



ICC Performance Code

2021 GROUP A PUBLIC COMMENT AGENDA

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2021 Public Comment Agenda

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Proposed Change as Submitted

Proponents: Robert Pekelnicky, Degenkolb Engineers, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (rpekelnicky@degenkolb.com); Kelly Cobeen, Wiss Janney Elstner Associates, Inc., representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, Federal Emergency Management Agency, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov)

THIS PROPOSAL WILL BE HEARD BY THE BUILDING CODE GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER THE IBC-GENERAL COMMITTEE.

2021 International Code Council Performance Code

SECTION 304

MAXIMUM LEVEL OF DAMAGE TO BE TOLERATED

[BG] 304.2.2 **Moderate impact.** The tolerable impacts of the design loads are assumed as follows:

Revise as follows:

[BG] 304.2.2.3 **Occupant hazards.** Injuries to building or facility occupants from hazard-related applied loads ~~may be locally significant, but generally moderate~~ are minimal in numbers and minor in nature. There is ~~a low likelihood of single life loss with a very low likelihood of single or multiple life loss.~~ The nature of the applied load, such as fire hazards, may result in higher levels of expected injuries and damage in localized areas, whereas the balance of the areas may sustain fewer injuries and less damage.

[BG] 304.2.3 **High impact.** The tolerable impacts of the design loads are assumed as follows:

Revise as follows:

[BG] 304.2.3.3 **Occupant hazards.** Injuries to building or facility occupants from hazard-related applied loads ~~may be locally significant with a high risk to life, but are generally moderate~~ are minimal in numbers and minor in nature. There is a ~~moderate-low~~ very low likelihood of single life loss, with a very low probability of multiple life loss. The nature of the applied load, such as fire hazards, may result in higher levels of expected injuries and damage in localized areas, whereas the balance of the areas may sustain fewer injuries and less damage.

Reason: The definitions of occupant hazard for the moderate and high damage states do not align with the intended performance of buildings designed to the IBC. The ICCPC should not have explicitly lower performance goals than the IBC; the difference should be in the scope of design considerations and in the acceptable methods of verification, not in the expected performance. The most significant misalignment is in the high impact state currently permitting "moderate" likelihood of a single loss of life. This is in direct conflict with the intention of ASCE 7, the structural design standard referenced in the IBC, for the design earthquake seismic hazard, where the goal is to avoid loss of life even at the large hazard level. The intended performance for other environmental hazards in ASCE 7 is life safety or better in the design event, where the design event is generally the large hazard contemplated by the ICCPC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change will not increase the cost of construction because it is simply aligning the provisions of the ICC-PC with the provisions in the standards referenced in Chapter 16 of the IBC.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved for several reasons. The proposal was a significant change to Section 304.2.3.3 for the occupant hazards in high impact. The occupant hazards are more than structural, so this should not be aligned only with ASCE 7. Proximity to the event could make a significant difference in the hazard. The current text aligns with Table 303.3 - high risk is not permitted for many building types. (Vote: 13-1)

Individual Consideration Agenda

Public Comment 1:

ICCPC: [BG] 304.2.2, [BG] 304.2.2.3, [BG] 304.2.3, [BG] 304.2.3.3

Proponents: Robert Pekelnicky, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (rpekelnicky@degenkolb.com); Michael Mahoney, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov); David Collins, representing The American Institute of Architects (dcollins@preview-group.com) requests As Modified by Public Comment

Replace as follows:

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[BG] 304.2.2 Moderate impact . The tolerable impacts of the design loads are assumed as follows:

[BG] 304.2.2.3 Occupant hazards . Injuries to building or facility occupants from hazard-related applied loads may be locally significant, but generally moderate in numbers and in nature. There is a low likelihood of single life loss with a very low likelihood of multiple life loss. The nature of the applied load, such as fire hazards, may result in higher levels of expected injuries and damage in localized areas, whereas the balance of the areas may sustain fewer injuries and less damage. When subject to structural loads and combinations of loads listed in Section 501.3.4, there is a very low likelihood of serious injury or loss of life.

[BG] 304.2.3 High impact . The tolerable impacts of the design loads are assumed as follows:

[BG] 304.2.3.3 Occupant hazards . Injuries to building or facility occupants from hazard-related applied loads may be locally significant with a high risk to life, but are generally moderate in numbers and in nature. There is a moderate likelihood of single life loss, with a low probability of multiple life loss. The nature of the applied load, such as fire hazards, may result in higher levels of expected injuries and damage in localized areas, whereas the balance of the areas may sustain fewer injuries and less damage. When subject to structural loads and combinations of loads listed in Section 501.3.4, there is a very low likelihood of serious injury or loss of life.

Commenter's Reason: The proposed revised change clarifies that the changes originally proposed were intended for the structural design loads. The reason for disapproval was because the original proposed change would also have changed the occupant hazard for fire hazards. The revised proposal leaves in place the general discussion of occupant hazard and it's intent for fire hazards and add a specific statement that for structural loads and combinations of structural loads, the occupant hazard should be very low for Moderate and High impact. This aligns with the structural standards definition of life safety in the large hazard, which typical buildings must meet High impact, and thus also providing life safety in the medium hazard, as discussed in the reason statement to PC-5. An important feature of design for earthquake and other environmental hazards is ASCE 7 is protecting individuals from local falling hazards.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This will not change the cost of construction because it is aligning the ICCPC with one of the performance objective for structural design loads based on the standard referenced in the IBC.

Public Comment# 2722

PC6-21

Proposed Change as Submitted

Proponents: Robert Pekelnicky, Degenkolb Engineers, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (rpekelnicky@degenkolb.com); Kelly Cobeen, Wiss Janney Elstner Associates, Inc., representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, Federal Emergency Management Agency, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov)

THIS PROPOSAL WILL BE HEARD BY THE BUILDING CODE GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER THE IBC-GENERAL COMMITTEE.

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[BG] 304.2.3 **High impact.** The tolerable impacts of the design loads are assumed as follows:

Revise as follows:

[BG] 304.2.3.2 **Nonstructural systems.** Nonstructural systems needed for normal building or facility use are significantly damaged and inoperable; egress routes may be impaired by light debris but means of egress are preserved; emergency systems may be significantly damaged, but remain operational.

Reason: In ICCPC Table 303.3, high impact is the performance level expected of Performance Group II buildings in large events. This objective corresponds to the design of normal occupancy buildings (Risk Category II) in design events using the IBC. Therefore, the performance description should align with the IBC's reference standards and resource documents. Section 1.1 of the 2020 NEHRP Provisions – the document that forms that basis for the seismic provisions in the IBC referenced structural loading standard, ASCE 7 – states that preservation of means of egress is a design intent of the Provisions. Throughout the commentary to Chapter 13 of ASCE 7 there are references to paying special consideration to components whose failure would block means of egress. Therefore, a change is proposed to clarify that while light debris may fall in an egress route, egress out of the building or facility should still be possible.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change will not increase the cost of construction because it is simply aligning the provisions of the ICC-PC with the intent of the standards referenced Chapter 16 of the IBC.

PC6-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the proposed language did not clarify the debris obstruction limits as intended. Generally the means of egress is already addressed in the general requirements and this proposal does not address the number of exits (e.g. one or all) or possible accessible means of egress concerns. (Vote: 8-6)

PC6-21

Individual Consideration Agenda

Public Comment 1:

ICCPC: [BG] 304.2.3, [BG] 304.2.3.2

Proponents: Robert Pekelnicky, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (rpekelnicky@degenkolb.com); Michael Mahoney, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov); David Collins, representing The American Institute of Architects (dcollins@preview-group.com) requests As Modified by Public Comment

Modify as follows:

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[BG] 304.2.3 High impact . The tolerable impacts of the design loads are assumed as follows:

[BG] 304.2.3.2 Nonstructural systems . Nonstructural systems needed for normal building or facility use are significantly damaged and inoperable; egress routes may be impaired by light debris but ~~means of egress~~ are preserved; emergency systems may be significantly damaged, but remain operational.

Commenter's Reason: This proposal is modified to eliminate the phrase "means of egress" from the original PC-6 proposal, which led to the proposal being disapproved. This update makes clear that the light debris in the egress path is minimal enough that egress is still possible, thus preserving the egress. In ICCPC Table 303.3, high impact is the performance level expected of Performance Group II buildings in large events. This objective corresponds to the design of normal occupancy buildings (Risk Category II) in design events using the IBC. Therefore, the performance description should align with the IBC's reference standards and resource documents. Section 1.1 of the 2020 NEHRP Provisions – the document that forms that basis for the seismic provisions in the IBC referenced structural loading standard, ASCE 7 – states that preservation of means of egress is a design intent of the Provisions. Throughout the commentary to Chapter 13 of ASCE 7 there are references to paying special consideration to components whose failure would block means of egress. Therefore, a change is proposed to clarify that while light debris may fall in an egress route, egress out of the building or facility should still be possible.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. Because this proposal is aligning the performance of a building designed to the ICCPC with the intended performance of a building designed under the IBC, there should not be a change in construction cost.

Public Comment# 2729