

IBC - General



2016 GROUP B PUBLIC COMMENT AGENDA

OCTOBER 19 - OCTOBER 25, 2016
KANSAS CITY CONVENTION CENTER
KANSAS CITY, MO

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by

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G4-16

IBC: 202; IEBC: 202

Proposed Change as Submitted

Proponent : David Bonowitz, representing National Council of Structural Engineers Associations (dbonowitz@att.net)

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under service loads. For purposes of this definition, service loads shall include permanent, routine or frequent loads but shall not include snow, wind, rain, flood, earthquake or other environmental loads unless such loads are imminent or already in effect.

2015 International Existing Building Code

Revise as follows:

SECTION 202 DEFINITIONS

[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under service loads. For purposes of this definition, service loads shall include permanent, routine or frequent

loads but shall not include snow, wind, rain, flood, earthquake or other environmental loads unless such loads are imminent or already in effect.

Reason: Part 2 of the definition of Dangerous relies on the term "service loads." The intent, dating from when this definition was revised in recent cycles, is to give discretion to the code official to deal with actual, current, or imminent conditions that need to be secured, or evacuated for safety, and corrected. The intent is NOT to condemn buildings because of a design basis storm or earthquake that could happen in the indefinite future.

Perhaps surprisingly, "service loads" are not defined in the IEBC or IBC. However, in IBC Interpretation 23-10 (issued 12/8/2010; see Bibliography), "service loads" were interpreted to be the same as "nominal" loads. Nominal loads are unfactored loads, but they include unfactored environmental loads such as Snow, Wind, and Earthquake. Here's the problem: The load factors for W and E are generally 1.0, and for S and R are sometimes even less than 1.0. Therefore, for environmental loads, the nominal load IS the factored load, so by the interpretation, the service load in the definition of Dangerous is the full design basis W, E, or S load. (By the way, the term "environmental load," though not itself defined, is used in the definition of Essential Facility, Live Load, Load, etc.). This is clearly wrong, and at odds with the intent of the definition.

This proposal solves the problem and makes the well-intended but incorrect Interpretation 23-10 unnecessary. Under the proposal, the definition will continue to rely on the judgment of the code official (regarding "significant risk") but will clarify that the intent is to look at actual, current, or imminent conditions. In particular, the last sentence still allows the code official to consider, for example, existing extreme snow loads, predicted hurricanes, and expected aftershocks.

We prefer the revised definition as proposed, which retains the words "service loads" but clarifies this otherwise undefined term in context. We would also accept a simpler revision that simply replaces the term as follows: "... of the building or structure under permanent, routine, frequent, actual, or imminent loads."

Finally, it is worth noting that ASCE 7-16 will include a definition of "service loads," but it too will differ from the code's intent. The ASCE 7-16 definition will include "environmental loads that are expected to occur during the defined service life of a building." These are often, but not always, smaller than the design basis loads, but they are almost always still significantly bigger than the "everyday" or "routine" loads contemplated by the definition of Dangerous.

Bibliography: IBC Interpretation 23-10, Issued 12-8-2010 (EB_09_23_10), available online at:

http://www2.iccsafe.org/cs/committeeArea/pdf_file/EB_09_23_10.pdf
(http://www2.iccsafe.org/cs/committeeArea/pdf_file/EB_09_23_10.pdf).

Cost Impact: Will not increase the cost of construction

This is a clarification of the current intent, so there are no changes to construction requirements.

**G4-16 : 202
DANGEROUS-
BONOWITZ12245**

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The committee agrees with the intent of the proposal, but there are concerns that the proposed clarification of "service loads" is in conflict with ASCE 7 and would therefore create confusion. While the current definition relies on the judgement of the code official, adding the term "imminent" to the definition appears to add more discretion for the code official. The committee prefers to see the wording "tightened up".

Assembly Motion: **As Submitted**

Online Vote Results: **Failed**

Support: 39.08% (111) Oppose: 60.92% (173)

Assembly Action: **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : David Bonowitz, representing National Council of Structural Engineers Associations (dbonowitz@att.net) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

SECTION 202 DEFINITIONS

[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under service loads. ~~For purposes of this definition, service loads shall include permanent, routine, or frequent loads but shall not include ; under actual loads already in effect; or under snow, wind, rain, flood, earthquake or other environmental loads unless when such loads are imminent or already in effect.~~

2015 International Existing Building Code

SECTION 202 DEFINITIONS

[BS] DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under service loads. ~~For purposes of this definition, service loads shall include permanent, routine, or frequent~~

loads ~~but shall not include~~ ; under actual loads already in effect; or under snow, wind, rain, flood, earthquake or other environmental loads ~~unless~~ when such loads are imminent or already in effect.

Commenter's Reason: Proposal G4 clarifies and confirms what is meant by "service loads" in the definition of *dangerous*. "Service loads" is currently improperly interpreted, as explained in the G4 reason statement.

The IBC Structural committee narrowly disapproved G4 (by a vote of 7-5), but said in its reason statement that it "agrees with the intent of the proposal."

What kept G4 from being approved was a concern over whether to even keep the term "service loads" in the definition at all. Though "service loads" is not defined in the I-codes, it is defined in ASCE 7, so at the hearings, the suggestion was made that while we are clarifying and confirming the intent of the definition, we might as well get rid of those two words and avoid any possible confusion.

So that is what this public comment does.

A second, smaller issue noted in the committee's reason statement involves a quibble over the word "imminent" and whether this gives the code official too much discretion. We maintain that it does not. First, the definition of *dangerous* already relies on code official interpretation of "significant risk," a much looser term. Second, the record of code changes makes clear that the whole point of this definition is to give discretion to the code official in urgent situations involving dangerous buildings. Third, "imminent," meaning "about to happen" is actually quite appropriate to what is intended. All agree that the code official should be able to apply the definition during a period of frequent aftershocks, when the flood waters are already rising, or when the hurricane's path is known. Not to anticipate these cases with a term like "imminent," or worse to disapprove G4 because of this quibble, is to throw out the baby with the bath water. Fourth, any concerns over future interpretation of "imminent" pale in comparison to the current problems posed by the current misinterpretation of "service loads." If needed (though it shouldn't be), the ICC can issue an interpretation, just as it did for "service loads."

In the end, G4 has to be approved, either as submitted or as modified by this PC, in order for the definition of *dangerous* to make sense as intended.

Proponent : Karl Rubenacker, Gilsanz Murray Steficek, representing National Council of Structural Engineers Associations (karl.rubenacker@gmsllp.com) requests Approve as Submitted.

Commenter's Reason: Everyone agrees that the current definition has a problem, as described in the G4 reason statement. Disapproval of proposal G4 leaves that problem in place without solving it. The committee's concern about the term "service loads" is unfounded because "service loads" is not already defined in the IEBC, because the ASCE definition is not what the code intends, and because proposal G4 specifically says what is meant by "service loads" as used in this definition. The committee's concern about the word "imminent" is unfounded because the dictionary definition, as referenced by section 201.4, is adequate and appropriate. The whole purpose of the definition of Dangerous is to give discretion to the code official.

G4-16

G6-16 Part II
IRC: , R202 (New).

Proposed Change as Submitted

Proponent : Larry Wainright, representing Structural Building Components Association (lwainright@qualtim.com)

2015 International Residential Code

Add new definition as follows:

SECTION R202 DEFINITIONS

GRADE (LUMBER). The classification of lumber in regard to strength and utility in accordance with America Softwood Lumber Standard DOC PS 20 and the grading rules of an *approved* lumber rules-writing agency.

SECTION R202 DEFINITIONS

DESIGN VALUE (LUMBER). Published design data that are representative of the strength and stiffness of specific grades and species/species groups of lumber.

Reason: The IRC and IBC do not currently contain a definition for lumber design values. The IBC provides the following definition for the grade of lumber:

[BS] GRADE (LUMBER). The classification of lumber in regard to strength and utility in accordance with America Softwood Lumber Standard DOC PS 20 and the grading rules of an *approved* lumber rules-writing agency.

This definition is brought into the IRC for consistency between the code and greater understanding by users of the code as to what is meant by the term "grade" as it relates to lumber. The strength of lumber is defined by the term "design value" in DOC PS 20-15

(http://gsi.nist.gov/global/docs/vps/approved%20PS20-15%20SSD%20final%202-25-15_dfa%20April%201st_wCover.pdf). The design value is directly tied to the lumber grade by a grade stamp or grade mark where its classification is by mechanically or visually graded means as defined by an approved lumber rules-writing agency. The term design value is used throughout the IRC and IBC in the context of load resisting applications

where lumber is used as the resisting element. It is important that building design professionals, builders, building officials and any lumber end-user have easy access to understanding the term design value for lumber.

Cost Impact: Will not increase the cost of construction

This is simply a definition with no change in the technical requirements of the code. Therefore this proposal will not increase the cost of construction.

**G6-16 Part II :
R202 (LUMBER)-
WAINRIGHT13899**

Public Hearing Results

Part II

Committee Action: **Disapproved**

Committee Reason: The definition of design value refers to published data and should reference DOC PS 20. The proponents should bring this back as a public comment.

Assembly Action: **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Larry Wainright, representing Structural Building Components Association (lwainright@qualtim.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Residential Code

SECTION R202 DEFINITIONS

DESIGN VALUE (LUMBER). ~~Published design data~~

Design properties developed in accordance with DOC PS-20 that are representative of the strength and stiffness of specific grades and species/species groups of lumber.

Commenter's Reason: This public comment is submitted at the request of the committee to bring this back with reference to DOC PS-20 and to remove the reference to "published data".

G6-16 Part II

**NOTE: PART I DID NOT RECEIVE A PUBLIC COMMENT AND IS
REPRODUCED FOR INFORMATIONAL PURPOSES ONLY**

G6-16 Part I
IBC: 202 (New).

Proposed Change as Submitted

Proponent : Larry Wainright, representing Structural Building Components Association (lwainright@qualtim.com)

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

DESIGN VALUE (LUMBER). Published design data that are representative of the strength and stiffness of specific grades and species/species groups of lumber.

Reason: The IRC and IBC do not currently contain a definition for lumber design values. The IBC provides the following definition for the grade of lumber:

[BS] GRADE (LUMBER). The classification of lumber in regard to strength and utility in accordance with America Softwood Lumber Standard DOC PS 20 and the grading rules of an *approved* lumber rules-writing agency.

This definition is brought into the IRC for consistency between the code and greater understanding by users of the code as to what is meant by the term "grade" as it relates to lumber. The strength of lumber is defined by the term "design value" in DOC PS 20-15

(http://gsi.nist.gov/global/docs/vps/approved%20PS20-15%20SSD%20final%202-25-15_dfa%20April%201st_wCover.pdf). The design value is directly tied to the lumber grade by a grade stamp or grade mark where its classification is by mechanically or visually graded means as defined by an approved lumber rules-writing agency. The term design value is used throughout the IRC and IBC in the context of load resisting applications where lumber is used as the resisting element. It is

important that building design professionals, builders, building officials and any lumber end-user have easy access to understanding the term design value for lumber.

Cost Impact: Will not increase the cost of construction

This is simply a definition with no change in the technical requirements of the code. Therefore this proposal will not increase the cost of construction.

**G6-16 Part I :
202 (NEW)-
WAINRIGHT13898**

Public Hearing Results

Part I

Committee Action:

Disapproved

Committee Reason: The committee does not see any instance where adding the proposed definition to the IBC provides any benefit and it may actually create confusion. The definition is in the referenced standard, DOC PS 20, so it is available.

Assembly Action:

None

G10-16 Part III
IECC: R202 (IRC N1101.6)

Proposed Change as Submitted

Proponent : Julie Ruth, representing American Architectural Manufacturers Association (julruth@aol.com)

2015 International Energy Conservation Code

Revise as follows:

R202 (N1101.6) SKYLIGHT. Glass or other transparent or translucent glazing material installed at a slope of less than 60 degrees (1.05 rad) from horizontal, including unit skylights, tubular daylighting devices, and glazing materials in solariums, sunrooms, roofs and sloped walls.

Reason: This revision clarifies the types of products that are included in the category of "skylights" and brings the IECC more closely in alignment with the IRC.

Cost Impact: Will not increase the cost of construction
The proposal simply clarifies which products fall under the category of "skylight", and by default, which do not. It will not impact the cost of construction

**G10-16 Part III :
R202 (N1101.6)-
SKYLIGHT-
RUTH13902**

Public Hearing Results

Part III

Committee Action: **Disapproved**

Committee Reason: It is necessary to have a laundry list for where skylights could be installed.

Assembly Action: **None**

Individual Consideration Agenda

Proponent : Julie Ruth, representing American Architectural Manufacturers Association (julruth@aol.com) requests Approve as Submitted.

Commenter's Reason: G10, Part III was part of a comprehensive set of proposal parts submitted by AAMA to establish a consistent definition of fenestration, vertical fenestration and skylights and sloped glazing in the IRC, IBC and IECC. These proposal parts consisted of G9, Parts I & II, and G10, Parts I, II, III & IV. All of these proposal parts were approved during the Committee Action Hearings except for G10, Part III.

The reason given by the IECC-Residential Committee for its Disapproval of G10, Part III is "it is unnecessary to have a laundry list for where skylights could be installed". The intent of the changes proposed to the definition of "Skylights and Sloped Glazing" by all parts of G10 is to clarify what constitutes skylights and sloped glazing, and to specifically clarify that tubular daylighting devices are to be included within that definition. This clarification is important because all fenestration, both vertical and skylights and sloped glazing, are required to be installed in such a manner as to preserve the integrity of the wall or roof. Approval of G10, Part III, along with the previous approval of G9, Part II at the CAH, will clarify that tubular daylighting devices are to be installed in such a manner as to preserve the weather resistant barrier of the roof in residential construction.

G10-16 Part III

**NOTE: PART I DID NOT RECEIVE A PUBLIC COMMENT AND IS
REPRODUCED FOR INFORMATIONAL PURPOSES ONLY**

G10-16 Part I

IBC: 202.

Proposed Change as Submitted

Proponent : Julie Ruth, representing American Architectural
Manufacturers Association (julruth@aol.com)

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

[BS] SKYLIGHTS AND SLOPED GLAZING. Glass or other transparent
or translucent glazing material installed at a slope of 15 degrees (0.26
rad) or more from vertical. ~~Glazing material in Unit skylights, including
unit skylightstubular daylighting devices, tubular daylighting devices,
and glazing materials in solariums, sunrooms~~sunrooms, roofs and sloped
walls; are included in this definition.

Reason: This revision clarifies the types of products that are included in
the category of "skylights" and brings the IECC more closely in alignment
with the IRC.

Cost Impact: Will not increase the cost of construction
The proposal simply clarifies which products fall under the category of
"skylight", and by default, which do not. It will not impact the cost of
construction

**G10-16 Part I :
202 SKYLIGHTS-
RUTH13900**

Public Hearing Results

Part I

Committee Action:

Approved as Submitted

Committee Reason: The proposal improves the definition of "skylights and sloped glazing" and its approval is consistent with action taken by the IRC-B committee.

Assembly Action:

None

**NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS
REPRODUCED FOR INFORMATIONAL PURPOSES ONLY**

G10-16 Part II

IECC: 0.

Proposed Change as Submitted

Proponent : Julie Ruth, representing American Architectural
Manufacturers Association (julruth@aol.com)

2015 International Energy Conservation Code

Revise as follows:

SECTION C202 DEFINITIONS

FENESTRATION. Products classified as either vertical fenestration or skylights.

Skylight. Glass or other transparent or translucent glazing material installed at a slope of less than 60 degrees (1.05 rad) from horizontal, including unit skylights, tubular daylighting devices, and glazing materials in solariums, sunrooms, roofs and sloped walls.

Vertical fenestration. Windows (fixed or moveable), opaque doors, glazed doors, glazed block and combination opaque/glazed doors composed of glass or other transparent or translucent glazing materials and installed at a slope of at least 60 degrees (1.05 rad) from horizontal.

Reason: This revision clarifies the types of products that are included in the category of "skylights" and brings the IECC more closely in alignment with the IRC.

Cost Impact: Will not increase the cost of construction

The proposal simply clarifies which products fall under the category of "skylight", and by default, which do not. It will not impact the cost of construction

**G10-16 Part II :
C202-
RUTH13901**

Public Hearing Results

Part II

Committee Action:

Approved as Submitted

Committee Reason: Approval was based on the proponent's published reason statements.

Assembly Action:

None

Analysis: This code change proposal was initially placed on the ballot for an assembly motion. Upon further review, it was discovered that there was no motion made. Therefore the code change was removed from the assembly motion ballot.

**NOTE: PART IV DID NOT RECEIVE A PUBLIC COMMENT AND IS
REPRODUCED FOR INFORMATIONAL PURPOSES ONLY**

G10-16 Part IV

IRC: 0.

Proposed Change as Submitted

Proponent : Julie Ruth, representing American Architectural
Manufacturers Association (julruth@aol.com)

2015 International Residential Code

Revise as follows:

SECTION R202 DEFINITIONS

[RB] SKYLIGHT AND SLOPED GLAZING. Glass or other transparent or
translucent glazing material installed at a slope of 15 degrees (0.26 rad)
or more from vertical. ~~Glazing materials in skylights, including unit~~ Unit
skylights, tubular daylighting devices, and glazing materials in solariums,
sunrooms, roofs and sloped walls are included in this definition.

Reason: This revision clarifies the types of products that are included in
the category of "skylights" and brings the IECC more closely in alignment
with the IRC.

Cost Impact: Will not increase the cost of construction

The proposal simply clarifies which products fall under the category of
"skylight", and by default, which do not. It will not impact the cost of
construction

**G10-16 Part IV :
R202 SKYLIGHT-
RUTH13903**

Public Hearing Results

Part IV

Committee Action:

Approved as Submitted

Committee Reason: This proposal cleans up and expands the definition.

Assembly Action:

None

G16-16

IBC: 202 (New); IFC: 202 (New)

Proposed Change as Submitted

Proponent : Victor Cuevas, representing City of Los Angeles

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

SMOKE ZONE A defined area for which the movement of smoke is limited or restricted through the use of mechanical and/or passive smoke control systems.

2015 International Fire Code

Add new definition as follows:

SECTION 202 DEFINITIONS

SMOKE ZONE. A defined area for which the movement of smoke is limited or restricted through the use of mechanical and/or passive smoke control systems.

Reason: The term "Smoke Zone" has not previously been defined.

Cost Impact: Will not increase the cost of construction

This amendment will simply provide a definition which does not currently exist in the code. The addition of this new term, does not create change in construction requirements.

**G16-16 : 202
ZONE-
CUEVAS4891**

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee stated that there was insufficient

justification for an additional definition and the reason statement did not list the locations where the term currently occurs. In addition, it does not address if it applies to vertical locations and contains the ambiguous text of "and/or."

Assembly Action:

None

Individual Consideration Agenda

Proponent : Victor Cuevas, representing City of Los Angeles (victor.cuevas@lacity.org) requests Approve as Submitted.

Commenter's Reason: The term "Smoke Zone" which was not previously defined, has been incorporated as an approved amendment under FS218-16. Since the term has now been incorporated into the code through this approved amendment, I would recommend that the definition of "Smoke Zone", also be approved as submitted.

Bibliography: N/A

G16-16

G17-16 Part I

IBC: , 1512, 1512.1, 202 (New), [BG] 1510.7, [BG] 1510.7.1, [BG] 1510.7.2, [BG] 1510.7.3, [BG] 1510.7.4.

Proposed Change as Submitted

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

2015 International Building Code

Add new definition as follows:

SECTION 202 DEFINITIONS

SOLAR ENERGY SYSTEM. A system that converts solar radiation to usable energy, including photovoltaic panel system and solar thermal system.

SECTION 202 DEFINITIONS

SOLAR THERMAL COLLECTOR. Components in a solar thermal system that collect and convert solar radiation to thermal energy.

SECTION 202 DEFINITIONS

SOLAR THERMAL SYSTEM. A system that converts solar radiation to thermal energy for use in heating or cooling.

Delete without substitution:

~~**[BG] 1510.7 Photovoltaic panels and modules.** Rooftop-mounted *photovoltaic panels* and *modules* shall be designed in accordance with this section.~~

~~**[BG] 1510.7.1 Wind resistance.** Rooftop-mounted *photovoltaic panels* and *modules* shall be designed for component and cladding wind loads in accordance with Chapter 16 using an effective wind area based on the dimensions of a single unit frame.~~

~~**[BG] 1510.7.2 Fire classification.** Rooftop-mounted *photovoltaic panels* and *modules* shall have the fire classification in accordance with Section 1505.9.~~

[BG] 1510.7.3 Installation. Rooftop-mounted *photovoltaic panels* and

modules shall be installed in accordance with the manufacturer's instructions.

~~**[BG] 1510.7.4 Photovoltaic panels and modules.** Rooftop-mounted *photovoltaic panels and modules* shall be *listed* and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer's instructions.~~

Revise as follows:

SECTION 1512 PHOTOVOLTAIC PANELS AND MODULES SOLAR ENERGY SYSTEMS

1512.1 Photovoltaic panels and modules and solar thermal collectors. *Photovoltaic panels and modules and solar thermal collectors* installed upon a roof or as an integral part of a roof assembly shall comply with the requirements of ~~this code and the *International Fire Code*~~ Section 3111.

Reason: The proposed terms "solar thermal collector" and "solar thermal system" are from ICC 900/SRCC 300-15, Solar Thermal System Standard. These terms are currently used in the IRC and it is therefore appropriate for the definitions to be included.

The expansion of Section 3111 in the International Building Code by Proposal G211-15 in the Group A cycle covers all that is within Section 1510.7 and its subsections, as well as providing all the applicable requirements for photovoltaic panels and modules in one location of the code. There are additional requirements that apply to rooftop-mounted photovoltaic panels and modules that are not covered in Section 1510.7, including roof access, signage, routing of conductors, and additional electrical requirements. By locating all applicable requirements in one location in the chapter for Special Construction, all applicable requirements will be addressed. In addition, Section 3111 also covers all the applicable requirements for solar thermal systems, which include the solar thermal collectors mounted on the roof.

Revising Section 1512.1 provides the appropriate pointer to the requirements in Section 3111.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2014 and 2015 the BCAC has held 5 open meetings. In

addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: **BCAC** (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

Cost Impact: Will not increase the cost of construction
No cost increase as this correlates the requirements relocated to Section 3111.

**G17-16 Part I :
[BG] 1510.7-
KULIK13908**

Public Hearing Results

Part I

Committee Action: **Disapproved**

Committee Reason: The committee found the proposal to be confusing and noted that conflicting testimony was heard.

Assembly Action: **None**

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Replace Proposal as Follows:

2015 International Building Code

SECTION 202- DEFINITIONS

-
SOLAR ENERGY SYSTEM. A system that converts solar radiation to usable energy, including photovoltaic panel system and solar thermal system.

SOLAR THERMAL COLLECTOR. Components in a solar thermal system that collect and convert solar radiation to thermal energy.

SOLAR THERMAL SYSTEM. A system that converts solar radiation to thermal energy for use in heating or cooling.

Commenter's Reason: These are terms that are used in both the IRC and the IBC. G17-16 Part II was accepted to include these terms in the IRC. This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Between 2014 and 2016 the BCAC has held 8 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed public comments. Related documentation and reports are posted on the BCAC website at: BCAC (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

Proponent : Joseph Cain, representing Solar Energy Industries Association (SEIA) (JoeCainPE@gmail.com) requests Approve as Submitted.

Commenter's Reason: The proponent of this Public Comment recommends Approval as Submitted for Proposal G17-16 Part I. This action would be consistent with Proposal G211-15 of Group A, which establishes the "road map" for design and installation of solar energy systems -- including solar

photovoltaic systems and solar thermal systems -- in IBC Section 3111. Note that in the original proposal G17-16, Section 1510.7.3 was also intended to be in strike-out, as that section was also relocated to Section 3111 by G211-15. The strike-out of Section 1510.7.3 was missed owing to a staff error, and was not caught in the update of the monograph.

Proponent : Edward Kulik, representing Building Code Action Committee (bcac@iccsafe.org) requests Approve as Submitted.

Commenter's Reason: These changes are needed to assist the user of the code to locate and apply all the appropriate requirements for both photovoltaic and solar thermal installations. The expansion of Section 3111 in the International Building Code by Proposal G211-15 in the Group A cycle consolidated all the applicable requirements into one location. This helps ensure all the requirements are applied, and to avoid confusion and redundancies.

1. The terms "solar energy system", "solar thermal collector", and "solar thermal system" are used in both the IBC and IRC. These definitions were approved in G17-16 Part II for inclusion in the IRC. To help ensure the same level of enforcement of the related requirements, these terms need to be defined in both the IBC and IRC.
2. The requirements currently in Section 1510.7 only address a portion of the requirements applicable to rooftop mounted photovoltaic panel systems. All the requirements, including what is covered in Section 1510.7, are covered in Section 3111 by the action taken for G211-15. These photovoltaic panel systems are special construction, not a part of the defined roof assembly. The action taken on S49-16 already removed one of the four requirements (wind resistance) from Section 1510.7, which makes this section further incomplete and potentially create confusion as to all the requirements applicable to installing these systems.
3. Section 1512 needs to be expanded to recognize the installation of solar thermal systems on top of roof assemblies. Also this section needs to direct the code user specifically to Section 3111 in order to locate all

the applicable requirements. Partially repeating requirements in separate locations of the code leads to diverging requirements and inconsistent application of requirements.

This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Between 2014 and 2016 the BCAC has held 8 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed public comments. Related documentation and reports are posted on the BCAC website at: BCAC (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

G17-16 Part I

NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY

G17-16 Part II

IRC: , R202 (New).

Proposed Change as Submitted

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

2015 International Residential Code

Add new definition as follows:

SECTION R202 DEFINITIONS

SOLAR ENERGY SYSTEM. A system that converts solar radiation to usable energy, including photovoltaic panel system and solar thermal system.

SECTION R202 DEFINITIONS

SOLAR THERMAL COLLECTOR. Components in a solar thermal system that collect and convert solar radiation to thermal energy.

SECTION R202 DEFINITIONS

SOLAR THERMAL SYSTEM. A system that converts solar radiation to thermal energy for use in heating or cooling.

Reason: The proposed terms "solar thermal collector" and "solar thermal system" are from ICC 900/SRCC 300-15, Solar Thermal System Standard. These terms are currently used in the IRC and it is therefore appropriate for the definitions to be included.

The expansion of Section 3111 in the International Building Code by Proposal G211-15 in the Group A cycle covers all that is within Section 1510.7 and its subsections, as well as providing all the applicable requirements for photovoltaic panels and modules in one location of the code. There are additional requirements that apply to rooftop-mounted photovoltaic panels and modules that are not covered in Section 1510.7, including roof access, signage, routing of conductors, and additional electrical requirements. By locating all applicable requirements in one

location in the chapter for Special Construction, all applicable requirements will be addressed. In addition, Section 3111 also covers all the applicable requirements for solar thermal systems, which include the solar thermal collectors mounted on the roof. Revising Section 1512.1 provides the appropriate pointer to the requirements in Section 3111.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2014 and 2015 the BCAC has held 5 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: **BCAC** (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

Cost Impact: Will not increase the cost of construction
No cost increase as this correlates the requirements relocated to Section 3111.

**G17-16 Part II :
R202 ENERGY-
KULIK13909**

Public Hearing Results

Part II

Committee Action: **Approved as Submitted**

Committee Reason: This proposal brings a consensus ICC standard into the IRC.

Assembly Action: **None**

G19-16 Part II
IRC: 0, R202 (New).

Proposed Change as Submitted

Proponent : Theresa Weston, representing DuPont Building Innovations
(theresa.a.weston@dupont.com)

2015 International Residential Code

Add new text as follows:

SECTION R202 DEFINITIONS

STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

Revise as follows:

SECTION R202 DEFINITIONS

[RB] UNDERLAYMENT. One or more layers of a durable, water resistive material (e.g. felt, sheathing paper, nonbituminous saturated felt, or ~~other approved material~~ self-adhered membrane) that provides a degree of protection against water intrusion based on the roof slope and anticipated environmental exposure, over which a *steep slope* roof covering, ~~with a slope of 2 to 12 (17-percent slope) or greater,~~ is applied.

Reason: This proposal expands the definition to describe an underlayment more generally, rather than describing it only by example materials.

Cost Impact: Will not increase the cost of construction
This proposal only updates a definition and does not include any additional restrictions or requirements.

**G19-16 Part II :
R202 STEEP-
WESTON13911**

Public Hearing Results

Part II

Committee Action:

Disapproved

Committee Reason: There are a number of small teaks that need to be made. For example, the language "degree of protection" is unclear and problematic.

Assembly Action:

None

Individual Consideration Agenda

Public Comment 1:

Proponent : Theresa Weston, DuPont Protective Solutions, representing DuPont Building Innovations (theresa.a.weston@dupont.com) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Residential Code

SECTION R202 DEFINITIONS

[RB] UNDERLAYMENT. ~~One or more layers of a durable, material applied to a steep slope roof deck under the *roof covering* that resists liquid water resistive material (e.g. felt, sheathing paper, nonbituminous saturated felt, or self-adhered membrane) that provides a degree of protection against water intrusion based on penetrates the roof slope and anticipated environmental exposure, over which a steep slope *roof covering* roof covering is applied.~~

Commenter's Reason: This modification of the original proposal provides significant clarification and simplification over both current definition and the original proposal. It clarifies the definition by describing an underlayment more generically, rather than by describing in only by a laundry list of example materials. As suggested by the committee vague terminology such as "degree of protection" has been removed. This modification will also make the definition in the IRC the same as that which was approved in the Committee Hearings for the IBC.

**NOTE: PART I DID NOT RECEIVE A PUBLIC COMMENT AND IS
REPRODUCED FOR INFORMATIONAL PURPOSES ONLY**

G19-16 Part I

IBC: 202.

Proposed Change as Submitted

Proponent : Theresa Weston, representing DuPont Building Innovations
(theresa.a.weston@dupont.com)

2015 International Building Code

Revise as follows:

SECTION 202 DEFINITIONS

STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

[BS] UNDERLAYMENT. One or more layers of a durable, water resistive material (e.g. felt, sheathing paper, nonbituminous saturated felt, or other approved material self-adhered membrane) that provides a degree of protection against water intrusion based on the roof slope and anticipated environmental exposure, over which steep slope a steep-slope roof covering roof covering is applied.

Reason: This proposal expands the definition to describe an underlayment more generally, rather than describing it only by example materials.

Cost Impact: Will not increase the cost of construction
This proposal only updates a definition and does not include any additional restrictions or requirements.

**G19-16 Part I :
202 SLOPE-
WESTON13910**

Public Hearing Results

Part I

Committee Action:

Approved as Modified

Modification:

2015 International Building Code

SECTION 202 DEFINITIONS

[BS] UNDERLAYMENT. One or more layers of a durable, water-resistive material (e.g. felt, sheathing paper, nonbituminous saturated felt, or self-adhered membrane) that provides applied to a degree of protection against water intrusion based on the roof slope and anticipated environmental exposure, over which steep slope a roof covering is applied deck under the roof covering that resists liquid water that penetrates the roof covering.

Committee Reason: This change to the definition of "underlayment" reduces it to a basic explanation of what underlayment is. The modification removed extraneous wording in order to clarify this revision.

Assembly Action:

None

G26-16

IBC: [F] 307.1.1, 311.1 (IFC: [BG] 202), 311.2 (IFC: [BG] 202); IFC: 903.2.4 (IBC: [F] 903.2.4), 903.2.9 (IBC: [F] 903.2.9), 5001, 5001.1, 5004.3.1

Proposed Change as Submitted

Proponent : Kara Gerczynski, representing Elizabeth Fire Protection District (kara@elizabethfire.com)

2015 International Building Code

Revise as follows:

[F] 307.1.1 Uses other than Group H. An occupancy that stores, uses or handles hazardous materials as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1hour *horizontal assemblies* constructed in accordance with Section 711, or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
7. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterruptable power supply or telecommunication facilities, provided

that the batteries are provided with safety venting caps and *ventilation* is provided in accordance with the *International Mechanical Code*.

10. Corrosive personal or household products in their original packaging used in retail display.
11. Commonly used corrosive building materials.
12. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.
14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.
15. The storage area of distilled spirits in wooden casks and barrels in distilleries.

SECTION 311 STORAGE GROUPS

311.1 (IFC:[BG] 202) Storage Group S. *No change to text.*

311.2 (IFC: [BG] 202) Moderate-hazard storage, Group S-1.

Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3

Aircraft hangar (storage and repair)

Bags: cloth, burlap and paper

Bamboos and rattan

Baskets

Belting: canvas and leather

Beverages: over 16-percent alcohol content; bulk and retail packaging.

Beverages: 16 percent alcohol or less in bulk

Books and paper in rolls or packs

Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

2015 International Fire Code

Revise as follows:

903.2.4 (IBC [F] 903.2.4) Group F-1. *An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:*

1. A Group F-1 *fire area* exceeds 12,000 square feet (1115 m²).
2. A Group F-1 *fire area* is located more than three stories above grade plane.
3. The combined area of all Group F-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).

4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).
5. A Group F-1 fire area used for the manufacture of distilled spirits.

903.2.9 (IBC [F] 903.2.9) Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 *fire area* exceeds 12,000 square feet (1115 m²).
2. A Group S-1 *fire area* is located more than three stories above grade plane.
3. The combined area of all Group S-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 *fire area* used for the storage of commercial motor vehicles where the *fire area* exceeds 5,000 square feet (464 m²).
5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).
6. A Group S-1 fire area used for the storage of distilled spirits in wooden barrels or casks.

SECTION 5001 GENERAL

5001.1 Scope. Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter.

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

Exceptions:

1. In retail or wholesale sales occupancies, the quantities of medicines, foodstuff or consumer products and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable shall not be limited, provided such materials are packaged in individual containers not exceeding 1.3 gallons (5 L).
2. Quantities of alcoholic beverages in retail or wholesale sales occupancies shall not be limited providing the liquids are packaged in

- individual containers not exceeding 1.3 gallons (5 L).
3. Application and release of pesticide and agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications where applied in accordance with the manufacturers' instructions and label directions.
 4. The off-site transportation of hazardous materials where in accordance with Department of Transportation (DOTn) regulations.
 5. Building materials not otherwise regulated by this code.
 6. Refrigeration systems (see Section 606).
 7. Stationary storage battery systems regulated by Section 608.
 8. The display, storage, sale or use of fireworks and *explosives* in accordance with Chapter 56.
 9. *Corrosives* utilized in personal and household products in the manufacturers' original consumer packaging in Group M occupancies.
 10. The storage of ~~distilled spirits and~~ wines in wooden barrels and casks.
 11. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids where in accordance with Section 5705.5.

5004.3.1 System requirements. Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the *International Mechanical Code*.
2. Mechanical ventilation shall be at a rate of not less than 1 cubic foot per minute per square foot [$0.00508 \text{ m}^3/(\text{s} \cdot \text{m}^2)$] of floor area over the storage area.
 - o **Exception:** Areas used for the bulk storage of distilled spirits in wooden barrels or casks can be provided with an engineered ventilation system in accordance with Chapter 4 of the *International Mechanical Code*. The air flow shall not be less than that required to maintain the flammable vapor concentration in the storage area at or below 25 percent of the LFL 18 inches above finished floor level.
3. Systems shall operate continuously unless alternative designs are *approved*.
4. A manual shutoff control shall be provided outside of the room in a

position adjacent to the access door to the room or in an *approved* location. The switch shall be a break-glass or other *approved* type and shall be *labeled*: VENTILATION SYSTEM EMERGENCY SHUTOFF.

5. Exhaust ventilation shall be designed to consider the density of the potential fumes or vapors released. For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 inches (305 mm) of the floor. For fumes or vapors that are lighter than air, exhaust shall be taken from a point within 12 inches (305 mm) of the highest point of the room.
6. The location of both the exhaust and inlet air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.
7. Exhaust air shall not be recirculated to occupied areas if the materials stored are capable of emitting hazardous vapors and contaminants have not been removed. Air contaminated with explosive or flammable vapors, fumes or dusts; flammable, highly toxic or toxic gases; or radioactive materials shall not be recirculated.

Reason: There is confusion about the applicability of flammable liquid (Chapter 57) and hazardous materials (Chapter 50) provisions to distilled spirits because of the exception for distilled spirits and wines stored in wooden barrels and casks in IFC Chapters 50 and 57. The issue is arising because of the growing popularity of "boutique" or "craft" distillers. These distilleries have bulk storage of flammable and combustible liquids in wooden crafts. The Distilled Spirits Council of The United States (DISCUS) reported there have been 158 fire losses reported from 1933-2004. In 2005 DISCUS release recommended guidelines for these facilities which addressed ventilation and secondary containment requirements. Still within the past 12 years since the DISCUS study came out there have been numerous fires in Kentucky.

The confusion is further complicated by how the International Building Code classifies the various activities into Groups. The manufacturing of beverages with over 16 percent alcohol is classified as an F-1:

306.2 Moderate-hazard factory industrial, Group F-1.

Factory industrial uses that are not classified as Factory Industrial F-2

Low Hazard shall be classified as F-1 Moderate Hazard and shall include,

but not be limited to, the following:

Beverages: over 16-percent alcohol content

The storage of beverages with up to and including 16-percent alcohol in metal, glass or ceramic containers is classified as an S-2:

311.3 Low-hazard storage, Group S-2.

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

Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers

However, there is no classification listed for storage of beverages with over 16 percent alcohol and there are no exemptions for distilling activities or bulk storage of distilled spirits in Section 307.

311.2 Moderate-hazard storage, Group S-1.

Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

???

[F] 307.1.1 Uses other than Group H.

An occupancy that stores, uses or handles hazardous materials as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.

15. The storage of distilled spirits in wooden crates and barrels in distilleries.

A review of the International Fire Code Commentary concerning the distilled spirits in wooden barrels exception finds the following statement:

5001.1 Scope.

Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in

accordance with this chapter.

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

Exceptions:

10. The storage of distilled spirits and wines in wooden barrels and casks.

IFC Commentary:

"Exception 10 covers the storage of distilled spirits and wines in wooden barrels and casks. This statement may appear to exempt all requirements for these products from being a Group H occupancy. However, the IBC will still classify the storage area as a Group H occupancy if the amounts exceed the maximum allowable quantities (MAQs) per control area listed in Table 307.1(1) of that code for flammable or combustible liquids. All requirements for a Group H occupancy in the IBC are still applicable; however, any requirements from the code are not."

In summary, when you manufacture distilled spirits you are an F-1 occupancy. When you manufacture wine or beer you are an F-2 occupancy. When you store wine and beer you are an S-2 occupancy. When you store distilled spirits in retail packaging you are not an H occupancy but there is no clarifying entry under S-1. If you store any beverage with over 16% alcohol in bulk, (includes some wines), you have an H occupancy. As far as risk goes, manufacturing has a higher risk than storage for an event, yet manufacturing of distilled spirits is an F-1 regardless of amount and but an H if stored in bulk. This makes no sense. To top it off, when you go to the IFC, if you store your distilled spirits in bulk in wooden barrels Chapter 50 and 57 do not apply so there are no code requirements.

This proposal attempts to address this confusion recognizing the main issues are need for automatic fire suppression, need for mechanical ventilation and need for containment of spills. It is proposed to add a classification under S-1 for storage of beverages over 16% alcohol in bulk or retail packaging along with beverages with 16% or less alcohol in bulk.

Modify the exception from H occupancies to apply to liquor stores,

distilleries that are storing distilled spirits in wooden barrels or casks. Add automatic fire suppression requirements for the manufacture of distilled spirits or bulk storage of distilled spirits regardless of square footage.

Remove the distilled spirit in wooden barrels exception in Chapter 50 of the IFC to provide for ventilation and spill containment requirements, and modify the ventilation requirements to match current industry practice.

The Group classifications are clarified with the elimination of the H group for storage in exchange for fire protection features including suppression, ventilation and spill containment.

Cost Impact: Will not increase the cost of construction

This proposal will likely break even on the cost of construction by clarifying what the appropriate Group designation is, elimination of the unnecessary H classifications and clarifying what protection levels are necessary.

**G26-16 : [F]
307.1.1-
GERCZYNSKI12232**

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal although trying to address a current problem with the code needs more work. In particular the exception to Section 5004.3.1 would only apply where the MAQs have been exceeded. Therefore if the liquids are simply considered as Group S-1 or F-1 the exception would never apply. Also the exception to 307.1.1 only addresses storage.

Assembly Action:

None

Individual Consideration Agenda

Public Comment 1:

Proponent : Kara Gerczynski, representing Elizabeth Fire Protection District (kara@elizabethfire.com) requests Approve as Modified by this Public Comment.

Further Modify as Follows:

2015 International Building Code

[F] 307.1.1 Uses other than Group H. An occupancy that stores, uses or handles hazardous materials as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1hour *horizontal assemblies* constructed in accordance with Section 711, or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
7. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterruptable power supply or telecommunication facilities, provided

that the batteries are provided with safety venting caps and *ventilation* is provided in accordance with the *International Mechanical Code*.

10. Corrosive personal or household products in their original packaging used in retail display.
11. Commonly used corrosive building materials.
12. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.
14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.
- ~~15. The storage area of distilled spirits in wooden casks and barrels in distilleries.~~
15. The storage of distilled spirits.

2015 International Fire Code

903.2.9 Group S-1. An *automatic sprinkler system* shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 *fire area* exceeds 12,000 square feet (1115 m²).
2. A Group S-1 *fire area* is located more than three stories above grade plane.
3. The combined area of all Group S-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 *fire area* used for the storage of commercial motor vehicles where the *fire area* exceeds 5,000 square feet (464 m²).
5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).
6. A Group S-1 fire area used for the storage of distilled spirits ~~in wooden barrels or casks.~~

BOOK PART V—Hazardous Materials

CHAPTER 50 HAZARDOUS MATERIALS—GENERAL PROVISIONS

5001.1 Scope. Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter.

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

Exceptions:

1. In retail or wholesale sales occupancies, the quantities of medicines, foodstuff or consumer products and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable shall not be limited, provided such materials are packaged in individual containers not exceeding 1.3 gallons (5 L).
2. Quantities of alcoholic beverages in retail or wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons (5 L).
3. Application and release of pesticide and agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications where applied in accordance with the manufacturers' instructions and label directions.
4. The off-site transportation of hazardous materials where in accordance with Department of Transportation (DOT) regulations.
5. Building materials not otherwise regulated by this code.
6. Refrigeration systems (see Section 606).
7. Stationary storage battery systems regulated by Section 608.
8. The display, storage, sale or use of fireworks and *explosives* in accordance with Chapter 56.
9. *Corrosives* utilized in personal and household products in the manufacturers' original consumer packaging in Group M occupancies.
10. The storage of wines ~~in wooden barrels and casks.~~
11. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids where in accordance with

SECTION 5004 STORAGE

5004.1 Scope. Storage of hazardous materials in amounts exceeding the *maximum allowable quantity per control area* as set forth in Section 5003.1 shall be in accordance with Sections 5001, 5003 and 5004. Storage of hazardous materials in amounts not exceeding the *maximum allowable quantity per control area* as set forth in Section 5003.1 shall be in accordance with Sections 5001 and 5003. Retail and wholesale storage and display of nonflammable solid and nonflammable and noncombustible liquid hazardous materials in Group M occupancies and Group S storage shall be in accordance with Section 5003.11.

5004.2 Spill control and secondary containment for liquid and solid hazardous materials. Rooms, buildings or areas used for the storage of liquid or solid hazardous materials shall be provided with spill control and secondary containment in accordance with Sections 5004.2.1 through 5004.2.3.

- ~~**Exception:** Outdoor storage of containers on approved containment pallets in accordance with Section 5004.2.3.~~

Exceptions:

1. Outdoor storage of containers on approved containment pallets in accordance with Section 5004.2.3.
2. Areas used for the storage of distilled spirits.

5004.3.1 System requirements. Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the *International Mechanical Code*.
2. Mechanical ventilation shall be at a rate of not less than 1 cubic foot per minute per square foot [$0.00508 \text{ m}^3/(\text{s} \cdot \text{m}^2)$] of floor area over the storage area.

~~**Exception:** Areas used for the bulk storage of distilled spirits in wooden barrels or casks can be provided with an engineered ventilation system in accordance with Chapter 4 of the *International Mechanical Code*. The air flow shall not be less~~

~~than that required to maintain the flammable vapor concentration in the storage area at or below 25 percent of the LFL 18 inches above finished floor level.~~

Exception: Areas used for the storage of distilled spirits can be provided with an engineered ventilation system in accordance with Chapter 4 of the *International Mechanical Code*. The air flow shall not be less than that required to maintain the flammable vapor concentration in the storage area at or below 25 percent of the LFL 18 inches above finished floor level. Exhaust need not be continuous if approved LFL sensors are installed and maintained to maintain flammable vapors within all portions of the room at or below 25 percent of the LFL.

3. Systems shall operate continuously unless alternative designs are *approved*.
4. A manual shutoff control shall be provided outside of the room in a position adjacent to the access door to the room or in an *approved* location. The switch shall be a break-glass or other *approved* type and shall be *labeled*: VENTILATION SYSTEM EMERGENCY SHUTOFF.
5. Exhaust ventilation shall be designed to consider the density of the potential fumes or vapors released. For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 inches (305 mm) of the floor. For fumes or vapors that are lighter than air, exhaust shall be taken from a point within 12 inches (305 mm) of the highest point of the room.
6. The location of both the exhaust and inlet air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.
7. Exhaust air shall not be recirculated to occupied areas if the materials stored are capable of emitting hazardous vapors and contaminants have not been removed. Air contaminated with explosive or flammable vapors, fumes or dusts; flammable, highly toxic or toxic gases; or radioactive materials shall not be recirculated.

Commenter's Reason: The changes to section 307.1.1 Uses other than Group H #15, 903.2.9 Group S-1 #6, and 5001.1 Scope exception 10 was a floor modification change. The original proposal would have been met with a

large amount of negative testimony without the floor modification. During the code hearings some of the objections to the code change were discussed:

1. A reduced exhaust was of concern. The modification provides an alternative to the 1 cfm exhaust while ensuring that the 25% LFL is not exceeded. This makes business and environment sense since a continuous exhaust is a waste of resources. Additionally due to the methods of aging barrels, the exhaust results in excessive drying of the barrel and additional "wicking" effect of the fumes out of the barrel.
2. Additionally the spill control is typically an environmental issue. The spill control is needed for hazardous materials that we would not want spilling into our storm waters. Alcoholic beverages are drained down sinks, etc. all the time. We are already adding a substantial amount of requirements by not exempting these wooden barrels out of Chapter 50. This particular requirement does not make sense for food grade products and would create an additional burden to the industry.

G26-16

G29-16

IBC: 406.4.3.

Proposed Change as Submitted

Proponent : Satyendra Ghosh, representing Precast/Prestressed Concrete Institute (skghoshinc@gmail.com)

2015 International Building Code

Revise as follows:

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

ExceptionExceptions:

1. *Vehicle barriers* are not required in vehicle storage compartments in a mechanical access parking garage.
2. Where a vehicle barrier is designed to resist the load required by Section 1607.8.3 applied on an area less than 12 inches in height, the minimum vehicle barrier height is permitted to be reduced to 2 feet 3 inches plus half the height of the load application area.

Reason: ASCE 7-10 Section 4.5.3, referenced from Section 1607.8.3, requires: "Vehicle barrier systems for passenger vehicles shall be designed to resist a single load of 6,000 lb (26.70 kN) applied horizontally in any direction to the barrier system, For design of the system, the load shall be assumed to act at heights between 1 ft 6 in. (460 mm) and 2 ft 3 in. (686 mm) above the floor or ramp surface, located to produce the maximum load effects. The load shall be applied on an area not to exceed 12 in. by 12 in. (305 mm by 305 mm)." The 2 feet 9 inches of minimum barrier height is 2 feet 3 inches, the maximum height of load application, plus 6 inches, half the height of the 12-inch by 12-inch load application area. However, note that the ASCE 7 language reads "not to exceed 12 in. by 12 in." If a designer can design the barrier system to withstand the same load applied at the maximum 2 feet 3 inches height applied over a smaller 6-in. high by 12-inch wide area, there is no reason for the barrier to be taller than 2 feet 3 inches plus half the 6-in.

height of the load application area or 2 feet 6 inches total. The proposed change would permit this flexibility. The few inches become important when a designer is struggling to meet the openness requirement in Section 406.5. Note that ASCE 7-16 Section 4.5.3 is unchanged.

Cost Impact: Will not increase the cost of construction
This proposal may result in a modest decrease in the cost of a parking structure, if its design is affected by the proposed change.

**G29-16 : 406.4.3-
GHOSH13258**

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposed exception which would lower vehicle barrier heights was not sufficiently explained. There is concern about a vehicle jumping the barrier. Some thought should be put into that and if it is not a concern then provide the reason for that. Also some concern over why such a specific case should be offered a special exception.

Assembly Action: **None**

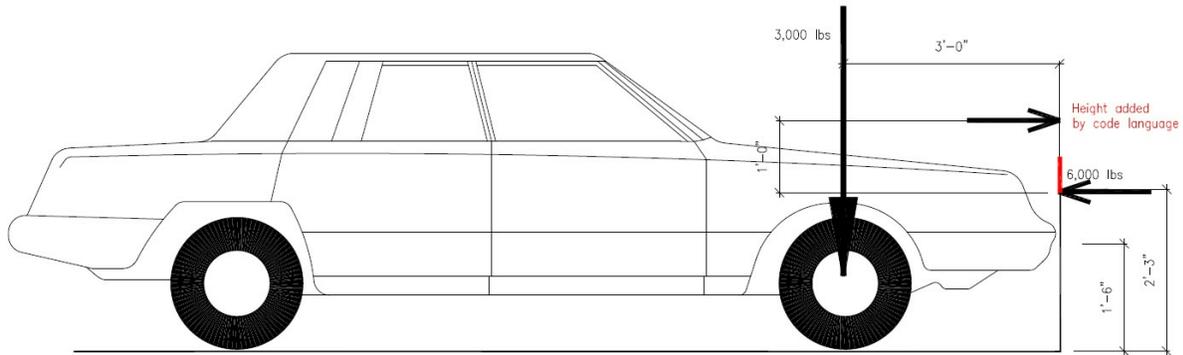
Individual Consideration Agenda

Proponent : Satyendra Ghosh, representing Precast/Prestressed Concrete Institute (skghoshinc@gmail.com) requests Approve as Submitted.

Commenter's Reason: The committee's reason for recommending disapproval was: "There is concern about a vehicle jumping the barrier." They suggested: "Some thought should be put into that and if it is not a concern then provide the reason for that."

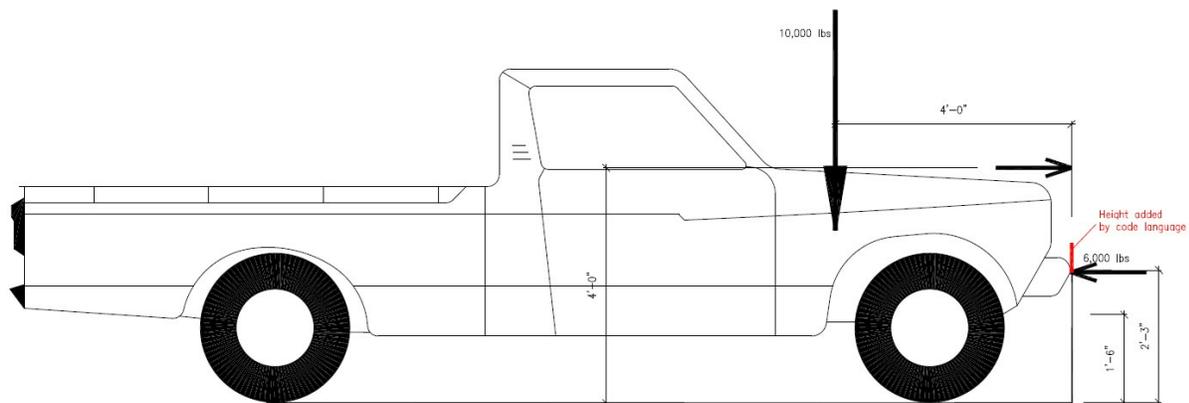
It is necessary first to consider the physics of the problem. A passenger vehicle weighing 3,000 lbs. (see figure below) has a low center of gravity. If the motor and vehicle weight were 12 in. above the bumper, and the vehicle imposed the code-required 6,000 lb load on the barrier, the moment would be

6 kips x 1 ft = 6 ft-kips. If the center of gravity were only 3 ft behind the bumper, the resistance to overturning would be 3 kips x 3 ft = 9 ft-kips. It is likely that the center is much further back.



This is an unrealistically conservative comparison of overturning at 27 in. of impact height with gravity resistance to overturning. It still would not flip the vehicle over the barrier. Actually the center of gravity of the vehicle is closer to 6 ft from the front end, and impact height is below the 27 in. maximum height in a typical passenger vehicle.

If the vehicle were a large pick-up truck (see figure below) at the limit of what IBC permits for a passenger vehicle garage, the weight would be 10,000 lbs. With high-rise shocks, assume the center of motor and vehicle weight at 4 ft above the floor. If the truck bumper hit at 27 in. above the floor at the code load of 6,000 lbs, then the overturning would be 6 kips x (4 – 27/12) ft = 10.5 ft kips. If the center of gravity of the vehicle were 4 ft behind the bumper, the resistance to overturning would be 10 kips x 4 ft = 40 ft-kips. In neither case would the vehicle jump the barrier.



For a pick-up truck with GVW = 10,000 lbs, the center of gravity of the vehicle is also closer to 6 ft from the front end, and it is lower than 4 ft above the base. The resistance to overturning is more than 4 times this extreme overturning based on a 4 ft height.

The proponent has contacted the Insurance Institute for Highway Safety (IIHS). They are the non-profit organization located in Ruckersville, Virginia, that runs the crash tests of vehicles, which are so prominent in the vehicle safety ratings. Auto manufacturers routinely use their safety ratings in their advertisement.

The ASCE 7 load standard places a vehicle barrier impact load at a maximum height of 27 in. above the parking floor. Although the standard permits an area as large as 12 in. square to distribute the load, a strong and rigid barrier may be designed to accept the load on a smaller area. In no case could that barrier height be less than 27 in., so the conversation with IIHS was based on a consideration of this lowest theoretically possible limit.

According to Raul Arbelaez, Vice President, IIHS, there is no way a vehicle can flip over a 27- in. barrier with loads near what the code specifies. The code provisions and the objection to lowering the barrier height below 33 in. were discussed in depth. IIHS tests collisions five ways, including bumper tests. Mr. Arbelaez has not seen a "flip over" occur. He said that even if the vehicle were illegally jacked to raise the bumper above 27 in, the impact would hit the wheels and the transmission. He said that although they have not done such a barrier test directly, he just cannot see a flip-over from striking a 27-in. tall barrier. At higher speeds, the force might be greater than specified and that might break the barrier, but the vehicle would not jump or flip over a barrier that high. This confirmation from the vice president of IIHS should be reassuring to ICC's membership.

G29-16

G32-16

IBC: 423.1, 423.1.1, 423.2, 423.3, 423.4, 1604.5.

Proposed Change as Submitted

Proponent : Edward Kulik, representing Building Code Action Committee (bcac@iccsafe.org); Marc Levitan, National Institute of Standards and Technology (NIST) (marc.levitan@nist.gov); Andrew Herseth, representing Federal Emergency Management Agency (andrew.herseth@fema.dhs.gov)

2015 International Building Code

Revise as follows:

423.1 General. In addition to other applicable requirements in this code, ~~storm shelters~~storm shelters shall be constructed in accordance with ICC 500. Buildings or structures that are designated as emergency shelters by the emergency management official having jurisdiction shall also comply with Table 1604.5.

423.1.1 Scope. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

423.2 Definitions. The following terms are defined in Chapter 2:

STORM SHELTER.

Community storm shelter.

Residential storm shelter.

423.3 Critical emergency operations. In areas where the shelter design wind speed for tornados in accordance with Figure 304.2(1) of ICC 500 is 250 MPH, 911 call stations, emergency operation centers and fire, rescue, ambulance and police stations shall ~~have~~ comply with Table 1604.5 and shall be provided with a storm shelter constructed in accordance with ICC 500.

Exception: Buildings meeting the requirements for shelter design in ICC 500.

423.4 Group E occupancies. In areas where the shelter design wind speed

for tornados is 250 MPH in accordance with Figure 304.2(1) of ICC 500, all Group E occupancies with an aggregate occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500. The shelter shall be capable of housing the total occupant load of the Group E occupancy.

Exceptions:

1. Group E day care facilities.
2. Group E occupancies accessory to places of religious worship.
3. Buildings meeting the requirements for shelter design in ICC 500.

1604.5 Risk category. Each building and structure shall be assigned a risk category in accordance with Table 1604.5. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where a referenced standard specifies that the assignment of a risk category be in accordance with ASCE 7, Table 1.5-1, Table 1604.5 shall be used in lieu of ASCE 7, Table 1.5-1.

**TABLE 1604.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES**

RISK CATEGORY	NATURE OF OCCUPANCY
I	Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"> • Agricultural facilities. • Certain temporary facilities. • Minor storage facilities.
II	Buildings and other structures except those listed in Risk Categories I, III and IV.
	Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"> • Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300. • Buildings and other structures containing Group E occupancies with an occupant load greater than 250. • Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.

III	<ul style="list-style-type: none"> • Group I-2 occupancies with an occupant load of 50 or more resident care recipients but not having surgery or emergency treatment facilities.
	<ul style="list-style-type: none"> • Group I-3 occupancies.
	<ul style="list-style-type: none"> • Any other occupancy with an occupant load greater than 5,000.^a
	<ul style="list-style-type: none"> • Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.
	<ul style="list-style-type: none"> • Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that:
	Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i> ; and
	Are sufficient to pose a threat to the public if released. ^b
IV	Buildings and other structures designated as essential facilities, including but not limited to:
	<ul style="list-style-type: none"> • Group I-2 occupancies having surgery or emergency treatment facilities.
	<ul style="list-style-type: none"> • Fire, rescue, ambulance and police stations and emergency vehicle garages.
	<ul style="list-style-type: none"> • Designated^c emergency shelters including earthquake or community storm, hurricane or other emergency shelters for use during and immediately after an event.
	<ul style="list-style-type: none"> • Designated^c emergency preparedness, communications and operations centers and other facilities required for emergency response.
	<ul style="list-style-type: none"> • Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.
	<ul style="list-style-type: none"> • Buildings and other structures containing quantities of highly toxic materials that:
	Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i> ; and
	Are sufficient to pose a threat to the public if released. ^b
	<ul style="list-style-type: none"> • Aviation control towers, air traffic control centers and emergency aircraft hangars.
	<ul style="list-style-type: none"> • Buildings and other structures having critical national defense functions.

- | |
|--|
| <ul style="list-style-type: none">• Water storage facilities and pump structures required to maintain water pressure for fire suppression. |
|--|

a. For purposes of occupant load calculation, occupancies required by Table 1004.1.2 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.

b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

c. As designated by the emergency management official having jurisdiction.

Reason: The purpose of this code change is to clarify which types of shelters are required to be assigned to Risk Category IV per Table 1604.5 and who is responsible for providing the designation.

Risk categories are assigned to buildings to account for consequences and risks to human life (building occupants) in the event of a building failure. The intent is to assign higher risk categories, and hence higher design criteria, to buildings or structures that, if they experience a failure, would inhibit the availability of essential community services necessary to cope with an emergency situation and therefore have grave consequences to either the building occupants or the population around the building or structure that relies upon the provided services (such as a power station).

Table 1604.5 of the IBC, which was originally copied from Table 1.5-1 of ASCE 7 and has existed in the IBC since the 2000 edition, includes under Risk Category IV "Designated earthquake, hurricane or other emergency shelters". This item has always meant shelters that are used both during and immediately after an event. The item is amended to clarify that both uses apply.

Additionally, with the introduction of ICC-500 Standard for the Design and Construction of Storm Shelters (ICC 500) in 2008, and subsequently in 2014, the term 'hurricane shelter' is now used in Section 423 of the IBC and throughout ICC 500. Without the clarification of the word 'community' proposed above, ALL hurricane shelters would have to be Risk Category IV,

even residential hurricane shelters (shelters provided in dwelling units and having an occupant load not exceeding 16 persons), which does not meet the intent of Risk Category IV buildings.

Furthermore, with the introduction of ICC 500, the term 'storm shelter' has become a defined term and includes tornado shelters in addition to hurricane shelters, both of which are emergency shelters and as such meet the spirit and intent of being Risk Category IV structures.

The addition of footnote C is intended to provide clarification and meaning to the term 'designated' provided in the table; without this added footnote one may ask, 'designated by whom?' Another observed issue with the term 'designated', is that the designation often comes well after the building is designed and built, which is too late to incorporate the structural design provision of Risk Category IV. This clarification will lead to pre-design involvement of the emergency management official having jurisdiction, whom is typically the one that designates emergency shelters.

It is noted that, starting with the 2010 edition of ASCE 7, Table 1.5-1 no longer provides bulleted lists of the types of buildings that fall under each Risk Category. It was the decision of the ASCE 7 committee that Table 1.5-1 should only provide the general criteria, and that Table 1604.5 of the IBC should detail the specific occupancies or uses that fall under each Risk Category as decided on by the stakeholders and participants in the ICC code development process.

The ICC Building Code Action Committee (BCAC) is a co-proponent of this proposal. BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2014 and 2015 the BCAC has held 5 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: **BCAC** (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

Cost Impact: Will not increase the cost of construction

As this is intended as a clarification only, the cost of construction will not be increased.

**G32-16 : 423.1-
KULIK10973**

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: While there is support for the concept of clarifying the assignment of risk category to shelters, the proposed wording was felt to be confusing. The proposal would introduce undefined terms into the IBC, designating people to do things who are not under the control of the building official. The new wording proposed in Section 423.1 is problematic, naming an emergency management official and suggesting that only such buildings comply with Table 1604.5 when, in fact, all buildings need to comply. With respect to the building code the actual chain of command for emergency management in any locale is not know.

Assembly Action:

None

Individual Consideration Agenda

Public Comment 1:

Proponent : Edward Kulik, representing Building Code Action Committee (bcac@iccsafe.org) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Building Code

423.1 General. In addition to other applicable requirements in this code, *storm shelters* shall be constructed in accordance with ICC 500. Buildings or structures that are also designated as emergency shelters ~~by the emergency management official having jurisdiction~~ shall also comply with Table 1604.5 as Risk Category IV structures.

423.1.1 Scope. This section applies to the construction of storm shelters

constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes during the storm. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Design of facilities for use as emergency shelters after the storm are outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV Structure.

423.2 Definitions. The following terms are defined in Chapter 2:

STORM SHELTER.

Community storm shelter.

Residential storm shelter.

423.3 Critical emergency operations. In areas where the shelter design wind speed for tornados in accordance with Figure 304.2(1) of ICC 500 is 250 MPH, 911 call stations, emergency operation centers and fire, rescue, ambulance and police stations shall comply with Table 1604.5 as a Risk Category IV structure and shall be provided with a storm shelter constructed in accordance with ICC 500.

~~**Exception:** Buildings meeting the requirements for shelter design in ICC 500.~~

•

Commenter's Reason: The intent of the original code change proposal was to simply clarify that shelters built for protection during wind storms in accordance with ICC500-14 are not emergency shelters that are required to be designed as Risk Category IV structures in accordance with Section 1604.5. The committee disapproved this proposal because the proposed text introduced requirements for an emergency management official to designate an emergency shelter. It was not the intent of the BCAC to create requirements for emergency personnel and introduce some level of management for emergency shelters. Therefore, this public comment is intended to remove the reference to emergency management officials in Section 423.1 and instead install language in Section 423.1.1 that simply clarifies the scope of ICC500. In addition, in Section 423.3 the phrase "as a Risk Category IV structure" is added to clarify how this type of structure is required to comply with Table 1604.5.

This public comment is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. Between 2014 and 2016 the BCAC has held 8 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed public comments. Related documentation and reports are posted on the BCAC website at: BCAC (<http://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac/>)

G32-16

G35-16

IBC: [F] 2702.1.7; IFC: 604.1.7.

Proposed Change as Submitted

Proponent : Gregory Wilson (gregory.wilson2@fema.dhs.gov); Rebecca Quinn, representing Federal Emergency Management Agency (rcquinn@earthlink.net)

2015 International Building Code

Revise as follows:

[F] 2702.1.7 Group I-2 occupancies. In Group I-2 occupancies, ~~in new construction or where the building is substantially damaged, where an essential electrical system is located in flood hazard areas established in Section 1612.3~~ where new or replacement essential electrical systems are installed, the ~~system~~ systems shall be located and installed in accordance with ASCE 24. Where connections for hook up of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.

2015 International Fire Code

Revise as follows:

604.1.7 Group I-2 occupancies. In Group I-2 occupancies, ~~where an essential electrical system is located in flood hazard areas established in Section 1612.3 of the *International Building Code* and where new or replacement essential electrical system generators~~ systems are installed, the ~~system~~ systems shall be located and installed in accordance with ASCE 24. Where connections for hook up of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.

Reason: This proposal does two things to combine texts in two codes to produce the same phrasing in both sections, which was the original intent when these sections were approved for the 2015 editions. The differences between IBC 2702.1.7 and IFC 604.1.7 were brought to the attention of ICC staff several months ago.

First, the proposal makes the requirement apply to new and replacement essential electrical systems. Second, it makes the requirement apply to essential electrical systems, not just "essential electrical system generators"

because a generator is a part of an essential electrical system. The term "essential electrical system" is used in the IBC and IFC, but defined in NFPA 99.

The proposal adds a requirement related to hook up of temporary generators. Hook ups should be above the required flood elevation (i.e., at or above the same elevation as the building's lowest floor or dry floodproofing level), otherwise if inundated, the hook ups may not be functional and readily when floodwater rises to that elevation.

Cost Impact: Will not increase the cost of construction
Intent is to make the sections consistent.

**G35-16 : [F]
2702.1.7-
WILSON12138**

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The committee disapproved the proposal based upon a concern that the requirements may be too restrictive for existing buildings.

Assembly Action: **None**

Individual Consideration Agenda

Public Comment 1:

**Proponent : Gregory Wilson (gregory.wilson2@fema.dhs.gov);
Rebecca Quinn, representing Federal Emergency Management Agency
(rcquinn@earthlink.net) requests Approve as Modified by this Public
Comment.**

Modify as Follows:

2015 International Building Code

[F] 2702.1.7 Group I-2 occupancies. In Group I-2 occupancies located in

flood hazard areas established in Section 1612.3 where ~~new or replacement~~ essential electrical systems are installed, and where new essential electrical system generators are installed, the systems and generators shall be located and installed in accordance with ASCE 24. Where connections for hook up of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.

2015 International Fire Code

604.1.7 Group I-2 occupancies. In Group I-2 occupancies located in flood hazard areas established in Section 1612.3 of the *International Building Code* where ~~new or replacement~~ essential electrical systems are installed, and where new essential electrical system generators are installed, the systems and generators shall be located and installed in accordance with ASCE 24. Where connections for hook up of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.

Commenter's Reason: Opposition to the proposal centered on whether the requirement should apply to both new and replacement systems and generators. This comment modification removes replacement, thus the requirements would apply only to new installations. When existing buildings in flood hazard areas are proposed to be substantially improved or repaired after substantial damage, they must be brought into compliance with the requirements of Section 1612, which refers to ASCE 24. When that occurs, existing systems and generators would be included in those elements that have to be brought into compliance.

G35-16