

**FINAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL
REGARDING THE ADOPTION BY REFERENCE OF THE
2012 EDITION OF THE INTERNATIONAL BUILDING CODE
WITH AMENDMENTS INTO THE 2013 CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 2**

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a final statement of reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS

(Government Code Section 11346.9(a)(1))

The Office of the State Fire Marshal has not added any additional data or any technical, theoretical or empirical studies, reports or similar documents on which the Office of the State Fire Marshal relied on in proposing these amendments to Title 24, Part 2 into this Final Statement of Reason.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

(Government Code Section 11346.9(a)(2))

The Office of the State Fire Marshal has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S)

(Government Code Section 11346.9(a)(3))

The following is the Office of the State Fire Marshal's summary of and response to comments specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the actions or reasons for making no change:

COMMENTS RECEIVED DURING THE 45-DAY COMMENT PERIOD.

Pursuant to the requirements of Government Code Section 11346.8 (c), and Section 44 of Title 1 of the California Code of Regulations, the California Building Standards Commission provided a notice of proposed adoption by reference of the 2012 edition of the International Building Code with California Amendments into the California Code of Regulations Title 24, Part 2 which were the subject of a Notice of Proposed Action, notice File No. Z-2012-0821-14. The text with the modifications clearly indicated, were made available to the public for a 45-day written public comment period from August 31, 2012 to October 15, 2012.

[Section 408.1.2.2]

Name/Organization: Rick Thornberry, PE, -Representing: Air Movement and Control Association (AMCA)

Comment: Commenter states "It appears this proposal is based on the erroneous assumption as stated in the Initial State of Reasons (ISOR) that Table 1018.1 Corridor Fire-Resistance Rating requires corridors to be provided in Group I-3 occupancies where the occupant load is 6 or more persons. This is simply not the case. The table simply indicates what the required fire-resistance rating is for a corridor when it is provided."

Response: SFM disagrees as modifications to add such provisions provide clarity to the model code and provides multiple methods to not require rated corridors in only three specific conditions.

[Section 408.7]

Name/Organization: Rick Thornberry, FPE,

Comment: Commenter states that this section appears to conflict with Section 408.7 Security Glazing, creating a redundant code section. Section 408.7 already addresses one hour corridor walls (since they are required to be constructed as one-hour fire partitions) and smoke barrier walls.

Response: SFM disagrees; the proposed change clarifies the intent, does not create additional confusion, and does not create a redundant code section. See response to 408.12.

[Section 408.9, 408.9.1]

Name/Organization: Rick Thornberry, PE,

Comment: Commenter is opposed to deleting Use Condition 2 for this requirement without modifying the overall travel distance to reach a door into an adjacent smoke compartment.

Comment: Commenter believes that Section 408.9.1 is confusing and unclear as to what is intended and the options proposed should be further studied.

Response: SFM disagrees with the commenter. IBC Section 408.9 Windowless Buildings is seriously flawed as written in the 2012 IBC. It is difficult to understand and results in widely different application and interpretation within the design community. Leaving the language unchanged is not an option. The committee proposing this language discussed all of commenter points, and determined the proposed language to be both understandable and enforceable. The commenter gives no justification regarding his idea to limit Use Condition 2 to 100 ft travel distance. The definition of tenable is from NFPA 92, the smoke control standard, a national industry standard. The committee specifically felt that the proposed exceptions need not be “as reliable and effective as a smoke control system”. The intent of the committee is to recognize that a smoke control system is excessive for some building geometries, and the proposed changes will save construction and design costs while maintaining life safety..

[Section 408.12]

Name/Organization: Rick Thornberry, FPE,

Comment: Commenter states that this section appears to conflict with Section 408.7 Security Glazing. Section 408.7 already addresses one hour corridor walls (since they are required to be constructed as one-hour fire partitions) and smoke barrier walls.

Response: SFM disagrees; the proposed change clarifies the intent, does not create additional confusion, and does not create a redundant code section. The proposed change to 408.12 is simply to replace the text “cell complexes” with “Group I Cell complexes”. The proposed change in text is only to clarify that this code section applied to both I-3 occupancies and correctional medical and mental health facilities, which have a combined occupancy of I-3/I-2. In addition, 408.7 are intended to address corridors whereas 408.12 are more applicable to control stations and windows into dayrooms.

[Section 1004.1.1.1]

Name/Organization: Greg Schwab, Fire Chief, Georgetown Fire District,

Robert L. Gill, Fire Chief, Pioneer Fire Protection District

Michael Lilienthal, Fire Marshal, El Dorado Hills Fire Department,

Gary E. Baldock, Fire Protection Specialist, Diamond Springs / El Dorado Fire Protection District,

Comment:

Commenters request the SFM to remove the proposed language “assigned individually for each area and considered. Leave existing language “...be based on the cumulative occupants loads of all rooms, areas or spaces to that point along the path of egress travel”. Commenters state the proposed language says the same as what is currently in code but not as clearly stated. Section 1004.1.1.1 deals with occupant load. Section 1014.2 deals with the path of exit travel.

Response:

The SFM has revised the proposed modification during the 15-day comment period to align with actions taken at the ICC final action code development hearing to correct this section. The proposed modifications have been approved to correct the 2012 IBC/IFC. Revised text and reason statement for 1004.1.1.1 through 1004.1.1.3 below:

1004.1.1.1 Intervening spaces or accessory areas. Where occupants egress from one or more room, area or space through another others, the design occupant load shall be the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall be based on the cumulative portion of occupant loads of all rooms, areas or spaces to that point along the path of egress travel.

1004.1.1.2 Adjacent levels for mezzanines. ~~The~~ That portion of occupant load of a mezzanine with required egress through a room, area or space on an adjacent level shall be added to the occupant load of that room, area or space.

~~Where a mezzanine is served by a means of egress, independent of the room or space in which it is located, the portion of occupant load accumulated to the room or space shall be added to the occupant load of that room or space.~~

Exception:

~~Mezzanines that conform with the egress requirements for a story.~~

1004.1.1.3 Adjacent stories. ~~Where occupants from an adjacent story require access through a story under consideration, the cumulative occupant load from the adjacent story shall not be added when determining the capacity and number of exits. The required capacity and number of egress paths from the adjacent story through the story under consideration shall not be reduced. Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.~~

Rational for revision:

The SFM is proposing additional modifications to correct the above sections in line with the most recent national code hearing results. The following is the commenter's reasons that the SFM agrees with and is proposing these additional modifications to correct the 2012 IBC.

Commenter's Reason: Over the past two code cycles there have been numerous changes to the egress provisions. Along the way a number of basic premises of the code have been slightly modified with the result of inconsistent interpretation and application of the code.

The goal of this code change is to state how occupant load is addressed in one place (Section 1004) so that the user can consistently apply the occupant load in other sections utilized to calculate the width (or capacity) and determine the number of exits or exit access paths. During the past two code cycles seemingly straight forward changes have had the effect of making the code more restrictive through interpretation even though they were not advertised as such.

1004.1.1.1 Intervening spaces: The current code as written gives inconsistent interpretations as shown in the 2012 ICC Code and Commentary Figure 1004.1.1 on page 10-10 and Figure 1021.2(1) on page 10-135. In Figure 1004.1.1, if interpreted literally as written, a small lobby with 10 occupant load with one path of exit travel through it would either have all or part of the occupant load from the next room added to it to determine both number and capacity of exits. If the code is applied literally in this example, then the design occupant load (now much larger) would require two exits or exit access from the lobby on its own even though the large room driving egress already has access to two exits. In the example accompanying Figure 1021.2(1) part of the occupant load is added to the corridor to determine the corridor now needs three exits which is incorrect as the room driving this condition already had access to three exits or exit access and the overall story only needs three exits.

Instead of taking occupant load from one space and adding it to another as implied by the current code for the overall design occupant load, this public comment emphasizes rooms that share an egress path must be looked at for the occupant load in the aggregate to address number of exits, door swing, hardware, etc. and each path of egress travel width (or capacity) must be designed for an accumulation of the portion of occupant load with egress along that path. Each individual room must also have access to the required egress as currently required by code.

1004.1.1.2 Mezzanines: Egress from mezzanines has been treated differently than stories in the IBC code for a number of years. The concept provided here is only the portion of occupant load with required egress through the room, area or space shall be added to the occupant load of the room, area or space below. This accounts for mezzanines where there is considerable independent egress directly off of the mezzanine and also for the conditions where some or all of the required egress from the mezzanine is through the level below.

1004.1.1.3 Stories: Historically in the IBC occupant load has not needed to be accumulated through exits from one story to another as long as both the maximum number and capacity at any story is maintained in the stories below. This has been referred to the "cascading stairway" loading effect. The concern of "conflict with the cascading stairway loading utilized by the code for years" was mentioned by the egress committee in the disapproval of E14, E15 and E17. In past codes, there is one instance where occupant load is added between stories when there is convergence with egress to a central level occurring at the same time from both above and below. This is acknowledged in this public comment.

The loss of the cascading loading for stairways may have occurred, in the minds of some, when unenclosed exit stairways found in section 1020, exceptions 8 and 9, of the 2006 IBC were relocated by E122-06/07 from the exit provisions to the exit access provisions. E122-06/07 stated it did not increase the cost of construction and there was no discussion in the E122-06/07 reason of any effect on cascading stairway loading at that time. Yet by renaming unenclosed exit stairs as unenclosed exit access stairs some practitioners interpreted this as a need to now add the portion of occupant load from an exit access stairway to the story below (as part of the exit access) instead of maintaining both the capacity and number of means of egress from the story as has historically been done for exits. This cascade stairway loading concept was alive and well regarding egress width from a story in section 1004.4 of the 2006 IBC, again in the last sentence of section 1005.1 of the 2006 IBC, and finally addressed for the number of exits from a story in 2006 IBC section 1019.1. The last section of this public comment attempts to address this issue to ensure, even though egress through an adjacent story has been reorganized, the intent of maintaining the cascade stairway loading is maintained as pointed out by the egress committee.

[Section 1509.7.2 (CRC R902.4)]

Name/Organization: Ajay Friesen, SunPower Corporation and Joseph H Cain, P.E., SolarCity Corporation

Comments: The commenter states the proposed language for CBC 1509.7.2/CRC R902.4 is not consistent with item 7 of the HSC section 18930. The proposed language calls for a “panel systems” test in accordance with UL 1703. The current method of fire classification being used in UL 1703 accounts for only individual panels, and not “panel systems”. There is no known standard that includes a “panel systems” test which can be referenced in the proposed CBC 1509.7.2/CRC R902.4. Additional comments made refer to actions taken by the ICC code committee that rejected similar provisions for the 2015 IBC, those similar provisions were contained in the SFM proposed exceptions.

The current proposed language is calling out a test in UL 1703 that is still in development, that is, the proposed code language is referencing a standard for which there is no guarantee the intent of the reference will be met. As such, the proposed language for R902.4 is not consistent with item 3 of the HSC section 18930. Research undertaken by The Solar America Board for Codes and Standards in partnership with Underwriters Laboratories and reported in April 2010 has shown that in some cases roof systems with PV perform poorly when the roof system and PV have the same fire rating. In this testing it was demonstrated that a Class A roof system with a Class A PV module on top performed worse in some cases than a Class A roof system with a Class C PV module on top. The current language of the CBC 1509.7.2/CRC R902.4 proposal, which is based on an expected but not guaranteed standard development, may allow situations, if the standard development does not go as expected, that are unsafe and inconsistent with, and counter to item 3 of the HSC section 18930.

Response: The SFM agrees in part and revised the proposed text to state “panels and modules” and not “panel systems”. The SFM disagrees that the UL 1703 is still in development. This standard is an existing standard that once revised will be a much better standard. However, until such time this is the current and nationally recognized standard to test to. Additionally this standard is the current referenced standard in both the 2012 IRC and 2012 IBC and the SFM has not proposed to modify or repeal is and such proposal to do such is beyond the scope of this rulemaking.

Additionally the SFM has removed the proposed exceptions/provisions that would specify conditions for reduction of panel fire classification and mitigation measures for preventing debris during the additional 15-day comment period. The SFM removed the proposed exceptions to CBC 1509.7.2/CRC R908.1.3 as a result of ongoing testing and analysis of the data and results related to direct flame and ember ignition. The SFM intends to bring additional modifications forward during the next rulemaking cycle to address the results of the test and further clarify the fire classification requirements for those proposed in areas subject to California Building Code Chapter 7A or California Residential Code Section R327. Until the SFM moves forward with those additional modifications the fire classification of panels and modules will be based on the building type of construction and having a minimum Class C classification. Additional editorial modification to correct the section reference from 1505.9 to R902.4 was included for CRC 902.4.

[Section 3111 (CRC R331)]

Name/Organization: Joseph H Cain, P.E., SolarCity Corporation

Comments: The commenter states that the proposed modification to the CRC would be in conflict with HSC Section 18930 for the duplication of regulations. Further that the regulations may be heard by separate ICC committees.

Response: The SFM disagrees and points to the model code itself and the provisions contained in IBC and IFC chapters 9 and 10 which duplicate each other. The SFM is following the format of the model code in this case. Furthermore, the SFM does not believe this action violates the intent of HSC Section 18930 in that the SFM is not creating additional provisions that duplicate other agency or state regulations adopted elsewhere in other Titles of the California Code of Regulations. This action simply reproduces what has been adopted in one part of Title 24 into

another and provides clarity for application and enforcement and additional tools for the designer, building, building official or fire official to design or enforce to. Comments made regarding different committees are not related the California Building Standards Law process but a model code development process in which this proposal is not effected by. The SFM further maintains its position to have these provisions reproduced here based on the Initial Statement of Reasons.

[Section 3111 (IFC 605.11)]

Name/Organization: Larry G. Williams, Fire Prevention Supervisor, Ventura County Fire Protection District

Comments: The Ventura County Fire Protection District requested modifications to Section 3111.4.3.1 to read:

3111.4.3.1 Access. There shall be a minimum 6-foot wide (1829 mm) clear perimeter around the edges of the roof, as measured from the exterior bearing walls of the building to the nearest photovoltaic panel.

Exception: If either axis of the building is 250 feet (76200 mm) or less, there shall be a minimum 4-foot wide (1290 mm) clear perimeter around the edges of the roof, as measured from the exterior bearing walls of the building to the nearest photovoltaic panel.

The additional modification addresses concerns raised by our truck company officers regarding cantilevered roofs that may not have proper support during a fire. This also allows a minimum setback from the exterior wall so the pathway will be located over the interior of the building to allow for proper ventilation of the roof if needed during a fire and not over exposed exterior area underneath the roof.

Response: The SFM agrees with the intent and merit of the proposed modification, however, the proposed modification are beyond the scope of this current rulemaking. The SFM's proposals in this rulemaking related to Section 3111 were only to reproduce the IFC provisions without modification into the CBC and CRC. The SFM will continue to evaluate the commenters proposal and consider them in the next rulemaking cycle for the CBC, CRC and the CFC. Additionally the SFM is developing modifications for the national code development process through ICC for the 2015 IFC where these proposals would be heard.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

(Government Code Section 11346.9(a)(4))

The Office of the State Fire Marshal had made an initial determination at the start of the 45-Day Public Comment Period that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the adopted regulation.

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

(Government Code Section 11346.9(a)(5))

No proposed alternatives were received by Office of the State Fire Marshal.

COMMENTS MADE BY THE OFFICE OF SMALL BUSINESS ADVOCATE

(Government Code Section 11347.6))

The Office of Small Business Advocate did not offer comments to the Office of the State Fire Marshal on this proposed rulemaking action.