.1.9 Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

**806.3** Toilet and bathing facilities In assembly and mercantile occupancies, where additional toilet fixtures are added, at least one accessible family or assisteduse toilet room shall be provided where required by Section 1109.2.1 of the International Building Code. In recreational facilities, where additional bathing rooms are being added, at least one family or assisted-use bathing rooms shall be provided where required by Section 1109.2.1 of the International Building Code.

Reason: The current text is unclear where a family or assisted use toilet room needs to be added within a facility. There is a correllative change to Section 410.8.10 and 705.1.9 to separate this bathroom from where a unisex bathroom is permitted as an option when the men's and women's bathrooms cannot be made accessible.

**410.8.11** The langauge of the requirement is changed to make it clear that the intent is to provide a family or assisted-use toilet room when it would normally be required by Section 1109.2.1 of the IBC. The manner in which it is currently written, the text seems to imply that the family or assisted-use toilet room would be required regardless of the occupancy classification of the facility. If so, it would impose a requirement more strict than that for new construction.

806.3 The same langauge as shown in the revised Section 410.8.11 is being added to the Work Area method for Level 2 Alterations. It seems only appropriate that the requirement should apply to both methodologies.

## Cost Impact: Will increase the cost of construction

The added requirement to the work area method will increase the cost of construction for some buildings.

However, the clarification to the existing text will likely reduce the cost of construction. The specific balance will depend on which method is used and what type of project is involved.

EB 49-15 : 410.9.4-BOECKER5779

# EB 50-15

## Chapters 5, 6, 7, 8, 9, 10, 11, 12, 13

Proponent: Kathleen Petrie, representing Seattle Dept of Planning & Development (kathleen.petrie@seattle.gov)

## 2015 International Existing Building Code

## Combine Chapters 5 through 12 and revise as follows:

## CHAPTER 5 CLASSIFICATION OF WORK WORK AREA METHOD

## SECTION 501 GENERALCLASSIFICATION OF WORK

**501.1 Scope.** The provisions of this chapter shall be used in conjunction with Chapters 6 through 13 and shall apply to the *alteration, repair, addition* and *change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.2. The work performed on an *existing building* shall be classified in accordance with this chapter.

**501.1.1 Compliance with other alternatives.** Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of Chapters 6 through 13this chapter or with one of the alternatives provided in Section 301.1.

501.2501.1.2 Work area. The work area, as defined in Chapter 2, shall be identified on the construction documents.

## SECTION 502 REPAIRS

502.1501.2 ScopeRepairs. Repairs, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

502.2501.2.1 Application. Repairs shall comply with the provisions of Chapter 6. Section 502.

502:3501.2.2 Related work. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the provisions of Chapter 7, 8, 9, 10 or 11 Sections 503, 504, 505, 506, or 507.

#### SECTION 503 ALTERATIONS- LEVEL 1

503.1501.3 ScopeAlteration - Level 1. No change to text.

503:2501.3.1 Application. Level 1 alterations shall comply with the provisions of Chapter 7.Section 503.

## SECTION 504 ALTERATIONS-LEVEL 2

504.1501.4 Scope Alteration - Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

504.2501.4.1 Application. Level 2 alterations shall comply with the provisions of Chapter 7 Section 503 for Level 1 alterations as well as the provisions of Chapter 8-Section 504.

#### SECTION 505 ALERATIONS- LEVEL 3

505.1501.5 ScopeAlteration-Level 3. Level 3 alterations apply where the work area exceeds 50 percent of the building area.

505.2501.5.1 Application. Level 3 alterations shall comply with the provisions of Chapters 7 Sections 503 and 8-504 for Level 1 and 2 alterations, respectively, as well as the provisions of Chapter 9. Section 505.

## SECTION 506 CHANGE OF OCCUPANCY

506.1501.6 ScopeChange of occupancy. Change of occupancy provisions apply where the activity is classified as a change of occupancy as defined in Chapter 2.

506.2501.6.1 Application. Changes of occupancy shall comply with the provisions of Chapter 10. Section 506.

### SECTION 507 ADDITIONS

507.1501.7 ScopeAdditions. Provisions for additions shall apply where work is classified as an addition as defined in Chapter 2.

507:2501.7.1 Application. Additions to existing buildings shall comply with the provisions of Chapter 11. Section 507.

## SECTION 508 HISTORIC BUIDLINGS

508.1501.8 ScopeHistoric Buildings. Historic building provisions shall apply to buildings classified as historic as defined in Chapter 2.

508.2501.8.1 Application. Except as specifically provided for in Chapter 12Section 508, historic buildings shall comply with applicable provisions of this code for the type of work being performed.

## SECTION 509 RELOCATED BUILDINGS

509.1501.9 ScopeRelocated Buildings. Relocated building provisions shall apply to relocated or moved buildings. <u>Relocated buildings shall comply with the</u> provisions of Section 509.

## CHAPTER 6REPAIRS

#### SECTION 601502GENERAL REPAIRS

601.1502.1 Scope. Repairs as described in Section 502 shall comply with the requirements of this chaptersection. Repairs to historic buildings need only comply with Chapter 12. Section 508.

601.2502.2 Conformance. The work shall not make the building less conforming than it was before the repair was undertaken.

[BS] 601.3502.3 Flood hazard areas. In flood hazard areas, repairs that constitute substantial improvement shall require that the building comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable,

## SECTION602 BUILDING ELEMENTS AND MATERIALS

602:2502:5 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction

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shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no *dangerous* or *unsafe* condition, as defined in Chapter 2, is created. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

602:3502.6 Glazing in hazardous locations. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the International Building Code or International Residential Code as applicable.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

#### SECTION603 FIRE PROTECTION

603.1502.7 General Fire protection. No change to text.

SECTION604 MEANS OF EGRESS

604.1502.8 GeneralMeans of egress. No change to text.

SECTION605 ACCESSIBILITY

605.1502.9 General Accessibility. No change to text.

#### SECTION606 STRUCTURAL

**[BS]** 606.1502.10 General Structural. Structural repairs shall be in compliance with this section and Section 601.2502.10.1. Regardless of the extent of structural or nonstructural damage, *dangerous* conditions shall be eliminated. Regardless of the scope of *repair*, new structural members and connections used for *repair* or *rehabilitation* shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.

## SECTION607 ELECTRICAL

607.1502.11 MaterialElectrical. Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material.

#### SECTION608 MECHANICAL

608.1502.12 General Mechanical. Existing mechanical systems undergoing *repair* shall not make the building less conforming than it was before the *repair* was undertaken.

#### SECTION609 PLUMBING

609.1502.13 MaterialsPlumbing. Plumbing materials and supplies shall not be used for repairs that are prohibited in the International Plumbing Code.

## CHAPTER 7ALTERATIONS-LEVEL 1

## SECTION 701503GENERALALTERATIONS-LEVEL 1

701.1503.1 Scope. Level 1 alterations as described in Section 503501.3 shall comply with the requirements of this chaptersection. Level 1 alterations to historic buildings shall comply with this chaptersection, except as modified in Chapter 12. Section 508.

701.2503.2 Conformance. An existing building or portion thereof shall not be altered such that the building becomes less safe than its existing condition.

Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the International Building Code.

[BS] 701.3503.3 Flood hazard areas. In flood hazard areas, alterations that constitute substantial improvement shall require that the building comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable,

## SECTION702 BUILDING ELEMENTS AND MATERIALS

702.1503.4 Interior wall and ceiling finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the International Building Code.

702.2503.5 Interior floor finish. New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the *International Building Code*.

702:3503.6 Interior trim. All newly installed interior trim materials shall comply with Section 806 of the International Building Code.

702:4503.7 Window opening control devices. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

- 1. The window is operable;
- 2. The window replacement includes replacement of the sash and the frame;
- 3. One of the following applies:
  - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
  - 3.2. In one- and two-family dwellings and town-houses regulated by the *International Residential Code*, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
- 4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
- 5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by the International Building Code.

#### Exceptions:

- 5.1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
- 5.2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

702:5503.8 Emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *International Building Code* and Sections R310.21 and R310.2.3 of the *International Residential Code* accordingly, provided the replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.

702:6503.9 Materials and methods. All new work shall comply with the materials and methods requirements in the *International Building Code*, *International Energy Conservation Code*, *International Mechanical Code*, and *International Plumbing Code*, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

## SECTION703 FIRE PROTECTION

703.1503.10 GeneralFire protection. Alterations shall be done in a manner that maintains the level of fire protection provided.

#### SECTION704 MEANS OF EGRESS

704.1503.11 General Means of egress. Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.

#### SECTION705 ACCESSIBILITY

705.1503.12 General Accessibility. A facility that is altered shall comply with the applicable provisions in Sections 705.1.1503.12.1 through 705.1.14503.12.14, and Chapter 11 of the International Building Code unless it is technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

## Exceptions:

- 1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
- 2. Accessible means of egress required by Chapter 10 of the *International Building Code* are not required to be provided in existing *facilities*.
- 3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
- 4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

### SECTION706 REROOFING

[BS] 706.1503.13 General Reroofing. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15 of the International Building Code.

**Exception:** Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 of the *International Building Code* for roofs that provide positive roof drainage.

### SECTION707 STRUCTURAL

[BS] 707.1503.14 GeneralStructural. Where alteration work includes replacement of equipment that is supported by the building or where a reroofing permit is required, the provisions of this section shall apply.

#### SECTION708 ENERGY CONSERVATION

708.1503.15 Minimum requirements. Energy Conservation. Level 1 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

#### **CHAPTER 8ALTERATIONS**—LEVEL 2

## SECTION 801504 GENERALALTERATIONS-LEVEL 2

801.1504.1 Scope. Level 2 alterations as described in Section 504501.4 shall comply with the requirements of this chaptersection.

Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2-503.12.1 shall be permitted to comply with Chapter 7Section 503.

801.2504.1.1 Alteration Level 1 Additional compliance. In addition to the requirements of this chaptersection, all work shall comply with the requirements of Chapter 7-Section 503.

801.3504.1.2 Compliance with International Building Code. All new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code.

## Exceptions:

- 1. Windows may be added without requiring compliance with the light and ventilation requirements of the International Building Code.
- 2. Newly installed electrical equipment shall comply with the requirements of Section 808.
- 3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 805.6.
- 4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

## SECTION802 SPECIAL USE AND OCCUPANCY

802:1504.2 GeneralSpecial Use and Occupancy. Alteration of buildings classified as special use and occupancy as described in the International Building Code shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

#### SECTION803 BUILDING ELEMENTS AND MATERIALS

803.1504.3 ScopeBuilding Elements and materials. No change to text.

## SECTION804 FIRE PROTECTION

804.1504.4 ScopeFire protection. The requirements of this section shall be limited to work areas in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

## SECTION805 MEANS OF EGRESS

805.1504.5 ScopeMeans of egress. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the work area in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

805.2504.5.1 General. The means of egress shall comply with the requirements of this section.

Exceptions:

- 1. Where the work area and the means of egress serving it complies with NFPA 101.
- 2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life.

#### 805.3 Number of exits. The number of exits shall be in accordance with Sections 805.3.1 through 805.3.3.

805.3.1504.5.2 Minimum number\_of exits. Every story utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 805.3.1.1 and 805.3.1.2.

805.4.1 Two egress doorways required. Work areas shall be provided with two egress doorways in accordance with the requirements of Sections 805.4.1.1 and 805.4.1.2.

805.8504.5.10 Exit signs. Exit signs. Exit signs. Means of egress in all work areas shall be provided with exit signs in accordance with this section, as applicable.the requirements of the International Building Code.

805.8.1 Work areas. Means of egress in all work areas shall be provided with exit signs in accordance with the requirements of the International Building Code.

805.10.1 Capacity. The required capacity of refuge areas shall be in accordance with Sections 805.10.1.1 through 805.10.1.3.

#### SECTION806 ACCESSIBILITY

806.1504.6 General Accessibility. A building, facility, or element that is altered shall comply with this section and Section 705. SECTION807 STRUCTURAL

[BS] 807.1504.7 General Structural. Structural elements and systems within buildings undergoing Level 2 alterations shall comply with this section.

#### SECTION808 ELECTRICAL

504.8 Electrical. Electrical equipment and wiring shall comply with section 504.8.1 through 504.8.3.7.

808.1504.8.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 808.3504.8.3.

808.2504.8.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Chapter 7. Section 503.

## SECTION809 MECHANICAL

504.9 Mechanical. Mechanical equipment shall comply with sections 504.9 through 504.9.3.

#### SECTION810 PLUMBING

810.1504.10 Minimum plumbing\_fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the *International Plumbing Code* based on the increased occupant load.

## SECTION811 ENERGY CONSERVATION

811.1504.11 Minimum energy conservation requirements. Level 2 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Code or International Residential Code as they relate to new construction only.

## **CHAPTER 9ALTERATIONS—LEVEL 3**

## SECTION 901 505 GENERAL ALTERATIONS-LEVEL 3

901.1505.1 Scope. Level 3 alterations as described in Section 505501.5 shall comply with the requirements of this chaptersection.

901.2505.2 Compliance. In addition to the provisions of this chaptersection, work shall comply with all of the requirements of Chapters 7Sections 503 and 8504. The requirements of Sections 803, 804 and 805 shall apply within all *work areas* whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

Exception: Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall not be required to comply with this <u>chaptersection</u>.

## SECTION902 SPECIAL USE AND OCCUPANCY

## 902.1505.3 High-rise buildings. No change to text.

902:2505.4 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within Groups I-1, I-2, I-4, R-1, R-2 and R-4 occupancies shall be enclosed by 1-hour fireresistance-rated construction.

#### Exceptions:

- 1. Steam boiler equipment operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less is not required to be enclosed.
- 2. Hot water boilers operating at pressures of 170 psig (1171 KPa) or less are not required to be enclosed.
- 3. Furnace and boiler equipment with 400,000 British thermal units (Btu) (4.22 × 108 J) per hour input rating or less is not required to be enclosed.
- 4. Furnace rooms protected with an automatic sprinkler system are not required to be enclosed.

## SECTION903 BUILDING ELEMENTS AND MATERIALS

903.1505.5 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 803.2.1 from the highest *work area* floor to, and including, the level of exit discharge and all floors below.

## 903.2505.6 Fire partitions in Group R-3. No change to text.

903.3505.7 Interior finish. Interior finish in exits serving the work area shall comply with Section 803.4 between the highest floor on which there is a work area to the floor of exit discharge.

### SECTION904 FIRE PROTECTION

## 904.1505.8 Automatic sprinkler systems. No change to text.

904.2505.9 Fire alarm and detection systems. Fire alarm and detection shall be provided in accordance with Section 907 of the International Building Code as

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## SECTION905 MEANS OF EGRESS

905.1505.10 GeneralMeans of egress. No change to text.

#### SECTION906 ACCESSIBILITY

906.1505.11 General Accessibility. A building, facility or element that is altered shall comply with this section and Sections 705 and 806.

## SECTION907 STRUCTURAL

[BS] 907.1505.12 General Structural. Where buildings are undergoing Level 3 alterations including structural alterations, the provisions of this section shall apply.

[BS] 907.4505.12.3 Existing structural elements resisting lateral loads. All existing elements of the lateral force-resisting system shall comply with this section.

Exceptions:

- 1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes that are altered based on the conventional light-frame construction methods of the *International Building Code* or in compliance with the provisions of the *International Residential Code*.
- 2. Where such *alterations* involve only the lowest story of a building and the *change of occupancy* provisions of <del>Chapter 10</del>Section 506 do not apply, only the lateral force-resisting components in and below that story need comply with this section.

## SECTION908 ENERGY CONSERVATION

908.1505.13 Minimum requirements. Energy conservation. Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

## CHAPTER 10CHANGE OF OCCUPANCY

## SECTION 1001 506GENERAL CHANGE OF OCCUPANCY

1001.1506.1 Scope. The provisions of this chaptersection shall apply where a change of occupancy occurs, as defined in Section 202.

**1001.2506.2** Certificate of occupancy. A change of occupancy or a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* shall not be made to any structure without the approval of the *code official*. A certificate of occupancy shall be issued where it has been determined that the requirements for the change of occupancy have been met.

**1001.3506.3** Certificate of occupancy required. A certificate of occupancy shall be issued where a *change of occupancy* occurs that results in a different occupancy classification as determined by the *International Building Code*.

## SECTION1002 SPECIAL USE AND OCCUPANCY

**1002.1506.4** Compliance with the building code. Special use and occupancy. Where the character or use of an *existing building* or part of an *existing building* is changed to one of the following special use or occupancy categories as defined in the *International Building Code*, the building shall comply with all of the applicable requirements of the *International Building Code*:

- 1. Covered and open mall buildings.
  - 2. Atriums.
  - 3. Motor vehicle-related occupancies.
  - 4. Aircraft-related occupancies.
  - 5. Motion picture projection rooms.
  - 6. Stages and platforms.
  - 7. Special amusement buildings.
  - 8. Incidental use areas.
- 9. Hazardous materials.
- 10. Ambulatory care facilities.
- 11. Group I-2 occupancies.

## SECTION1003 BUILDING ELEMENTS AND MATERIALS

1003.1506.5 GeneralBuilding elements and materials. Building elements and materials in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.

## SECTION1004 FIRE PROTECTION

**1004.1506.6 GeneralFire protection.** Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a *change of occupancy* classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code.* 

#### SECTION1005 MEANS OF EGRESS

1005.1506.7 General Means of egress. Means of egress in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.

## SECTION1006 ACCESSIBILITY

1006.1506.8 General Accessibility. Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.8.

## SECTION1007 STRUCTURAL

506.9 Structural. Buildings undergoing change of occupancy are subject to Section 506.9.

## SECTION1008 ELECTRICAL

506.10 Electrical. Electrical equipment and wiring shall comply with Sections 506.10.1 through 506.10.4

#### SECTION1009 MECHANICAL

**1009.1506.11** Mechanical requirements. Where the occupancy of an *existing building* or part of an *existing building* is changed such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with the *International Mechanical Code*, the new occupancy shall comply with the respective *International Mechanical Code* provisions.

## SECTION1010 PLUMBING

## SECTION1011 OTHER REQUIREMENTS

1011.1506.13 Light and ventilation. Light and ventilation shall comply with the requirements of the International Building Code for the new occupancy.

#### SECTION1012 CHANGE OF OCCUPANCY CLASSIFICATION

**1012.1506.14 GeneralChange of occupancy classification.** The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*. Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy classification system in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.2.

1012.1.1.506.14.1 Compliance with Chapter 9.Section 505. The requirements of Chapter 9. Section 505 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.

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

1012.2.1506.14.5 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs.

1012.2.2506.14.6 Fire alarm and detection system. Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the *change of occupancy* occurs in accordance with Section 907 of the *International Building Code* as required for new construction.

**1012.3506.14.7** Interior finish. In areas of the building undergoing the change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the *International Building Code* for the new occupancy classification.

1012.4506.14.8 Means of egress, general. Hazard categories in regard to life safety and means of egress shall be in accordance with Table 1012.4506.14.8.

1012.5506.14.9 Heights and areas. Hazard categories in regard to height and area shall be in accordance with Table 1012.5506.14.9.

1012.6506.14.10 Exterior wall fire-resistance ratings. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table 1012.6506.14.10.

1012.7506.14.11 Enclosure of vertical shafts. Enclosure of vertical shafts shall be in accordance with Sections 1012.7.1 506.14.11.1 through 1012.7.4506.14.11.4.

1012.0506.14.12 Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing buildings and facilities undergoing a *change of occupancy* in conjunction with less than a Level 3 *alteration*.

#### **CHAPTER 11ADDITIONS**

## SECTION 1101 507 GENERAL ADDITIONS

**1101.1507.1** Scope. An *addition* to a building or structure shall comply with the *International Codes* as adopted for new construction without requiring the *existing building* or structure to comply with any requirements of those codes or of these provisions, except as required by this chaptersection. Where an *addition* impacts the *existing building* or structure, that portion shall comply with this code.

1101.2507.2 Creation or extension of nonconformity. An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems.

1101.3507.3 Other work. Any repair or alteration work within an existing building to which an addition is being made shall comply with the applicable requirements for the work as classified in Chapter 5.Section 501.

## SECTION1102 HEIGHTS AND AREAS

**1102.1507.4** Height limitations. No addition shall increase the height of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings.

**1102.2507.5** Area limitations. No addition shall increase the area of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings unless fire separation as required by the *International Building Code* is provided.

Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stairway shafts shall be permitted beyond that permitted by the International Building Code.

1102.3507.6 Fire protection systems. Existing fire areas increased by the addition shall comply with Chapter 9 of the International Building Code.

## SECTION1103 STRUCTURAL

[BS] 1103.1507.7 Compliance with the International Building CodeStructural. Additions to existing buildings or structures are new construction and shall comply with the International Building Code.

[BS] 1103.2507.7.1 Additional gravity loads. Existing structural elements supporting any additional gravity loads as a result of additions shall comply with the International Building Code.

#### Exceptions:

- 1. Structural elements whose stress is not increased by more than 5 percent.
- 2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the *existing building* and the *addition* comply with the conventional lightframe construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

#### SECTION1104 SMOKE ALARMS IN OCCUPANCY GROUPS R AND I-1

1104.1507.8 Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a Group R or I-1 occupancy, the existing

building shall be provided with smoke alarms as required by Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code as applicable.

## SECTION1105 ACCESSIBILITY

**1105.1507.9** Minimum requirements Accessibility. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, *primary function* shall comply with the requirements of Sections 705, 806 and 906, as applicable.

1105.2507.9.1 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units apply only to the quantity of spaces being added.

## SECTION1106 ENERGY CONSERVATION

**1106.1507.10** Minimum requirements. Energy Conservation. Additions to existing buildings shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction.

## CHAPTER 12HISTORIC BUILDINGS

## SECTION 1201 508GENERAL HISTORIC BUILDINGS

**1201.1508.1** Scope. It is the intent of this chaptersection to provide means for the preservation of *historic buildings*. Historical buildings shall comply with the provisions of this chaptersection relating to their *repair, alteration*, relocation and *change of occupancy*.

**[BS] 1201.2508.2 Report.** A *historic building* undergoing *repair, alteration,* or *change of occupancy* shall be investigated and evaluated. If it is intended that the building meet the requirements of this <u>chaptersection</u>, a written report shall be prepared and filed with the *code official* by a registered design professional when such a report is necessary in the opinion of the *code official*. Such report shall be in accordance with Chapter 1 and shall identify each required safety feature that is in compliance with this <del>chaptersection</del> and where compliance with other chapters of these provisions would be damaging to the contributing historic features. For buildings assigned to Seismic Design Category D, E or F, a structural evaluation describing, at a minimum, the vertical and horizontal elements of the lateral force-resisting system and any strengths or weaknesses therein shall be prepared. Additionally, the report shall describe each feature that is not in compliance with these provisions and shall demonstrate how the intent of these provisions is complied with in providing an equivalent level of safety.

**1201.3508.3** Special occupancy exceptions—museums. When a building in Group R-3 is also used for Group A, B, or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m<sup>2</sup>), the *code official* may determine that the occupancy is Group B when life-safety conditions can be demonstrated in accordance with Section 1201.2. Adequate means of egress in such buildings, which may include a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

**[BS] 1201.4508.4** Flood hazard areas. In flood hazard areas, if all proposed work, including repairs, work required because of a *change of occupancy*, and *alterations*, constitutes *substantial improvement*, then the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

**Exception:** If an *historic building* will continue to be an *historic building* after the proposed work is completed, then the proposed work is not considered a *substantial improvement*. For the purposes of this exception, an *historic building* is:

- 1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
- 2. Determined by the Secretary of the U.S. Department of Interior to contribute to the historical significance of a registered historic district or a district preliminarily determined to qualify as a historic district; or
- 3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

#### SECTION1202 REPAIRS

1202.1508.5 General Repairs. Repairs to any portion of an *historic building* or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chaptersection. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

1202.2508.5.1 Unsafe conditions. Conditions determined by the code official to be unsafe shall be remedied. No work shall be required beyond what is required to remedy the unsafe conditions.

## SECTION1203 FIRE SAFETY

1203.1508.6 ScopeFire safety. Historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with Section 1203.

**1203.2508.6.1** General. Every *historic building* that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the code official. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any *facility*.

## SECTION1204 ALTERATIONS

**1204.1508.7** Accessibility requirements. The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo *alterations*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or *facility*, as determined by the *code official*, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.

#### SECTION1205 CHANGE OF OCCUPANCY

**1205.1508.8 GeneralChange of occupancy**. *Historic buildings* undergoing a *change of occupancy* shall comply with the applicable provisions of <u>Chapter 10Section</u> 506, except as specifically permitted in this <del>chaptersection</del>. When <u>Chapter 10Section 506</u> requires compliance with specific requirements of <u>Chapter 7 Section 503</u>, <u>Chapter 8 Section 504</u>, or <u>Chapter 9 Section 505</u> and when those requirements are subject to the exceptions in Section 1202, the same exceptions shall apply to this section.

#### SECTION1206 STRUCTURAL

[BS] 1206.1508.9 General Structural. Historic buildings shall comply with the applicable structural provisions for the work as classified in Chapter 5. Section 501.

Exception: The code official shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.

## CHAPTER 13RELOCATED OR MOVED BUILDINGS

## SECTION 1301 509 GENERAL RELOCATED OR MOVED BUILDINGS

1301.1509.1 Scope. This chaptersection provides requirements for relocated or moved structures, including relocatable buildings as defined in Chapter 2.

509.2 Application. Relocated buildings shall comply with the provisions of Chapter 13.

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1301.2509.2 Conformance. The building shall be safe for human occupancy as determined by the *International Fire Code* and the *International Property Maintenance Code*. Any *repair, alteration,* or *change of occupancy* undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the *International Building Code* or the *International Residential Code* as applicable.

## SECTION1302 REQUIREMENTS

1302.1509.3 Location on the lot. The building shall be located on the lot in accordance with the requirements of the International Building Code or the International Residential Code as applicable.

[BS] 1302.2509.4 Foundation. The foundation system of relocated buildings shall comply with the International Building Code or the International Residential Code as applicable.

[BS] 1302.3509.5 Wind loads. Buildings shall comply with International Building Code or International Residential Code wind provisions as applicable.

Exceptions:

- 1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
- 2. Structural elements whose stress is not increased by more than 10 percent.

[BS] 1302.4509.6 Seismic loads. Buildings shall comply with International Building Code or International Residential Code seismic provisions at the new location as applicable.

#### Exceptions:

- 1. Structures in Seismic Design Categories A and B and detached one- and two-family dwellings in Seismic Design Categories A, B and C where the seismic loads at the new location are not higher than those at the previous location.
- 2. Structural elements whose stress is not increased by more than 10 percent.

[BS] 1302.5509.7 Snow loads. Structures shall comply with International Building Code or International Residential Code snow loads as applicable where snow loads at the new location are higher than those at the previous location.

Exception: Structural elements whose stress is not increased by more than 5 percent.

[BS] 1302.6509.8 Flood hazard areas. If relocated or moved into a flood hazard area, structures shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

#### [BS] 1302.7509.9 Required inspection and repairs. No change to text.

Reason: This proposal reorganizes the IEBC work area method into a single chapter without making any technical changes. For a complete version of this proposal we ask that you go to: Work Area Chapter. This other document shows the intent of the proposal more clearly and accurately.

The IEBC includes 3 compliance methods--prescriptive (chapter 4), work area method (chapters 5-13), and the performance method (chapter 14). The basic premise of the IEBC is that the 3 methods are equivalent. A remodel project that uses the prescriptive method is equally as compliant as one that uses the work area method.

The format of the code doesn't reflect this equivalence. Two compliance methods are contained within a single chapter each. The work area method, however, is spread out over 9 chapters. This formatting can be misleading. It gives the appearance, for instance, that Chapter 11 applies to all additions and that Chapter 12 applies to all historic buildings, regardless of compliance method chosen for a particular project. It's misleading and confusing to designers who are trying to apply the IEBC to a building project. It's also misleading for code development. As an example, EB52-2012 was a very good code change proposal from the last code cycle that straightened out how changes of occupancy are treated in the IEBC. However, it only addressed Chapter 10 in the work area methods.

Each chapter of the work area method is assigned to a single section, all the sections in chapters 5-13 are renumbered, some are given different titles, and some redundant language is deleted. A few charging sections are added where the current code relies on a section title for charging. The order of the sections is not changed. The code change proposal does not show every section that would be renumbered. Sections that are not shown would be renumbered sequentially. The proposal also shows a small number of sections where we're proposing to change some language. Our intention with this proposal is that a comprehensive renumbering and correction of cross references would be done by staff and ICC's editors. An attachment to this proposal shows the details of how the renumbering could be done.

We'd like to point out that the maximum number of decimal points in section numbers is not increased in this proposal. The IEBC currently has some sections with 4 decimal points, and that is also the maximum number of decimal points in this proposal.

Cost Impact: Will not increase the cost of construction This proposal renumbers code sections without making any technical changes.

Analysis: As stated, this proposal reorganizes several chapters of the code into a single chapter. For clarity, the code change as depicted here shows only the major sections that are moved, renumbered, or both. To view the location and renumbering of all of the sections involved, the document entitled "Work Area Chapter" can be found by clicking the link at the begining of the proponent's reason statement.

EB 50-15 : CHAPTER 5-PETRIE5516
# EB 51-15

# 202, 502.4(New)

Proponent: Aaron Wilson, Associated Design Partners Inc., representing Associated Design Partners (jthibodeau@adpengineering.com)

## 2015 International Existing Building Code

Revise as follows:

### SECTION 202 DEFINITIONS

**WORK AREA.** That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. *Work area* excludes other portions of the building where incidental *reconfiguration of space* is not proposed, including work entailed by the intended work must be performed incidental to *repairs*, and portions of the building where work not initially intended by the owner is specifically required by this code, including work associated with correcting dangerous conditions.

### Add new text as follows:

**502.4 Alteration Exclusions.** Removal and replacement of incidental elements including; wall finishes, electrical and mechanical systems, insulation, and structural components within the process of completing repairs shall not be subject to the provisions of Chapters 7,8, 9, 10 and 11.

Reason: This proposal will clarify the understanding and use of the code and help reduce the extra time spent with misscommunications regarding what is considered a repair and what is an alteration. The clarification of the definition will better define what is considered part of the work area and what is not.

Cost Impact: Will not increase the cost of construction

The code change proposal will not increase the cost of construction. It will clarify the understanding and use of the code and help reduce the extra time spent with misscommunications.

EB 51-15 : 202-ALTERATION-WILSON5705

# EB 52-15

# 601.2, 608.1

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

# 2015 International Existing Building Code

Revise as follows:

601.2 Conformance. The work shall not make the building less conforming than it was before the repair was undertaken.damage occurred.

**608.1 General.** Existing mechanical systems undergoing *repair* shall not make the building less conforming than it was before the *repair* was undertaken.<u>damage</u> occurred.

Reason: The current text talks about the condition "before the repair was undertaken." This means the damaged condition. What these provisions intend is to restore the condition that existed before the damage, not before the repair.

**Cost Impact:** Will not increase the cost of construction The proposal is editorial.

EB 52-15 : 601.2-BONOWITZ5185

# EB 53-15 202 (New), 609.1, 609.3 (New), 609.4 (New), 609.4.1 (New), 609.4.2 (New), Chapter 16

**Proponent:** Ronald George, Self; Plumb-Tech Design & Consulting Services LLC; www.Plumb-TechLLC.com; www.ScaldPrevention.org, representing Self; Plumb-Tech Design & Consulting Services LLC (Ron@Plumb-TechLLC.com)

# 2015 International Existing Building Code

CHAPTER 6 REPAIRS Add new definition as follows:

### SECTION 202 DEFINITIONS

SCALD HAZARD A condition where high temperature hot water discharged from a plumbing fixture can cause serious burn injuries to the user.

Revise as follows:

609.1 Materials. Plumbing materials-and supplies shall not be used for repairs that are prohibitedbe in accordance with the International Plumbing Code.

### Add new text as follows:

609.3 Replacement water heater capacity. A replacement water heater shall be of the same output capacity, in gallons per hour, as the existing water heater that is being replaced.

**Exception:** Where the replacement water heater manufacturer's sizing calculations or other generally-accepted water heater sizing calculations indicate that the first hour delivery capacity of the selected replacement water heater is adequate for the installation, a replacement water heater of smaller output capacity can be installed.

609.4 Delivered hot water temperature adjustment after water heater replacement, repair or hot water system alterations. Where the water temperature in a hot water distribution system changes as the result of a water heater replacement, repair or an alteration of the hot water distribution system such as a water heater thermostat adjustment or master mixing valve adjustment or replacement, each shower or combination tub-shower supplied by the system shall be inspected for the presence of a means for reducing scald hazards to the users.

Where the means for limiting the hot water temperature is a master mixing valve complying with ASSE 1017, a mixing valve complying with ASSE 1070 or an integral limit stop on the shower or combination tub-shower valve, adjustments shall be made in accordance with Section 609.4.1. Where the means for limiting the hot water temperature discharged at the fixture is a device complying with ASSE 1062, then the operation of the device shall be verified that it significantly reduces flow when the discharge temperature approaches 120°F (48.8°C).

Where a shower or tub-shower combination does not have a means for scald hazard protection for a user, a means shall be installed in accordance with Section 609.4.2.

609.4.1 Adjustment procedure. Temperature limit adjustments for shall be made and set to limit the temperature of the hot water discharged to any user to not greater than 120°F (48.8°C). These adjustments and settings shall only be performed after both of the following are satisfied:

1. The water heater has reached the water heater temperature control setting as recommended by the water heater manufacturer and has shut off its burner or electric elements.

2. Hot water has sufficiently reached the valve such that the temperature of the discharging at the fixture does not continue to rise.

A water heater thermostat shall be prohibited as a means for limiting hot water temperature for the purposes of required scald hazard protection for a user of hot water.

609.4.2 Showers and combination tub-showers without means of protection against scalding. Where a shower or tub-shower combination valve does not have a means for scald hazard protection for a user, one or more of the following shall be performed:

1. The shower or combination tub/shower valve shall be replaced with a valve complying with ASSE 1016/ASME A112.1016/CSA B125.16. After replacement, the temperature limit stop shall be adjusted in accordance with Section 609.4.1

2. A master temperature actuated mixing valve complying with ASSE 1017 or ASSE 1070 shall be installed in the hot water outlet piping at the water heater. After installation, the temperature setting of the valve shall be adjusted in accordance with Section 609.4.1.

3. A point-of-use water temperature limiting valve complying with ASSE 1070 shall be installed at or near each shower or tub-shower combination valve After installation, the the temperature setting of the ASSE 1070 valve shall be adjusted in accordance with Section 609.4.1. ASSE 1070 valves shall be provided with access.

4. A temperature-actuated, flow reduction valve complying with ASSE 1062 shall be installed on the shower arm prior to connection of shower head and, for tubshower combinations, on both the tub spout and the shower arm. ASSE 1062 devices shall be capable of significantly limiting the flow of water discharged as the water temperature rises towards 120-F (48.8°C).

### Add new standard(s) as follows:

ASSE 1016-2011/ASME A112.1016-2011/CSA B125.16-11 Automatic Compensating Valves for Individual Shower & Tub/Shower Combinations ASSE 1017-2010 Temperature Actuated Mixing Valves for Hot Water Distribution Systems ASSE 1062-2006 Temperature Actuated, Flow Reduction (TAFR) Valves for Individual Supply Fittings ASSE 1070-2004 Water Temperature Limiting Devices

Reason: There is currently no provisions in the code to require unsafe existing plumbing installations to where scalding is a hazard. Hundreds of people are scalded each year where non-code compliant (Two-handle) shower valves are installed. This code change is lintended to address this and other hot water scald hazards in existing installations. What are safe hot water temperatures?

By Ron George

President, Ron George Design & Consulting Services Plumbing Engineer Magazine Aug 2009

I am often asked, "What is a safe hot water temperature for domestic hot water?" If you read the model codes, it states the maximum hot water temperature for a shower or bathtub is 120 degrees Fahrenheit. If you read the warning labels on the side of most water heaters the maximum hot water temperature is 120 degrees Fahrenheit on some labels and 125 degrees Fahrenheit on other labels. The 125 degree limit probably allows for some temperature loss before the hot water gets to the fixtures. Most water heater literature and warning labels mention the availability of thermostatic mixing valves or automatic temperature compensating valves and they recommend their use. If you look at many of the industry standards for shower mixing valves, they state the valves must have limit stops that are adjustable to limit the maximum hot water temperature to 120 degrees Fahrenheit. The testing in the standards gives test criteria for testing the shower valves to these limits.

I have served on the working groups for several plumbing industry standards committees for temperature actuated mixing valves and shower valves and it is generally agreed that 120 degrees is the

maximum, safe hot water temperature. I also have served on hot water system design standards committees where the participants had agreed that maximum domestic hot water temperature from plumbing fixtures used for bathing and washing purposes should be 120 degrees Fahrenheit. There were a few exceptions for bidets, sitz baths and whirlpool tubs that had temperatures lower than 120 degrees Fahrenheit for the recommended maximum temperatures to prevent scalding. It also should be noted that some other uses like commercial dishwashers and laundries may need temperatures higher than 120 degrees Fahrenheit. There were two temperatures discussed for each fixture during the design standard meetings. One was the "use temperature" and the other was "the maximum temperature" to prevent scalding.

It's generally agreed that 120 degrees Fahrenheit is the maximum safe hot water temperature that should be delivered from a fixture. Therefore hot water above 120 degrees Fahrenheit can be considered hazardous. Model codes address this in various plumbing code sections...

... The codes generally agree if there is a hazardous condition or a condition that is unsafe or a nuisance to life, health and property it should be corrected but in the existing building code and property maintenance code there is little guidance. It is also generally agreed that water above 120 degrees Fahrenheit at fixtures for bathing and washing with a few exceptions for lower temperatures can be considered dangerous and proper precautions should be taken to prevent the hot water from being a scalding hazard by using the proper safety devices.

When I hear about people setting their water heater to 120 degrees Fahrenheit to prevent scalding, I know they have good intentions, but most people do not know you cannot accurately control the hot water temperature leaving a water heater with the thermostat dial.

#### Maximum Hot Water Temperature to Prevent Scalding

I have served on many industry committees dealing with hot water system code requirements, hot water system design standards and product standards related to domestic hot water systems devices for temperature control and scald prevention. There has been consensus in all of these committees that the maximum safe hot water delivery temperature for a shower or bathtub is 120 degrees Fahrenheit to prevent scalding with a few exceptions for lower temperatures for bidets and emergency eye wash fixtures. (See the attached Figure 1 - Hot Water Scald Burns – Time vs Temperature Relationship for Second and Third Degree Burns for Adults and Children) Figure 1

There were discussions in a plumbing code ad-hoc committee on temperature limits for the hot water system where everyone agreed the maximum safe temperature was 120 F. The ASPE Hot water committee dealing with a proposed standard for temperature limits in hot water systems also agreed the maximum safe hot water temperature to prevent scalding is 120 Fahrenheit. Several ASSE working groups that I have served on dealing with hot water temperature controls have all have discussed the reaction time of bathers and they have taken into consideration that children, the elderly and people with disabilities usually take longer to get out of harm's way if the water suddenly gets hot and they agreed 120 Fahrenheit is the maximum safe hot water temperature that a valve should deliver. At 120 F it takes about 80 seconds to develop a second degree burn in a child and it takes about 8 minutes to develop a second degree burn in a adult. (See Figure 1) The 120 Degree F temperature limit gives bathers or users an adequate amount of time to get out of harm's way before an irreversible scald burn injury can occur. Each of these committees looked back to the data that was the result of burn studies done by Dr. Moritz and Dr. Henrique's at Harvard Medical College in the 1940s. The burn studies were done using baby pigs that had skin thicknesses similar to that of adult males. The studies exposed the pig's skin to various temperatures of hot water for various periods of time and the severity of the burns were studied and recorded. These were the studies used to develop the time and temperature exposure charts. There have been numerous white papers, seminars, and reports since then discussing the fact that burns can occur quicker than those recorded in the Moritz & Henrique's studies for adult males. The skin is thinner for children and the elderly and the amount of time to reactive an irreversible 2nd degree burn injury is less because their skin is thinner. Many of the white papers use the Moritz and Dr. Henrique's original burn stu

#### The PIEV Theory for Reaction Time

There is a PIEV theory relates to reaction time. The PIEV theory is most commonly used to address braking distance in automobile accidents. It addresses the amount of time it takes a driver to sense a problem and decide to react, then the reaction time is added to the braking time for the total distance that a car travels before stopping. The PIEV theory can also apply to reaction times for a bather with respect to hot water scalds.

PIEV relates to the amount of time it takes a person to react to a hazard. PIEV means - Perception, Intellection, Emotion and Volition. It is usually referred to as the PIEV theory. Before we recognize and react to a hazard, four specific areas of activity need to be processed by the brain for the muscles to react. Those processes are:

1. Perception - We need to perceive or gain a Perception of a hazard. There can be delays in the perception with limitation in sight, sound, feeling, or any other of our senses.

2. Intellection - We go through a period called, Intellection or the act or process of using the intellect by thinking or reasoning. The bather must determine if the hazard is legitimate and deciding either move out of the way of the hazard or eliminate the hazard by adjusting the controls or in some cases where the bather may be sitting out of the reach of the controls the bather may choose to pull the shower curtain in front of them. If the adjustment of the controls is the choice one must decide which control to turn and try to remember which way to turn each control to adjust the temperature or turn the water off in order to eliminate the hazard. If a wrong choice is made during this process it could compound the situation by making the water even hotter. I travel a lot and I often find that shower controls can be very confusing with respect to how to adjust the controls. I still find two handle shower valve and 160 degree hot water is supplied to the system, then turning of the cold water first could lead to instant scalding injuries. Turning down the hot water to 120 F or below creates a system where it could incubate Legionella Bacteria to very high levels.

3. Emotion - There is an Emotion or evaluation factor which is defined as a conscious mental reaction (as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically accompanied by physiological and behavioral changes in the body with respect to deciding or assessing how we want to react. A person with reduced mental capacity or someone that is just very old will take longer to process this information and ultimately decide to react.

4. Volition - There is the physical Volition or deciding/choosing to act and acting. In the case of braking distance it is when the choice is made to move the foot from the gas pedal to the brake pedal and pressing on the brake pedal. This can be related to the time the bather chooses to adjust the control, and they move their hand to the shower control valve, plus the time to rotate or re-adjust the shower valve plus the time from the adjustment until the water temperature changes coming out of the shower head. Often it can take as much as 3-5 seconds to re-adjust the shower head and another few seconds until the water temperature changes coming out of the shower head. For ultra-low-flow (ULF) showers the delay from the time of the adjustment of the shower valve until the water temperature changes coming out of the shower need. For ultra-low-flow (ULF) showers heads. This is one more area where water conservations measures can unintentionally make plumbing systems less safe.

As the temperature of the water increases this PIEV reaction time becomes more important. Using a bathtub/shower controller with a single handle would reduce the mental processing time and reduce the possibility of making an error when turning off the water. As Figure 1 shows the higher the temperatures get, the quicker the burns can occur. within seconds or less and the degree and severity of the burn can be affected by this reaction time.

As you can see by the chart in Figure 1, if the water is at 140 F it will take about 0.8 seconds for a child to receive a 2nd degree irreversible burn injury and it will take about 5.6 seconds for an adult male to receive an irreversible burn injury at 140 degrees F. Everyone else will fall somewhere in between. An adult will often find it very difficult to react to a sudden change in temperature within five (5) seconds. If the shower head is an Ultra-Low-Flow (ULF) shower head the delay can be several seconds longer before the water temperature is reduced because the mixed water temperature within five alert and aware the PIEV theory shows it can take well over five (5) seconds to react to a sudden burst of hot water in a shower. For an elderly person or a small child that is confused it could take several minutes or more before they are able to react and adjust the controls or get out of harm's way. There has been a lot of information that suggests reducing the domestic hot water temperature to 120 F or less as it flows from the fixtures will minimize scalding and allow most people to react or get out of harm's way before a scald injury occurs. Reducing the water temperature flowing from the fixture can be done in several ways by:

1. Reducing the hot water temperature at the fixture by adjusting the maximum temperature limit-stop on the shower valve. (The best way)

2. Using local mixing valves conforming to ASSE 1070 to reduce the hot water temperature flowing from a faucet.

3. Reducing the temperature at the source (Water Heater) with the use of a master mixing valve or temperature actuated mixing valve conforming to ASSE 1017.

4. For existing non code compliant shower or tub/shower installations, Two handle tub/shower valves without a maximum temperature limit adjustment) an ASSE 1062 valve could be used. An ASSE 1062 valve is a Temperature Actuated Flow Reduction (TAFR) valve. It looks like a chrome pipe coupling and it screws on between the shower head and the shower arm. Other models screw into a tub spout or onto a sink faucet in place of the aerator. If the water flowing from fixture exceeds about 117-120 degrees Fahrenheit the TAFR valve will shut the flow of water down to just a trickle so that scalding hot water down to the bather. It can be reset by adjusting the fixture control valve to a cold water setting and when the cold water reaches the valve it will reset and begin flowing again. This can be a bit of a nuisance in buildings where the hot water temperature is erratic, but it is an inexpensive way to provide protection against scald injuries in older buildings without code compliant shower valves.

Water Heater Thermostats Do Not Control the Water Heater Outlet Temperatures

If you adjust the water heater thermostat for the burner or heating element on a water heater down to 120 degrees, it will not prevent scalding. Water heater thermostats cannot be relied upon to control the hot water temperature leaving a water heater. Water heater manufacturers recommend that installers set thermostats at 120 - 125 F, and most of them ship the water heaters at an even lower temperature setting. It is not possible to set a water heater thermostat at a given temperature and get a relatively constant temperature of hot water from a water heater. The thermostat can not accurately control the water heater outlet temperature with a water heater thermostat.

My experience has been that not many people know that water heater thermostats cannot control the outlet temperature of a water heater. This warrants an explanation of how a water heater thermostat works so everyone understands the dial on the water heater does not have the accuracy to control the outlet temperature of storage type heater.

Water heater thermostats do not provide precise temperature controls for hot water systems. For example: the thermostat dial calibration test of ANSI Z21.10.1-1998, which is the applicable standard for gas-fired water heaters, allows the temperature to vary 10 degrees above or below the thermostat setting. I have talked to water heater manufacturers that have indicated that the controls can vary as much as 15 to 18 degrees Fahrenheit above or below the set point of the thermostat. From my experience, I have recorded the temperature leaving the top portion of a water heater over a long period of time during intermittent uses and saw temperature swings over 40 degrees Fahrenheit leaving the water heater. The shower valve standards do not have this kind of temperature fluctuation included their testing for all types of shower valves. The significant temperature swings are because the thermostat is inserted into the lower portion of a water heater thank and turns the fuel supply to the heater on and off. Most new water theatrent termostat dials have no way to know what the temperature in the tank is. There is rarely a fixed temperature indicated on the dial, however some manufacturers publish temperatures associated with various marks on the thermostat dial or in their literature even though the dial cannot not control the outlet temperature of the water heater, it only controls when the energy to the heater is turned "on" and "off" by sensing the cold water coming into the bottom of the heater.

Generally, if the water heater thermostat dial is set at 120 degrees Fahrenheit, the burner would come on when the temperature at the thermostat reaches about 105 degrees Fahrenheit. The burner stays on until the water around the thermostat which is near the bottom of the heater reaches about 135 degrees Fahrenheit. (The "burner off" temperature is about 30 degrees higher than when the burner came "on" and generally about 15 degrees above the theoretical set point of the thermostat).

### ICC COMMITTEE ACTION HEARINGS ::: April, 2015

Most people don't realize that the maximum temperature limit test of the ANSI Z21.10.1 Gas Water Heater Standard allows the outlet water temperature of the water heater to rise significantly above the thermostat setting. This provision in the standard accounts for the phenomenon known as "stacking" or "thermal layering". The hot water is less dense and rises to the top of the hot water tank. Just like hot air rises and lifts a hot air balloon, hot water rises to the top of the tank and the cooler water drops to the bottom of the tank. Stacking or thermal layering occurs when the hot water rises to the top of the heater due to recurring short duration heating cycles caused by a frequent number of small quantity hot water uses. Frequent short draws cause cold water to enter the bottom of the water heater where the thermostatic element senses the cold water from the turbulent flow stirring in the bottom of the heater. The cold water causes the water heater to cycle on. This phenomenon can occur in any type of storage water heater and generally is more significant in vertical heaters.

I have recorded temperatures as high as 150 to 166 degrees Fahrenheit at the top of water heaters that had the thermostats set between 120 to 125 degrees Fahrenheit. Temperatures over 151 degrees Fahrenheit are extremely high temperatures and can cause serious scald burns in only a two seconds of contact with the skin. (See Table 1 - Water Temperature Effects on Adult Skin) It should be noted that the time temperature relationships in Table 1 are based upon the thickness of the skin for adult males. Children and the elderly typically have a thinner layer of the skin or epidermis and the exposure times can be shorter or the same burns can occurs in a given time at slightly lower temperatures. Source: http://www.plumbingengineer.com/aug\_09



A Seminar and Technical Paper for the 25-28 Oct. 88 Annual ASPE Meeting at the Indianapolis Convention Center in Indianapolis, Indiana. Reprinted by Watts Regulator Company with permission of Dr. D. Symum Jr. Figure 1 – Hot Water Scald Burns – Time vs Temperature Relationship for Second and Third Degree Burns for Adults and Children. (Notes By: Ron George, CPD, See: www.ScaldPrevention.org)

Bibliography: Source: http://www.plumbingengineer.com. Multiple articles over 21 years.

Cost Impact: Will increase the cost of construction

The cost impact is miinimal. This is a health and safety issue. The Health and Safety scald prrevvention benefits outweight any cost. The less expensive option of TAFR valves can be purchased for less than \$10.

Analysis: The standards proposed for this code ASSE 1016/ASME A112.1016/CSA B125.16, ASSE 1017, ASSE 1070 and ASSE 1062 are already included in one or more of the 2015 I-codes.

EB 53-15 : 609-GEORGE5146

Proponent: Ronald George, representing Self (Ron@Plumb-TechLLC.com)

# 2015 International Existing Building Code

609.2 Water closet replacement. The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

#### ExceptionExceptions:

- 1. Blowout-design water closets having a water consumption of not greater than
- [3.5 gallons (13 L) per flushing cycle].
- 2. Existing water closets that were removed and replaced, specific to each toilet facility, provided that they have been cleaned and that the flushing mechanism intended by original water closet manufacturer is installed, is in working order and is without leakage.

3. Where data or a report indicates that the sizes, slopes and lengths of the existing sanitary drain system and the discharge of 1.6 gallons-per-flush water closets and other plumbing fixtures into the existing drain system could negatively impact the transport of solids within the drain system, water closets having greater flush volumes or supplemental flushing devices to provide for greater water flow volumes in the drain system shall be installed where approved.

Reason: This code change allows for owners of existing buildings to maintain exoisting flow rates to prevent building drain back-ups, sewer blockages and sanitary sewer overflows. Building drain back-ups and sanitary sewer overflows cause a significant Biological hazard and health hazard.

Bibliography: Title of Magazine: Plumbing Engineer, Code Column, Author: Ron George, CPD, June, 2010 Website link: http://www.plumbingengineer.com/june\_10/conservation\_feature.php Water Conservation Efforts Unwittingly Leading to Dry Drains

By Ron George, CPD

President, Plumb-Tech Design & Consulting Services, LLC, Website: www.Plumb-TechLLC.com

Many experts agree there are a multitude of factors contributing to water shortages in many areas of the world. These factors include: global warming, increases in population, lack of proper water utility infrastructure, wasteful practices and underpriced water. We will never run out of water because water is constantly here in the hydrological cycle, evaporating, condensing into rain and falling to earth and flowing into the ground as groundwater. The run-off flows into streams, rivers and lakes for surface freshwater and into the ocean where it mixes with salt water. The key for us is to lear how to manage the fresh water resources we have and learn what those limits are in various arid or tropical regions of the world. The things that are occurring that are making water scarce are overdevelopment in arid regions, increases in population and lack of planning for infrastructure to keep up with population growth and shifting climate zones. With increases in population, we need to divide the fixed amount of fresh water available with each additional person and have a good understanding of that dynamic. In many cases proper pre-planning can allow additional reservoir capacity to store more fresh water, which requires acquiring land building dams, treatment facilities, pumping stations and water mains.

The United Nations conducted a study on the total amount of world water and it gave a breakdown of the freshwater resources. The study shows that 97.5 percent of the Earth's water is saltwater and 2.5 percent is fresh water. They went on to break down the 2.5 percent freshwater to show about 70 percent of the fresh water is trapped in ice and snow cover in mountainous regions and polar ice caps. About 29.7 percent or 30 percent is in groundwater and the remaining 0.3 percent is available to us in the form of fresh surface water in rivers, lakes and streams. We actually have access to a significant percentage of groundwater and all of our surface water resources. Many areas of the world remove water from the groundwater reserve through water wells. Other areas with access to rivers, lakes and streams draw water from those resources. Troubled areas of the world are the arid parts of the world that get very little rain. The small amounts of rain they get could be managed better, or desalinization plants could be used to desalinate seawater with reverse osmosis treatment systems. This is not a very good option for areas way from the coast but many coastal areas could use seawater as a freshwater source, but few are willing to invest in the technology and energy required to do so. Just down the street from my office, there are two manufacturing facilities that make desalinization equipment. Their biggest customers are in the Middle East where there has been a building boom in arid regions such as Dubai and Saudi Arabia. If large reservoirs were constructed, it would be important to make the reservoirs deep and narrow to minimize the surface area of the water. Large surface areas would contribute to evaporation when there are long dry periods. Construction of covered storage facilities or deep surface water reservoirs in arid regions would require a significant infrastructure investment for arid regions, but could help catch the few rains they get each year.

Other concerns are maintaining a minimum water flow in a stream or river to maintain the aquatic life and vegetation downstream. As more water is captured for fresh water reservoirs, it affects the economies and environment downstream. I can see this issue becoming more political as rivers that flow across international boundaries are dammed and the resources become more important and more political. It might not be too far fetched to see a war fought over water in the not too distant future. Water uses

According to a U.S. Geological Survey conducted by the Environmental Protection Agency, 87 percent of the water use in the United States is for non-residential water use. This includes agricultural, industrial and commercial uses. Industrial water uses include water used for fabrication, processing, washing, food production, cooling, and it also includes water used by smelting facilities, petroleum refineries and industries producing chemical products and paper products.

Large water users include the industries that produce metals, wood and paper products, chemicals, gasoline and oils. Just about every manufactured product uses water during some part of the production process. Other industrial water uses include: water used for such purposes as washing, diluting, cooling or transporting a product. Some uses incorporate water into a product, or for sanitation needs large amounts of water is used to wash down equipment, rooms and floors within the manufacturing facility in food processing plants, meat packing plants and dairy processing plants. Other industries that use large amounts of water produce such commodities as paper pulp for a variety of uses like diapers, facial tissue newspapers and other paper products. Water is used in chemical plants, for condensing towers in refineries and petroleum plants, or cooling water for primary metal processing plants. Irrigation water use includes water used for growing crops, frost protection, chemical applications, weed control and other agricultural purposes, as well as water used to maintain areas such as parks and golf courses. Other uses include private water wells, livestock, aquaculture, fish hatcheries and mining activities. Electric power accounts for a significant use of water withdrawals. Most of the water is derived from surface water and used for oncethrough cooling at power plants. In a few cases, lakes are built specifically for cooling water for power plants. The water in these lakes cannot always be used for other fresh water uses because the lake level must be maintained at a minimum pool elevation to allow for cooling the power plants.

Figure 2 shows that only eight percent (8%) of all water use in the United States is residential, yet this is where many of the federal laws dealing with water conservation have been focused. We need to focus more on conserving water in the commercial agricultural and industrial segments discussed above; there is a huge potential for water savings in these industries.

Global warming has been attributed to increases in greenhouse gases from a variety of sources including burning of fossil fuels from industrial applications such as coal-fired electric power plants and other industrial processes in industrialized parts of the world. The greenhouse gases are contributing to an increase in global temperatures, which are melting the polar ice caps. Some experts say that the hot and arid parts of the world will expand as global warming increases.

Population increases — Increases in population place an increased demand on freshwater resources as each person needs water for: drinking; bathing; growing the crops they consume; processing the goods they consume; and making power that they use. We need to seriously consider limiting development in arid regions of the world or, simply raise water rates to discourage development and to help pay for the more expensive infrastructure costs to support the developments in arid regions.

#### Water utility infrastructure

Water utilities have not kept up with the increase in population growth for construction of new reservoirs and water storage facilities. I served on the water and sewer board for my township for several years and the water and sewer boards often have their hands tied when it comes to setting water utility rates. The process of raising rates is very political and takes a lot of work to justify the slightest increase in rates because most water and sewer boards are supposed to be non-profit entities. Long-range plans are needed to identify infrastructure needs and costs. Research needs to be done to look for the ideal reservoir locations and pay for the development of the reservoirs and associated water treatment facility and water distribution piping infrastructure.

#### Underpriced water

The price of water charged by most water utility systems does not reflect the actual value of the water — the price that water utility purveyors typically charge reflects only the costs of collection, treatment and distribution of the water. But water also provides society with many environmental benefits and those economic costs are hidden. We have the technical ability to solve the problem, we just need to do some research and adjust the water utility rates to provide money for long-term infrastructure improvements, and educate the politicians and developers to limit development in arid regions. This can be done with pricing structures of the water utility rates. Water rates could be significantly increased in dry or arid regions to support infrastructure improvements and deter development. And water rates could be kept low in areas with surplus water supplies.

It would require a significant investment in water reservoir and utility system upgrades for many areas to increase their capacity by harvesting the rainfall, and most current water pricing structures do not support the needed construction and improvements.

#### Wasteful practices

There are many wasteful practices that can be attributed to water being very cheap. Since water is so cheap, there is not much of an incentive for people to conserve water. The biogest users of water are agricultural, commercial and industrial users. They account for about 87 percent of all freshwater use. Water is often used in inefficient ways in agricultural, commercial and industrial uses, but with water rates so cheap there is no financial incentive to develop more efficient water uses. In residential applications, we have reduced water flow at each fixture to flow rates that are dangerously low levels, and, in some cases, we have gone too far. Currently there are many areas where there are drainline transport problems where solids are plugging up existing drainlines when more efficient plumbing fixtures are being installed on older plumbing systems with large drains installed at the minimum slope. I have heard many stories of the significant increases in sewer cleaning costs in recent years since the advent of the 1992 Energy Policy Act and lower flow fixtures. (If you know of an example or a story related to replacement of plumbing fixtures and an increase in drain stoppages, send an e-mail. I would appreciate hearing about it. I will forward it to the appropriate people. There is a new coalition called the Plumbing Efficiency Research Coalition (PERC) that will be addressing some of these issues. I will forward any information I receive on drain line transport problems to them.)

#### The 'dry drains' phenomenon

Recent water conservation and green building design initiatives have focused simply on reducing water flows and seem to have ignored health safety issues related to plumbing. Some voluntary programs that give points for water conservations and some states have looked to further reduce water use in plumbing systems by 20 percent. Currently, many areas are experiencing drainline transport problems with the reductions that were mandated by the federal government in the 1992 energy policy act, which required reductions from 3.5 gallons per flush to 1.6 gallons per flush and other similar reductions for various plumbing fixtures. Proposed legislation will reduce the maximum flushing volume for water closets to 1.28 gallons per flush.

In our rush to adopt water-saving legislation and technologies in residential commercial buildings, many green industry folks, building managers and owners failed to consider the consequences of significant reductions in water flows, particularly wastewater flows through building drain pipes. Faced with water shortages from over- development in arid regions, and, in some cases, the effects of climate change and the associated challenges of regional droughts governments around the world are pushing for water use reductions and focusing mostly on residential and commercial applications. They are not putting as much pressure on the biggest offenders which are the agricultural and industrial users. The unintended consequences of these residential and commercial water use reductions have been a significant rise in blocked drains and sewage overflows in buildings.

Plumbing and appliance manufacturers have begun to design and produce a wide range of water-saving appliances and fixtures, including dual-flush toilets, waterless urinals and low-flow showerheads.

There has been no comprehensive research done to verify if these new low-flow fixtures and appliances in conjunction with waterless urinals and greywater systems are creating health and safety problems from drain blockages in the name of water conservation. Continual reductions of water flows in the plumbing systems of buildings, however, have resulted in the phenomenon known as "dry drains," where drain flows may be insufficient to effectively transport solids down the drain. I have always said, "There needs to be enough water in the river to float the boats." If we reduce the drainage flow volume and leave the drain pipes the same size then the hydraulic depth of flow will be less. In older buildings there will likely be more problems than in newer buildings. In new buildings drain sizes can be designed smaller and the minimum slopes can be designed with greater slopes. The situation is further compounded with a trend to extract greywater from plumbing systems for reuse.

Dry drains is a relatively new phenomenon as it has only started to become a problem since the advent of global water conservation efforts and it seems to be more than just a drainline transport issue. Dry drains are a result of continual efforts to conserve water in many ways. Newer technologies such as high efficiency toilets (HETs) non-water using urinals and high efficiency urinals (HEUs), lower flow rate faucets and increasingly efficient water consuming appliances, reduce the amount of water discharged into sanitary waste systems. To compound the issue, when a greywater reuse system collects discharged water from lavatory basins, clothes washers, bathtubs and shower fixtures for reuse — for flushing water closets or sub-surface irrigation purposes — it is taking water away from the sanitary drainage system. (See Figure 3 and 4) The wastewater flow needs to be maintained at a level to keep the hydraulic depth of flow sufficient for proper water velocities and drain line transport.

Recent water use reduction efforts are creating an unhealthy environment and a non-sustainable condition for drainline transport, which is a serious health and safety issue. The arbitrary reductions in fixture flow rates without any technical justification for these reductions is placing drainline transport of solids wastes in serious jeopardy. Water use reductions seem to be out of balance with reality. The arbitrary 10 and 20 percent increment reductions in water usage seem to have no scientific basis. There has been no research into the water use reductions and the minimum amount of waste required for proper drainline transport. Research is needed to address the minimum water flow required for proper drain line transport without reverting to simple math for water savings that does not reflect the multiple flushes with poor performing fixtures and actual conditions in the drains. There are unique and dangerous hazards with arbitrarily reducing water consumption in plumbing fixtures without considering the consequences.

Studies show the reduction in drainline transport will be significant when reducing a 1.6 gallon per flush water closet 20 percent to flush with 1.28 gallons per flush in order to meet water use reduction quotas. This will reduce the drainline transport from about 36 feet average transport distance to about 23 feet on average. (See Figure 5). With lower flows, it will most likely be a challenge for larger horizontal buildings and drain blockages will become more common. In high-rise vertical buildings, it should be relatively easy to load a stack and have enough additional uses of water in the stack to provide sufficient drainline transport. In a remote restroom in a large horizontal building there will be drainline transport problems and an increase in drainline blockages. The cost of cleaning the drain lines, and cleaning up the spilled sewage from drainline blockages, and the increased health risks associated with the spread of bacteria and mold from drainline blockages, needs to be weighed against the few gallons of water that will be saved. The reality is, as drains block up on a regular basis people will be trained to flush twice or three times to ensure the waste goes down the drain. (I do not know what the final outcome will be, but I do know we need to research the issues and make sound decisions instead of arbitrarily picking percentages for water reductions.)

#### Horizontal branch connections

There has been research done overseas that addressed the fact that when drainline branches are connected horizontally they allow waste to divert or back-up into each branch as the waste flows by each branch, which lowered the hydraulic depth of flow in the main as the waste flowed past each branch. This illustrated the need to consider code requirements to roll up branches up on a 45degree angle to prevent the waste from entering the branches and further reducing the drainline transport capacity for drains that are already at or near minimum flow rates for proper drainline transport for ultra-low flow fixtures. The research also confirmed a drain should not drop from directly overhead into a horizontal drain. Waste usually would be directed upstream from a vertical stack dropping into a horizontal drain. This allowed solids to settle in the horizontal pipe upstream of the connection and reduced the hydraulic depth of flow because of the diversion of waste. The stack should use a 45 and a Y fitting rolled to allow a rolled up 45-degree entry into the horizontal drain.

Some of these are already required in our codes and we should be more aware of using directional drainage pattern fittings as water closet flow rates are further reduced. An interesting thing of note is the fact that the minimum slope in Australia is 1.67 percent and in the U.S. the minimum slope is 1.0104 percent (1/8 inch per foot) because they generally use smaller drain pipes.

#### Water Pricing.

The solution is to increase the price of water. Water needs to be priced closer to its real value. Our goal should be to find ways of calculating the true economic value of water and other resources so this can be factored into social costs at the community, national, and international levels. Increasing water rates should encourage greater water conservation.

When people recognize the true economic value of water, there is an incentive to invest in products and technology that support efficient water use without mandating flows that are unrealistically low and do not allow the plumbing system to function as intended.

According to the United Nations Food and Agriculture Organization, more than eight billion people will inhabit the earth by the year 2030, requiring 60 percent more food and a significant increase in water over today's capacities. Increased water rates will give us the funds to support the needed infrastructure improvements and provide incentives for water conservation. I also believe we should mandate research at technical data before allowing any politician to reduce water and waste flows to unrealistic levels.

Ron George is president of Ron George Design & Consulting Services. He also maintains a website dedicated to scald prevention: www.ScladPrevention.org and a website dedicated to Prevention of Legionella Bacteria in building water systems. Email Ron at info@Plumb-TechLLC.com or call 734-755-1908.

#### Cost Impact: Will not increase the cost of construction

This will not increase the cost of construction by allowing existing fixtures to remain in place when documentation is provided showing problems with low-flow fixtures on existing larger, minimally sloped drain lines.

EB 54-15 : 609.2-GEORGE5137

# EB 55-15

705.1.5

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

# 2015 International Existing Building Code

Delete without substitution:

705.1.5 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

**Reason:** There is a series of proposals intended to coordinate the provisions in the first and second options in the IEBC. This section was deleted from Chapter 4 (when it was IBC Chapter 34) by E95-01. All alterations should be affected by the building code in the same manner. Providing an exception for dining areas is inconsistent with the purpose and intent of the code. An existing restaurant would be able to use technical infeasibility and the 20% maximum cost for the accessible route exceptions.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Areas of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification and coordination of current requirements; therefore, there is no impact on the cost.

EB 55-15 : 705.1.5-KULIK3349

# EB 56-15

705.1.13

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

# 2015 International Existing Building Code

Revise as follows:

705.1.13705.1.1 Extent of application. An alteration of an existing element, space, or area of a \_facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

Reason: The intent of the verbiage change is coordination between Section 410.3 and 705.1.13. The struck words are covered in the definition of facility. The relocation to first in the list is to place this allowance in a more prominent position, similar to Chapter 4. If accessibility is not required in new construction, you would not need to go through any of the list following. In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable

Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

EB 56-15 : 705.1.13-KULIK3405

# EB 57-15

## 802.1

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

# 2015 International Existing Building Code

Delete without substitution:

# 802:1 General. Alteration of buildings classified as special use and occupancy as described in the International Building Code shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

Reason: This proposal improves clarity and makes application and enforcement easier.

"Special use and occupancy" buildings are addressed in IBC Chapter 4. IEBC Sections 902 and 1002 address these special occupancies in existing buildings undergoing Level 3 Alteration or Change of Occupancy. But this provision in Section 802 makes only an unnecessary reference to Section 801, and a vague reference to Chapter 1. In fact, Chapter 1 has no special "scoping provisions" for these occupancies (see Section 101.2).

If special provisions for any of these occupancies is needed in a Level 2 Alteration project, the place to make those requirements would be here in Section 802, not in Chapter 1. Currently, there are no such requirements, so Section 802 may be deleted without loss of substance.

Alternatively, Section 802 could be retained, parallel to Sections 902 and 1002, but its content would be changed to say only "Reserved."

Cost Impact: Will not increase the cost of construction

The proposal is an administrative or editorial clarification only, with no expected substantive impact.

EB 57-15 : 802.1-BONOWITZ5189

# EB 58-15

### 804.2.2

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

## 2015 International Existing Building Code

#### Revise as follows:

804.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

- 1. The work area is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction; and
- 2. The work area exceeds 50 percent of the floor area.

**Exception:** If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the *International Building Code*.

Reason: This is a single exit building, and given the limit on the number of residents in Group R-4, will not ever have more than 30, therefore, Group R-4 should not be included since the requirement would never be applicable.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <a href="http://www.iccsafe.org/cs/CTC/Pages/default.aspx">http://www.iccsafe.org/cs/CTC/Pages/default.aspx</a>.

**Cost Impact:** Will not increase the cost of construction This eliminates a requirement that is never applicable.

EB 58-15 : 804.2.2-BALDASSARRA4284

# EB 59-15

804.2.2

Proponent: Adolf Zubia, IAFC Fire & Life Safety Section, representing IAFC Fire & Life Safety Section

### 2015 International Existing Building Code

#### Revise as follows:

804.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

- 1. The work area is required to be provided with automatic sprinkler protection in accordance with the International Building Code as applicable to new construction; and
- 2. The work area exceeds 50 percent of the floor area.

**Exception:** If the building does not have sufficient municipal water supply for design <u>and installation of a fire an automatic</u> sprinkler system available to <u>at</u> the floor without installation of a new fire pumpsite, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the *International Building Code*.

#### Reason: This proposal is submitted by Fire and Life Safety Section of the International Association of Fire Chiefs.

The intent of this code change is to address the concern that the municipal water supply must be available at the floor level where the work area is located without the installation of a fire pump. The determining factor for an automatic fire sprinkler system should be whether there is adequate water, not whether a fire pump may be required when achieving an acceptable level of public safety. This code change revises the text so that the adequacy of a municipal water supply at the building site is the determining factor. When the work area exceeds 50% of the floor area and a fire sprinkler

system would be required. The possible installation of a fire pump to supplement the water flow and pressure is not the deciding factor when providing fire safety to the work area.

The revision to this exception will allow existing buildings to comply with this section by installing a smoke detection system in lieu of the fire sprinkler system where the volume and quantity of water at the site is not adequate to fulfill the fire sprinkler system requirements.

### Cost Impact: Will increase the cost of construction

This code change will increase the cost of construction. The cost of fire pump will most likely exceed the cost of a smoke detection system. However, the same fire pump should be adequate for future fire sprinkler system installations in the building. Therefore, the fire pump will be a one-time cost for the building whereas future alterations would require the installation of additional smoke detection systems.

EB 59-15 : 804.2.2-ZUBIA4330

# EB 60-15

## 804.2.3

Proponent: Adolf Zubia, IAFC Fire & Life Safety Section, representing IAFC Fire & Life Safety Section

### 2015 International Existing Building Code

### Revise as follows:

**804.2.3 Windowless stories.** Work located in a windowless story, as determined in accordance with the *International Building Code*, shall be sprinklered where the work area is required to be sprinklered under the provisions of the *International Building Code* for newly constructed buildings and the building <u>site</u> has a sufficient municipal water supply <del>withoutfor the design and</del> installation of a new fire pump.an automatic sprinkler system.

Reason: This proposal is submitted by Fire and Life Safety Section of the International Association of Fire Chiefs.

The intent of this code change is to address the concept that the minicipal water supply must be available at the floor level where the work area is located without the installation of a fire pump. The determining factor for an automatic fire sprinkler system should be whether there is adequate water, not whether a fire pump may be required when achieving an acceptable level of public safety. This code change revises the text so that the adequacy of a municipal water supply at the building site is the determining factor. When the work area exceeds 50% of the floor area and a fire sprinkler

system would be required. The possible installation of a fire pump to supplement the water flow and pressure is not the deciding factor when providing fire safety to the work area.

#### Cost Impact: Will increase the cost of construction

The cost of fire pump will be added to the cost of the fire sprinkler system. However, the same fire pump should be adequate for future fire sprinkler system installations in the building, therefore, the fire pump will be a one-time cost for the building and future alterations can take advantage of the fire pump supply.

EB 60-15 : 804.2.3-ZUBIA4554

# EB 61-15

804.2.4

Proponent: Adolf Zubia, IAFC Fire & Life Safety Section, representing IAFC Fire & Life Safety Section

### 2015 International Existing Building Code

### Revise as follows:

**804.2.4 Other required automatic sprinkler systems.** In buildings and areas listed in Table 903.2.11.6 of the *International Building Code, work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions:

- 1. The work area is required to be provided with an automatic sprinkler system in accordance with the International Building Code applicable to new construction: and
- 2. The building site has sufficient municipal water supply for design and installation of an automatic sprinkler system available to the floor without installation of a new fire pump.

Reason: This proposal is submitted by Fire and Life Safety Section of the International Association of Fire Chiefs.

The intent of this code change is to address the concern that the minicipal water supply must be available at the floor level where the work area is located without the installation of a fire pump. The determining factor for an automatic fire sprinkler system should be whether there is adequate water at the site, not whether a fire pump may be required when achieving an acceptable level of public safety.

This code change revises the text so that the adequacy of a municipal water supply at the building site is the determining factor. When the work area exceeds 50% of the floor area and a fire sprinkler system would be required. The possible installation of a fire pump to supplement the water flow and pressure would not be the deciding factor when providing fire safety to the work area.

### Cost Impact: Will not increase the cost of construction

The cost of fire pump will be added to the cost of the fire sprinkler system. However, the same fire pump should be adequate for future fire sprinkler system installations in the building, therefore, the fire pump will be a one-time cost for the building and future alterations.

EB 61-15 : 804.2.4-ZUBIA4550

# EB 62-15

# 804.4.1.7

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

**804.4.1.7 Group R-4.** A manual fire alarm system shall be installed in *work areas* of Group R-4 residential care/ assisted living facilities as required by <u>Section</u> 1103.7.7 of the *International Fire Code* for existing Group R-4 occupancies.

Reason: This proposal is a clarification of requirements and correlation of requirements. Smoke alarms are addressed in Section 804.3.

There is a Group B proposal to remove this requirement from new Group R-4s to have fire alarm systems in IBC/IFC Section 907.2.10 and from mandatory retrofit from IFC 1103.7.7. If this is successful, this section will also be deleted. If that is not approved, this clarification is needed.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <a href="http://www.iccsafe.org/cs/CTC/Pages/default.aspx">http://www.iccsafe.org/cs/CTC/Pages/default.aspx</a>.

**Cost Impact:** Will not increase the cost of construction This proposal is a clarification only.

EB 62-15 : 804.4.1.7-BALDASSARRA4285

# EB 63-15 805.3, 805.3.1, 805.3.1.1, Table 805.3.1.1(1) (New), Table 805.3.1.1(2) (New)

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

## 2015 International Existing Building Code

Revise as follows:

805.3 Number of exits. The number of exits shall be in accordance with Sections 805.3.1 through 805.3.3.

**805.3.1 Minimum number.** Every story utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall be permitted to comply with Sections 805.3.1.1 and 805.3.1.2.

805.3.1.1 Single-exit buildings. Only one exit is required from spaces, of the following occupancies: A single exit or access to a single exit shall be permitted from spaces, any story or any occupied roof where one of the following exist:

1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 805.3.1.1(1) or 805.3.1.1(2).

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).

Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m<sup>2</sup>), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
 Open parking structures where vehicles are mechanically parked.

4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.

5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:

6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or

6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.

2. In Group R-1 or R-2, non-sprinklered buildings, individual single-story or multistory dwelling or sleeping units shall be permitted to have a single exit or access to a single exit from the dwelling or sleeping unit provided one of the following criteria are met:

2.1. The occupant load is not greater than 10 and the exit access travel distance within the unit does not exceed 75 feet (22 860 mm).

2.2. The building is not more than three stories in height; all 3rd story space is part of dwelling with an exit access doorway on the 2nd story; and the portion of the exit access travel distance from the door to any habitable room within any such unit to the unit entrance doors shall not exceeds 50 feet (15 240 mm).

7. In Group R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).

8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m2) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.

<u>3.9.</u> In buildings of Group R-2 occupancy of any heightnumber of stories and with not more than four dwelling units per floor; served by an interior exit stairway with a smokeproof enclosure in accordance with Sections 909.20 and 1023.11 of the *International Building Code* or an exterior exit stairway outside stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby where the portion of the exit access travel distance from the dwelling unit entrance door to the exit is a maximum of 20 feet (6096 mm).

10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below arade.

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|--|------------------------|-------------------------------------|---|
| STORY  | OCCUPANCY              | MAXIMUM NUMBER<br>OF DWELLING UNITS | MAXIMUM EXIT<br>ACCESS TRAVEL<br>DISTANCE |
| Basement, First or second<br>story above grade plane           | <u>R-2<sup>2</sup></u> | 4 dwelling units                    | <u>50 feet</u>                            |
| Third story above grade plane<br>and higher                    | <u>NP</u>              | NA                                  | NA  |

TABLE 805.3.1.1(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR B-2 OCCUPANCIES

For SI: 1 foot=3048 NP=Not Permitted.

NA=Not Applicable.

a. Group R-2, non-sprinklered and provided with emergency escape and rescue openings in accordance with Section 1030 of the International Building Code.

| TABLE 805.3.1.1(2)<br>STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES |                                |  |  |
|---|--------------------------------|--|--|
| STORY   | OCCUPANCY                      | MAXIMUM<br>OCCUPANTS<br>LOAD PER STORY | MAXIMUM EXIT<br>ACCESS TRAVEL<br>DISTANCE (feet) |
| First story above or<br>below grade plane   | <u>B, F-2, S-2<sup>a</sup></u> | <u>35</u>                              | <u>75</u>  |

| Second story above<br>grade plane                     | <u>B, F-2, S-2<sup>a</sup></u> | <u>35</u> | <u>75</u> |
|---|--------------------------------|-----------|-----------|
| <u>Third story above</u><br>grade plane and<br>higher | <u>NP</u>                      | NA        | NA        |

For SI: 1 foot = 304.8mm.

NP=Not Permitted

NA=Not Applicable

a. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet (30 480mm).

**Reason:** The current provisions are not keeping up with the allowances and changes in language for new buildings. This could be interpreted as existing buildings being more restrictive than new construction. Many items match IBC new construction allowances rather than allowing for additional options. To keep items correlated over time, the change to Section 805.3.1 is to allow for any option permitted in new construction. The reasons for the changes to Section 805.3.1.1 are found below. What can be put in tables similar to Table 1006.3.2(1) and Table 1006.3.2(2) has been made so to improve correlation and consistency over time.

Item 1 is permitted for new construction, IBC Table 1006.3.2(2); therefore, it is proposed to be deleted.

Item 2 - This is the new item 1 and the table. The area is translated to occupant load (3500 sq.ft/100 sq.ft. per occupant) and added in a table. This is consistent with the approach for new construction and should increase consistency over time. The last sentence is addressing exit stairway enclosures, which are already addressed in stairway provisions. Note a in the table is so that it is understood that this allowance will not override the allowance for 100 feet in open parking that is permitted in new construction.

Item 3 is for mechanical parking garages is permitted in IBC Section 1006.3.2 Item 3; therefore, it is proposed to be deleted.

Item 4 for Group R-4 is technically incorrect with the language using occupant load rather than number of residents; in addition a single exit is permitted in IBC Section 1006.3.2 Item 4; therefore, it is proposed to be deleted.

Item 5 is based on old travel distance allowances for single exit apartment buildings – so this limitation should be for only non-sprinklered buildings. Group R-1 does not typically have dwelling units, so this is not logical for a hotel. This item should be deleted in favor new construction allowances in Table 1006.3.2(1) for apartment buildings. The last sentence is addressing exit stairway enclosures, which are already addressed in stairway provisions; therefore, it is proposed to be deleted.

Item 6 is more restrictive than the multi-story dwelling units permitted in Section 1006.3.2, Item 5. Group R-1 does not typically have dwelling units, so terminology is not logical for a hotel. If this is needed for large sleeping unit, this allowance should be added to new construction in IBC. For sprinklered buildings this item should be deleted in favor new construction allowances in Section 1006.3.2 Item 5 for multi-story dwelling units. The revised item 2 is limited to non-sprinklered buildings and the terminology has been updated. The occupant load was added to be consistent with the previous limit on dwelling units and travel distance before sprinklers were added (2003 IBC Section 1013.3 and 1014.1). There is no intent to change to the technical criteria.

Item 7 – Rooming houses a limiting factor for Group R-2 in new construction – current text would apply this to all Group R-2. In addition, R-2 congregate residences are now 16 or more. To fit into the maximum of 10 occupants, you are a Group R-3 now. Group R-3 has always had single exit with no travel distance, so this would be more restrictive than new sprinklered or existing not sprinklered. Child care centers could be read as E and I-4. Group I-4 is part of Group I and is the same for new construction. This requirement exceeds Group E requirements for new construction and should not be applicable. The provisions for I, H-4 and H-5 match new construction in Table 1006.3.2(2). Therefore, it is proposed to be deleted.

Item 8 is addressed for new construction in Table 1006.3.2(2), including the emergency escape window requirement; therefore, it is proposed to be deleted.

Item 9 (new Item 3) allows for a different travel distance measurement and additional number of stories for apartment buildings with 4 of fewer per story. Since this is unlimited height, this would apply to sprinklered and non-sprinklered existing buildings. The change is intended to be editorial only to match new terminology.

Item 10 is addressed already permitted for new construction in Section 1006.3.2 Item 3; therefore, it is proposed to be deleted.

Cost Impact: Will not increase the cost of construction

The code change proposal will not increase the cost of construction. The intent of the proposal is coordination and an update to new terminology. It is not intended to increase requirements.

EB 63-15 : 805.3.1-KULIK4904

# EB 64-15

### 805.3.1.1

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

## 2015 International Existing Building Code

### Revise as follows:

805.3.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

- 1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).
- Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m<sup>2</sup>), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
- 3. Open parking structures where vehicles are mechanically parked.
- 4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.
- 4. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance
- does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
  In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:
  - 5.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
  - 5.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.
- In Group R-2 occupancies consisting of sleeping units, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is
  permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).
- 7. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m<sup>2</sup>) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.
- 8. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smokeproof enclosure or outside stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.
- 9. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.

Reason: The terminology is old and many in the list are addressed by new construction. IEBC Section 805.3.1. already says any single exits scenarios in IBC are permitted here. The CTC Committee scope limits them to Items 4 and 7.

• Item 4 – Group R-4 is already addressed in new, so this is not needed. In addition, Group R-4 is based on the number of care recipients, not the occupant load, so the terminology is incorrect. If it is kept it should match the text in new construction – IBC Section 1006.3.2, Item 4. " Group R-3 and R-4 occupancies shall be permitted to have one exit or access to a single exit." However, to keep consistency over time, it is preferred that this be deleted.

• Item 7 – In new provisions this limit is for Group R-2 with sleeping units. This could be read to be all Group R-2. Child care centers could be read to be both Group E and I-4. In new construction this occupant load and travel distance is Group I-4.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <a href="http://www.iccsafe.org/cs/CTC/Pages/default.aspx">http://www.iccsafe.org/cs/CTC/Pages/default.aspx</a>.

**Cost Impact:** Will not increase the cost of construction This correlates IEBC with IBC for this extent of an alteration.

> EB 64-15 : 805.3.1.1-BALDASSARRA4286

Proponent: Dominic Marinelli, representing United Spinal Association (dmarinelli@accessibility-services.com)

### 2015 International Existing Building Code

Revise as follows:

906.2 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

# Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

**Reason:** The purpose of this code change proposal is to eliminate a conflict in the IEBC between the requirements in the Prescriptive and Work Area methods. The deletion of the exception to Section 906.2 would coordinate with Section 410.8.8. The intent is to coordinate the requirements for Type B dwelling units within the options available in the IEBC. In the prescriptive method, Section 906.2 requirement is found in the 2nd sentence of Section 410.8.8. (The first sentence matches IEBC Section 1105.4).

410.8.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being added.

Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the International Building Code for Type B units apply only to the quantity of the spaces being altered.

United Spinal does not support the exception to Section 906.2, and believes it should be deleted for several reasons.

The current exception to Section 906.2 includes a March 15, 1991 as a trigger date. This was inserted as a coordination item with Fair Housing Act (FHA) requirements. However, this is not quite correct. It will be extremely difficult for code officials to determine as the first certificate of occupancy date is different than the date of First Occupancy as defined by the Fair Housing Accessibility Guidelines (i.e., the date that tenants first occupied their apartments). Adding a trigger date would require additional research by the architect or code official to determine if these code requirements were applicable or not. While the jurisdiction does hold records of certificate of occupancy, they do not information on actual occupancy of a space.

In addition, even if this was a match, including the trigger date of the FHA could significantly reduce the number of buildings where these basic adaptability features are required. Remember that these are already major alterations, not minor fixes. In instances where existing structure would prevent compliance with Type B features, permit applicants can take advantage of the technical infeasibility exception offered in the IEBC. It should be noted that Section 410.7 Exception 5 and 705.2 Exception 5 already exempts the building from improving the accessible route, so this requirement is only for the element being altered.

The intent of the original requirement was to require adaptable Type B features in Level III alterations. This requirement will allow for basic adaptations to be made in the Type B unit in the future (but will not require accessible turning spaces, removable base cabinets, maneuvering clearance at bedroom and bathroom doors, or the installation of grab bars).

**Cost Impact:** Will not increase the cost of construction This proposal as it will match current language in Section 410.8.8.

EB 65-15 : 906.2-ROETHER5445

# EB 66-15

# 906.3 (New)

Proponent: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

### 2015 International Existing Building Code

### Add new text as follows:

**906.3** Accessible means of egress At least one accessible means of egress shall be provided from each story of each work area to the exit discharge in accordance with the requirements of Section 1009 of the *International Building Code* unless technically infeasible.

- Exceptions:
  - 1. Historic Buildings.
- 2. Buildings three stories or less in height where the building does not require an automatic sprinkler system throughout in accordance with Section 903 of the International Building Code.

Reason: The proposal seeks to add a requirement for an accessible means of egress (AMOE) in existing buildings. Changes are being proposed only for buildings with a Level 3 alteration. This means that at least 50 percent of the building is involved in an alteration, based on the descriptions in Chapter 5. The proposal also includes langauge to exempt full compliance for the AMOE where it is technically infeasible. This might be the case where the elevator would normally be required as a part of the AMOE and the hoistway shaft would need to be modified on floors beyond the work area or where such an alteration could possibly leave the building structurally unsound. Section 906.1, within the same main Section where this new code language would be located, requires the alteration to comply with Section 705. Section 705.1 already addresses the concept of technically infeasible and how it works within existing buildings.

Two exceptions are offered to this new section. The first exempts historic buildings. The complexity with which these buildings must be addressed means that it is not practical to provide an AMOE in addition to the general requirements for acessibility in an historic building. The second exception recognizes the potential costs associated with trying to create an AMOE in smaller existing buildings. If the building is small enough that automatic fire sprinklers are not required, then the creation of fire rated areas of refuge could be a considerable cost imposition. However, if the smaller building is required to be protected throughout with an automatic fire sprinkler system, then areas of refuge are not required and the existing and/or new stairways can be used as part of the AMOE. The ICC is responsible for establishing what the minimum level of safety is for new and existing buildings. The codes contain requirements for "access" for everyone, including the disabled, for both

new and existing buildings. However, for existing buildings, the codes seem lacking in concern for the safety of those in the disabled community with regard to building "egress." With over 25 years of the ADA and many more years of accessibility provisions in the legacy codes, it is now time that the ICC recognize this need and include language regarding accessible means of egress for existing buildings. To do otherwise is to ignore the life safety of an entire group of the public, as well as employees, in existing buildings undergoing substantial renovation.

#### Cost Impact: Will increase the cost of construction

The degree of cost increase is variable. For some Level 3 alterations, the cost would be neglible if not nonexistent since a larger building will be protected throughout with an automatic fire sprinkler system, the elevator will be required to be on standby power and tactile exit signs would be required. In some instances the cost could be greater, depending on where the alteration work areas are located within the building. Therefore, it is not possible to offer a specific range of what the possible cost increase could be. The exceptions included in the proposal and the concept of "technically infeasible" are also options which will temper any substantial costs. Additionally, the question must be asked what the apprpriate cost for the lives that can be saved if an accessible means of egress is provided.

EB 66-15 : 906.3 (New)-BOECKER5665

# EB 67-15

# Table 1012.4, Table 1012.5

Proponent: Carl Baldassarra, P.E., FSFPE, Chair, Code Technology Committee, representing Code Technology Committee (CTC@iccsafe.org)

# 2015 International Existing Building Code

Revise as follows:

| RELATIVE<br>HAZARD | OCCUPANCY<br>CLASSIFICATIONS                      |
|--------------------|---|
| 1 (Highest Hazard) | н   |
| 2                  | I-2, I-3, I-4                                     |
| 3                  | A, E, I-1, M, R-1, R-2, R-4<br><u>Condition 2</u> |
| 4                  | B, F-1, R-3, <u>R-4 Condition 1,</u> S-1          |
| 5 (Lowest Hazard)  | F-2, S-2, U                                       |

### TABLE 1012.4 MEANS OF EGRESS HAZARD CATEGORIES

### TABLE 1012.5 HEIGHTS AND AREAS HAZARD CATEGORIES

| RELATIVE HAZARD    | OCCUPANCY<br>CLASSIFICATIONS                               |
|--------------------|--|
| 1 (Highest Hazard) | н  |
| 2                  | A-1, A-2, A-3, A-4, I, R-1, R-2, R-4<br><u>Condition 2</u> |
| 3                  | E, F-1, S-1, M   |
| 4 (Lowest Hazard)  | B, F-2, S-2, A-5, R-3, <u>R-4</u><br><u>Condition 1,</u> U |

Reason: The change in the table is consistent with the identification of different levels of hazards for the residents in a Group R-4. The conditions are based on the egress capability of the residents. Group R-4 Condition 1 is more consistent with Group R-3. Group R-2 Condition 2 is closer to a Group I-1.

The ICC Code Technology Committee (CTC) has just completed its 10th year. The ICC Board has decided to sunset the CTC. The sunset plan includes re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). The two remaining CTC Areas of Study are Care Facilities and Elevator Lobbies/WTC Elevator issues. This proposal falls under the Care Facilities Area of Study. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website at: <a href="http://www.iccsafe.org/cs/CTC/Pages/default.aspx">http://www.iccsafe.org/cs/CTC/Pages/default.aspx</a>.

**Cost Impact:** Will not increase the cost of construction This is a reduction in requirements for Group R-4 Condition 1.

> EB 67-15 : T1012.4-BALDASSARRA4287

# EB 68-15

### Part I: 1106 (New), 1106.1.1 (New), 1106.1.2 (New), 1106.1 (New), 1401.2.3.1 (New), 402.6 (New) Part II:

# 423, 423.1.1, 423.4, 423.4.2 (New), 423.4.1 (New)

THIS IS A 2 PART CODE CHANGE PROPOSAL. BOTH PARTS WILL BE HEARD BY THE IEBC COMMITTEE. PLEASE SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

**Proponent:** Edward Kulik, representing Building Code Action Committee (bcac@iccsafe.org); Marc Levitan, National Institute of Standards and Technology (marc.levitan@nist.gov)

# Part I

# 2015 International Existing Building Code

Add new text as follows:

### SECTION1106 Storm Shelters

1106.1.1 Required occupant capacity The required occupant capacity of the storm shelter shall include all the buildings on the site, and shall be the greater of the following:

- 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.
- 2. <u>The occupant load of any indoor assembly space that is associated with the Group E occupancy.</u>

### Exceptions:

1. Where an addition is being added on an existing Group E site, and where the addition is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all the buildings on the site, the storm shelter shall at a minimum accommodate the required capacity for the addition.

2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to reduced by the occupant capacity of any existing storm shelters on the site.

1106.1.2 Location Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from at least one exterior door of each building to a door of the shelter serving that building does not exceed 1000 ft. (304.8 m)

1106.1 Addition to a Group E occupancy. Where an addition is added to an existing Group E Occupancy located in an area where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC500 and the occupant load in the addition is 50 or more, the addition shall have a storm shelter constructed in accordance with ICC500.

### Exceptions:

- 1. Group E day care facilities.
- 2. Group E occupancies accessory to places of religious worship.
- 3. Additions meeting the requirements for shelter design in ICC500.

1401.2.3.1 Additions to Group E facilities. For additions to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.

402.6 Additions to Group E facilities. For additions to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.

# Part II

# 2015 International Building Code

Revise as follows:

## SECTION 423 STORM SHELTERS

**423.1.1 Scope.** This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as <u>safe rooms rooms or spaces</u> within buildings for the purpose of providing <u>safe refugeprotection</u> from storms that produce high winds, such as tornados and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

**423.4 Group E occupancies.** In areas where the shelter design wind speed for tornados is 250 MPH in accordance with Figure 304.2(1) of ICC 500, all Group E occupancies with an aggregate occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500. The shelter shall be capable of housing the total occupant load of the Group E occupancy.

#### Exceptions:

- 1. Group E day care facilities.
- 2. Group E occupancies accessory to places of religious worship.
- 3. Buildings meeting the requirements for shelter design in ICC 500.

#### Add new text as follows:

423.4.2 Location. Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from at least one exterior door of each building to a door of the shelter serving that building does not exceed 1000 ft. (304.8 m)

423.4.1 Required occupant capacity The required occupant capacity of the storm shelter shall include all the buildings on the site, and shall be the greater of the following:

1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.

2. The occupant load of any indoor assembly space that is associated with the Group E occupancy.

Exceptions:

1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all the buildings on the site, the storm shelter shall at a minimum accommodate the required capacity for the new building.

2. Where approved by the code official, the required occupant capacity of the shelter shall be permitted to reduced by the occupant capacity of any existing storm shelters on the site.

Reason: This public proposal is submitted jointly by the National Institute of Standards and Technology and the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content

in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

As documented in the proposal that created the original requirements for installation of storm shelters in schools for the 2015 IBC, even schools built to modern building codes are susceptible to collapse during tornadoes. That proposal described a number of schools destroyed or severely damaged in several 2011 tornadoes in Missouri, Georgia, and Alabama. As documented in the National Institute of Standards and Technology's final report on its technical investigation of the Joplin, Missouri tornado of May 22, 2011, that one storm severely damaged or destroyed 10 of the 20 public schools in the City of Joplin, and several parochial schools.

In 2013, seven schoolchildren died in Oklahoma at the Plaza Towers Elementary School during the Newcastle-Moore tornado on May 20. They were taking refuge in the hallway of the New Main Classroom Building, in their designated tornado safety area, when the masonry hallway walls collapsed on them (see Figure 1). Several more students and teachers were injured in this and other buildings on the same campus. The Newcastle-Moore tornado also destroyed the Briarwood Elementary School, injuring several people, and collapsed the Gymnasium at Highland East Junior High School.

In recognition of the need to provide protection for schoolchildren from tornadoes, and that the existing school building stock is not capable of providing that protection, some states and communities have already begun to take action. Following the death of 8 students at Enterprise High School in a 2007 tornado, the State of Alabama enacted legislation in 2010 (Act 2010-746) requiring that all public schools incorporate tornado shelters built to ICC 500. Illinois recently became the second state to require ICC 500 tornado shelters in all new school building construction, when the Governor signed Public Act 098-0883 into law in August 2014.

Another positive trend in school shelter construction is that some of these facilities are also being made available as public shelters. For example, during the rebuilding following the 2011 tornado, the Joplin School District has been proactively outfitting its new and rebuilt schools with tornado shelters, and installing shelters at undamaged schools as well. These shelters, commonly in gymnasiums, are sized not only to handle the full daytime occupant load of the school but also the population of the surrounding neighborhoods within a quarter to half mile radius. The investment of public funds in these shelters is further leveraged to improve public safety by making them available whenever there is a threat from tornadoes, 24 hours a day and year-round. The shelter doors are automatically unlocked as soon as a tornado watch goes into effect. Tornado shelters at several school districts in Arkansas (Greenwood, Fort Smith, Alma, and Van Buren Public Schools) are also open to the public. At these shelters, the doors are automatically unlocked when the tornado siren sounds.

#### Explanation of Provisions.

• IBC Section 423.1.1 Scope. The 'safe refuge' has been revised to 'protection' so that this term will not be confused with other refuge areas already required in the code. The remainder of the change is for consistency with the revisions to the scoping language in the ICC 500-2014.

• IBC Section 423.4 Group E occupancies. The last sentence is removed and addressed in new Section 423.4.1. Section 303.1.3 states that assembly spaces associated with Group E occupancies are considered part of the Group E occupancy. However, many schools have assembly type facilities (e.g., gymnasiums with bleachers, multi-purpose rooms used for after school meetings or school registration, libraries used for school board meetings, theaters with concerts and shows open to the parents and public, gyms used for science fairs or intermural sports) that could include the public outside of normal school hours. The purpose of the storm shelter is to provide safety for the school occupants at the time of the emergency.

• IBC Section 423.4.1 Capacity. With those many uses of a school building, not all spaces will be fully occupied at the same time that all the classrooms are fully occupied. Worse case occupant load is used for all spaces for fire exiting, but total occupant load for the building is excessive for storm shelter design. The determination for the required capacity of the shelter is based on the number of staff and students that will be in the school during a typical school day or any indoor assembly space that would be fully utilized outside school hours, whichever is greater. Thus, rather than the total occupant load of the building is experimented by based on occupant load becribed in the two scenarios described in Item 1 and 2. It is not the intent of these provisions to require outdoor areas on the site (e.g., sports fields and bleachers) to be considered since that area is not a building.

In new construction, a fire wall creates a separate building. If a facility adds on with a fire wall or puts another building on an existing Group E site, this is another opportunity to provide a storm shelter for that school. The designer would be responsible for determining the required storm shelter capacity for both the new building and for the total facility on the site. Depending on what type of rooms are in the new building, what proportion of the space can be used for a shelter is information that can be calculated using the provisions in ICC 500, Chapter 5. If this is a small new building, the shelter within the building will be required to at least accommodate the students and staff within that new building. If the new building is large enough that a shelter could accommodate all the students and staff on the site. It is not the intent of the provisions to require the new building to be made bigger just to meet the shelter provisions.

If there is an existing storm shelter on the site, that can be considered to reduce the capacity required for the new shelter. Due to travel distances and possible age of the existing shelter (perhaps built before ICC 500), the code official can have input into the decision.

#### The term site is currently defined in the codes:

SITE. A parcel of land bounded by a lot line or a designated portion of a public right-of-way.

• IBC Section 423.4.2 Location. The new language in IBC 423.4.2 requires the shelter to be within a building or within a distance of travel of a1000 feet or less. Where the shelter is remote, this would be approximately a 4 minute walk at 3 mph, which is an average speed that humans tend to walk. Add that to an assumed few hundred feet travel distance to first reach the exit of the building being served, and the total travel time is 5 minutes. This is consistent with current FEMA guidance for a maximum five minute walk time to reach the tornado shelter.

Figure 1. Damage to the New Main Classroom Building at Plaza Towers Elementary School. The seven schoolchildren died in the central hallway when the classroom walls collapsed on them. An additional two staff members and one student were injured in this building.



Bibliography:

Part I:<sup>1</sup> Final Report, National Institute of Standards and Technology (NIST) Technical Investigation of the May 22, 2011, Tornado in Joplin, Missouri. Erica D. Kuligowski; Franklin T. Lombardo; Long T. Phan; Marc L. Levitan; David P. Jorgensen; NIST NCSTAR-3. March 2014. Available at http://dx.doi.org/10.6028/NIST.NCSTAR-3

<sup>2</sup> Preliminary Reconnaissance of the May 20, 2013, Newcastle-Moore Tornado in Oklahoma. Erica D. Kuligowski; Long T. Phan; Marc L. Levitan; David P. Jorgensen. NIST SP 1164. December 2013. Available at <a href="http://www.nist.gov/manuscript-publication-search.cfm?publicati

<sup>3</sup> See <u>http://www.joplinschools.org/domain/635</u> for more information about Joplin community safe rooms.

<sup>4</sup> See for example http://www.greenwoodpd.org/Community/Storm-Shelters.

Part II:<sup>1</sup> Final Report, National Institute of Standards and Technology (NIST) Technical Investigation of the May 22, 2011, Tornado in Joplin, Missouri. Erica D. Kuligowski; Franklin T. Lombardo; Long T. Phan; Marc L. Levitan; David P. Jorgensen; NIST NCSTAR-3. March 2014. Available at http://dx.doi.org/10.6028/NIST.NCSTAR-3

<sup>2</sup> Preliminary Reconnaissance of the May 20, 2013, Newcastle-Moore Tornado in Oklahoma. Erica D. Kuligowski; Long T. Phan; Marc L. Levitan; David P. Jorgensen. NIST SP 1164. December 2013. Available at <a href="http://www.nist.gov/manuscript-publication-search.cfm?publicati

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#### Cost Impact:

Part I: Will increase the cost of construction

This proposal will increase the cost of construction.

The most recent information on costs is available in FEMA P-361, Design and Construction Guidance for Community Safe Rooms (Second Edition, August, 2008). All of the values described below related to cost come from that publication. It should be noted that tornado shelters designed and constructed in accordance with FEMA P-361 guidelines are called safe rooms. FEMA's safe room guidelines are similar to ICC 500, but there are some differences. Where there are differences, in all cases, FEMA requirements are more stringent than ICC 500, as documented on page 1-2 of FEMA P-361, which states "All safe room criteria in this publication meet or exceed the shelter requirements of ICC 500." Shelters built to ICC 500 would therefore cost less, but there is no data available to quantify that cost reduction.

FEMA 361 describes safe room costs for new building projects as follows. "For large new building projects, however, the percent increase in the overall project cost is quite small. For example, many safe rooms protecting 200 to 300 occupants being constructed as part of a new school have added only 1 to 2 percent to the total project cost when the safe room was included in the design process at the beginning of the project."

Based on review of 36 safe room grant applications from 2008, the average safe room cost per square foot for projects considered technically feasible and effective for providing protection was \$188/sf. From more expanded grant application data from years 2005 to 2008, the percent increase in building cost to harden a portion of a building to meet the safe room requirements ranged from 5-32 percent (cost increase per square foot of the safe room area being hardened). More information on safe room costs can be found in Chapter 2 of FEMA P-361.

Costs for storm shelters are anticipated to decrease as their use becomes more widespread. The adoption of requirements for storm shelters in tornado prone areas for Group E Occupancies and first responder facilities in the 2015 IBC will lead to installation of many more storm shelters than are currently being built. Subsequently, shelters will become less of a specially item from a design and construction standpoint. As the market expands for specially products needed in shelters, like tornado resistant doors, windows and shutters, economies of scale and new manufacturers joining the industry will also lead to cost reductions.

<sup>5</sup> Previous studies have shown that the premium for new-technology introduction costs disappear once the designer is satisfied with the technology's performance, the technology enters full implementation, and its application has become routine. See for example Ehlen, Mark A., and Harold E. Marshall. 1996. The Economics of New-Technology Materials: A Case Study of FRP Bridge Decking. NISTIR 5864. Gaithersburg, MD: National Institute of Standards and Technology.

Part II: Will increase the cost of construction

This proposal will increase the cost of construction.

The most recent information on costs is available in FEMA P-361, Design and Construction Guidance for Community Safe Rooms (Second Edition, August, 2008). All of the values described below related to cost come from that publication. It should be noted that tornado shelters designed and constructed in accordance with FEMA P-361 guidelines are called safe rooms. FEMA's safe room guidelines are similar to ICC 500, but there are some differences. Where there are differences, in all cases, FEMA requirements are more stringent than ICC 500, as documented on page 1-2 of FEMA P-361, which states "All safe room criteria in this publication meet or exceed the shelter requirements of ICC 500." Shelters built to ICC 500 would therefore cost less, but there is no data available to quantify that cost reduction.

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EB 68-15 : 1106 (New)-KULIK4828

# EB 69-15

# 1202.2, 1202.3

**Proponent:** David Bonowitz, David Bonowitz, S.E., representing Existing Buildings Subcommittee, National Council of Structural Engineers Associations (dbonowitz@att.net)

# 2015 International Existing Building Code

Revise as follows:

1202.21201.5 Unsafe conditions. No change to text.

### 1202.31207.1 Relocated buildings. No change to text.

Reason: This editorial proposal reorganizes parts of Section 1202 for internal consistency within the Work Area method.

Section 1202.2, regarding unsafe conditions, does not necessarily apply only to repairs. It is a more general provision that belongs in Section 1201. (In Group B, Section 1206.2 may also be removed as redundant.)

Section 1202.3, for relocated buildings, has nothing to do with repairs. For consistency within the Work Area method, it should be in its own section, the same way Sections 1204 and 1205 are separate sections for specific project types. Ideally, 1202.3 would move to a new Section 1206: Relocated Buildings, but the proposal shows it as 1207 to clarify that the intent is NOT to make this part of the existing Section 1206: Structural.

**Cost Impact:** Will not increase the cost of construction The proposal is entirely editorial.

EB 69-15 : 1202.2-BONOWITZ5192

# EB 70-15

# 1203.5

**Proponent:** Daniel Nichols, New York State Division of Building Standards and Codes, representing New York State Division of Building Standards and Codes (dnichols@dos.state.ny.us)

# 2015 International Existing Building Code

Revise as follows:

1203.5 Interior finishes. The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are the historic finishes.

Reason: The definition of interior finishes includes interior floor finishes by the International Building Code. The scoping of only wall and ceiling finishes in IEBC Section 1203.5 does not allow the acceptance of historic floor finishes; such as would be found in historic homes or historic assembly occupancies. If the floor is part of the historic fabric, it should be regulated the same as the walls and ceiling interior finishes.

Just like wall and ceiling finishes, this does not provide an exception for floor finishes that are added, not back of the historic fabric of the interior, or the underlayment to removed finishes.

Cost Impact: Will not increase the cost of construction This removes a requirement to remove or modify interior floor finishes in historic buildings.

EB 70-15 : 1203.5-NICHOLS5756

# EB 71-15

1401.2

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

# 2015 International Existing Building Code

Revise as follows:

# 1401.2 Applicability. Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction]

Existing buildings, in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 5 through 13. The provisions of Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4.

Reason: The "Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction]" is language that is appropriate for Chapter 1 but is not appropriate for Chapter 14. By having this language in Chapter 14, it potentially creates a conflict with the Chapter 101.4 language and that definition of Existing Buildings. At the very least, the existing language in this section can create confusion and provides no additional value. The applicability language in Chapter 14 should focus on how the provisions of this specific chapter are applied. The issue of when the code is adopted is already covered in 101.4 and the model adoption language. This proposal eliminates the potential conflict by defaulting to the Chapter 1 language and the definition of existing building.

Cost Impact: Will not increase the cost of construction This is an editorial change and will not increase the cost of construction.

EB 71-15 : 1401.2-APFELBECK3718

# EB 72-15

## 1401.2

Proponent: Kathleen Petrie, representing City of Seattle, Department of Planning and Development (kathleen.petrie@seattle.gov)

## 2015 International Existing Building Code

### Revise as follows:

1401.2 Applicability. Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction], in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter. <u>Chapter 4.</u> or the provisions of Chapters 5 through 13. The provisions of Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4.

#### Reason:

Section 1401.1 outright allows alterations, repairs, additions and changes of occupancy to existing structures to comply with the performance method provisions of chapter 14 or with one of the other methods provided in Section 301.1, which includes the work area and prescriptive compliance methods. However, Section 1401.2 then only directs the user back to the work area code chapters 5 though 13, so this proposal adds a Chapter 4 reference to ensure that the prescriptive compliance method is included as a compliance option.

Cost Impact: Will not increase the cost of construction This proposal does not require the use of a specific method or construction component, so the cost of construction is not increased

EB 72-15 : 1401.2-PETRIE3478

# EB 73-15

1401.2.3

Proponent: Edward Kulik, Chair, representing Building Code Action Committee(bcac@iccsafe.org)

# 2015 International Existing Building Code

Revise as follows:

1401.2.3 Additions. Additions to existing buildings shall comply with the requirements of the International Building Code and the.-International Residential Code, and this code for new construction. The combined height and area of the existing building and the new addition shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the addition and the existing building, the addition shall be considered a separate building.

Reason: For additions in this context we only need to refer back to the IBC and IRC. This code does not have provisions for new construction but is focused on existing buildings. These revisions are needed to correlate with the 2015 IBC that deleted Chapter 34 on existing buildings. This is considered a clarification of the application of the IEBC as it pertains to additions and will not change anything that is now required by the I Codes.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction as this revision is only a clarification of the current provisions.

EB 73-15 : 1401.2.3-KULIK4898

# EB 74-15

1401.2.4

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

# 2015 International Existing Building Code

Revise as follows:

1401.2.4 Alterations and repairs. An existing building or portion thereof that does not comply with the requirements of this code for new construction shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. If, in the *alteration or repair*, the current level of safety or sanitation is to be reduced, the portion altered or repaired shall conform to the requirements of Chapters 2 through 12 and Chapters 14 through 33 of the *International Building Code*.

Reason: This section does not work within the IEBC as it did in the IBC. Generally we do not want an alteration or repair reducing the level of safety or sanitation. As currently written it says "this code" when in fact it was focused upon the IBC. Reference is not needed back to the IBC in this case. The last sentence is again sending the user of the code back to the IBC when we told them already that they could not reduce their level of safety or sanitation. As modified it will simply provide a baseline that the user of this chapter must meet. These revisions are needed to correlate with the 2015 IBC that deleted Chapter 34 on existing buildings. This is considered a clarification of the application of the IEBC as it applies to alterations and repairs and will not change anything that is now required by the I-Codes.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction as this revision is only a clarification of the current provisions.

EB 74-15 : 1401.2.4-KULIK4903

# EB 75-15

1401.2.5

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

# 2015 International Existing Building Code

Revise as follows:

### 1401.2.5 Accessibility requirements.

Accessibility shall be provided in accordance with Section 410.07 705. 806, 906, 1105,1204 and 1205.15 as applicable.

Reason: The current reference does not pick up the accessibility provisions for Level 2 and 3, additions or allowances for historic buildings when using the performance compliance method. The performance compliance method should be required to have the same level of access as any other alteration. Technical infeasibility and the 20% maximum rule for the accessible route costs would still be applicable.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Areas of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: <a href="http://www.iccsafe.org/cs/BCAC/Pages/default.aspx">http://www.iccsafe.org/cs/BCAC/Pages/default.aspx</a>.

Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

Staff note: An errata was corrected to this section. The reference to Section 605 was revised to Section 705. It is shown as current code text.

EB 75-15 : 1401.2.5-KULIK3406

# EB 76-15

1401.3.2

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

# 2015 International Existing Building Code

Revise as follows:

**1401.3.2 Compliance with other codes.** Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*. Where provisions of the *International Fire Code* or *International Property Maintenance Code* conflict with the provisions of this section, the provisions of this section shall take precedence.

Reason: This section is proposed to be revised in order to be consistent with Chapter 3 General Provisions Section 302.2 Additional codes. Without the addition of the proposed language, a user could read the code to infer that even though a building complies fully with the points score evaluation of Chapter 14, the building would also have to comply with the prescriptive provisions of the IFC and the IPMC governing the same issues evaluated in Chapter 14. That is clearly not the intent of the IEBC. This proposed language clarifies how the associated codes are to apply in a manner consistent with Chapter 3 General Provisions Section 302.2 Additional codes.

#### Cost Impact: Will not increase the cost of construction

No cost impact or a savings as this code change does not provide for any more stringent provisions than that which are already listed.

EB 76-15 : 1401.3.2-APFELBECK3980

# EB 77-15

# 1401.6

Proponent: Jeff Hugo, National Fire Sprinkler Association, representing National Fire Sprinkler Association (hugo@nfsa.org)

## 2015 International Existing Building Code

### Revise as follows:

**1401.6 Evaluation process.** The evaluation process specified herein shall be followed in its entirety to evaluate *existing buildings* in Groups A, B, E, F, M, R, S and U. For existing buildings in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table 1401.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code <u>or other codes</u> indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 1401.6.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation process shall apply to the entire building, or to each smoke compartment for Group I-2 occupancies.

Where the separation between the mixed occupancies qualifies for any category indicated in Section 1401.6.16, the score for each occupancy shall apply to each portion, or smoke compartment of the building based on the occupancy of the space.

Reason: This proposal adds "other codes" because other codes, such as the International Building Code besides the IEBC are referenced in Chapter 14.

Cost Impact: Will not increase the cost of construction Editorial

EB 77-15 : 1401.6-HUGO4839

# EB 78-15

# Table 1401.6.4

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

# 2015 International Existing Building Code

Revise as follows:

| OCCUPANCY                 | CATEGORIES   |                  |   |   |   |
|---------------------------|--------------|------------------|---|---|---|
|                           | а            | b                | с | d | е |
| A-1                       | 0            | 0                | 0 | 0 | 1 |
| A-2                       | -5           | -3               | 0 | 1 | 3 |
| R                         | -4 <u>-6</u> | <del>-2</del> -4 | 0 | 2 | 4 |
| A-3, A-4, B, E, F, M, S-1 | -4           | -3               | 0 | 2 | 4 |
| I-2                       | 0            | 1                | 2 | 3 | 4 |
| S-2 -5                    |              | -2               | 0 | 2 | 4 |

TABLE 1401.6.4 SEPARATION VALUES

Reason: Occupants of a Group R are subject to the highest risks of any occupancies. Residents are subject to the careless acts of others and such residents may be incapable of self-preservation or have reduced egress times. Obviously, residents are asleep for an average of on-third of every 24 hour period and during such time they are unaware of a developing fire. Fuel loads in Group R occupancies are often quite high so fires develop quickly and become very intense with a significant probability of impacting adjacent dwelling units. This code change revised the Group R points to more accurately reflect the hazard relative to the other occupancies in the table.

Cost Impact: Will increase the cost of construction

Existing residential properties undergoing an alteration or change of use to residential and utilizing Chapter 14 may have additional costs as a result of the modification to the table if their fire separation is deficient.

EB 78-15 : 1401.6.4-APFELBECK3722

# EB 79-15 1401.6.6, 1401.6.6.1

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

# 2015 International Existing Building Code

# Revise as follows:

**1401.6.6 Vertical openings.** Evaluate the fire-resistance rating of interior exit stairways or ramps, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Table 1401.6.6(1) contains the appropriate protection values. Multiply that value by the construction-type factor found in Table 1401.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 1401.7 under Safety Parameter 1401.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building or if all the unenclosed vertical openings within the building conform to the requirements of Section 713 of the *International Building Code*, enter a value of 2. The maximum positive value for this requirement (VO) shall be 2.

1401.6.6.1 Vertical opening formula. The following formula shall be used in computing vertical opening value.

VO\_= PV × CF (Equation 14-5)

| vo | = | Vertical opening value. <u>The calculated value</u><br>shall not be greater than positive 2.0 |
|----|---|---|
| PV | = | Protection value from Table 1401.6.6.(1).   |
| CF | = | Construction-type factor from Table 1401.6.6.(2).   |

**Reason:** The last sentence of 1401.6.6 states "The maximum positive value for this requirement shall be 2." Since Table 1401.6.6(1) has a Value of 2, this application of this maximum positive value for this requirement shall be 2." Since Table 1401.6.6(1) has a Value of 2, this application of this maximum positive value limit can create some confusion in the proper application of this section....Is the maximum positive value applicable to PV or VO? It appears that the intent of the "The maximum positive value for this requirement shall be 2" sentence is to apply to VO since the sentence above this one is discussion the VO score. This also makes senses from a scoring standpoint. If 2 was to apply to PV, then the formula would provide 14 points for a building of VB construction and 2.4 points for one of IA construction, which would make no logical sense. This proposal clarifies the issue by providing a footnote to VO and modifies the text in 1401.6.6 to ensure that the maximum value of 2 applies to VO.

**Cost Impact:** Will not increase the cost of construction Editorial change.

EB 79-15 : 1401.6.6-APFELBECK3752

# EB 80-15

1401.6.8

**Proponent:** Anthony Apfelbeck, City of Altamonte Springs Buiding/Fire Safety, representing City of Altamonte Springs (ACApfelbeck@altamonte.org)

# 2015 International Existing Building Code

Revise as follows:

**1401.6.8** Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of automatic fire detectors in accordance with Section 907 of the *International Building Code* and the *International Mechanical Code*. Under the categories and occupancies in Table 1401.6.8, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.8, Automatic Fire Detection, for fire safety, means of egress, and general safety. Facilities in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation. <u>Single and multiple stations smoke alarms shall be installed in accordance with Section 1103.8 of the *International Fire Code* for Group R occupancies.</u>

**Reason:** The current language in 1401.6.8 could leave the user with the impression that achieving an overall passing score for FS, ME and GS on Table 1401.7 would result in no requirement for single- or multi-station smoke alarms in accordance with the IFC. Clearly, not providing single- or multi-station smoke alarms would result in an unsafe environment that should not be permitted under the I-Codes. This proposal clarifies that regardless of the category scored in table 1401.6.8, single- or multi-station smoke alarms must still be provided in accordance with the IFC. There is similar language already contained in 403.10 but this language is limited to alterations under the prescriptive compliance method.

Cost Impact: Will increase the cost of construction

In this proponent's opinion, this proposal is consistent with the existing intent of the ICodes/IEBC. This proposal just provides added clarity to a provision that can potentially be misapplied.

EB 80-15 : T1401.6.8-APFELBECK3755
# EB 81-15

# Table 1401.6.8

Proponent: Anthony Apfelbeck, representing City of Altamonte Springs (ACApfelbeck@altamonte.org)

## 2015 International Existing Building Code

Revise as follows:

| OCCUPANCY                 |     | CATEGORIES |    |   |   |             |  |
|---------------------------|-----|------------|----|---|---|-------------|--|
|                           | а   | b          | с  | d | е | f           |  |
| A-1, A-3, F, M,<br>R, S-1 | -10 | -5         | 0  | 2 | 6 | — <u>NA</u> |  |
| A-2                       | -25 | -5         | 0  | 5 | 9 | — <u>NA</u> |  |
| A-4, B, E, S-2            | -4  | -2         | 0  | 4 | 8 | — <u>NA</u> |  |
| l-2                       | NP  | NP         | NP | 4 | 5 | 2           |  |

#### TABLE 1401.6.8 AUTOMATIC FIRE DETECTION VALUES

#### NA=Not Appicable

Reason: Column f in Table 1401.6.8 is the only table in Chapter 14 that is populated with a "." line. The dash line could be read two ways for occupancies other than an I-2: 1. As a "0", potentially conflicting with "category d" or; 2. As a Not Applicable indicator. The proponent believes that the intent of "-" is a not applicable indicator. Therefore, a new footnote has been proposed to Table 1401.6.8 to clarify that the "-" means not applicable to the other occupancies.

Cost Impact: Will not increase the cost of construction This is an editorial change providing clarity to the code with no cost impact.

EB 81-15 : T1401.6.8-APFELBECK3756

# EB 82-15

## Table 1401.6.9

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

## 2015 International Existing Building Code

Revise as follows:

|                                | CATEGORIES |          |           |           |  |  |  |
|--------------------------------|------------|----------|-----------|-----------|--|--|--|
| OCCUPANCY                      | а          | b<br>b   | с         | d         |  |  |  |
| A-1, A-2, A-3, A-4,<br>B, E, R | -10        | -5       | 0         | 5         |  |  |  |
| <u>F, M</u>                    | <u>-5</u>  | <u>0</u> | <u>10</u> | <u>15</u> |  |  |  |
| <del>F, M,</del> S             | 0          | 5        | 10        | 15        |  |  |  |
| I-2                            | -4         | 1        | 2         | 5         |  |  |  |

TABLE 1401.6.9 FIRE ALARM SYSTEM VALUES

a. For buildings equipped throughout with an automatic sprinkler system, add 2 points for activation by a sprinkler water-flow device.

**Reason:** Currently, Table 1401.6.9 provides occupancies F, M and S within the same row. However, group M and F have fire alarm system requirements in the IBC/IFC while group S does not. The lack of a fire alarm system in group M and F should have adjusted values in categories a and b that are greater than a group S but not as much as A, B, E and R. In fact, the group M and F are arguably more hazardous than a group B which is in the first column with significant negative points assigned. This proposal creates a new row for group F and M with a greater loss of points than the current S but not as significant as the A, B, E and R.

#### Cost Impact: Will increase the cost of construction

There is a potential for a loss of points for group M and F occupancies that do not comply with catagories a and b. This may result in the need for additional compliance actions.

EB 82-15 : T1401.6.9-APFELBECK3842

# EB 83-15

1401.6.12.1

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

2015 International Existing Building Code

Revise as follows:

1401.6.12.1 Categories. The categories for dead ends are:

- 1. Category a—Dead end of <35 feet (10 670 mm) but >20 feet in nonsprinklered buildings or <70 feet (21 340 mm) but > 50 feet in sprinklered buildings.
- Category b—Dead end of ≤ 20 feet (6096 mm) in occupancies other than Group B; or ≤ 50 feet (15 240 mm) in Group B in accordance with Section 1020.4, Exception 2, of the *International Building Code*.
- 3. Category c-No dead ends; or ratio of length to width (I/w) is less than 2.5:1.
- 4. Category d-Dead ends exceeding Category a.

**Reason:** Categories a and b of 1401.6.12.1 currently state a fixed number such as "35 feet." The correct statement should be not a fixed number but a not to exceed number presented in  $\leq \infty$  format. The proposal has added the less than or equal too symbols to clarify that the number is not a fixed number but is a maximum for each category and the transition from category a to b. In addition, category b has been revised to clarify that the 20 feet applies to all occupancies other than Group B.

**Cost Impact:** Will not increase the cost of construction This proposal is editorial and improves readability.

EB 83-15 : 1401.6.12.1-APFELBECK3760

# EB 84-15

## 1401.6.15.1

**Proponent:** Daniel Nichols, New York State Division of Building Standards and Codes, representing New York State Division of Building Standards and Codes (dnichols@dos.state.ny.us)

## 2015 International Existing Building Code

Revise as follows:

1401.6.15.1 Categories. The categories for means-ofegress emergency lighting are:

- 1. Category a—Means-of-egress<u>emergency</u> lighting and exit signs not provided with emergency power in accordance with Section 2702 of the International Building Code.
- 2. Category b—Means-of-egress emergency lighting and exit signs provided with emergency power\_powered by storage batteries or unit equipment in accordance with Section 2702 of the International Building Code.
- 3. Category c—Emergency power provided to means-of-egress<u>Means of egress emergency</u> lighting and exit signs, which provides protection powered by an <u>emergency generator</u> in the eventaccordance with Section 2702 of power failure to the site or buildingInternational Building Code.

**Reason:** The difference between Category b and Category c is not well defined. According to the commentary, the intent of Category c is to give additional credit to those buildings with power systems that can provide long-term emergency power with minimal disruption to building systems. This would provide egress illumination at the regular levels rather than emergency illumination that is only required for 90 minutes.

The proposal language makes it more clear that Category c is requiring both Category b, as well as additional requirements for emergency power that mitigate building or site disruption. An example would be a 'whole-house' generator and campus-wide backup power arrangement.

The 2015 IBC revised Section 1008 to be split between general means of egress lighting under normal power, and means of egress emergency lighting provided when a building looses power. Revisions to Item 1 and 2 are coordination with that.

Cost Impact: Will not increase the cost of construction This proposal is to provide better definition of existing code requirements.

EB 84-15 : 1401.6.15.1-NICHOLS5750

# EB 85-15

1401.6.17

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

## 2015 International Existing Building Code

Revise as follows:

**1401.6.17** Automatic sprinklers. Evaluate the ability to suppress control\_a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Building Code*. "Required sprinklers" shall be based on the requirements of this code the *International Fire Code*. Under the categories and occupancies in Table 1401.6.17, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the *International Building Code* that undergo a *change of occupancy* to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the *International Building Code* and Chapter 9 of the *International Building Code*. Buildings that undergo a *change of occupancy* to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Chapter 9 of the *International Fire Code*. Facilities in Group I-2 occupancies meeting Category a, b, c or f shall be considered to fail the evaluation.

**Reason:** Fire sprinkler protection in new Group R occupancies is basic level of protection that is expected in the IBC in order to establish a minimum level of life safety. The IEBC should continue with that expectation due to the fact that residential occupancies house occupants with a wide range of capabilities that may not be capable of self-preservation, fuel loads are high, occupants are sleeping for approximately 1/3 of their time in Group R and a fire in a adjacent tenant can easily endanger occupants in other tenant spaces.

#### Cost Impact: Will increase the cost of construction

This proposal will increase the cost of construction in some buildings that undergo a change of occupancy to a Group R due to the need to install a fire sprinkler system. However, value of the sprinkler system will also be reflected in additional points from Table 1401.6.17 so there is a potential for a cost savings offset.

EB 85-15 : 1401.6.17-APFELBECK3762

## EB 86-15 1401.6.17, Table 1401.6.17, 1401.6.17.1

Proponent: Jeff Hugo, representing National Fire Sprinkler Association (hugo@nfsa.org)

### 2015 International Existing Building Code

#### Revise as follows:

**1401.6.17** Automatic sprinklers. Evaluate the ability to suppress <u>or control</u> a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1.1903.3.1 of the International Building Code. "Required sprinklers" shall be based on the requirements of this code. the International Building Code. "Code. Under the categories and occupancies in Table 1401.6.17, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the International Building Code that undergo a change of occupancy to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the International Building Code and Chapter 9 of the International Building Code. Facilities in Group I-2 occupancies meeting Category a, b, c or f shall be considered to fail the evaluation.

#### TABLE 1401.6.17 SPRINKLER SYSTEM VALUES

|                           | CATEGORIES |                |    |                |                 |    |  |  |
|---------------------------|------------|----------------|----|----------------|-----------------|----|--|--|
| OCCUPANCY                 | a<br>a     | b <sup>a</sup> | с  | d              | е               | f  |  |  |
| A-1, A-3, F, M, R,<br>S-1 | -6         | -3             | 0  | <del>2</del> 4 | <u>46</u>       | 6  |  |  |
| A-2                       | -4         | -2             | 0  | <u>+2</u>      | <del>2</del> 4  | 4  |  |  |
| A-4, B, E, S-2            | -12        | -6             | 0  | <del>3</del> 6 | <del>6</del> 12 | 12 |  |  |
| I-2                       | NP         | NP             | NP | 8              | 10              | NP |  |  |

NP = not permitted.

a. These options cannot be taken if Category a in Section 1401.6.18 is used.

1401.6.17.1 Categories. The categories for automatic sprinkler system protection are:

- Category a—Sprinklers are required throughout <u>the building</u>; sprinkler protection is not provided. or the sprinkler system desing is not adequate for the hazard protected in accordance with Section 903 of the International Building Code.
- 2. Category b—Sprinklers are required in fire areas or compartments a portion of the building; sprinkler protection is not provided in fire areas or
- compartments, or the sprinkler system design is not adequate for the hazard protected in accordance with Section 903 of the *International Building Code*. 3. Category c—Sprinklers are not required; none are provided.
- 4. Category d—Sprinklers are required in a portion of the building <u>fire areas or compartments</u>; sprinklers are provided in <u>fire areas or compartments</u>such portion; the system is one that complied with the code at the time of installation and is maintained and supervised in accordance with Section 903 of the <u>International Building Code</u>.
- 5. Category e-Sprinklers are required throughout; sprinklers are provided throughout in accordance with Chapter 9 of the International Building Code.
- 6. Category f-Sprinklers are not required throughout; sprinklers are provided throughout in accordance with Chapter 9 of the International Building Code.

#### Reason: History and Summary

Fire sprinkler values was added to the BOCA version of Fire Safety Evaluation System (FSES) in the 1990 edition by code change number B270-89 (attached). This proposal created a table with two categories with the occupancy rows arranged the same as in the current IEBC. The first category (a) gave no credit for buildings without a sprinkler system and no credit for partial systems. The second category (b) provided values for fully sprinklered buildings according to the BOCA fire protection chapter (Article 10) which referenced NFPA 13 and NFPA 13R. Fully sprinklered buildings were given 4 points (A-2), 6 points (A-1, A-3, F, M, R, S-1) or 12 points (A-4, E, B, S-2). The values in the second category were established by other FSES processes (NFPA and NYC). These values were justified by the proponent as being equal to automatic alarm values.

In the 1996 BOCA, code change number B213-95 (attached), increased the two category value table to the current IEBC six category value table. The values in each of the six categories have been unchanged since this edition, with the exception of adding values for I-2 occupancies for the 2015 edition. The higher category values appear similar as the above version in 1990, with lower values in lower categories, however, this proposal discusses that the arrangement of the values do not do a fully sprinklered building justice as originally intended in the 1990 version.

Each proposed change is explained in detail below, however, to summarize, there was a significant and fundamental change on how these values were applied in the 1996 BOCA code. The 1990 values were for fully sprinklered buildings, but the 1996 values demoted these values for fully sprinklered buildings required to be sprinklered by the code (Category e). The full values, as intended by the 1990 text, was only given to buildings that were fully sprinklered voluntarily (Category f). The practice of constructing buildings as unsprinklered, (without any trade-offs) then adding a sprinkler system is virtually non-existent. The values in Category e and f of the 1996 BOCA to the 2015 IEBC are unjust and are not equal to the 1990 proponents' intent. This proposal adjusts the table accordingly.

#### Proposed Changes in Text

#### "...<u>or control</u>...'

This change correctly addresses automatic fire sprinkler systems for the majority of installations. Fire sprinkler systems designed according to NFPA 13, NFPA 13R and NFPA 13D are designed to control fires. There are a few instances in the NFPA 13 standard where the fire sprinkler is designed to suppress fires, such as in storage occupancies. It is appropriate to have "control" more than suppression in the code text, but this proposal leaves suppression in to accommodate the suppression in storage occupancies.

#### " ...<u>Section 903.3.1.</u>+..."

This change removes the limitation of the values to be used just on a NFPA 13 system. The values cannot be limited to just NFPA 13 systems. The intent of the proposal that expanded the values for 1996 BOCA did not prohibit NFPA 13R systems (B213-95), likewise, the values table has occupancies that are permitted to use NFPA 13R (R-1, R-2) and NFPA 13D (R-3, R-4) systems. When a building is sprinklered according to any of the sprinkler standards, they are considered fully sprinklered.

#### " ...the International Building Codethis code ... '"

When this section was located in the IBC it also stated "this code". This section wasn't revised when it moved from the IBC to the IBC. Every other section in Chapter 14 of the IEBC that has similar language refers to the IBC. For example, IEBC Section 1401.6.18 refers the requirements back to the IBC.

# " Category a - Sprinklers are required throughout the building; sprinkler protection is not provided.or the sprinkler system design is not adequate for the hazard protected in accordance with Section 903 of the International Building Code.".

This change updates and clarifies where sprinklers are throughout to make the user aware of the extent of sprinklers protection. The latter portion of the text is removed. The value assigned to this is extreme and is redundant with Category b. Having no sprinklers and an under-designed system is not equal. Both are detrimental, but one has no protection, the other has some form of protection. The penalty for an under-designed system should a Category b and keep the unsprinklered building as the highest penalty.

"Category b - Sprinklers are required in fire areas or compartments a portion of the building; sprinkler protection is not provided in fire areas or compartments..."

This change provides a negative value when a fire area or compartment that is required to have sprinklers, but doesn't. Fire areas are defined in the IBC and "compartments" are used and qualified in Section 1401.6.3. These terms are concrete and have definite passive fire protection boundaries than the subjective term "portion". By using fire area and compartments, the code official and the user can be clear where sprinklers are supposed to be installed.

"Category d - Sprinklers are required in <u>fire areas or compartments</u> a portion of the building; sprinklers are provided in <u>fire areas or compartments.such porton; the system is one that</u> complied with the code at the time of installation and is maintained and supervised in accordance with Section 903 of the International Building Code."

This change assigns the partial system for a fire area with a value. It also removes the undefined term "portion". Fire areas are defined in the IBC and "compartments" are used and qualified in Section 1401.6.3. These terms are concrete and have definite passive fire protection boundaries than the subjective term "portion" which will have differing boundaries by every user for every building that is evaluated. By using fire area and compartments, the code official and the user can be clear where sprinklers are supposed to be installed.

There are some occupancies, such as A-1, A-2, A-3 and A-4, that are only required to have sprinklers in the fire area. Other fire areas may not need fire sprinklers. This change would provide buildings with sprinklered fire areas some credit. The value would not apply to a partial systems for incidental uses or other partial or limited-area system installation. The value would only be applied when the fire areas that are supposed to have sprinklers are installed according to the appropriate standard, or when the compartment is sprinklered.

This proposal also removes the value that is assigned for the maintenance of the system according to the edition of the standard when it was installed. The IBC and IFC along with NFPA 13 require the sprinkler system to be maintained according to NFPA 25. This may not have been clear when the proposal was drafted for the 1996 BOCA. NFPA 25 was a new standard in 1992 and while it was referenced by the BOCA Fire Prevention Code, the scope may not have been fully understood and enforcement was difficult if the BOCA Fire Prevention Code was not specifically adopted. Furthermore, a system that is currently maintained according to the NFPA 25 (as referenced by current IFC) should receive points in a higher category.

# Changes to the Table

Values in Category d

The changes to Category d provide one half of the value for a (proposed) fully sprinklered building. These values would be applied when the required fire areas are sprinklered. As explained above, the term fire area is defined and have definite fire rated boundaries within the building.

#### Values in Category e

The changes to the values in Category e show a fully sprinklered building with the maximum value as it is in Category f. It should make no difference that a sprinkler system was required or voluntarily installed. A fully sprinklered building is installed with the same installation standards whether it was a required system or a non-required system. There are other values in Chapter 14 of the IEBC that gives "bonus" points when the code was exceeded. However, a fully sprinklered building can be "upgraded" beyond the minimum standard, but that is hard to quantify and justify when additional points are awarded. When a fire rating is increased it is easier to identify and view the upgrade.

When the sprinkler values were introduced in the 1990 BOCA they were for fully sprinklered buildings. There was no "bonus" points. The reduced values in the current IEBC Category e penalizes buildings that have required sprinkler systems.

Cost Impact: Will not increase the cost of construction Updating values may descrease the need to upgrade other construction features to meet the FSES

EB 86-15 : 1401.6.17-HUGO4760

# EB 87-15

## Table 1401.6.17

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

## 2015 International Existing Building Code

Revise as follows:

|                                      | CATEGORIES |                |          |          |          |           |  |  |
|--------------------------------------|------------|----------------|----------|----------|----------|-----------|--|--|
| OCCUPANCY                            | a<br>a     | b <sup>a</sup> | с        | d        | е        | f         |  |  |
| A-1, A-3, F, M, <del>R,</del><br>S-1 | -6         | -3             | 0        | 2        | 4        | 6         |  |  |
| R                                    | <u>-14</u> | <u>-8</u>      | <u>0</u> | <u>3</u> | <u>6</u> | <u>12</u> |  |  |
| A-2                                  | -4         | -2             | 0        | 1        | 2        | 4         |  |  |
| A-4, B, E, S-2                       | -12        | -6             | 0        | 3        | 6        | 12        |  |  |
| I-2                                  | NP         | NP             | NP       | 8        | 10       | NP        |  |  |

TABLE 1401.6.17 SPRINKLER SYSTEM VALUES

#### NP = not permitted.

a. These options cannot be taken if Category a in Section 1401.6.18 is used.

**Reason:** This proposal creates a new stand-alone row for group R occupancies. Currently, Group R occupancies are considered a similar hazard classification to M, F, S-1, A-3, and A-1. Group R are clearly not equivalent to these occupancies as the lack of a fire sprinkler system in a Group R will increase the risk dramatically because of occupant characteristics (elderly and very young), sleeping, fuel load and potential for impact from adjacent tenants. As Group R carries a greater risk than these other categories, a new row is created with numericals that better reflect the risk in Group R occupancies due to the presence or lack of fire sprinklers.

#### Cost Impact: Will increase the cost of construction

This proposal will increase the cost of construction in those Group R properties utilizing Chapter 14 that are not fire sprinkler protected. For those that are fire sprinkler protected, the greater value of sprinklers will be reflected in the potential to reduce costs.

EB 87-15 : T1401.6.17-APFELBECK3761

# EB 88-15

## Table 1401.6.17

Proponent: Jeff Hugo, National Fire Sprinkler Association, representing National Fire Sprinkler Association (hugo@nfsa.org)

### 2015 International Existing Building Code

Revise as follows:

#### TABLE 1401.6.17 SPRINKLER SYSTEM VALUES

|                           | CATEGORIES |                |    |   |            |    |  |  |
|---------------------------|------------|----------------|----|---|------------|----|--|--|
| OCCUPANCY                 | a<br>a     | b <sup>a</sup> | с  | d | e <u>b</u> | fb |  |  |
| A-1, A-3, F, M, R,<br>S-1 | -6         | -3             | 0  | 2 | 4          | 6  |  |  |
| A-2                       | -4         | -2             | 0  | 1 | 2          | 4  |  |  |
| A-4, B, E, S-2            | -12        | -6             | 0  | 3 | 6          | 12 |  |  |
| I-2                       | NP         | NP             | NP | 8 | 10         | NP |  |  |

NP = not permitted.

a. These options cannot be taken if Category a in Section 1401.6.18 is used.

b. Increase values by 2 when fast or guick response sprinklers are used throughout or 3 when these sprinklers are used as part of an early suppression design method.

Reason: This proposal increases the values in category e and f by two when quick response or fast response sprinklers are used. This section has not been updated for almost 20 years. Since then use of quick response sprinklers has increased and is required by the IBC and NFPA 13. This technology has reduced the sprinkler response time dramatically but may not have been as widely known or used today as it was when these sections were introduced over 25 years ago in the BOCA code. Increasing the values for these type of sprinklers is common and consistent with the other FSES used, such as NFPA 101A.

Fast response sprinklers are defined in NFPA 13. Sprinklers that are considered fast have a quick response thermal element. These sprinklers are as follows: Quick Response (QR), Extended Coverage Quick Response (QREC), Residential, Early Suppression Quick Response (ESFR), and Quick Response Early Suppression (QRES) sprinklers.

This proposal also proposes to increase the value by three when quick response or fast response sprinklers are used in a early suppression design method. Many storage buildings today utilize fire sprinkler designs that use the ESFR (Early Suppression Fast Response) or QRES (Quick Response Early Suppression) sprinkler to extinguish building fires. These arrangements use large amounts of water to put out the fire rapidly.

The early suppression design method is also used in performance based designs that use fast response sprinklers to suppress fires rather than control fires. This option would be available to users who are using fire modeling and performance codes, such as ICC's Performance Code for Buildings and Facilities. In general, the area consumed by the fire is smaller in a suppression scenario than in a control mode scenario. Of course, both options apply water to a fire automatically, limiting the area of the fire.

#### Cost Impact: Will not increase the cost of construction

The cost of the fast or quick response sprinklers may cost more in the intial phase of construction but reduces the need for other construction features.

EB 88-15 : T1401.6.17-HUGO5104

# EB 89-15

# Table 1401.6.17, Table 1401.6.18

Proponent: Frank Lasaga, City of Stuart Fire Rescue, representing City of Stuart Fire Rescue (flasaga@ci.stuart.fl.us)

## 2015 International Existing Building Code

Revise as follows:

#### TABLE 1401.6.17 SPRINKLER SYSTEM VALUES

|  | CATEGORIES |        |    |   |    |    |  |  |
|--|------------|--------|----|---|----|----|--|--|
| OCCUPANCY  | a<br>a     | b<br>b | с  | d | е  | f  |  |  |
| <del>A-1, A-3, F, M, R,<br/><u>S-1</u><br/><u>B, F, M, S</u></del> | -6         | -3     | 0  | 2 | 4  | 6  |  |  |
| <del>A-2</del>   | -4         | -2     | θ  | 4 | 운  | 4  |  |  |
| <del>A 4, B, E, S 2</del><br><u>A, E, R</u>                        | -12        | -6     | 0  | 3 | 6  | 12 |  |  |
| I-2  | NP         | NP     | NP | 8 | 10 | NP |  |  |

#### NP = not permitted.

a. These options cannot be taken if Category a in Section 1401.6.18 is used.

#### TABLE 1401.6.18 STANDPIPE SYSTEM VALUES

| OCCUPANCY   | CATEGORIES     |   |   |               |  |  |
|---|----------------|---|---|---------------|--|--|
|   | a<br>a         | b | с | d             |  |  |
| <del>A 1, A 3, F, M, R,</del><br><del>S 1</del><br><u>A, E, R</u> | -6             | 0 | 4 | 6             |  |  |
| <del>A-2</del><br><u>B, F, M, S</u>                               | -4             | 0 | 2 | 4             |  |  |
| <del>A-4, B, E, S-2</del>   | <del>-12</del> | Φ | ф | <del>12</del> |  |  |
| I-2   | -2             | 0 | 1 | 2             |  |  |

#### a. This option cannot be taken if Category a or Category b in Section 1401.6.17 is used.

**Reason:** The changes give more weight to lifesafety considerations in buildings with high occupant loads and where evacuation may be slowed by age, noise and low light, or sleeping. Also, removing the second tier simplies the table, placing all sub-classifications together. Table 1401.6.18 is modified to reflect the greater hazard mitigation impact of sprinklers versus standpipes (See Table 1401.6.17). Intuitively, a fire that can be controlled in its incipient stage by 1 or 2 sprinkler heads in a properly designed and maintained system is less hazardous than one that develops over the several minutes it will take for the hoses connected to the standpipe system to be deployed and flowing water.

#### Cost Impact: Will increase the cost of construction

In several of the occupancies, the value assignments will increase the penalties for lower category ratings, limiting alternatives. Several, such as S-2, will see values that will make alternatives easier to have approved.

EB 89-15 : T1401.6.17-LASAGA5334

# EB 90-15

# Table 1401.6.18

Proponent: Jeff Hugo, National Fire Sprinkler Association, representing National Fire Sprinkler Association (hugo@nfsa.org)

## 2015 International Existing Building Code

Revise as follows:

#### TABLE 1401.6.18 STANDPIPE SYSTEM VALUES

| OCCUPANCY                 | CATEGORIES |   |                        |    |  |  |  |
|---------------------------|------------|---|------------------------|----|--|--|--|
|                           | a<br>a     | b | с                      | d  |  |  |  |
| A-1, A-3, F, M, R,<br>S-1 | -6         | 0 | 4 <u>6</u>             | 6  |  |  |  |
| A-2                       | -4         | 0 | <del>2</del> 4         | 4  |  |  |  |
| A-4, B, E, S-2            | -12        | 0 | <del>6</del> <u>12</u> | 12 |  |  |  |
| I-2                       | -2         | 0 | +2                     | 2  |  |  |  |

a. This option cannot be taken if Category a or Category b in Section 1401.6.17 is used.

Reason: This proposal adjusts the values of Category c. and with the current values in Category d. The negative "value" of not having a required standpipe in Category a. is not equal to the positive value of having the required standpipe in Category c. A building with a standpipe system has the same value whether is required or installed voluntarily. The same standard is used for the installation.

Cost Impact: Will not increase the cost of construction

Adjusted values for standpipes may decrease the need to add other measures to increase the FSES score.

EB 90-15 : T1401.6.18-HUGO4832

# EB 91-15

## Table 1401.6.18

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

## 2015 International Existing Building Code

Revise as follows:

| OCCUPANCY                 | CATEGORIES |   |            |             |  |  |
|---------------------------|------------|---|------------|-------------|--|--|
|                           | a<br>a     | b | с          | d           |  |  |
| A-1, A-3, F, M, R,<br>S-1 | -6         | 0 | <u>2</u> 4 | <u>3</u> 6  |  |  |
| A-2                       | -4         | 0 | <u>1</u> 2 | <u>2</u> -4 |  |  |
| A-4, B, E, S-2            | -12        | 0 | <u>3</u> 6 | <u>6</u> 12 |  |  |
| I-2                       | -2         | 0 | 1          | 2           |  |  |

TABLE 1401.6.18 STANDPIPE SYSTEM VALUES

a. This option cannot be taken if Category a or Category b in Section 1401.6.17 is used.

Reason: Currently, the value of a standpipe system in Table 1401.6.18 is equivalent to the value of a sprinkler system in Table 1401.6.17 with similar points assigned across all occupancy groups with the exception of the recently added I-2. This is counter intuitive. The value of a sprinkler system in providing safe egress and fire control is significantly greater than a standpipe system in almost every fire scenario. This value should be reflected in the points within the tables. It does appear that the group I-2 changes from last cycle did take this into consideration as the value of a standpipe system in almost estimation in I-2 is 12 to 20% of a sprinkler system in I-2. While this proposal does not go that far, it reduces the value of a standpipe system to 50% of the value of a sprinkler system. Arguably, it could be significantly less than the proposed number but the 50% value certainly passes the legitimacy test to a greater extent than the current equal valuations.

Cost Impact: Will increase the cost of construction

The reduced awarded points for a standpipe system will result in some buildings needing to impliment additional measures to achieve compliance with Chapter 14.

EB 91-15 : T1401.6.18-APFELBECK3847

# EB 92-15 Table 1401.7

**Proponent:** Anthony Apfelbeck, City of Altamonte Springs Building/Fire Safety, representing City of Altamonte Springs (ACApfelbeck@altamonte.org); Janet Washburn, City of Hollywood Fire Rescue and Beach Safety, representing City of Hollywood Fire Rescue and Beach Safety (jwashburn@hollywoodfl.org)

### 2015 International Existing Building Code

### Revise as follows:

**1401.6.18 Standpipes.** Evaluate the ability to initiate attack on a fire by a making supply of water available readily through the installation of standpipes in accordance with Section 905 of the *International Building Code.* "Required Standpipes" shall be based on the requirements of the *International Building Code.* Under the categories and occupancies in Table 1401.6.18, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.18, Standpipes, for fire safety, means of egress, and general safety.

|                 |  |              |                |                     |  | 7012B1110 00B2         |     |    |  |
|-----------------|--|--------------|----------------|---------------------|--|------------------------|-----|----|--|
|                 | Existing occupancy:                          |              |                | Proposed occupancy: |  |                        |     |    |  |
|                 | Year building was constructed:               |              |                |                     | Number of stories: Height in feet:       |                        |     |    |  |
|                 | Type of construction:                        |              |                |                     | Area per flo                             | oor:                   |     |    |  |
|                 | Percentage of open perimeter incre           | ease:        | _%             |                     |  |                        |     |    |  |
|                 | Completely suppressed:                       |              | Yes            | No                  | Corridor wa                              | all rating:            |     |    |  |
|                 | Compartmentation:                            |              | Yes            | No                  | Required d                               | oor closers:           | Yes | No |  |
|                 | Fire-resistance rating of vertical op        | ening enclos | sures          |                     |  |                        |     | _  |  |
|                 | Type of HVAC system:                         |              |                | , serving nu        | umber of floo                            | rs:                    |     |    |  |
|                 | Automatic fire detection:                    |              | Yes            | _No                 | Type and lo                              | ocation:               |     |    |  |
|                 | Fire alarm system:                           |              | Yes            | _No                 | Туре:                                    |                        |     |    |  |
|                 | Smoke control:                               |              | Yes            | _No                 | Туре:                                    |                        |     |    |  |
|                 | Adequate exit routes:                        | Yes No       |                | Dead ends:          |  | Yes                    | No  |    |  |
|                 | Maximum exit access travel distance          |              |                |                     | Elevator controls:<br>Mixed occupancies: |                        | Yes | No |  |
|                 | Means of egress emergency lightin            | ng: Yes      | PS No<br>YesNo |                     |  |                        | Yes | No |  |
|                 | Standpipes                                   |              |                |                     | Patient ability for self-preservation    |                        |     |    |  |
|                 | Incidental use                               |              | Yes<br>No      |                     | Patient con                              | centration             |     | _  |  |
|                 | Smoke compartmentation less                  |              |                |                     |  |                        |     |    |  |
|                 | than 22,500 sq. feet (2092 m <sup>2)</sup>   |              | Yes<br>No      |                     | Attendant-t                              | o-patient ratio        |     |    |  |
| s               | L<br>AFETY PARAMETERS                        | FIRE SA      | FETY (FS)      | MEANS OF EG         | RESS (ME)                                | GENERAL SAFETY<br>(GS) |     |    |  |
| 1401.6.1 Build  | ing Height                                   |              |                |                     |  |                        |     |    |  |
| 1401.6.2 Build  | ling Area                                    |              |                |                     |  |                        |     |    |  |
| 1401.6.3 Com    | partmentation                                |              |                |                     |  |                        |     |    |  |
| 1401.6.4 Tena   | 401.6.4 Tenant and Dwelling Unit Separations |              |                |                     |  |                        | 1   |    |  |
| 1401.6.5 Corri  | dor Walls                                    |              |                |                     |  |                        |     |    |  |
| 1401.6.6 Vertio | cal Openings                                 |              |                |                     |  |                        |     |    |  |
| 1401.6.7 HVA    | C Systems                                    |              |                | 1                   |  |                        | 1   |    |  |
| 1401.6.8 Autor  | matic Fire Detection                         |              |                |                     |  |                        |     |    |  |
| 1401.6.9 Fire A | Alarm System                                 |              |                |                     |  |                        |     |    |  |
| 1401.6.10 Sm    | oke control                                  | **           | * *            | 1                   |  |                        | -   |    |  |
| 1401.6.11 Mea   | ans of Egress                                | **           | * *            |                     |  |                        |     |    |  |
| 1401.6.12 Dea   | ad ends                                      | **           | * *            |                     |  |                        |     |    |  |
|                 |  | 1            |                | 1                   |  |                        | 1   |    |  |

TABLE 1401.7 SUMMARY SHEET-BUILDING CODE

| 1401.6.13 Maximum Exit Access Travel Distance<br>1401.6.14 Elevator Control | ****    |         |  |
|---|---------|---------|--|
| 1401.6.15 Means of Egress Emergency Lighting                                | * * * * |         |  |
| 1401.6.16 Mixed Occupancies   |         | * * * * |  |
| 1401.6.17 Automatic Sprinklers  |         | ÷2 =    |  |
| 1401.6.18 Standpipes  |         | * * * * |  |
| 1401.6.19 Incidental Use  |         |         |  |
| 1401.6.20 Smoke compartmentation  |         |         |  |
| 1401.6.21.1 Patient ability for self-preservation                           | * * * * |         |  |
| 1401.6.21.2 Patient concentration   |         |         |  |
| 1401.6.21.3 Attendant-to-patient Ratio                                      | * * * * |         |  |
| Building score—total value  |         |         |  |

\* \* \* \* No applicable value to be inserted.

Reason: Anthony Apfelbeck:. This proposal revises Table 1401.7 to provide for "\*\*\*\*\*" "No applicable value to be inserted" in the "Means of Egress" column for the "1401.6.18 Standpipes" row. It is very difficult to conceive of a fire scenario where standpipes would provide direct value to the "Mean of Egress" capability in a building. In fact, the exact opposite is the case. In fire scenarios with standpipes, there have been numerous situations where the FD operations have compromised the integrity of the stairwell or have impeded the exist capacity due to smoke intrusion into the exit stairwell or hose lines creating egress impediments. Therefore, there appears to be no or very minimum value for standpipes as a "Means of Egress" value.

Janet Washburn. I'm submitting a proposal to revised Table 1401.7 to provide \*\*\*\* "No applicable value to be inserted" in the Means of Egress colum for the 1401.6.18 Standpipes row. I do not believe there would be a scenario which would provide value to the Means of Egress in a building resulting from the presence of standpipes. Actually, the presence of standpipe may impede egress due the FD extending hose lines into an area from a protection exit. This could create tripping hazards and cause smoke to be permitted to enter a protected exit. Regardless, this section appears to have no value for standpipes as a "Means of Egress" value and should therefore be modified as such.

Cost Impact: Will increase the cost of construction

Anthony Apfelbeck. The eliminations of "Standpipes" as a "Means of Egress" value may cause some limited buildings to make additional improvements under the IEBC when utilizing Chapter 14. Janet Washburn. It will increase the cost of construction. The elimination of Standpipes as a means of egress value may cause some limited buildings to make additional improvements under the IEBC when using Chapter 14.

EB 92-15 : T1401.7-APFELBECK3776

# EB 93-15 [BE] 1508.1

Proponent: Edward Kulik, Chair, representing Building Code Action Committee (bcac@iccsafe.org)

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

### 2015 International Existing Building Code

Revise as follows:

[BE] 1508.1 Construction sites. Structures, sites, and equipment directly associated with the actual process of construction, including but not limited to scaffolding, bridging, material hoists, material storage, or construction trailers are not required to be accessible.comply with Chapter 11 of the IBC.

Reason: The intent is to coordinate IEBC Section 1508.1 with the new language in IBC Section 1103.2.5.

IBC Section 1103.2.5 reads as follows:

1103.2.5 Construction sites. Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to comply with this chapter.

In July/2014 the ICC Board decided to sunset the activities of the Code Technology Committee (CTC). This is being accomplished by re-assigning many of the CTC Areas of Study to the applicable Code Action Committee (CAC). This proposal falls under the CTC Area of Study entitled IBC Coordination with the New ADAAG. Information on the CTC, including: the sunset plan; meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the CTC website.

This public proposal is submitted by the ICC Building Code Action Committee (BCAC). The BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the BCAC has held 13 open meetings and numerous workgroup calls which included members of the BCAC as well as any interested party to discuss and debate the proposed changes and the public comments. Related documentation and reports are posted on the BCAC website at: http://www.iccsafe.org/cs/BCAC/Pages/default.aspx.

#### Cost Impact: Will not increase the cost of construction

The proposal is a clarification of current requirements; therefore, there is no impact on the cost.

EB 93-15 : [BE] 1508.1-KULIK3356

# EB 94-15

### 705.1.2

**Proponent:** and rew cid, representing Private Citizen, for : The Initiative for Emergency Elevator Communication Systems for the Deaf, Hard of Hearing and Speech Impaired (andycid99@gmail.com)

### 2015 International Existing Building Code

Add new text as follows:

705.1.2 Elevators. Altered elements of existing elevators shall be provided with an emergency two-way communication system in accordance with the following system criteria:

- 1. Is a visual text-based and a video-based live interactive system,
- 2. Is fully accessible by the deaf and hard of hearing and speech impaired, and
- 3. Is located between the elevator car and the local emergency authorities at a point outside of the hoistway.

Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

Reason: Reason for Change to the Language of Chapter 7 - Section 705. 1.2 Elevators :

The addition of the terms "visual, text-based and video-based live interactive communication systems" is strongly recommended to emphasize the need for totally accessible communication in elevators between emergency authorities and individuals who are: Deaf, Hard of Hearing, and Speech Impaired. This type of system is recommended for installation in public elevators in existing buildings and for new construction.

Current code under Section 705.1.2 Elevators - does not permit nor provide two-way live interactive visual and total accessibility for the Deaf / Hard of Hearing community in the United States and internationally. Current code requires only one or two-way audible, auditory or telephone / push button response communication systems for the hearing community. This IEBC proposal (and previously submitted IBC proposal) aims to change the current code to enable the communication systems be accessible to all, not just to the hearing individuals.

(The following information, originally submitted as a proposal to the A117.1 Standard for the 2015 Cycle, is submitted as supporting documentation to the IEBC proposal due by January 12, 2015.

The IEBC submission is proposing to amend IEBC Chapter 7 - Section 705.1.2 Elevators, to comply with the A117.1 proposal as outlined below)

ICC A117.1 Standard Proposal Submitted by Andrew Cid, Amherst, NH – December 8, 2014 "Elevator Code Change to ANSI A117.1 - Elevators / Section 407.4.10" To Implement An:

Emergency Elevator Communication System For The Deaf & Hard of Hearing (EECSDHOH)

#### Reason for Change to the Language of 407.4.10:

The addition of the terms "visual, text-based and video-based live interactive communication systems" is strongly recommended to emphasize the need for totally accessible communication in elevators between emergency authorities and individuals who are: Deaf, Hard of Hearing, and Speech Impaired. This type of system is recommended for installation in public elevators in existing buildings and for new construction.

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The Problem with the Current Code under Building Elevators – Section 407.4.10

Current code under Section 407.4.10 does not permit nor provide two-way live interactive visual and total accessibility for the Deaf / Hard of Hearing community in the United States and internationally. Current code requires only one or two-way audible, auditory or telephone / push button response communication systems for the hearing community.

#### What Needs To Be Accomplished

Current code needs to be amended to reflect the needs of the Deaf / Hard of Hearing community and of the speech impaired community in the U.S. and internationally. Simply stated, the ultimate goal is to have local, state, federal laws amend current building code in accordance with ICC codes to mandate all commercial, residential and public buildings install live interactive two-way real time communication systems in passenger elevators that are fully accessible to all individuals within the Deaf / HOH community. Currently, all commercial, public and residential elevators in the world are not accessible for these particular individuals.

#### Rationale of Amending Current Code

The rationale behind this proposal to amend code 407.4.10 is to permit the Deaf / Hard of Hearing and the Speech Impaired to, efficiently and seamlessly, utilize an emergency communication system in the event of an emergency (e.g., regional black outs, local power outage, "a national event", brown outs, etc.). Health and safety concerns are also severely compromised in the event of an elevator mechanical breakdown of this nature. Without accessible two-way communication assistance equipment installed, an elevator can be a dangerous place for a single occupant who happens to be Deaf / HOH. This is especially perilous if the individual happens to have a heart condition or a medical condition. Without knowing what is taking place beyond those doors, an individual in this circumstance may suffer a panic attack or a heart attack. This common form of transport could cause serious harm to the health and safety of the people who ride them. Elderly and disabled passengers who happen to be Deaf / HOH suffer most when elevators malfunction. They can become entrapped for hours. Please note that an incident occurred in October 2014 in Norfolk, Virginia when two Deaf adults were trapped in a hotel elevator due to a local power outage. Hotel personnel did not know they were in there. The occupants had to text a friend via smartphone who lived nearby and ask them to alert hotel management. They were eventually rescued by the local fire department by passing handwritten notes through the cab doors .

Various committees, elevator advisory groups, and a task force have already been formed to study this deficiency. The parties above include various representatives from: federal agencies, American Society of Mechanical Engineers (ASME), national Deaf / Hard of Hearing advocacy organizations, architects, state, local and federal first-responder emergency authorities, elevator industry consultants, Deaf activists, etc. It is expected that an agreement or MOU will be prepared outlining the steps that need to be taken to accomplish this goal. An unofficial general consensus is that amended code is needed to address this deficiency. The issue of communication responsibilities between emergency authorities and building owners need to be clarified. This proposal hopefully serves notice to the various telecommunications firms in the U.S. and globally to commence work on a working and competitive design and, possibly, a prototype between 2015 and 2018. The MOU will be an example of what can be accomplished when diverse groups work together to achieve a common goal. The result in this case will benefit literally millions of individuals globally.

Social Media is being utilized to create awareness of this issue and to garner global support. A public Facebook (FB) page was set up to support this endeavor. In the FB search bar, type in: Emergency Elevator Communication System for The Deaf / Hard of Hearing

The page has daily or weekly updates or posts entered by the moderator to keep the community apprised of progress. Benefits

The Deaf / Hard of Hearing and the Speech Impaired communities will benefit greatly from increased access and an assurance of safety. Subsequent beneficiaries of code change success are the various large and small businesses that will be created and the thousands of jobs in support of these businesses.

Other beneficiaries of job creation will be the various firms within the socio-economic categories under the Small Business Administration's (SBA) definition of disadvantaged businesses, such as: Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB), Veteran-Owned Small Business (VOSB), Small Disabled Veteran-Owned (SDVO), Hub-Zone businesses, and

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American Native-Owned businesses. Sourcing work out to these small firms will inevitably have a trickle effect among the communities in which they are located. By fostering competition among all of these various firms, local, state, and federal tax revenue will increase exponentially. Unemployment rates will also be reduced, as well. New Construction / Existing Buildings

It is recommended that the amended code will need to be applied to all new construction of buildings over three floors. In addition, existing buildings will need to comply with the amended code at the next major elevator repair or alteration. Accessible communication systems for the Deat/HOH must be installed during all Level 1 and Level 2 alterations for all existing and historic buildings because the International Existing Building Code (IEBC) will need to comply with A117.1. These communication systems will not change the SF or space configuration of existing buildings. Also, in accordance with IEBC 705.1.2 Elevators - Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. What Type of Communication Systems are Recommended?

Some possible alternatives for sources of interactive two-way systems are, but not limited to: Pre-programmed, vandal-proof (flush into the wall) Wi-Fi tablets for emergency communication use, and / or LCD screens typed by remote contract CART or contract Captioners listening to emergency authority personnel, or through Live-interactive video-conferencing screens, etc. Placement of these systems is not considered to be a major deterrent as there is ample space in an elevator cab via the front or side panel walls. Several private firms were contacted for research purposes for this initiative. A general consensus declares that the technology is already out there but just have not been implemented into elevators as of yet because there is no market for it or demand for it, per se, for this type of device because code does not call for it. These are all high-technology driven firms and may require design and consulting input from electrical design engineers in the federal and private sectors in order to obtain a working consensus on a functional design prototype that enables all users to contact the authorities for emergency assistance. They are ready to work on a design if code requires it.

What Are The Costs To Building Owners and Operators?

The owners and operators can apply cost upgrades and retrofits to the various cost incentives and

Tax write-offs available from local, state or Federal Governments for complying with this amended code. In view of this approach, there is no need for dissent to this code proposal among the public, commercial, industrial, residential building owners/operators and the hotel / lodging industries.

#### Win-Win

The Deaf / HOH and Speech Impaired communities are not the only parties who will benefit from the amended code. All building owners / operators will benefit with the knowledge that their facilities are up to code and may avoid litigation stemming from potential lawsuits from said parties trapped in inaccessible elevators and who are unable to communicate with building or external emergency personnel.

Conclusion

Approval of this code amendment proposal is essential and long overdue. If the ICC adopts the code change proposal to 407.4.10 as part of the 2015 ICC Standard Code, the updated code would provide the global Deaf / Hard of Hearing and Speech impaired communities an assurance of safety, which is a higher standard than mere safety. In addition, as stated previously, this will be a winwin for both building owners and the people who visit, live and work in these buildings, and this will create thousands of new jobs.

#### Cost Impact: Will not increase the cost of construction

Cost Impact - The cost impact, to a recommended 70% of the existing building inventory for public and commercial buildings that are three (3) stories or higher with elevators, is expected to be negligible or minimal to the building owner / operator.

A full comprehensive version of the system is recommended for new construction and an alternative or lower cost version of the system is recommended for existing buildings.

Any costs incurred is anticipated to be alleviated with the use of various incentives such as tax write offs for complying with new accessibility standards. In addition, for new construction, it is expected that there will be no significant additional costs involved because it will be built into the design / build. For existing buildings, the cost is built into the next alteration or major repair projects, and estimated to be approximately \$2,500. For new construction, the system will cost approximately \$5,000. Personal research indicates that these estimates are at the higher end of the cost range, so the actual cost may be much lower.

Note: The technology is on the market, it just has not been put into use yet for this type of requirement because code does not exist for it. This proposal aims to make this a required code and to comply with the amended A117.1 ICC Standard.

EB 94-15 : 705.1.2 (New)-CID5233