2. Add new text as follows:

SECTION 3110
AUTOMATIC VEHICULAR GATES

3110.1 General. Automatic vehicular gates shall comply with the requirements of this section and other applicable sections of this code.

3110.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to a drive, parking lot or similar location, and that is not generally intended for use by pedestrian traffic.

3110.3 Vehicular gates intended for automation. Vehicular access gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

3110.4 Vehicular gate openers. Vehicular gate openers, when provided, shall be listed in accordance with UL 325.

3. Add standards to Chapter 35 as follows:

ASTM	F 2200-05	Standard Specification for Automated Vehicular Gate Construction
UL	325-02	Door, Drapery, Gate, Louver, and Window Operators and Systems, with revisions through February, 2006

Reason: The purpose of the proposed code change is to provide requirements for automatic vehicular gates, which are not currently addressed in the Code. A set of companion changes was submitted for the International Fire Code, to harmonize that code with the IBC with respect to automated vehicular gates.

The current Code provisions are inadequate because public safety needs are not addressed regarding automatic operation of vehicular gates.

Protection is needed from potential entrapment of individuals between an automatically moving gate and a stationary object, or surface, in close proximity to such gate. Gates intended for automation require specific design, construction and installation to accommodate entrapment protection to minimize or eliminate certain excessive gate gaps, openings and protrusions identified as contributing to the hazard of entrapments that have historically caused numerous serious injuries and deaths.

The Code will be improved by including provisions referencing UL 325 and ASTM F 2200. UL 325 is an ANSI recognized safety standard containing provisions governing gate openers. Gate openers listed to the requirements of UL 325 provide the public with assurance that safety requirements have been met for such openers. ASTM F 2200 is a consensus document containing provisions governing the construction of vehicular gates intended for automation, and has been harmonized with the applicable provisions of UL 325.

Death and injury data does exist associated with automated vehicular gates. A previous related proposal on the topic, submitted in 2002 by the Consumer Product Safety Commission and designated as E34-02, pointed out the following information compiled by the CPSC from 1985 to that time:

1. Reports of 32 deaths relating to automatically operated vehicular gates were received, many as a result of entrapment between a moving gate and a stationary object.
2. Data from the National Electronic Injury Surveillance System estimated that approximately 2,000 people are treated annually in hospital emergency rooms due to injuries in such gates. Many of these injuries have been identified as serious, involving amputation, broken arms and broken legs.

Cost Impact: The code change proposal will increase the cost of construction**.** However, the resulting safety benefits will outweigh the increased cost.

Analysis: Review of proposed new standards ASTM F 2200-05 and UL325-02 indicated that, in the opinion of ICC Staff, the standards **did** comply with ICC standards criteria. Note that UL325 is already referenced in the IRC.

Committee Action: **Disapproved**

Committee Reason: The provisions need to be limited to gates associated with buildings. Currently as written the proposal does not meet the scope and intent of the IBC.

Staff note: F70-07/08 contained a proposal with similar requirements for the IFC. That code change was Approved as Modified.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Joseph R. Hetzel, PE, Thomas Associates, Inc., representing the Door & Access Systems Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3110.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to a ~~drive, parking lot or similar location~~ facility, building or portion thereof, and that is not ~~generally~~ intended for use by pedestrian traffic.

3110.3 Vehicular gates intended for automation. Vehicular ~~access~~ gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

(Portions of the proposal not shown remain unchanged.)

Commenter's Reason: Replacing "drive, parking lot or similar location" with "facility, building or portion thereof" satisfies the Committee concern that the definition previously proposed for "Vehicular Gate" was too broad in scope with respect to the IBC. Deletion of the words "generally" and "access" are editorial.

Automated vehicular gates are often provided for use in facilities and buildings that incorporate vehicular access to parking in either lower floors, upper floors or adjacent structures. Multi-story commercial retail establishments, hotels, and multi-story residential structures are among the common applications.

Similar automated vehicular gate related language was approved for inclusion in the International Fire Code, via code change F70-07/08. The new IFC language applies to barricades and security gates across "fire apparatus access roads", defined in that code as providing "fire apparatus access from a fire station to a facility, building or portion thereof", and "inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway."

Final Action: AS AM AMPC____ D

G204-07/08
3401.4 (New)

Proposed Change as Submitted:

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

Add new text as follows:

3401.4 Alternative compliance. Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.

Reason: To allow an approach to existing buildings that is already part of the I-codes family.

The IEBC takes a more comprehensive approach to existing buildings than IBC chapter 34. In particular, the Work Area method in IEBC chapters 4-12 uses a more specific and clearer set of upgrade triggers and design criteria than does current IBC section 3403, and it adopts current reference standards such as *ASCE 31* for the seismic evaluation of existing buildings and allows the ICC's *Guidelines for the Seismic Retrofit of Existing Buildings* (IEBC Appendix A). Also, by allowing these reference standards, the IBC would be in greater compliance with FEMA rules in 44CFR 206.226(d), which note that repairs using criteria for new construction are often unreasonable and generally less acceptable than repairs based on criteria developed for existing buildings. The IEBC has been through two full code cycles and is adopted in part or in full by jurisdictions across the country. It is a reasonable and valuable alternative to Chapter 34.

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

Committee Action: **Approved as Submitted**

Committee Reason: The proposal appropriately gives recognition to the IEBC as a viable design tool. The reference to the IEBC is simply recognized as a compliance option for existing buildings.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Al Godwin, City of Forth Worth, Texas, requests Disapproval.

Commenter's Reason: The Reason Statement submitted with this code change basically has three points that need addressing as follows:

1. "The IEBC takes a more comprehensive approach to existing buildings than IBC chapter 34."

   This position has been the mainstream position taken by all supporters of the IEBC and was even used as justification for its original creation. Yet it has failed to convince a large majority of the membership that a separate code is needed. There is nothing in the IEBC that cannot be handled by the IBC, or other I Codes, either directly or indirectly through the use of Alternate Methods and Materials.

2. "and it adopts current reference standards such as *ASCE 31* for the seismic evaluation of existing buildings and allows the ICC's *Guidelines for the Seismic Retrofit of Existing Buildings* (IEBC Appendix A)."
   Again, there is nothing here that cannot be handled, if needed, under Alternate Methods and Materials. It deserves pointing out that ASCE 31 is referenced in IEBC Section 506.1.1.1, A506.1 and A507.1.
   2006 IEBC 506.1.1.1 states "**Evaluation and design procedures**. The seismic evaluation and design shall be based on the procedures specified in the *International Building Code*, ASCE 31 or ASCE 41."
   Note, the IEBC recognizes the IBC as an appropriate document to be used in design evaluation. As such, why does the IBC need to reference the IEBC as the document to be used?

3. "The IEBC has been through two full code cycles and is adopted in part or in full by jurisdictions across the country."
   Maybe, but it is equally not adopted by many jurisdictions across the country.

There are only three points that should be considered.

1. Is there some structural evaluation criteria in the IEBC that could be used in the IBC? If so, only those structural sections need to be duplicated in Chapter 34. Not the entire code. However, since the IEBC recognizes the IBC as an appropriate document for evaluation, why are such provisions needed?

2. The membership has taken great pains to remove all references of the IEBC from the primary set of I Codes. It was a deliberate decision. At the same time, the membership was instrumental in getting the Scoping Committee to reassign the Existing Building and Historical Building sections in each code back to their original code committees. For one code cycle, such sections were assigned to the IEBC committee. However, that has been reversed.

3. REFERENCES TO THE IEBC ARE NOT NEEDED. Any jurisdiction that has adopted the IEBC has done so with a specific ordinance. Thus, independent references are not needed. Jurisdictions that have successfully lived without the IEBC do not need references.

This one code has divided the membership. It doesn't matter how many code cycles the IEBC has gone through, it is a document that some have chosen to live without and the world has not come to an end. Continual attempts to insert references to the IEBC serve no valid purpose.

The membership need to only ask, if this code change is successful, what next. Will proposals be submitted for references in all of the I Codes as attempted before? Will each individual code committee embrace the IEBC reference this time? Or, will this be the only reference to the IEBC?

Let's Disapprove this proposal and hopefully leave the issue alone.

Final Action: AS AM AMPC____ D

G206-07/08

3403 (IEBC [B] 302), 3403.1.1(IEBC [B] 302.1.1), 3403.2 (IEBC [B] 302.2), 3404 (New) (IEBC [B] 303 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC STRUCTURAL PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

1. Revise as follows:

SECTION 3403 (IEBC [B] 302)
ADDITIONS~~,~~ AND ALTERATIONS ~~OR REPAIRS~~

3403.1.1 (IEBC [B] 302.1.1) Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any additions~~,~~ or alterations ~~or repairs~~ that constitute substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

3403.2 (IEBC [B] 302.2) Structural. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. ~~Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.~~

3403.3 (IEBC [B] 302.3) (Supp) Nonstructural. Nonstructural alterations ~~or repairs~~ to an existing building or structure are permitted to be made of the same materials of which the building or structure is constructed, provided that they do not adversely affect any structural member or the fire-resistance rating of any part of the building or structure.

The work shall not make the building less conforming to the building, plumbing, mechanical, electrical or fire codes of the jurisdiction, or to alternative materials, design and methods of construction, or to any previously approved plans, modifications, alternative methods, or compliance alternatives, than it was before the alteration ~~repair~~ was undertaken.

2. Add new text as follows:

SECTION 3404 (IEBC [B] 303)
REPAIRS

3404.1 [IEBC 303.1] General. Buildings and structures, and parts thereof, shall be repaired in conformance with this section and with Section 3401.2. Work on non-damaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter. Routine maintenance required by section 3401.2, ordinary repairs exempt from permit per Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

3404.1.1 [IEBC 303.1.1] Dangerous conditions. Regardless of the extent of structural or nonstructural damage, the code official shall have the authority to require the elimination of conditions deemed dangerous.

3404.2 [IEBC 303.2] Substantial structural damage to vertical elements of the lateral-force-resisting system. A building that has sustained substantial structural damage to the vertical elements of its lateral-force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 3404.2.1 through 3404.2.3.

3404.2.1 [IEBC 303.2.1] Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of this code for wind and earthquake loads. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by or related to earthquake effects or if the building is in Seismic Design Category C, D, E, or F.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be seventy-five percent of those prescribed in Section 1613. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3404.2.2 [IEBC 303.2.2] Extent of repair for compliant buildings. If the evaluation establishes compliance of the pre-damage building in accordance with Section 3404.2.1, then repairs shall be permitted that restore the building to its pre-damage state using materials and strengths that existed prior to the damage.

3404.2.3 [IEBC 303.2.3] Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the pre-damage building in accordance with Section 3404.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations, including wind or seismic loads. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be as required by the code in effect at the time of original construction or as required by this code, whichever are greater. Earthquake loads for this rehabilitation design shall be those required for the design of the pre-damage building, but not less than seventy-five percent of those prescribed in Section 1613. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.3 [IEBC 303.3] Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions of this code for dead and live loads. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. Non-damaged gravity load-carrying components that receive dead, live, or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the rehabilitation design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.3.1 [IEBC 303.3.1] Lateral force-resisting elements. Regardless of the level of damage to vertical elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building shall be evaluated in accordance with Section 3404.2.1 and, if noncompliant, rehabilitated in accordance with Section 3404.2.3.

3404.4 [IEBC 303.4] Less than substantial structural damage. For damage less than substantial structural damage, repairs shall be allowed that restore the building to its pre-damage state using materials and strengths that existed prior to the damage. New structural members and connections used for this repair shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3404.5 [IEBC 303.5] Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3, any repair that constitutes substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

(Renumber subsequent sections)

3. Add new definition as follows:

SUBSTANTIAL STRUCTURAL DAMAGE. A condition where:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 20 percent from its pre-damage condition; or
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

Reason: To provide reasonable requirements for building improvements in the interest of public safety and within the intent of the building code.

The proposal does the following:

- Defines Substantial Structural Damage to capture conditions of severe or widespread damage, as opposed to local effects or member distress, and to distinguish the damage requiring structural upgrade from damage to architectural and mechanical components.
- Separates repairs from current Section 3403 for clarity. (This is a nominal editorial revision, as repairs are scarcely mentioned in Section 3403 despite the current title of that section.)
- Creates a new Section 3404 with a logical method for evaluating damage and identifying cases where upgrade is warranted. The logic and language is based on IEBC Section 506.2, with certain editorial clarifications.

Chapter 34 currently requires structural improvements meeting "the code for new structures" in certain cases of additions, alterations, and changes of occupancy. It does not, however, require any improvements in the event of damage due to fire, structural overload, settlement, natural hazard, or any other cause, no matter how extensive or disproportionate the damage. This proposal identifies conditions of damage that should warrant improvements to the structural system for purposes of increasing safety and limiting attrition from the existing building stock.

In doing so, the proposal retains Chapter 34's basic philosophy that triggered structural upgrades should be relatively rare. With this proposal, structural upgrade would be triggered only upon substantial structural damage to the lateral system, and only when evaluation shows that the pre-damage building was sub-standard. "Reduced" earthquake loads, a concept from the IEBC long in use in California and consistent with FEMA standards, are used both for evaluation and any required seismic rehabilitation to recognize that existing buildings should not be expected to perform as well as newer buildings.

Structural upgrade remains *not* required for:

- Architectural damage
- Equipment and other nonstructural damage
- Any structural damage less than "substantial"
- Any structural damage that does not affect the lateral system, except in rare cases of extreme non-conformance.
- Any building adequate for current wind loads and "reduced" seismic loads, even if damage was substantial.

The proposal's language borrows heavily from the 2006 IEBC. The IEBC has been through two full code cycles and is adopted in part or in full by jurisdictions across the country.

Additional explanatory notes:

- The proposed definition of substantial structural damage is from IEBC Chapter 2.
- Proposed Section 3404 mirrors IEBC Section 506.2, with two substantive changes: 1) the addition of snow loads in proposed Section 3404.3 and 2) the limitation on seismic evaluation and upgrade for SDC A and B in proposed Section 3404.2.1.
- Proposed Section 3404.1 clarifies that proposed Section 3404.2 does not limit the code official's discretion with respect to dangerous conditions.
- Proposed Section 3404.2.1 refers to Section 1613 for earthquake loads and limits the selection of design parameters. Section 1613 requires the engineer to identify the seismic force-resisting system of the existing building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown, design parameters for "Ordinary" systems must be used. The language proposed is based on similar language in IEBC Section 506.1.1.2.
- Wording from IEBC Section 506.1.2 is modified to remove the bright line that the 2006 IEBC uses to distinguish when design parameters for Ordinary systems are needed. Rather than require strict compliance with the "proportioning and detailing requirements" of Intermediate or Special systems, general equivalence, similar to that contemplated by IBC Section 3406.4 is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings.
- Wording from IEBC Section 506.2 is modified by using "gravity load" as opposed to "vertical load" in order to avoid confusion over the term "vertical load-carrying component".
- The flood provision in proposed Section 3404.5 is identical to the existing provision in current Section 3403.1.1.

Note to ICC: NCSEA and SEAOC have separately proposed a broad reorganization of current Section 3403. If Section 3403 is reorganized per that proposal, the revisions proposed here to current Section 3403 will be unnecessary, and the text proposed here as new Section 3404 would be incorporated into proposed Section 3405.

Cost Impact: The code change proposal will not increase the cost of new construction. It might increase the cost of rare but already extensive repairs after one damaging event, but if it does, it will also reduce the cost of repairs in subsequent events.

Committee Action: **Disapproved**

Committee Reason: The committee opposes the proposed triggers in the definition of substantial structural damage. No study was provided on the cost-benefits of mitigation.

Assembly Action: **Approved as Submitted**

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and public comments were received.

Public Comment 1:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

3404.2.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of this code for wind and earthquake loads. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by or related to earthquake effects or if the building is in Seismic Design Category ~~C~~, D, E, or F.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be seventy-five percent of those prescribed in Section 1613. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

(Portions of proposal not shown remain unchanged)

Reason: The proposed modification provides the best compromise solution if other public comments object to seismic evaluations in SDC C as too onerous. This concern arose during Committee deliberations but was unresolved when the proposal was Approved as Submitted by Assembly Action.

There is no disagreement that a building with Substantial Structural Damage (SSD) to its lateral system (which is the sole subject of new section 3404.2) should have a seismic evaluation if the SSD was caused by an earthquake. The only question is about whether a building should have a seismic evaluation if the lateral system SSD was caused by fire, vehicle collision, explosion, flood, etc. This modification says it should, if it's in SDC D-F, consistent with FEMA. That's a relaxation of the original proposal, which said even SDC C buildings should be evaluated.

Some might suggest the "or" in the last line of the Approved proposal be changed to "and." That is a drastic change contrary to the intent of the Approved proposal. It would exempt all buildings from seismic evaluation unless they've *already* been hit with SSD in an earthquake. It would significantly weaken the proposal, robbing it of its intent to comply with FEMA requirements and with code official preferences.

Public Comment 2:

Gary R. Searer, S.E., Wiss, Janney, Elstner Associates, Inc., representing himself, requests Approval as Modified by this public comment.

Modify proposal as follows:

3404.2.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of this code for wind and earthquake loads. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by ~~or related to~~ earthquake effects ~~or~~ and if the building is in Seismic Design Category C, D, E, or F.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be seventy-five percent of those prescribed in Section 1613. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This is the first of two public comments regarding G206; if my request for disapproval is not accepted, I urge approval of these proposed changes to G206.

This proposal introduces dramatic and significant upgrade triggers into Chapter 34 of the IBC where none existed before; the IBC Structural Committee rejected the proposal for this very reason. According to the *Handbook to the Uniform Building Code: An Illustrative Commentary*, upgrade triggers that add to the cost of repairs provide a disincentive to performing repairs and have been found to contribute to deterioration and net loss of existing building stock. Furthermore, requiring upgrades in order to repair a building adversely affects building owners, who must fund not only the repair but also the upgrade, which can cost many times the cost of repair-only. In a study of San Francisco's upgrade triggers, which are very similar to the language in G206 and to the language in the IEBC, the Structural Engineers Association of Northern California (SEAONC) concluded that "It is the opinion of the Study Group that these requirements probably encourage repair of damage without building permits and inspection controls to avoid the seismic trigger."

The specific upgrade triggers in G206 have not really been tested in a high seismic zone; however, the City of Oakland, California adopted very similar upgrade triggers after the 1989 Loma Prieta earthquake. Although well intentioned, the Oakland upgrade triggers resulted in striking increases in the cost to repair (and upgrade) damaged buildings and had a number of unanticipated and unintended consequences: in a study of eight large buildings affected by the Oakland Earthquake Ordinance, costs to upgrade and repair averaged more than six times the cost of repair-only; engineers were unable to accurately determine "loss of structural capacity"; multi-year litigation ensued regarding two of the eight buildings studied; buildings were demolished (including a historic building); and the ordinance contributed to a major economic downturn, where damaged buildings remained vacant and unrepaired for more than a decade.

Upgrade triggers in this provision are governed by the term "loss of structural capacity", but no commonly accepted definition of "loss of structural capacity" generally exists and can mean many different things to many different engineers. Linking upgrade requirements to an undefined term will necessarily increase the likelihood of disagreement between building owners, building officials, engineers, FEMA, and insurance companies; will result in difficulty in determining standard-of-care; and will dramatically increase structural engineering fees. In their study of San Francisco's upgrade triggers, which are similar to the proposed language in G206 and to the language in the IEBC, SEAONC concluded that "There is no consensus methodology to calculate loss of capacity. This uncertainty causes controversy and delays in critical post-earthquake situations. Experience in past earthquakes has shown that engineers can often get 'under' or 'over' any trigger set in this way as the situation demands."

There is also a lack of rationality in the proposed upgrade triggers. If upgrading costs a small percentage of the repair-only scope, upgrading at a time when significant repairs are being performed makes economic sense. However, since there are no cut-offs, rational tests, or economic considerations for the additional upgrade costs, the upgrade triggers can result in wildly disproportionate upgrade costs when compared to repair-only, as shown in the Oakland Earthquake Damage Ordinance study.

Furthermore, there is no cause-and-effect relationship between the damage and the required seismic upgrades. G206 requires seismic upgrades of structures damaged by any and all causes if the substantial structural damage trigger is exceeded in moderate or high seismic zones, but this makes little if any sense. For example, assume that a building is significantly damaged by termites. Is it logical to require an engineering analysis, much less a seismic upgrade of the structure, in order to get a permit to repair the termite damage? Yet according to the proposed upgrade triggers, there is no necessary relationship between the cause of the damage and the requirement to seismically strengthen the damaged structure. The proposed structural upgrade triggers depart dramatically from the requirements to repair the electrical, mechanical, plumbing, accessibility, and fire protection systems. Given that damage to structures typically results from decay and deterioration, vehicle impact, and fires -- and typically not earthquake -- and given that fires kill many more people per year than earthquakes, the preoccupation of this proposal with triggering seismic upgrades is completely unwarranted. In their study of upgrade triggers, SEAONC concluded, "Damage from fire is typically much different from earthquake damage and enforcement of the same repair standards seldom makes sense. Certainly fire damage is no indicator of basic seismic risk and there is no philosophical justification for triggering seismic upgrade on the same basis" and "Experience in San Francisco has shown these requirements often to be onerous and essentially unenforceable."

Even when considering earthquake hazards, the proposed upgrade triggers fail the logic test: suppose that a large, design-level earthquake (the "big one") occurs in a major city. On the basis even of today's IBC design criteria, it is reasonable to expect that large numbers of buildings will experience significant damage as a result of the earthquake, even to buildings that conform or nearly conform to current code. Yet despite these damaged buildings all performing within the expectation of the current code, the proposed upgrade triggers would require further potentially massive and costly upgrades beyond the repairs already needed, because the proposed upgrade triggers do not permit any consideration of the intensity of the earthquake shaking responsible for the damage. Why would any engineer conclude that a city full of buildings that went through a major earthquake but protected life safety should be seismically upgraded? Why would any community want to mandate those upgrades? Why should the federal government, insurance companies, building owners, or taxpayers pay for those upgrades? Regarding this scenario, in their study of upgrade triggers, SEAONC concluded "Requirements to upgrade such a large stock of buildings could put an undue economic burden on the private sector and delay regional recovery."

During the code hearings in February, no concrete data regarding the cost of this upgrade trigger was provided, and no input from building owners or from the Building Owners and Managers Association (BOMA) was provided. Given the presumably significant cost implications of this new upgrade trigger, testimony from building owners and BOMA should be solicited at the Final Action Hearing in September.

In order to mitigate the significant repercussions of the code change, the following changes are proposed:

1) Delete the words "or related to", which are superfluous and don't make sense from an engineering/technical perspective (i.e. either the damage was caused by earthquake effects or it wasn't).

2) Change "or" to "and" so that the upgrades only need to take place if the damage was caused by an earthquake and if the structure is located in a moderate or high seismic zone. This is similar to the wind damage provisions in this code change (where upgrade to current wind loads is only required if the damage was caused by wind). This change was proposed by one Committee member during testimony as a means of reducing the impact of this code change proposal, and the proponent of the code change indicated at the time that he would not be adverse to this change; however, this proposed change was lost during the floor vote.

Note that merely eliminating Seismic Design Category C from the scope of G206 would not go nearly far enough to mitigate the repercussions that would result from adopting G206.

For copies of articles dealing with the problems with the Oakland Earthquake Ordinance or with the "substantial structural damage" trigger, please email me at gsearer@wje.com.

Bibliography:

"Evaluation of the Effects of Oakland's Earthquake Damage Repair Ordinance" by Gary R. Searer, Terrence F. Paret, Sigmund A. Freeman, and Una M. Gilmartin, 8th US Conference on Earthquake Engineering, San Francisco, April 2006.

Handbook to the Uniform Building Code: An Illustrative Commentary, International Conference of Building Officials (ICBO), 1998, Whittier, CA.

"Repair of Existing Structures and the International Existing Building Code" by Gary R. Searer and Terrence F. Paret, 8th US Conference on Earthquake Engineering, San Francisco, April 2006.

"Repercussions of the International Existing Building Code on the Repair of Existing Structures" by Terrence F. Paret and Gary R. Searer, ASCE Structures Congress, Forensics Congress, April 2005.

"SEAONC's SFBC Structural Damage Repair Study Group Report and Recommendations" by the Structural Engineers Association of Northern California (SEAONC), April 3, 2008, http://www.seaonc.org/member/ftp/files/Study%20Group%20Report-WTH.pdf

Public Comment 3:

Gary R. Searer, S.E., Wiss, Janney, Elstner Associates, Inc., representing himself, requests Disapproval.

Commenter's Reason: This is the second of two public comments regarding G206; if this request for disapproval is not accepted, I urge approval of my proposed changes to G206.

This proposal introduces dramatic and significant upgrade triggers into Chapter 34 of the IBC where none existed before; the IBC Structural Committee rejected the proposal for this very reason. According to the *Handbook to the Uniform Building Code: An Illustrative Commentary*, upgrade triggers that add to the cost of repairs provide a disincentive to performing repairs and have been found to contribute to deterioration and net loss of existing building stock. Furthermore, requiring upgrades in order to repair a building adversely affects building owners, who must fund not only the repair but also the upgrade, which can cost many times the cost of repair-only. In a study of San Francisco's upgrade triggers, which are very similar to the language in G206 and to the language in the IEBC, the Structural Engineers Association of Northern California (SEAONC) concluded that "It is the opinion of the Study Group that these requirements probably encourage repair of damage without building permits and inspection controls to avoid the seismic trigger."

The specific wording of the proposed upgrade triggers in G206 have not really been tested in a high seismic zone; however, the City of Oakland, California adopted very similar upgrade triggers after the 1989 Loma Prieta earthquake. Although well intentioned, the Oakland upgrade triggers resulted in striking increases in the cost to repair (and upgrade) damaged buildings and had a number of unanticipated and unintended consequences: in a study of eight large buildings affected by the Oakland Earthquake Ordinance, costs to upgrade and repair averaged more than six times the cost of repair-only; engineers were unable to accurately determine "loss of structural capacity"; multi-year litigation ensued regarding two of the eight buildings studied; buildings were demolished (including a historic building); and the ordinance contributed to a major economic downturn, where damaged buildings remained vacant and unrepaired for more than a decade.

Upgrade triggers in this proposal are governed by the term "loss of structural capacity", but no commonly accepted definition of "loss of structural capacity" generally exists and can mean many different things to many different engineers. Linking upgrade requirements to an undefined term will necessarily increase the likelihood of disagreement between building owners, building officials, engineers, FEMA, and insurance companies; will result in difficulty in determining standard-of-care; and will dramatically increase structural engineering fees. In their study of San Francisco's upgrade triggers, which are similar to the proposed language in G206 and to the language in the IEBC, SEAONC concluded that "There is no consensus methodology to calculate loss of capacity. This uncertainty causes controversy and delays in critical post-earthquake situations. Experience in past earthquakes has shown that engineers can often get 'under' or 'over' any trigger set in this way as the situation demands."

There is also a lack of rationality in the proposed upgrade triggers. If upgrading costs a small percentage of the repair-only scope, upgrading at a time when significant repairs are being performed makes economic sense. However, since there are no cut-offs, rational tests, or economic considerations for the additional upgrade costs, the upgrade triggers can result in wildly disproportionate upgrade costs when compared to repair-only, as shown in the Oakland Earthquake Damage Ordinance study.

Furthermore, there is no cause-and-effect relationship between the damage and the required seismic upgrades. G206 requires seismic upgrades of structures damaged by any and all causes if the substantial structural damage trigger is exceeded in moderate or high seismic zones, but this makes little if any sense. For example, assume that a building is significantly damaged by termites. Is it logical to require an engineering analysis, much less a seismic upgrade of the structure, in order to get a permit to repair the termite damage? Yet according to the proposed upgrade triggers, there is no necessary relationship between the cause of the damage and the requirement to seismically strengthen the damaged structure. The proposed structural upgrade triggers depart dramatically from the requirements to repair the electrical, mechanical, plumbing, accessibility, and fire protection systems. Given that damage to structures typically results from decay and deterioration, vehicle impact, and fires -- and typically not earthquake -- and given that fires kill many more people per year than earthquakes, the preoccupation of this proposal with triggering seismic upgrades is completely unwarranted. In their study of upgrade triggers, SEAONC concluded, "Damage from fire is typically much different from earthquake damage and enforcement of the same repair standards seldom makes sense. Certainly fire damage is no indicator of basic seismic risk and there is no philosophical justification for triggering seismic upgrade on the same basis" and "Experience in San Francisco has shown these requirements often to be onerous and essentially unenforceable."

Even when considering earthquake hazards, the proposed upgrade triggers fail the logic test: suppose that a large, design-level earthquake (the "big one") occurs in a major city. On the basis even of today's IBC design criteria, it is reasonable to expect that large numbers of buildings will experience significant damage as a result of the earthquake, even to buildings that conform or nearly conform to current code. Yet despite these damaged buildings all performing within the expectation of the current code, the proposed upgrade triggers would require further potentially massive and costly upgrades beyond the repairs already needed, because the proposed upgrade triggers do not permit any consideration of the intensity of the earthquake shaking responsible for the damage. Why would any engineer conclude that a city full of buildings that went through a major earthquake but protected life safety should be seismically upgraded? Why would any community want to mandate those upgrades? Why should the federal government, insurance companies, building owners, or taxpayers pay for those upgrades? Regarding this scenario, in their study of upgrade triggers, SEAONC concluded "Requirements to upgrade such a large stock of buildings could put an undue economic burden on the private sector and delay regional recovery."

During the code hearings in February, no concrete data regarding the cost of this upgrade trigger was provided, and no input from building owners or from the Building Owners and Managers Association (BOMA) was provided. Given the presumably significant cost implications of this new upgrade trigger, testimony from building owners and BOMA should be solicited at the Final Action Hearing in September.

For the reasons summarized above, this code change proposal should be disapproved at the Final Action Hearing, just as it was by the IBC Structural Committee.

For copies of articles dealing with the problems with the Oakland Earthquake Ordinance or with the "substantial structural damage" trigger, please email me at gsearer@wje.com.

Bibliography:

"Evaluation of the Effects of Oakland's Earthquake Damage Repair Ordinance" by Gary R. Searer, Terrence F. Paret, Sigmund A. Freeman, and Una M. Gilmartin, 8th US Conference on Earthquake Engineering, San Francisco, April 2006.

Handbook to the Uniform Building Code: An Illustrative Commentary, International Conference of Building Officials (ICBO), 1998, Whittier, CA.

"Repair of Existing Structures and the International Existing Building Code" by Gary R. Searer and Terrence F. Paret, 8th US Conference on Earthquake Engineering, San Francisco, April 2006.

"Repercussions of the International Existing Building Code on the Repair of Existing Structures" by Terrence F. Paret and Gary R. Searer, ASCE Structures Congress, Forensics Congress, April 2005.

"SEAONC's SFBC Structural Damage Repair Study Group Report and Recommendations" by the Structural Engineers Association of Northern California (SEAONC), April 3, 2008, http://www.seaonc.org/member/ftp/files/Study%20Group%20Report-WTH.pdf

Final Action: AS AM AMPC____ D

G209-07/08, Part I

3403.2.3 (IEBC [B] 302.2.3), 3403.2.3.1 (IEBC [B] 302.2.3.1), 3403.2.3.2 (IEBC [B] 302.2.3.2), 3406.4; IEBC 506.1.1.2, 506.1.1.3

THIS CODE CHANGE WILL BE HEARD ON THE IBC STRUCTURAL PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

PART I – IBC STRUCTURAL

Revise as follows:

3403.2.3 (IEBC[B] 302.2.3) Seismic. Seismic requirements for additions and~~,~~ alterations ~~or modification or change of occupancy of existing buildings~~ shall be in accordance with this section ~~for the purposes of seismic considerations~~. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3403.2.3.1 (IEBC[B] 302.2.3.1) Additions to existing buildings. An addition that is structurally independent from an existing structure shall be designed and constructed with the seismic requirements for new structures. An addition that is not structurally independent from an existing structure shall be designed and constructed such that the entire structure conforms to the seismic-force-resistance requirements for new structures unless the following conditions are satisfied:

1. The addition conforms with the requirements for new structures,
2. The addition does not increase the seismic forces in any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the increased forces determined in accordance with ~~ASCE 7~~ Section 1613, and
3. Additions do not decrease the seismic resistance of any structural element of the existing structure by more than 10 percent cumulative since the original construction, unless the element has the capacity to resist the forces determined in accordance with ~~ASCE 7~~ Section 1613. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

3403.2.3.2 (IEBC[B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to ~~ASCE 7~~ Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ~~ASCE 7~~ Section 1613 and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces conforming to ~~ASCE 7~~ Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in ~~ASCE 7~~ Section 1613 or make an existing structural Irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or ~~ASCE 7~~ Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and ~~ASCE 7~~ Section 1613 are not required.

Reason: IBC: To clarify the intent of the code, correct overlaps between code sections, and ensure appropriate application to existing buildings of "seismic requirements for a new structure."

Sections 3403.2.3 and 3406.4 refer to ASCE 7 for seismic design criteria. First, they should actually refer to Section 1613, which contains important provisions besides those in ASCE 7 and which modifies ASCE 7 in certain respects. Second, whether Section 1613 or ASCE 7, these criteria for new design require the engineer to identify the seismic force-resisting system of the existing building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown or inadequate, design parameters for "Ordinary" systems must be used.

The language proposed is based on existing language in IEBC Section 506.1.1.2, but the current IEBC wording is modified to remove the bright line the IEBC uses to distinguish when design parameters for Ordinary systems are needed. Rather than require strict compliance with the "proportioning and detailing requirements" of Intermediate or Special systems, general equivalence, similar to that contemplated by IBC Section 3406.4 is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings. A coordination change to IEBC Section 506.1.1.2 is being submitted separately.

3403.2.3, first sentence: The wording is clarified, and "modification or change of occupancy" is deleted because change of occupancy is covered by 3406, not by 3403.

Note to ICC: NCSEA and SEAOC have separately proposed a broad reorganization of current Section 3403. If Section 3403 is reorganized per that proposal, the text proposed here as the second sentence of current Section 3403.2.3 would go at the end of proposed Section 3403.4 and at the end of proposed Section 3404.4.

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

PART I – IBC STRUCTURAL

Committee Action: Approved as Modified

Modify proposal as follows:

3403.2.3.2 (IEBC [B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to Section 1613 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not required by ~~Section 1613~~ this Chapter and are initiated for the purpose of increasing the strength or stiffness of the seismic-force-resisting system of an existing structure need not be designed for forces conforming to Section 1613, provided that an engineering analysis is submitted indicating the following:

1. The design strength of existing structural elements required to resist seismic forces is not reduced.
2. The seismic force to required existing structural elements is not increased beyond their design strength.
3. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
5. The alterations do not create a structural irregularity as defined in Section 1613 or make an existing structural Irregularity more severe.
6. The alterations do not result in the creation of an unsafe condition.

(Portions of proposal not shown remain unchanged)

Committee Reason: This proposal provides guidance to engineers on selecting R-values and other coefficients for existing buildings with structural systems that do not meet the seismic detailing requirements for new buildings. The modification corrects the Exception to Section 3403.2.3.2 to refer to this chapter (Chapter 34) which is what was intended.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment 1:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3403.2.3 Seismic. Seismic requirements for additions and alterations shall be in accordance with this section. Where the existing seismic force-resisting system is a type that can be designated Ordinary, values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Where the existing seismic force-resisting system is a type that can be designated Ordinary, values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and Section 1613 are not required.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This is an editorial clarification only. The intent of G209 – that existing systems should be considered Ordinary by default – was fully approved by the Committee. This comment merely clarifies that the intent only applies to systems for which there is a choice of Ordinary, Special, Intermediate, or Detailed to be made.

Public Comment 2:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3403.2.3 Seismic. Seismic requirements for additions and alterations shall be in accordance with this section. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system satisfies the proportioning and detailing requirements for a Detailed, Intermediate, or Special system or unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by this code for an Ordinary system unless it is demonstrated that the existing system satisfies the proportioning and detailing requirements for a Detailed, Intermediate, or Special system or unless it is demonstrated that the existing system will provide performance equivalent to that of a Detailed, ~~an~~ Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and Section 1613 are not required.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent of G209 is that existing systems should be considered Ordinary by default. Otherwise, the approved proposal requires a demonstration of equivalence. This comment merely allows either a demonstration of equivalence or a more straightforward demonstration of compliance. It removes the need for the code official to make that interpretation when negotiating criteria with the engineer.

Public Comment 3:

Gary J. Ehrlich, PE, National Association of Home Builders (NAHB), requests Approval as Modified by this public comment for Part I.

Modify proposal as follows:

3403.2.3 (IEBC[B] 302.2.3) Seismic. Seismic requirements for additions and alterations shall be in accordance with this section for the purposes of seismic considerations. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by ~~this code~~ Section 1613. Where structural systems are classified as "Ordinary", "Intermediate" and "Special", the values used for analysis shall be those specified for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

3406.4 Change of occupancy. When a change of occupancy results in a structure being reclassified to a higher occupancy category, the structure shall conform to the seismic requirements for a new structure of the higher occupancy category. Values of R, Ω_0, and C_d for the existing seismic force-resisting system shall be those specified by ~~this code~~ Section 1613. Where structural systems are classified as "Ordinary", "Intermediate" and "Special", the values used for analysis shall be those specified for an Ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an Intermediate or Special system.

Exceptions:

1. Specific seismic detailing requirements of this code or Section 1613 for a new structure shall not be required to be met where it can be shown that the level of performance and seismic safety is equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the existing and retrofit (if any) detailing provided.
2. When a change of use results in a structure being reclassified from Occupancy Category I or II to Occupancy Category III and the structure is located in a seismic map area where $S_{DS} < 0.33$, compliance with the seismic requirements of this code and Section 1613 are not required.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The language being brought over from the IEBC regarding selection of the R-factor is flawed. There are many systems which are not separated into "Ordinary", "Intermediate" and "Special" classifications, for example light-frame shear walls and buckling-restrained braces. The language as it currently stands could be taken to imply that only those systems which have "Ordinary", "Intermediate" or "Special" classifications are permitted for use under the IEBC. This proposal clarifies that those systems are acceptable, and that the R-factor as specified for those systems in ASCE 7 is the factor to use. NAHB asks for your support in approving this proposal as modified.

Final Action: AS AM AMPC____ D

G209-07/08, Part II

3403.2.3 (IEBC [B] 302.2.3), 3403.2.3.1 (IEBC [B] 302.2.3.1), 3403.2.3.2 (IEBC [B] 302.2.3.2), 3406.4; IEBC 506.1.1.2, 506.1.1.3

THIS CODE CHANGE WILL BE HEARD ON THE IBC STRUCTURAL PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

PART II – IEBC

1. Revise as follows:

506.1.1.2 (Supp) IBC level seismic forces. When seismic forces are required to meet the *International Building Code* level, they shall be one of the following:

1. One-hundred percent of the values in the *International Building Code*. ~~The *R* factor~~ Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be ~~the *R* factor~~ those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it ~~can be~~ is demonstrated that the structural system ~~satisfies the proportioning and detailing requirements for systems classified as "Intermediate" or "Special."~~ Will provide performance equivalent to that of an "Intermediate" or "Special" system.
2. Those associated with the BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 506.1.1.2.

506.1.1.3 (Supp) Reduced IBC level seismic forces. When seismic forces are permitted to meet reduced *International Building Code* levels, they shall be one of the following:

1. Seventy-five percent of the forces prescribed in the *International Building Code*. ~~The *R* factor~~ Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those ~~the *R* factor as~~ specified in Section 506.1.1.2 of this code.
2. In accordance with the applicable chapters in Appendix A of this code as specified in Items 2.1 through 2.5 below. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A shall be deemed to comply with the requirements for reduced *International Building Code* force levels.
   2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
   2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A2.
   2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light frame wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A3.
   2.4. Seismic evaluation and design of soft, weak or open-front wall conditions in multiunit residential buildings of wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A4.
   2.5. Seismic evaluation and design of concrete buildings and concrete with masonry infill buildings in all occupancy categories are permitted to be based on the procedures specified in Appendix Chapter A5.
3. In accordance with ASCE 31 based on the applicable performance level as shown in Table 506.1.1.2.
4. Those associated with the BSE-1 Earthquake Hazard Level defined in ASCE 41 and the performance level as shown in Table 506.1.1.2. Where ASCE 41 is used, the design spectral response acceleration parameters *SXS* and *SX1* shall not be taken less than 75 percent of the respective design spectral response acceleration parameters *SDS* and *SD1* defined by the *International Building Code* and its reference standards.

Reason: IEBC: This proposal is submitted in coordination with a separate proposal also submitted by the NCSEA Existing Buildings Committee regarding IBC Section 3403.2.3.2. It replaces current IEBC language on the subject of voluntary seismic rehabilitation in two places.

To improve usability and to ensure complete and appropriate application of Chapter 16 code provisions to existing buildings. The proposal:

- addresses all three seismic design parameters, not just *R*.
- changes the bright line criteria established by the IBC's "proportioning and detailing requirements" for new structures to a more appropriate criterion based on equivalent performance.

These sections require the engineer to identify the seismic force-resisting system of the existing or rehabilitated building. In many cases, the existing building will not possess the detailing necessary to qualify for "Special" or even "Intermediate" systems. If the detailing is unknown or inadequate, the current provisions properly require use of design parameters for "Ordinary" systems.

However, the current provisions would require the existing building to meet the letter of the IBC's prescriptive requirements for proportioning and detailing, which is problematic and sometimes inappropriate for existing buildings. This proposal would replace the current prescriptive criteria with a requirement for equivalent performance, which can be demonstrated in a number of ways. (For example, some or all of the criteria used by the IBC for undefined structural systems or for change of occupancy in IBC Section 3406.4 may be applied as appropriate.) The performance-based criterion is preferable because for many existing buildings there are no applicable provisions to check against. Also, "equivalent performance" preserves some engineering and regulatory discretion appropriate to work with existing buildings.

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

PART II – IEBC

Committee Action: **Disapproved**

Committee Reason: There seemed to be some confusion regarding whether the proposed language accomplished the intent of the proponent. The committee felt that it was important to include all three factors, and felt that the intent of the proponent would be appropriate. However, the confusion was with the actual language and whether the outcome was different than the intent of the proponent. Therefore, the committee disapproved the proposal.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Submitted for Part II.

Commenter's Reason: As noted in the ROH, G209 Part II was Disapproved by the IEBC committee amid confusion about its intent. In large part, the confusion was related to a proposed floor modification, and the Committee's reason for disapproval is otherwise clear that it agrees with the intent of the proposal.

Given the Committee's agreement with the proposal in concept, and the Approval of nearly identical language in G209 Part I by the IBC-Structural Committee, it is clear that G209 Part II should be Approved as Submitted, both on its merits and for consistency with IBC Chapter 34.

(Note that none of the modifications made by the IBC-Structural Committee to G209 Part I are relevant to G209 Part II.)

Public Comment 2:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

506.1.1.2 (Supp) IBC level seismic forces. When seismic forces are required to meet the *International Building Code* level, they shall be one of the following:

1. One-hundred percent of the values in the *International Building Code*. Where the existing seismic force-resisting system is a type that can be designated "Ordinary," v~~V~~alues of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it is demonstrated that the structural system will provide performance equivalent to that of a "Detailed," ~~an~~ "Intermediate" or "Special" system.
2. Those associated with the BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 506.1.1.2.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This is an editorial clarification only. The intent of G209 – that existing systems should be considered Ordinary by default – is already in this IEBC section. This comment merely clarifies that the intent only applies to systems for which there is a choice of Ordinary, Special, Intermediate, or Detailed to be made.

This comment is moot and will be withdrawn if either of the following occurs:

- The Final Action on G209 Part II is not Approved as Submitted, in accordance with a separate Public Comment.
- G209 Part I is not Approved as Modified in accordance with a similar Public Comment.

Public Comment 3:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee, requests Approval as modified by this public comment for Part II.

Modify proposal as follows:

506.1.1.2 IBC level seismic forces. When seismic forces are required to meet the *International Building Code* level, they shall be one of the following:

1. One-hundred percent of the values in the *International Building Code*. Values of R, Ω_0, and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it is demonstrated that the existing system satisfies the proportioning and detailing requirements for a "Detailed," "Intermediate" or "Special" system or unless it is demonstrated that the structural system will provide performance equivalent to that of a "Detailed," ~~an~~ "Intermediate" or "Special" system.
2. Those associated with the BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 506.1.1.2.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The intent of G209 is that existing systems should be considered Ordinary by default. Otherwise, the approved proposal requires a demonstration of equivalence. This comment merely allows either a demonstration of equivalence or a more straightforward demonstration of compliance. It removes the need for the code official to make that interpretation when negotiating criteria with the engineer.

This comment is moot and will be withdrawn if either of the following occurs:

- The Final Action on G209 Part II is not Approved as Submitted, in accordance with a separate Public Comment.
- G209 Part I is not Approved as Modified in accordance with a similar Public Comment.

Final Action: AS AM AMPC____ D

G211-07/08, Part II
3403.2.3.2 (IEBC [B] 302.2.3.2), IEBC 807.7

THIS CODE CHANGE WILL BE HEARD ON THE IBC STRUCTURAL PORTION OF THE HEARING ORDER.

NOTE: PART I DID NOT RECEIVE A PUBLIC COMMENT AND IS ON THE CONSENT AGENDA. PART I IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY FOLLOWING ALL OF PART II.

Proposed Change as Submitted:

Proponent: David Bonowitz, SE, representing the National Council of Structural Engineers Associations Existing Buildings Committee

PART II – IEBC

Delete and substitute as follows:

~~**807.7 Voluntary lateral-force-resisting system alterations.** Alterations of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the *International Building Code*, provided that an engineering analysis is submitted to show that:~~

~~1. The capacity of existing structural elements required to resist forces is not reduced;~~
~~2. Either the lateral loading to existing structural elements is not increased beyond their capacity or the lateral loading to existing structural elements is not increased by more than 10 percent;~~
~~3. New structural elements are detailed and connected to the existing structural elements as required by the *International Building Code*;~~
~~4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the *International Building Code*; and~~
~~5. A dangerous condition as defined in this code is not created.~~

~~Voluntary alterations to lateral-force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.~~

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

1. The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
2. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16 of the *International Building Code*.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16 of the *International Building Code*.
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

Voluntary alterations to the seismic force-resisting system in accordance with the applicable chapters of Appendix A of this code shall be permitted.

Reason. Part II. This proposal is submitted to coordinate with proposed revisions to IBC section 3403.2.3.2.(IEBC 302.2.3.2) It replaces current IEBC language on the subject of voluntary seismic rehabilitation.

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

Analysis: A concern is if the last sentence of the proposed IEBC Section 807.7 would conflict with IEBC Section 101.7.

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

Committee Reason: The reference in Item 2 to Chapter 16 of the IBC conflicts with Section 101.7.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

David Bonowitz, SE, representing the National Council of Structural Engineers Associations, Existing Buildings Subcommittee, requests Approval as Submitted for Part II.

Commenter's Reason: G211 Part II should be Approved as Submitted for the following reasons, any of which should be sufficient:

1. The IBC-Structural Committee approved nearly identical changes for IBC Chapter 34, as G211 Part I. Consistency between the codes is important.
2. IEBC Committee's reason for disapproval – that Item 2's reference to Chapter 16 conflicts with section 101.7 – does not make sense. Section 101.7 is about Appendices, but Item 2 has nothing to do with Appendices. Besides, while Item 2 does refer to IBC Chapter 16 (as does Item 3), it does so no more than the current wording refers to the IBC, so Disapproval does not solve any alleged problem.
3. If conflict with section 101.7 is the issue, the Committee's reason probably intends to reference the final sentence of the proposal, which *is* about the Appendix chapters. But the sentence in question is *essentially identical to the current language* of the code. There is no change here, so Disapproval would not fix anything or prevent any wrong. If the proposal is Disapproved, any alleged conflict with section 101.7 will remain.
4. The concern about appendices was prompted by an ICC staff note added to the monograph. But the ICC staff note was incorrect. ICC staff assured the Committee and the Assembly at the hearings for the 2006 edition that despite 101.7, Appendix Chapters need not be individually adopted if they are specifically cited by the code provision. That is why the existing language is already allowed.
5. When the subject of the ICC staff note came up during Committee deliberations, the moderator improperly did not allow the proponent to address it.

Final Action: AS AM AMPC____ D

NOTE: PART I REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE

G211-07/08, PART I – IBC STRUCTURAL

Revise as follows:

3403.2.3.2 (IEBC [B] 302.2.3.2) Alterations. Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to ASCE 7 for a new structure. If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated relative to the increased value.

Exception: Alterations to existing structural elements or additions of new structural elements that are not ~~required by ASCE 7~~ otherwise required by this chapter and are initiated for the purpose of ~~increasing the strength or stiffness~~ improving the performance of the seismic-force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements ~~need not be designed for forces conforming to ASCE 7~~ shall be permitted, provided that an engineering analysis is submitted ~~indicating~~ demonstrating the following:

1. ~~The design strength of existing structural elements required to resist seismic forces is not reduced.~~ The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
~~2. The seismic force to required existing structural elements is not increased beyond their design strength.~~
~~3.~~ 2. New structural elements are detailed and connected to the existing structural elements as required by Chapter 16.
~~4.~~ 3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16.
~~5.~~ 4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.
~~6. The alterations do not result in the creation of an unsafe condition.~~

Reason. Part I. To better meet the intent of this exception, which is to allow voluntary improvements that do not necessarily bring the whole structure "up to code," as might otherwise be required by 3403.2.3.2(IEBC 302.2.3.2),

- The initial paragraph is revised editorially to make it explicit language, to remove improper references to ASCE 7, and to refer more generally to "improvement" as opposed to simply increased strength or stiffness.
- The initial paragraph is supplemented to include voluntary improvements to seismic bracing of nonstructural components, which are as common and as effective at reducing earthquake risk as are structural retrofits.
- Current items 1, 2, and 6 are replaced by a more general requirement that the voluntary improvement must leave the building "no less conforming". This is the intent of the exception expressed most clearly and directly. The "no less conforming" standard allows for greater creativity and design flexibility in the service of improved performance and reduced risk.
- Current item 1 is well-intentioned but can be contrary to the intent of the exception. Consider, for example, the installation of a steel frame as a backup system to prevent collapse of an inadequate stucco shear wall in the first story of an existing building. If the replacement involves demolition of some of the existing shear wall, that would represent a reduction in capacity and would therefore not be allowed by the current provision even though the altered structure would certainly be more safe. Similarly, the current provision would appear to prevent the minor demolition or modification of existing elements in order to install load path elements such as hold-downs, collectors, or out-of-plane wall anchors. The proposed language would allow these reasonable improvements.

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

Analysis: A concern is if the last sentence of the proposed IEBC Section 807.7 would conflict with IEBC Section 101.7.

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

Committee Reason: The proposal clarifies the intent of the Exception to Section 3403.2.3.2 which allows voluntary seismic upgrades to a building's seismic-force-resisting system without fully complying with the earthquake load provision.

Assembly Action: **None**

G214-07/08, Part I

3409.1 (IEBC [B] 308.1), 3409.4 (IEBC [B] 308.4), 3409.4.1 (IEBC [B] 308.4.1), 3409.4.2 (IEBC [B] 308.4.2), 3409.5 (IEBC [B] 308.5), 3409.6 (IEBC [B] 308.6), 3409.7 (IEBC [B] 308.7) (New), 3409.8 (IEBC [B] 308.8), 3409.8.7 (IEBC [B] 308.8.7); IEBC 605.1, 605.1.8, 605.1.9 (New), 706.3, 912.8, 1005.1, 1005.2 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC MEANS OF EGRESS PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: Cheryl Kent, U.S. Department of Housing and Urban Development (HUD)

PART I – IBC MEANS OF EGRESS

1. Revise as follows:

3409.1 (IEBC 308.1) (Supp) Scope. The provisions of Sections 3409.1 through ~~3409.9~~ 3409.10 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

~~**Exception:** Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing buildings and facilities being altered or undergoing a change of occupancy.~~

3409.4 (IEBC 308.4) (Supp) 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 are not required to be provided in existing buildings and facilities undergoing a change of occupancy.

3409.4.1 (IEBC 308.4.1) (Supp) Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 3409.6, 3409.7 and 3409.8.

3409.4.2 (IEBC 308.4.2) (Supp) Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 3409.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

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

3409.5 (IEBC 308.5) 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 3409.8~~7~~.

Exception: Where Group I-1, I-2, I-3 or R dwelling or sleeping units are being added, the requirements of Section 1107 for dwelling units or sleeping units and Section 907 for visible alarms apply where the quantity of units being added is four or more.

3409.6 (IEBC 308.6) (Supp) Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter 11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.
4. Type A dwelling units or sleeping units required by Section 1107 are not required to be provided in existing building and facilities being altered.

2. Add new text as follows:

3409.7 (IEBC 308.7) Alterations in Group I-1, I-2 and R, and in structures, facilities, or elements serving Groups I or R. Where Group I-1, I-2 and R occupancies are altered the entire structure shall comply with the applicable provisions of Section 1107. Additionally, where structures, facilities, or elements serving Groups I-1, I-2 and R occupancies are altered the entire structure shall comply with Section 1107.

Exceptions:

1. Structures built for first occupancy before March 13, 1991 are not required to provide Type B units.
2. Type B units are not required to be provided where Type B dwelling units and sleeping units were not required at the time of first occupancy in structures designed and constructed after March 13, 1991.
3. Structures that are not required to provide Type B dwelling units and structures not serving Type B dwelling units in accordance with Section 1107 shall comply with Section 3409.6.
4. Alterations limited to one individually owned dwelling unit or sleeping unit shall comply with Section 3409.6.

3. Revise as follows:

~~3409.7 (IEBC 308.7)~~ 3409.8 (IEBC 308.8) Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility or element.

(Renumber subsequent sections)

~~3409.8.7 (IEBC 308.8.7)~~ 3409.9.7 (IEBC 308.9.7) (Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

Reason: Change to Section 3409.1 Scope: The purpose of this code change is to clarify misleading and potentially inaccurate scoping requirements in the IBC and IEBC.

The exception in the main scoping paragraph of Section 3409 (IEBC 308.1) is too broad and is, therefore, misleading because it deals with the entire section and makes it appear that there are NO requirements for Type B dwelling units and sleeping units intended to be occupied as a residence, which is not true. Scoping requirements for Type B dwelling units and sleeping units intended to be occupied as a residence in the IBC are intended to reflect the federal Fair Housing Act's accessible design and construction requirements, which apply, without question, to additions to buildings having 4 or more units. There is also ambiguity in the code with respect to how the term "existing structure" is defined. Therefore, requirements for Type B dwelling units and sleeping units intended to be occupied as a residence need to be addressed under each subsection of Section 3409 (IEBC 308).

New Section 3409.7 (renumber accordingly) and New Section 3409.8.7: The purpose of these changes is to ensure that buildings covered by the Fair Housing Act's accessible design and construction requirements and which were not built in compliance, and which also, therefore, do not meet current code requirements for accessibility, are brought up to code.

Many residential structures and facilities serving residential uses that were built after March 13, 1991 and before IBC 2003 (the first building code safe harbor without a supplement) were not built in compliance with the design and construction requirements of the federal Fair Housing Act. Developers are beginning to renovate these facilities. They may not realize that the facilities do not comply with the Fair Housing Act. Therefore, those buildings constructed during the 12 year period prior to the 2003 IBC (1991 through 2003) that are subject to the Fair Housing Act's design and construction requirements must be brought into compliance during any alteration.

New Exception 5 at Section 3409.8 Section 1107.4 which is referenced by proposed new Section 3409.7 requires an accessible route to serve dwelling units and sleeping units. Therefore, an additional path of travel requirement which requires an accessible route serving altered dwelling units and sleeping units would be redundant. Adding a new Exception 5 to exempt Type B dwelling units and sleeping units addresses this concern.

New Exception at 3409.9.7 The purpose of these changes is to ensure that buildings covered by the Fair Housing Act's accessible design and construction requirements and which were not built in compliance, and which also, therefore, do not meet current code requirements for accessibility, are brought up to code.

Many residential structures and facilities serving residential uses that were built after March 13, 1991 and before IBC 2003 (the first building code safe harbor without a supplement) were not built in compliance with the design and construction requirements of the federal Fair Housing Act. Developers are beginning to renovate these facilities. They may not realize that the facilities do not comply with the Fair Housing Act. Therefore, those buildings constructed during the 12 year period prior to the 2003 IBC (1991 through 2003) that are subject to the Fair Housing Act's design and construction requirements must be brought into compliance during any alteration.

Cost Impact: Change to Section 3409.1 - No cost impact involved since this change will correct inaccurate scoping requirements in IBC 3409.1 (IEBC 308.1).

Changes to Sections 3409.7 (new) and 3409.8.7 will not increase the cost of construction as they are intended to ensure that buildings covered by the Fair Housing Act's design and construction requirements reflect those requirements.

PART I – IBC MEANS OF EGRESS
Committee Action: **Disapproved**

Committee Reason: It is overly restrictive to require an existing building to come into full compliance when only a portion is being altered. This also would be a conflict with Section 3409.3 which states that only the portions of a building being altered must comply with new provisions; this is the philosophy of the code in dealing with existing buildings. Enforcement of this provision would be political suicide for a building official who tried to enforce these provisions. The ADA has a 20% limit for additional costs – there are no limits for the cost of compliance for this provision, therefore it could be impractical to require full compliance. It needs to be clarified what level of alterations has to be undertaken to require this. In addition, the technical requirements in ICC A117.1 keep changing for Type B units. A building could have complied when constructed and would now be considered non-compliant. A consistent benchmark must be addressed.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Cheryl Kent, U.S. Department of Housing and Urban Development (HUD), requests Approval as Modified by this public comment for Part I.

Modify proposal as follows:

3409.7 (IEBC 308.7) Alterations in Group I-1, I-2 and R, and in structures, facilities, or elements serving Groups I or R. Where four or more dwelling units or sleeping units intended to be occupied as a residence in Group I-1, I-2 and R occupancies are altered the ~~entire structure~~ altered building, facility or element shall comply with the applicable provisions of Section 1107. Additionally, where structures, facilities, or elements serving Groups I-1, I-2 and R occupancies are altered the altered ~~entire~~ structures, facilities or elements shall comply with Section 1107.

Exceptions:

1. Structures built for first occupancy before March 13, 1991 are not required to provide Type B units.
2. Type B units are not required to be provided where Type B dwelling units and sleeping units were not required at the time of first occupancy in structures designed and constructed after March 13, 1991.
3. Structures that are not required to provide Type B dwelling units and structures not serving Type B dwelling units in accordance with Section 1107 shall comply with Section 3409.6.
4. ~~Alterations limited to one individually owned dwelling unit or sleeping unit shall comply with Section 3409.6.~~

(Portions of the proposal not shown remain unchanged)

Commenter's Reason: HUD continues to believe that it is in the public interest to ensure that buildings with 4 or more dwelling units that are covered by the Fair Housing Act's design and construction requirements (that is, were built for first occupancy after March 13, 1991) but were not built in compliance with those requirements, are in fact brought into compliance. Therefore, HUD originally proposed that Chapter 34 of the IBC and corresponding provisions in the IEBC be modified to require buildings with four or more dwelling units that are being altered to be altered in a manner that brings the entire building into compliance. However, given the concerns raised by the MOE Committee, as well as a similar concern raised by the IEBC Committee; we are proposing changes to G214 to limit its scope to only the portions of the building that are being altered. While this change may result in HUD's not being able to recognize Chapter 34 of the IBC and corresponding provisions in the IEBC as being consistent with the design and construction requirements of the Fair Housing Act, we believe it will at least begin to incorporate Type B dwelling units and their related requirements into buildings that should have been built in compliance with the Fair Housing Act in the first place. It is our intention that the proposal apply only to buildings that were not built in compliance with the requirements of the Fair Housing Act and should have been built in compliance, therefore, this proposal would not apply to buildings built in compliance with those editions of the IBC that HUD has previously recognized as a safe harbor for compliance (i.e., the 2000 IBC as amended by the 2001 Supplement, the 2003 IBC and the 2006 IBC). If the code requires such buildings to come into compliance with the current edition of the code when altered, including accessibility requirements that may have changed from one edition to the next, we believe that is a standard code practice and that it should not insurmountable with respect to accessibility any more than it is with respect to all other code matters.

Final Action: AS AM AMPC____ D

G214-07/08, Part II

3409.1 (IEBC [B] 308.1), 3409.4 (IEBC [B] 308.4), 3409.4.1 (IEBC [B] 308.4.1), 3409.4.2 (IEBC [B] 308.4.2), 3409.5 (IEBC [B] 308.5), 3409.6 (IEBC [B] 308.6), 3409.7 (IEBC [B] 308.7) (New), 3409.8 (IEBC [B] 308.8), 3409.8.7 (IEBC [B] 308.8.7); IEBC 605.1, 605.1.8, 605.1.9 (New), 706.3, 912.8, 1005.1, 1005.2 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC MEANS OF EGRESS PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: Cheryl Kent, U.S. Department of Housing and Urban Development (HUD)

PART II – IEBC

1. Revise as follows:

605.1 General. A building, facility or element that is altered shall comply with the applicable provisions in Sections 605.1.1 through ~~605.1.12~~ 605.1.13, Chapter 11 of the *International Building Code* and ICC A117.1 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 building, facility or element 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 Sections 605.1.9 or 605.2.
2. Accessible means of egress required by Chapter 10 of the *International Building Code* are not required to be provided in existing buildings and 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 buildings and facilities.~~
4. ~~4.~~ 3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units and shall comply with the applicable provisions in Chapter 11 of the *International Building Code* and ICC A117.1.

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

2. Add new text as follows:

605.1.9 Alterations in Group I and R, and in structures, facilities, or elements serving Groups I or R. Where Group I-1, I-2 and R occupancies are altered the entire structure shall comply with the applicable provisions of Section 1107. Additionally, where structures, facilities, or elements serving Groups I-1, I-2 and R occupancies are altered they shall comply with Section 1107 of the *International Building Code*.

Exceptions:

1. Structures built for first occupancy before March 13, 1991 are not required to provide Type B units.
2. Type B units are not required to be provided where Type B dwelling units and sleeping units were not required at the time of first occupancy in structures designed and constructed after March 13, 1991.
3. Structures that are not required to provide Type B dwelling units and structures not serving Type B dwelling units in accordance with Section 1107 of the *International Building Code* shall comply with Section 605.1.8.
4. Alterations limited to one individually owned dwelling unit or sleeping unit shall comply with Section 308.6.

(Renumber subsequent sections)

3. Revise as follows:

605.2 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 or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility or element.

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

912.8 (Supp) 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 or occupancy.

912.8.1 (Supp) Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 605 and 706 as applicable.

912.8.2 (Supp) Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 912.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110 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:** 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.~~

1005.1 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 Section 605.

1005.2 Type B dwelling or sleeping units. Where Group I-1, I-2 or R dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B dwelling units or sleeping units and Section 907 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

Reason: Change to Section 3409.1 Scope: The purpose of this code change is to clarify misleading and potentially inaccurate scoping requirements in the IBC and IEBC.

The exception in the main scoping paragraph of Section 3409 (IEBC 308.1) is too broad and is, therefore, misleading because it deals with the entire section and makes it appear that there are NO requirements for Type B dwelling units and sleeping units intended to be occupied as a residence, which is not true. Scoping requirements for Type B dwelling units and sleeping units intended to be occupied as a residence in the IBC are intended to reflect the federal Fair Housing Act's accessible design and construction requirements, which apply, without question, to additions to buildings having 4 or more units. There is also ambiguity in the code with respect to how the term "existing structure" is defined. Therefore, requirements for Type B dwelling units and sleeping units intended to be occupied as a residence need to be addressed under each subsection of Section 3409 (IEBC 308).

New Section 3409.7 (renumber accordingly) and New Section 3409.8.7: The purpose of these changes is to ensure that buildings covered by the Fair Housing Act's accessible design and construction requirements and which were not built in compliance, and which also, therefore, do not meet current code requirements for accessibility, are brought up to code.

Many residential structures and facilities serving residential uses that were built after March 13, 1991 and before IBC 2003 (the first building code safe harbor without a supplement) were not built in compliance with the design and construction requirements of the federal Fair Housing Act. Developers are beginning to renovate these facilities. They may not realize that the facilities do not comply with the Fair Housing Act. Therefore, those buildings constructed during the 12 year period prior to the 2003 IBC (1991 through 2003) that are subject to the Fair Housing Act's design and construction requirements must be brought into compliance during any alteration.

New Exception 5 at Section 3409.8 Section 1107.4 which is referenced by proposed new Section 3409.7 requires an accessible route to serve dwelling units and sleeping units. Therefore, an additional path of travel requirement which requires an accessible route serving altered dwelling units and sleeping units would be redundant. Adding a new Exception 5 to exempt Type B dwelling units and sleeping units addresses this concern.

New Exception at 3409.9.7 The purpose of these changes is to ensure that buildings covered by the Fair Housing Act's accessible design and construction requirements and which were not built in compliance, and which also, therefore, do not meet current code requirements for accessibility, are brought up to code.

Many residential structures and facilities serving residential uses that were built after March 13, 1991 and before IBC 2003 (the first building code safe harbor without a supplement) were not built in compliance with the design and construction requirements of the federal Fair Housing Act. Developers are beginning to renovate these facilities. They may not realize that the facilities do not comply with the Fair Housing Act. Therefore, those buildings constructed during the 12 year period prior to the 2003 IBC (1991 through 2003) that are subject to the Fair Housing Act's design and construction requirements must be brought into compliance during any alteration.

Cost Impact: Change to Section 3409.1 - No cost impact involved since this change will correct inaccurate scoping requirements in IBC 3409.1 (IEBC 308.1).

Changes to Sections 3409.7 (new) and 3409.8.7 will not increase the cost of construction as they are intended to ensure that buildings covered by the Fair Housing Act's design and construction requirements reflect those requirements.

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

Committee Reason: The trigger requiring compliance with accessibility provision is too low and unreasonable.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Cheryl Kent, U.S. Department of Housing and Urban Development (HUD), requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

605.1.9 Alterations in Group I and R, and in structures, facilities, or elements serving Groups I or R. Where four or more dwelling units or sleeping units intended to be occupied as a residence in Group I-1, I-2 and R occupancies are altered the ~~entire structure~~ building, facility or element that is altered shall comply with the applicable provisions of Section 1107. Additionally, where structures, facilities, or elements serving Groups I-1, I-2 and R occupancies are altered ~~they~~ the altered structures, facilities, or elements shall comply with Section 1107 of the *International Building Code*.

Exceptions:

1. Structures built for first occupancy before March 13, 1991 are not required to provide Type B units.
2. Type B units are not required to be provided where Type B dwelling units and sleeping units were not required at the time of first occupancy in structures designed and constructed after March 13, 1991.
3. Structures that are not required to provide Type B dwelling units and structures not serving Type B dwelling units in accordance with Section 1107 of the *International Building Code* shall comply with Section 605.1.8.
4. ~~Alterations limited to one individually owned dwelling unit or sleeping unit shall comply with Section 308.6.~~

(Portions of the proposal not shown remain unchanged)

Commenter's Reason: HUD continues to believe that it is in the public interest to ensure that buildings with 4 or more dwelling units that are covered by the Fair Housing Act's design and construction requirements (that is, were built for first occupancy after March 13, 1991) but were not built in compliance with those requirements, are in fact brought into compliance. Therefore, HUD originally proposed that Chapter 34 of the IBC and corresponding provisions in the IEBC be modified to require buildings with four or more dwelling units that are being altered to be altered in a manner that brings the entire building into compliance. However, given the concerns raised by the MOE Committee, as well as a similar concern raised by the IEBC Committee; we are proposing changes to G214 to limit its scope to only the portions of the building that are being altered. While this change may result in HUD's not being able to recognize Chapter 34 of the IBC and corresponding provisions in the IEBC as being consistent with the design and construction requirements of the Fair Housing Act, we believe it will at least begin to incorporate Type B dwelling units and their related requirements into buildings that should have been built in compliance with the Fair Housing Act in the first place. It is our intention that the proposal apply only to buildings that were not built in compliance with the requirements of the Fair Housing Act and should have been built in compliance, therefore, this proposal would not apply to buildings built in compliance with those editions of the IBC that HUD has previously recognized as a safe harbor for compliance (i.e., the 2000 IBC as amended by the 2001 Supplement, the 2003 IBC and the 2006 IBC). If the code requires such buildings to come into compliance with the current edition of the code when altered, including accessibility requirements that may have changed from one edition to the next, we believe that is a standard code practice and that it should not insurmountable with respect to accessibility any more than it is with respect to all other code matters.

Final Action: AS AM AMPC____ D

G215-07/08, Part I

3409.6 (IEBC [B] 308.6), 3409.8.7 (IEBC [B] 308.8.7), 3409.8.8 (IEBC [B] 308.8.8) (New), 3409.8.9 (IEBC [B] 308.8.9) (New); IEBC 605.1.8, 605.1.9 (New), 706.3, 706.4 (New), 706.5 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC MEANS OF EGRESS PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons

PART I – IBC MEANS OF EGRESS

1. Revise as follows:

3409.6 (IEBC [B] 308.6) (Supp) Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.
4. ~~Type A dwelling units or sleeping units required by Section 1107 are not required to be provided in existing building and facilities being altered.~~

3409.8.7 (IEBC [B] 308.8.7)(Supp) <u>Accessible</u> dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

2. Add new text as follows:

<u>3409.8.8 (IEBC [B] 308.8.8)Type A dwelling or sleeping units.</u> <u>Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.</u>

<u>3409.8.9 (IEBC [B] 308.8.9)Type B dwelling or sleeping units.</u> <u>Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 for Type B units and Section 907 for visible alarms apply only to the quantity of spaces being added.</u>

(Renumber subsequent sections)

Reason: The original proponent of the code change G206-06/07 to eliminate Type A dwelling units in existing buildings (IBC Section 3409.6 Exp. 4) was concerned that the alteration of a single dwelling unit would require 2% of units to provide Type A features. G206 was approved by the IBC Means of Egress Committee, but disapproved by the IEBC committee. Currently there is a conflict between these two codes.

The intent of this proposal is to coordinate and clarify in IBC and IEBC by do the following:

- IBC 3409.8.8 and IEBC 605.1.9 clarifies that more than 20 units would have to be altered before 2% would have to provide Type A features.
- IBC 3409.8.8 and IEBC 706.4 clarify that Type A units are required in <u>additions</u> that contain 20 or more units.
- IBC 3409.8.9 and IEBC 706.5 clarify that Type B units are required in <u>additions</u> that contain 4 or more units. This is consistent with the Fair Housing Act.
- Current IBC 3409.5.1 and IEBC 605.1.12 ensures that alterations will not require greater accessibility than that which would be required for new construction.
- If altering an existing apartment to comply with Type A requirements has little likelihood of being accomplished because of existing conditions, the permit applicant can't take advantage of the "technically infeasible" exception in IBC 3409.6 and IEBC 605.1.

The Type A units (previously Adaptable units) has been in the codes since 1975. Most existing apartment buildings have been built or modified during that time period (i.e. they have Type A units already), so this should have minimal effects on housing while it has significant effects on persons with disabilities if these units start to disappear in existing buildings.

Cost Impact: The code change proposal will not increase the cost of construction – reflects 2006 IBC.

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

Modify the proposal as follows:

3409.6 (IEBC [B] 308.6) (Supp) Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.

3409.8.7 (IEBC [B] 308.8.7)(Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

~~**3409.8.8 (IEBC [B] 308.8.8)Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Type A units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.~~

~~**3409.8.9 (IEBC [B] 308.8.9)Type B dwelling or sleeping units.** Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 for Type B units and Section 907 for visible alarms apply only to the quantity of spaces being added.~~

Committee Reason: The modification is to delete the proposed language for Sections 3409.8.8 and 3409.8.9 because this is already addressed in the existing text. It was noted that Section 3409.8.9 was intended for Type B requirements, not Type A requirements – this was a typographical error. The deletion of Exception 4 to Section 3409.6 was approved. While Type A units are not required by the Fair Housing Act (FHA), Section 3409.6 Exception 4 does take the codes further away from compliance with the Americans with Disabilities Act (ADA) and should be deleted.

Assembly Action: None

Individual Consideration Agenda

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

Public Comment 1:

Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3409.8.7 (IEBC 308.8.7) (Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units ~~and Section 907 for visible alarms~~ apply only to the quantity of spaces being altered or added.

3409.8.8 (IEBC 308.8.8) Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 for Type A units apply only to the quantity of the spaces being added.

3409.8.9 (IEBC 308.8.9) Type B dwelling or sleeping units. Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements Section 1107 for Type B units apply only to the quantity of the spaces being added.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: There are three proposal being submitted regarding dwelling and sleeping units in existing buildings. They are split between additions, alterations and change of occupancy for clarity. The intent is that all three proposals will pass. This proposal is for **additions**.

G215-07/08 Part II was approved by the IEBC committee and would require Type A and Type B units in additions large enough that the requirements would be applicable as part of new construction. The intent of this proposal is to both coordinate IEBC and IBC and clarify when Type A and Type B units are required in additions. This is consistent with Fair Housing requirements and is not specifically addressed in current text. Therefore, this is more of a clarification than an additional requirement.

The language for visible alarms was removed from Section 3409.8.7 and not included in the new text because alterations for alarms are addressed in the International Fire Code.

Public Comment 2:

Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3409.1 (IEBC 308.1) (Supp) Scope. The provisions of Sections 3409.1 through 3409.9 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

~~**Exception:** Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing buildings and facilities being altered or undergoing a change of occupancy.~~

3409.6 (IEBC 308.6) (Supp). Alterations. A building, facility or element that is altered shall comply with the applicable provisions in Chapter 11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.

3409.8.7 (IEBC 308.8.7) (Supp). Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units ~~and Section 907 for visible alarms~~ apply only to the quantity of spaces and elements being altered or added.

3409.8.8 (IEBC 308.8.8) Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 for Type A units apply only to the quantity of the spaces and elements being altered.

3409.8.9 (IEBC 308.8.9) Type B dwelling or sleeping units. Where 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 for Type B units apply only to the quantity of spaces and elements being altered.

Exception: Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing structures that are undergoing alterations where the work area is 50 percent or less of the aggregate area of the structure.

Commenter's Reason: There are three proposal being submitted regarding dwelling and sleeping units in existing buildings. They are split between additions, alterations and change of occupancy for clarity. The intent is that all three proposals will pass. This proposal is for **Alterations**.

3409.8.7 - The language for visible alarms was removed from Section 3409.8.7 and not included in the new text because alterations for alarms are addressed in the International Fire Code.

3409.8.8 - The Type A requirements indicate that the Type A units are only required in major alterations and are not intended to be when the first person in a facility alters their unit.

3409.8.9 - While this requirements for Type B units in alterations could effect older structures, the advantage is for any building built after March 13, 1991. If the building was not constructed compliant, this is an opportunity to correct that error, thus significantly reducing the chance of being sued under the Fair Housing Act. Over time, the building would become fully compliant.

The IBC Means of Egress and IEBC asked proponents to provide public comment clarifying when Type B (Fair Housing criteria) should be triggered in alterations to existing units. Revised language will require that Type B features will be required only when the highest level of alterations defined are being completed to a dwelling unit. In addition, the requirements Type B would be required only in the units being altered and only the elements being altered, not all units or all elements in a unit. Basically – in English - when the building undergoes extensive alterations, whatever you touch, you fix to match Type B unit criteria.

The wording is slightly different between the two codes due to the different approaches taken by IBC and IEBC for existing buildings. In the IBC, the exception mirrors the definition for Alterations Level III in the IEBC, Section 405. In the IEBC Chapter 4, the requirements build on top of the previous requirements (i.e. Level I, Level II and Level III). Thus the reference in Section 706.1 and 806.1 back for accessibility in the previous chapters. Only in Level II can you start to see the reconfiguration of space which could be added dwelling or sleeping units rather than just alterations (i.e Level I). By the exceptions, Type B units would only be required in Level III alterations.

Public Comment 3:

Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3409.1 (IEBC 308.1) Scope (Supp). The provisions of Sections 3409.1 through 3409.9 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

Exception: Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing buildings and facilities being altered ~~or undergoing a change of occupancy~~.

3409.4 (IEBC 308.4) Change of occupancy (Supp). Existing buildings that undergo a change of group or occupancy shall comply with this section:

3409.4.1 (IEBC 308.4.1) Partial change in occupancy (Supp). Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 3409.6, 3409.7 and 3409.8.

Exception: Type B dwelling or sleeping units required by Section 1107 are not required to be provided in existing buildings and facilities undergoing a partial change of occupancy where the work area for alterations are 50 percent or less of the aggregate area of the structure.

3409.4.2 (IEBC 308.4.2) Complete change of occupancy (Supp). Where an entire building undergoes a change of occupancy, it shall comply with Section 3409.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

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

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

3409.6 (IEBC [B] 308.6) Alterations (Supp). A building, facility or element that is altered shall comply with the applicable provisions in Chapter11 and ICC A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3409.7.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provision for a Type B dwelling unit and shall comply with the applicable provisions in Chapter 11 and ICC A117.1.

3409.8.7 (IEBC 308.8.7) Accessible dwelling or sleeping units (Supp). Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added, the requirements of Section 1107 for Accessible units and Section 907 for visible alarms apply only to the quantity of spaces being altered or added.

Commenter's Reason: There are three proposal being submitted regarding dwelling and sleeping units in existing buildings. They are split between additions, alterations and change of occupancy for clarity. The intent is that all three proposals will pass. This proposal is for **change of occupancy**.

The intent of this proposal is to harmonizes the 912.8.1 of the IEBC and 3409.1 of the IBC. The International Existing Building Code Committee (EB37-07/08) deleted the exception for Type B Units when the entire building undergoes a change of occupancy (EB37-07/08).

Section 3409.4 of the 2007 Supplement (G203-06/07) introduces the delineation between a partial change and entire change of occupancy. Therefore, a partial change of occupancy is handled just like an alteration. The intent is that only when a partial change of occupancy includes alterations equivalent to a Level III alterations as described in the IEBC will Type B units be required. The complete change of occupancy also needs this exception so that an change of occupancy with little or no alterations would not have to meet Type B criteria (e.g. apartments switching to assisted living).

Public Comment 4:

Dominic Marinelli, United Spinal Association requests Approval as Modified by this public comment for Part I.

Further modify proposal as follows:

3402.1 Definitions. The following term shall, for the purposes of this chapter and as used elsewhere in the code, have the following meaning:

[EB] WORK AREA. That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

(Portions of proposal not shown remain unchanged)

Commenter's Reason. The addition of the definition of **WORK AREA** from the IEBC is to correlate with its use in Public Comments 2 and 3 that are more specifically defining the level of alteration which requires evaluation of the need for Type B dwelling units.

Final Action: AS AM AMPC____ D

G215-07/08, Part II

3409.6 (IEBC [B] 308.6), 3409.8.7 (IEBC [B] 308.8.7), 3409.8.8 (IEBC [B] 308.8.8) (New), 3409.8.9 (IEBC [B] 308.8.9) (New); IEBC 605.1.8, 605.1.9 (New), 706.3, 706.4 (New), 706.5 (New)

THIS CODE CHANGE WILL BE HEARD ON THE IBC MEANS OF EGRESS PORTION OF THE HEARING ORDER.

Proposed Change as Submitted:

Proponent: Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons

PART II – IEBC

1. Revise as follows:

605.1.8 (Supp) Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for accessible ~~or Type A~~ units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

2. Add new text as follows:

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

3. Revise as follows:

706.3 (Supp) Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2, or R-4 dwelling units or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units ~~or Type A~~ units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

4. Add new text as follows:

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

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

Reason: The original proponent of the code change G206-06/07 to eliminate Type A dwelling units in existing buildings (IBC Section 3409.6 Exp. 4) was concerned that the alteration of a single dwelling unit would require 2% of units to provide Type A features. G206 was approved by the IBC Means of Egress Committee, but disapproved by the IEBC committee. Currently there is a conflict between these two codes.

The intent of this proposal is to coordinate and clarify in IBC and IEBC by do the following:

- IBC 3409.8.8 and IEBC 605.1.9 clarifies that more than 20 units would have to be altered before 2% would have to provide Type A features.
- IBC 3409.8.8 and IEBC 706.4 clarify that Type A units are required in additions that contain 20 or more units.

- IBC 3409.8.9 and IEBC 706.5 clarify that Type B units are required in additions that contain 4 or more units. This is consistent with the Fair Housing Act.
- Current IBC 3409.5.1 and IEBC 605.1.12 ensures that alterations will not require greater accessibility than that which would be required for new construction.
- If altering an existing apartment to comply with Type A requirements has little likelihood of being accomplished because of existing conditions, the permit applicant can't take advantage of the "technically infeasible" exception in IBC 3409.6 and IEBC 605.1.

The Type A units (previously Adaptable units) has been in the codes since 1975. Most existing apartment buildings have been built or modified during that time period (i.e. they have Type A units already), so this should have minimal effects on housing while it has significant effects on persons with disabilities if these units start to disappear in existing buildings.

Cost Impact: The code change proposal will not increase the cost of construction – reflects 2006 IBC.

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

Committee Reason: The proposal fixes a disparity between the IBC and IEBC.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Dominic Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

605.1 General. A building, facility or element that is altered shall comply with the applicable provisions in Sections 605.1.1 through 605.1.12, Chapter 11 of the International Building Code and ICC A117.1 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 building, facility or element 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 605.2.
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing buildings and 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 buildings and facilities.~~
3. ~~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 and shall comply with the applicable provisions in Chapter 11 of the International Building Code and ICC/ANSI A117.1.

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

605.1.9 (Supp) 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 and elements being altered.

605.1.10 (Supp) Type B dwelling or sleeping units. Where 4 or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements Section 1107 of the *International Building Code* for Type B units apply only to the quantity of the spaces and element being altered.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing structures that are undergoing less than a Level III alterations.

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

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

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

806.1 General. A building, facility, or element that is altered shall comply with Sections 605 and 706.

Commenter's Reason: Some text without proposed changes is included for clarity. By approval of G215-07/08 Part II, the IEBC committee approved requiring Type A units in alterations and additions with 20 or more units and Type B units for additions (i.e. not alterations) containing 4 or more units. By approval of EB37-07/08, the IEBC committee also approved requiring Type A and Type B units in a change of occupancy.

There are two public comments being submitted for the IEBC regarding dwelling and sleeping units in existing buildings to coordinate with what we are asking for in the IBC, Chapter 34 and IEBC, Chapter 3 in G215-07/08 Part I. They are split between alterations and change of occupancy for clarity. The intent is that both proposals will pass. This proposal is for **Alterations**.

The language for visible alarms was removed from several sections and not included in the new text because alterations for alarms are addressed in the International Fire Code, and this would coordinate with the proposal for the IBC in G215 Part I.

While this requirements for Type B units in alterations could effect older structures, the advantage is for any building built after March 13, 1991. If the building was not constructed compliant, this is an opportunity to correct that error, thus significantly reducing the chance of being sued under the Fair Housing Act. Over time, the building would become fully compliant.

The IBC Means of Egress and IEBC asked proponents to provide public comment clarifying when Type B (Fair Housing criteria) should be triggered in alterations to existing units. Revised language will require that Type B features will be required only when the highest level of alterations defined are being completed to a dwelling unit. In addition, the requirements Type B would be required only in the units being altered and only the elements being altered, not all units or all elements in a unit. Basically – in English - when the building undergoes extensive alterations (Level III), whatever you touch, you fix to match Type B unit criteria.

The wording is slightly different between the two codes due to the different approaches taken by IBC and IEBC for existing buildings. In the IBC, the exception mirrors the definition for Alterations Level III in the IEBC, Section 405. In the IEBC Chapter 4, the requirements build on top of the previous requirements (i.e. Level I, Level II and Level III). Thus the reference in Section 706.1 and 806.1 back for accessibility in the previous chapters. Only in Level II can you start to see the reconfiguration of space which could be added dwelling or sleeping units rather than just alterations (i.e. Level I). By the exception in Section 605.1.10, Type B units would only be required in Level III alterations.

Public Comment 2:

Marinelli, United Spinal Association, Deb A. Cotter, National Council on Independent Living (NCIL), Marilyn Golden, Disability Rights Education and Defense Fund, Susan Prokop, Paralyzed Veterans of America, Anne Sommers, American Association of People with Disabilities, Elinor Ginzler, (AARP) American Association of Retired Persons requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

605.1 General. A building, facility or element that is altered shall comply with the applicable provisions in Sections 605.1.1 through 605.1.12, Chapter 11 of the International Building Code and ICC A117.1 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 building, facility or element 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 605.2.
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing buildings and 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 buildings and facilities.~~
3. ~~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 and shall comply with the applicable provisions in Chapter 11 of the International Building Code and ICC/ANSI A117.1.

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

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

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

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

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

806.1 General. A building, facility, or element that is altered shall comply with Sections 605 and 706.

912.8 (Supp) Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

912.8.1 (Supp) Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 605 and 706 as applicable.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing structures that are undergoing a partial change of occupancy with less than a Level III alterations.

912.8.2 (Supp) Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 912.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110 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: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing structures that are undergoing a change of occupancy with less than a Level III alterations.

Commenter's Reason: Some text without proposed changes is included for clarity. There are two public comments being submitted for the IEBC regarding dwelling and sleeping units in existing buildings to coordinate with what we are asking for in the IBC, Chapter 34 and IEBC, Chapter 3 in G215-07/08 Part I. They are split between alterations and change of occupancy for clarity. The intent is that both proposals will pass. This proposal is for change of occupancy.

The intent of this proposal is to harmonizes change of occupancy (Section 912.8) of the IEBC and what is being proposed for change of occupancy in the IBC (Section 3409.4) which is repeated in IEBC Section 308.4. The International Existing Building Code Committee (EB37-07/08) deleted the exception for Type B Units when the entire building undergoes a change of occupancy (EB37-07/08).

Section 3409.4 of the 2007 Supplement (G203-06/07) introduces the delineation between a partial change and entire change of occupancy. Therefore, a partial change of occupancy is handled just like an alteration. The complete change of occupancy also needs this exception so that an change of occupancy with little or no alterations would not have to meet Type B criteria (e.g. apartments switching to assisted living).

Analysis: Public comments have been submitted for Code Change Proposal G215-07/08 and EB37-07/08 that would affect Type B unit requirements in existing buildings undergoing a change in occupancy. Actions taken on these submittals will determine if IBC Chapter 34 and IEBC Chapters 3 and 9 will have consistent requirements.

Final Action: AS AM AMPC____ D

G217-07/08
3410.5.1 (IEBC [B] 1301.5.1)

Proposed Change as Submitted:

Proponent: Bill McHugh, Firestop Contractors International Association

Revise as follows:

3410.5.1 (IEBC [B] 1301.5.1) Fire safety. Included within the fire safety category are the structural fire resistance, compartmentation, automatic fire detection, fire alarm and fire suppression system features of the facility.

Reason: Effective compartmentation is important to means of egress, fire and general safety. Chapter 34 has much information about evaluation of compartmentation in buildings. Where chosen as a strategy for means of egress fire and general safety, compartmentation is important. Since there is a complete section 3410.6.3 devoted to evaluation of compartmentation, it should be part of the introductory language of the section. This code change completes the introduction to include the important concept of compartmentation.

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

Committee Action: **Disapproved**

Committee Reason: There are other features that are just as significant such as vertical openings that are not listed in Section 3410.5.1. The section needs to be revised to be more inclusive of other aspects if the concept of "compartmentation" is to be added to the section.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Bill McHugh, Firestop Contractors International Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3410.5.1 (IEBC [B] 1301.5.1) Fire safety. Included within the fire safety category are the structural fire resistance, compartmentation systems, automatic fire detection, fire alarm and fire suppression system features of the facility.

Commenter's Reason: Effective fire and smoke resistant compartmentation is a key fire protection strategy in the building code, yet it is not in the charging language of this important section of the International Existing Building Code.

Means of egress, occupancy separations and structural fire resistance rated horizontal assemblies all make effective compartmentation to resist vertical and horizontal migration of fire and smoke. Some of these wall assemblies are structural and create horizontal compartmentation, while smoke barriers are not structural in nature, but still provide horizontal compartmentation. Floor assemblies form horizontal compartmentation resisting fire and smoke travel vertically.

The Existing Buildings Code needs to reference a very important fire protection strategy used in existing buildings…compartmentation. Many existing buildings were originally constructed with effective compartmentation as the first line of defense, and have been retrofitted with today's fire damper, fire door, firestopping, fire rated glazing features technologies in existing fire resistance rated walls and floors of all types.

Compartmentation needs to be an important part of the culture of the code, with charging language and supporting statements that reflect it's importance. Therefore, compartmentation needs to be a key part of the code charging language, as it is used as a concept in Chapter 34.

Final Action: AS AM AMPC____ D

G219-07/08

3410.6.6, Table 3410.6.6(2) (IEBC [B] 1301.6.6, Table 1301.6.6(2))

Proposed Chang
e as Submitted:

Proponent: Daniel E. Nichols PE, New York State Division of Code Enforcement and Administration, Albany, NY

Revise as follows:

3410.6.6 (IEBC [B] 1301.6.6) Vertical openings. Evaluate the fire-resistance rating of exit enclosures, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Table 3410.6.6(1) contains the appropriate protection values. Multiply that value by the construction type factor found in Table 3410.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 3410.7 under Safety Parameter 3410.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building~~, enter a value of 2.~~ or if all the unenclosed vertical openings ~~that~~ within the building conform to the requirements of Section 707, enter a value of 2. The maximum positive value for this requirement shall be 2. ~~shall not be considered in the evaluation of vertical openings~~.

TABLE 3410.6.6(2) (IEBC TABLE 1301.6.6(2))
CONSTRUCTION-TYPE FACTOR

FACTOR	TYPE OF CONSTRUCTION								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	~~IIIA~~/VA	~~IIIB~~/VB
	1.2	1.5	2.2	3.5	~~2.5~~ 3.3	~~3.5~~7	2.3	3.3	7

Reason: The purpose of this code change proposal is correct the calculation of points regarding the protection of vertical openings in existing buildings, or lack thereof. The scope of this code change is to further quantify the benefits or hazards associated with vertical openings by limiting the benefit to the same level of not having them at all and to align similar construction types regarding interior construction.

First, Section 3410.6.6 has been modified to align conditions that meet or exceed vertical opening requirements in new buildings with that of buildings with no shafts at all. The current language would give a one-story Type VB building a +2 score but a Type VB two-story building with a one-hour rated shaft +7 points. Clearly, the addition of a rated shaft does not provide any additional fire protection when

compared to not having a shaft at all. Furthermore, the current language gives a four story type IA building with a two-hour rated shaft a vertical opening score of +2.4 and a Type VB a vertical opening score of +14. This proposal limits the benefit points to the same score that one-story buildings receive.

The modification of Table 3410.6.6(2) addresses a non-consistent regulation of identical interior conditions. Table 3410.6.6(2) currently permits Type III buildings to not receive as severe of a negative score for unprotected vertical openings as a Type V building, even though IBC Section 602 permits the interior of a Type III and a Type V building to be constructed of identical materials. The current assumption in Table 3410.6.6(2) is that Type III buildings offer superior fire performance in interior vertical openings over Type V, which is not the case. The proposal aligns the Type III buildings to their Type V counterparts, relative to fire-resistance rating values.

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

Committee Action: **Disapproved**

Committee Reason: Increasing the construction type factor was felt to be too restrictive for existing buildings.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment 1:

Daniel E. Nichols, PE, New York State Division of Code Enforcement and Administration, Albany, NY, requests Approval as Modified by this public comment.

Replace proposal as follows:

3410.6.6 (IEBC [B] 1301.6.6) Vertical openings. Evaluate the fire-resistance rating of exit enclosures, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Table 3410.6.6(1) contains the appropriate protection values. Multiply that value by the construction type factor found in Table 3410.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 3410.7 under Safety Parameter 3410.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building~~, enter a value of 2.~~ or if all the unenclosed vertical openings ~~that~~ within the building conform to the requirements of Section 707, enter a value of 2. The maximum positive value for this requirement shall be 2. ~~shall not be considered in the evaluation of vertical openings~~.

Commenter's Reason: The original code proposal was actually two separate code change topics that were combined together. Since the opposition to the code proposal was to only one part of this change, the code change has been split into two public comments for consideration by the ICC voting membership.

This code proposal, as modified above, received no opposition from the floor or code development committee. The proposal is very simple in limiting the amount of positive points given for the protection vertical openings in buildings undergoing reuse or rehabilitation.

To express the point, I have prepared the following table to compare values compiled from Equation 34-4 (Section 3410.6.6.1):

# Stories	Construction Type	Protection of Vertical Openings	Vertical Opening Value
1	All	All	+2
3	IIB	1	+3.5
3	VB	2	+14

What this table is stating is that a one story building (with no hazards from vertical smoke spread) has a value of +2 and an unprotected wood-frame building with three stories in height utilizing a two-hour shaft gets +21 points. Even if the Type VB building put in protection meeting Section 707 for new construction, that would still give the building a +7 point benefit or 5 additional points over the level of no hazard.

By accepting this code proposal, this will still provide a disincentive for not having vertical openings protected but limit the maximum benefit to the same level as a one-story building.

Public Comment 2:

Daniel E. Nichols, PE, New York State Division of Code Enforcement and Administration, Albany, NY, requests Approval as Modified by this public comment.

Replace proposal as follows:

TABLE 3410.6.6(2) (IEBC TABLE 1301.6.6(2))
CONSTRUCTION-TYPE FACTOR

FACTOR	TYPE OF CONSTRUCTION								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	~~IIIA~~/VA	~~IIIB~~/VB
	1.2	1.5	2.2	3.5	~~2.5~~ 3.3	~~3.5~~7	2.3	3.3	7

Commenter's Reason: The original code proposal was actually two separate code change topics that were combined together. Since the opposition to the code proposal was to only one part of this change, the code change has been split into two public comments for consideration by the ICC voting membership.

The committee and the opposition stated that "Increasing the construction type factor was felt to be too restrictive for existing buildings." This statement was made in reference to the proposed change to Table 3410.6.6(2). However, this statement does not hold merit since that a Type III and a Type V are essentially the same with the only difference being the exterior wall construction. For the convenience of the voting ICC membership, here are the definitions of Type III and Type V out of IBC Section 602:

602.3 Type III. Type III construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code. Fire-retardant-treated wood framing complying with Section 2303.2 shall be permitted within exterior wall assemblies of a 2-hour rating or less.

602.5 Type V. Type V construction is that type of construction in which the structural elements, exterior walls and interior walls are of any materials permitted by this code.

Since vertical openings have nothing to do with the exterior walls, it seems logical that interior attributes that can be built the same should be regulated the same. Alas, this code proposal enters the factor values of Type V structures (VA and VB) in the cells of Type III structures (IIIA and IIIB).

Both the 2006 IBC commentary and the 1993 BNBC Commentary states the construction factors are loosely based on height and area (Table 503). However, vertical opening protection is clearly not the only item that height and area is based on (fire flow, compartmentation, exterior fire spread, etc.). In this regard, Type V and Type III are the same. The choice to use the Type V values instead of the Type III values has been made since the factor for wood frame buildings has been used without modification for at least 15 years.

One of the points the opposition brought to the floor conversation is where else this may be an issue within the Chapter. The modification to this table only effects the vertical opening factor requirements and is not referenced in any other section of the IBC.

Final Action: AS AM AMPC____ D

G226-07/08
3108.1

Proposed Change as Submitted:

Proponent: Edward L. Keith, APA – The Engineered Wood Association

Revise as follows:

3108.1 (Supp) General. Towers shall be designed and constructed in accordance with the provisions of TIA-222.

Exception: Single freestanding poles used to support lightweight electrical equipment such as cell-phone antennas shall not be required to be non-combustible.

Reason: 1. The proposed code change clarifies the intent of the building code.

2. Historically under the *Uniform Building Code* (1997 UBC, Section 1512, which exempted freestanding "towers" from the non-combustibility requirement provided they extended no more than 75 feet above grade) single, freestanding wood poles have been used for many years to support small, lightweight electronic equipment such as cell phone antennas. The current code is silent on the use of poles.

This code change seeks a clarification of the requirements of Section 3108 for single freestanding poles supporting lightweight electrical equipment such as cell phone antennas, based on many years of good performance in areas covered by the Uniform Building Code. Note that wood poles are used throughout the United States for high voltage electrical, cable, DSL, and telephone lines. In addition to the lines and often considerable stresses they impose on the poles, the poles are also very often used to support very heavy transformers, street lights, traffic signals and junction boxes. Even carrying electrical loads far greater than cell phone antennas, there has historically been no requirement for non-combustible construction for wood poles.

Requiring non-combustible construction for cell phone poles will greatly increase the cost of such items and yet not provide a single iota of public safety as a result. The clarification is requested to prevent the incorrect interpretation of Section 3108 to include single, wood poles supporting cell phone antennas, thus denying the use of an inexpensive solution to a common situation with a long history of excellent performance simply because wood is combustible. Applying Section 3108 is an unnecessary solution to a non-problem.

Cost Impact: The code change proposal will have no impact on the cost of construction and will decrease the cost of cell-phone towers.

Committee Action: **Approved as Modified**

Modify the proposal as follows:

3108.1 (Supp) General. Towers shall be designed and constructed in accordance with the provisions of TIA-222.

Exception: Single freestanding poles used to support ~~lightweight electrical equipment such as cell phone~~ antennas not greater than 70 feet (21336 mm) above grade shall not be required to be non-combustible.

Committee Reason: The proposal was approved based upon the proponent's reason; that these types of towers were permitted under UBC and have a good safety record. The modification makes the reference more general to antennas as the description of "lightweight electrical equipment such as cell phone antennas" was potentially limiting for similar poles supporting other types of antennas.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Edward L. Keith, APA – The Engineered Wood Association, requests Approval as Modified by this public comment.

Further modify as follows:

3108.1 (Supp) General. Towers shall be designed and constructed in accordance with the provisions of TIA-222.

Exception: Single freestanding poles used to support antennas not greater than ~~70 feet (21336 mm)~~ 75 feet (22,860 mm), measured from the top of the pole to ~~above~~ grade shall not be required to be non-combustible.

Commenter's Reason: One of the purposes of the modification accepted by the committee was to place the same height limitation in the IBC as was placed in the UBC for such structures. We, the proponents of the original code change, supported this amendment. However a review of the 1997 UBC shows that the height limitation was 75 feet instead of 70 feet. This Public Comment simply brings the height limitation up to that permitted by the legacy code.

The proposed language change is a clarification requested by one of the committee members as to where the 70 ft limitation was applied.

Final Action: AS AM AMPC____ D

G227-07/08
3002.4

Proposed Change as Submitted:

Proponent: Chad Lawry, City of Vancouver, WA, representing City of Vancouver Firefighters

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings ~~four~~ two or more stories above grade plane or ~~four~~ two or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2250 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

Reason: The purpose of the code change is the safe egress of patients and emergency responders during medical emergencies. Justification: When an elevator car is too small to accommodate an ambulance stretcher, patients and emergency responses are at increased risk when negotiating stairways. When a patient is strapped to a backboard due to back or neck injuries, the stretcher cannot be set to a reclined position in order to fit in a typical elevator which is designed to accommodate a wheelchair. It is virtually impossible to provide effective CPR while carrying a patient up or down stairs. However, effective CPR can be provided in an elevator. As with many jurisdictions, our local ambulances and Fire Department medic units are staffed by only 2 people. Due to back injuries and near mishaps carrying large patients down stairs, our Firefighters are requesting simple code change for this high-risk, high-frequency activity. Scope: This pertains to all new construction subject to the requirements of the International Building Code. The proposed code revision will not require elevators where they are not already required by the building codes.

Cost Impact: The proposal will negligibly increase the cost of construction. As an example, according to a sales representative of American Crescent Elevator Mfg., Corp. (310 Stephens Street Picayune, Ms. 39466 Sales: 800-748-9711 Fax: 601-798-9444), the cost of a 2100 pound capacity elevator accommodating wheel chairs is roughly $35,000 installed compared to a 2500 pound capacity elevator accommodating stretchers at roughly $36,000 installed. The impact is a 2.77% increase in the cost of one elevator. EXAMPLE: In $1,000,000 project, the cost impact is approximately one tenth of 1%

Committee Action: **Disapproved**

Committee Reason: This proposal was felt to be too restrictive and may be a disincentive for building owners to install elevators. This may reduce the level of accessibility provided in buildings.

Assembly Action: **None**

Individual Consideration Agenda

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

Public Comment:

Chad Lawry, City of Vancouver, WA, representing City of Vancouver Firefighters, requests Approval as Modified by this public comment.

Modify proposal as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in a building containing Group R-1, R-2 or I occupancies two or more stories above grade plane or two or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. In other occupancies, where elevators are provided in buildings ~~two~~ four or more stories above grade plane or ~~two~~ four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2250 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

Commenter's Reason: The committee believed that the original proposal was too restrictive and may be disincentive for building owners to install elevators. The modification makes the proposal substantially less restrictive by specifying only three occupancy types as an exception. "Incentive" is not a usual factor in whether or not an elevator is installed. Codes drive when elevators are required and this proposal does not affect those codes. The proposal will increase the safety of patients, firefighters and ambulance emergency responders during medical emergencies in these higher response frequency occupancies.

The added cost of increasing the size of one elevator that is already required by code is negligible when compared to the overall building cost.

Final Action: AS AM AMPC____ D