

**INITIAL STATEMENT OF REASONS
FOR PROPOSED BUILDING STANDARDS
OF THE STATE FIRE MARSHAL
REGARDING THE 2022 CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2
(SFM 02/22)**

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS

Government Code Section 11346.2(b)(1) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.

ITEM 1

Chapter 1 SCOPE AND ADMINISTRATION

ITEM 1-1

Division I, Section 1.11.1 SFM-Office of the State Fire Marshal

The SFM is proposing to amend the definition of Specified State-Occupied.

Health and Safety Code 13146 (A) (5) The State Fire Marshal shall enforce the building standards and other regulations of the State Fire Marshal on all University of California campuses and properties administered or occupied by the University of California and on all California State University campuses and properties administered or occupied by the California State University. For each university campus or property, the State Fire Marshal may delegate that responsibility to the person of the State Fire Marshal's choice who shall be known as the Designated Campus Fire Marshal.

The University of California (UC) currently has a memorandum of understanding (MOU) with the State Fire Marshal. The authority of the State Fire Marshal has been delegated to the Designated Campus Fire Marshal's through the MOU. The language in item (8) of Specified state occupied buildings is not needed. The proposal to remove the reference to the UC has no regulatory effect.

The exception is being proposed for deletion. The exception creates more confusion than what is intended. Any of the listed items are under the jurisdiction of the Office of the State Fire Marshal's office.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 1-2

Division II, Section 107.2.3 Means of Egress

The SFM is proposing to delete the reference to I-1 and replace with R-2.1. I-1 is not used in California, it is referred to as R-2.1. The proposal is clean up.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 2

Chapter 2 DEFINITIONS, Section 202 DEFINITIONS

ITEM 2-1

Care Suite

The SFM proposed amendment deletes the State of California provisions regulating occupancy Group I-2.1 as noted throughout the California Building Code and adopts the model code provisions of the International Building Code (IBC) regulating ambulatory care facilities as amended.

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 2-2

Flammable Gas

The SFM is proposing to amend definition of Flammable Gas.

In the 7th edition of the Global Harmonization System of Classification and Labelling of Chemicals (GHS) the classification of flammable gas was expanded. Flammable gases have three categories, Category 1A, Category 1B, and Category 2. The definition is revised to be consistent with the GHS. However, some of the subgroups of Category 1A are not identified since all the subclasses still fall within Category 1A. Not included in the definition are pyrophoric (flammable) gas and chemically unstable (flammable) gas. Within these two additional terms is a requirement that the gas must first meet the Category 1A definition. Hence, including these terms becomes unnecessary in the California Fire Code. GHS also defines a Category 2 flammable gas. The definition of a Category 2 flammable gas is: Category 2 - A gas not meeting the criteria of Category 1A or 1B, which, at 68°F (20 °C) and a pressure of 14.7 psia (101 kPa), has a flammable range while mixed in air. It is recommended that ICC consider adding a note in the commentary that Category 2

flammable gases are not regulated as flammable gases in the California Fire Code, however, GHS has a classification for such flammable gases.

The Globally Harmonized System (GHS) table on flammable gases is as follows:

Table 2.2.1: Criteria for categorisation of flammable gases

Category		Criteria
1A	Flammable gas	Gases, which at 20 °C and a standard pressure of 101.3 kPa: (a) are ignitable when in a mixture of 13% or less by volume in air; or (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammability limit unless data show they meet the criteria for Category 1B
	Pyrophoric gas	Flammable gases that ignite spontaneously in air at a temperature of 54 °C or below
	Chemically unstable gas	A
B		Flammable gases which are chemically unstable at a temperature greater than 20°C and/or a pressure greater than 101.3 kPa
1B	Flammable gas	Gases which meet the flammability criteria for Category 1A, but which are not pyrophoric, nor chemically unstable, and which have at least either: (a) a lower flammability limit of more than 6% by volume in air; or (b) a fundamental burning velocity of less than 10 cm/s;
2	Flammable gas	Gases, other than those of Category 1A or 1B, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air

NOTE 1: Ammonia and methyl bromide may be regarded as special cases for some regulatory purposes.

NOTE 2: Aerosols should not be classified as flammable gases. See Chapter 2.3.

NOTE 3: In the absence of data allowing classification into Category 1B, a flammable gas that meets the criteria for Category 1A is classified per default in Category 1A.

NOTE 4: Spontaneous ignition for pyrophoric gases is not always immediate, and there may be a delay.

NOTE 5: In the absence of data on its pyrophoricity, a flammable gas mixture should be classified as a pyrophoric gas if it contains more than 1% (by volume) of pyrophoric component(s).

Category 1A flammable gases have a higher flammability and become explosive. These are the flammable gases typically understood such as propane, acetylene, and butane. Category 1B flammable gases have a lower flammability and are not inherently explosive, although all flammable gases can have a deflagration under the right conditions. A typical Category 1B flammable gas would be difluoromethane. The gas has a lower flammable limit of 13.8 percent and an upper flammable limit of 29.9 percent. The burning velocity is 6.7 cm/s or 2.6 in/s. Other Category 1B flammable gases would include: 1,1,1-trifluoroethane; and 2,3,3,3-tetrafluoro-1-propene. Trans-1,3,3,3-tetrafluoro-1-propene, and ammonia are a Category 2 flammable gas. The last statement in the definition is to clarify that when not indicated, the term flammable gas applies to both Category 1A and Category 1B. When appropriate, the section in the code will state, “Category 1A flammable gas” or “Category 1B flammable gas.”

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and was successful for the 2024 Edition of the International Fire Code, in the Group A Hearings held virtually in April 2021.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This change neither increases nor decreases the cost of construction. The change only impacts the classification of flammable gases, thus there are no other technical changes to the code through this revision of the definition.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 2-3

Non-Patient-Care Suite

The SFM proposed amendment deletes the State of California provisions regulating occupancy Group I-2.1 as noted throughout the California Building Code and adopts the model code provisions of the International Building Code (IBC) regulating ambulatory care facilities as amended.

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3

Chapter 3 OCCUPANCY CLASSIFICATION

ITEM 3-1

Section 302.1 Occupancy classification

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3-2

Section 304 Business Group B

The SFM is proposing to delete the reference to I-2.1.

The SFM proposed amendment deletes the State of California provisions for occupancy Group I-2.1. The SFM proposed amendment adopts the model code provisions of the IBC identifying ambulatory care facilities as Business Group B occupancies. The SFM proposed amendment identifies the number of patients served by an ambulatory care facility as four or more. This number is consistent with NFPA 101 Life Safety Code criterion and IBC Sections 422.2 and 903.2.2.

Most of the current provisions in the IBC that regulate ambulatory care facilities correspond with the CBC provisions regulating Group I-2.1 occupancies and NFPA 101 Life Safety Code requirements for ambulatory health care facilities. Where on occasion, inconsistencies are a concern, additional SFM amendments have been proposed to amend IBC provisions regulating ambulatory care facilities.

Licensed ambulatory health care facilities that receive reimbursement for Medicare and Medicaid services are required to comply with the provisions of NFPA 101, The Life Safety Code, Chapter 20. Deletion of Group I-2.1 and regulation of these facilities as ambulatory care facilities is consistent with NFPA 101.

The SFM proposed amendment and associated amendments align CBC requirements with those of other applicable national standards. Conflicting requirements are a source of confusion for designers, owners, and code officials. Conflicting requirements are especially burdensome when owners are required to comply with applicable national standards that are more restrictive.

Eliminating inconsistencies between applicable codes and standards assists with the interpretation, understanding and compliance of building code requirements.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3-3

Section 307 High-Hazard Group H

The SFM is proposing to amend occupancy classifications.

This change coordinates the classification of high hazard with the change in definition to “flammable gas.” Category 1A flammable gases have an explosive component in that their deflagration index is extremely low. By comparison, Category 1B flammable gases with a burning velocity of 3.9 in/s or less have a very high deflagration index. Thus, there is a significant difference in the hazard level between the two flammable gas categories.

The more appropriate classification for a Category 1B flammable gas with a burning velocity of 3.9 in/s or less appears to be Use Group H-3 as defined in the California Building Code. This classification can be supported by a comparison of level of hazard identified in the code change to the Maximum Allowable Quantity (MAQ) table for

flammable gas. The heat of combustion is between 6 and 19 percent of these Category 1B flammable gases.

Thus, Use Group H-3 is the proper classification for Category 1B flammable gas with a burning velocity of 3.9 in/s or less. For clarification, please refer to the addition of footnote r to Table 307.1(1), and where this footnote was added in the table under the CLASS column.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC) and was successfully amended for the 2024 Edition of the International Fire Code, in the Group A Hearings held virtually in April 2021.

Cost Impact: The code change proposal will decrease the cost of construction. This code change reduces the cost of construction. By modifying the Use Group for Category 1B flammable gas, the construction costs are also lowered. The construction costs for Category 1A flammable gas remain unchanged, neither increased nor decreased in the cost of construction.

CAC Recommendation:

Approve as Amended. Spell out “BV” as “Burning Velocity” in the footnote to Table 307.1(1) to identify the acronym. Associated with SFM 07/22 Part 9, Item 14-2.

Agency Response:

Accept. The term High Burning Velocity was spelled out to make it clear for the code user what High and Low “BV” represent.

ITEM 3-4

Section 308 Institutional Group I

The SFM is proposing to delete the reference to I-2.1.

Section 308.1

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

Section 308.3.3

The SFM proposed amendment deletes the State of California provisions for occupancy Group I-2.1. The SFM proposed amendment accommodates the model code provisions of the IBC identifying ambulatory care facilities as Business Group B occupancies.

Most of the current provisions in the IBC that regulate ambulatory care facilities correspond with the CBC provisions regulating Group I-2.1 occupancies and NFPA 101 Life Safety Code requirements for ambulatory health care facilities. Where on occasion, inconsistencies are a concern, additional SFM amendments have been proposed to amend IBC provisions regulating ambulatory care facilities.

Licensed ambulatory health care facilities that receive reimbursement for Medicare and Medicaid services are required to comply with the provisions of NFPA 101, The Life Safety Code, Chapter 20. Deletion of Group I-2.1 and regulation of these facilities as ambulatory care facilities is consistent with NFPA 101.

The SFM proposed amendment and associated amendments align CBC requirements with

those of other applicable national standards. Conflicting requirements are a source of confusion for designers, owners and code officials. Conflicting requirements are especially burdensome when owners are required to comply with applicable national standards that are more restrictive.

Eliminating inconsistencies between applicable codes and standards assists with the interpretation, understanding and compliance of building code requirements.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 4

Chapter 4 DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

ITEM 4-1

Sections 407, 407.1, 407.2, 407.4, 407.4.1, 407.4.2 and 407.4.4

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 4-2

Section 407.4.4.1 Exit access through care suites

The SFM proposed amendment reinstates an International Building Code provision published in the 2018 IBC and 2019 California Building Code.

The proposed amendment should not be considered as a new requirement. The provision is omitted from the 2021 IBC and 2022 CBC. The omission is not identified with a marginal marking as a code change (deletion) in the IBC or CBC. Omission of the provision represents a significant impact on the design of patient care suites that has been in place since the 2012 IBC/2013 CBC (twenty years). The SFM proposed amendment is consistent with a similar provision permitting exit access through an adjacent care suite published in the 2012, 2015, 2018 and 2021 editions of NFPA 101 The Life Safety Code Section 18.2.5.7.2.2(C).

The omission of a long-standing existing provision without indicating such a deletion is confusing for code enforcers, designers and owners and brings into question as to whether the deletion is intentional or a publishing error. Regardless, reinstatement of the provision is consistent with the intent of the code as confirmed by a similar provision published in NFPA 101 The Life Safety Code.

CAC Recommendation:

Further Study. Recommended to study if the added language would be in conflict or add confusion to the code user as the added text is similar to Section 407.4.4.3 amendments.

Agency Response:

Disagree. Based on recommendations from the Building Fire and Other Code Advisory Committee hearing held on March 1-2, 2023, the State Fire Marshal has evaluated the proposal to ensure that the following subsections did not repeat the proposed language. The proposed language sends the code user to the specific requirements when there is more than one exit from a care suite.

ITEM 4-3

Sections 407.4.5, 407.5 and 407.11

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3. The SFM proposed amendment deletes smoke barrier requirements for Group I-2.1 occupancies and renumbers the exception for smoke barrier requirements for Group I-2 occupancies. Smoke barrier requirements like those deleted from Section 407.5 are published in Building Code Section 422.3 Ambulatory Care Facilities.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 4-4

Section 414 Hazardous materials

The SFM is proposing to amend Sections in Chapter 4 to coordinate the requirements for flammable gas.

A change is necessary to The California Fire Code Tables 5003.1.1(1) and 5003.1.1(3) regarding the maximum allowable quantities for control area. The approach that was taken is similar to the approach used in the code for other hazardous materials that have different classes or categories based on the hazard level of the material. The current requirements in the tables will continue to apply to Category 1A flammable gases. This requires the addition of the words "Category 1A and Category 1B (High BV)" to be added in front of the term "flammable gas." The new requirements for "Category 1B (Low BV)" flammable gases are based on a comparative analysis of the hazard of these flammable gases. The approach was to add limitations in the maximum allowable quantity table with a new section added that specifically regulates the requirements for storage in Use Group M and S. It should be noted that other than Use Group H, the predominant storage location of flammable gases is in Use Group M and S buildings. Section 5803.1.1 of the Fire Code will

continue to have restrictions on the storage and use of flammable gases in other Use Groups. A new Section 5003.11.2 and Table 5003.11.2 in the Fire Code will add specific requirements for Use Group M and S. A similar Section 414.2.5.4 is added to the Building Code. In developing these limitations, a comparison of existing requirements was evaluated for other hazardous materials.

Table 414.5.1 is amended to coordinates with the change in the definition of flammable gas. Explosive flammable gases do not include Category 1B flammable gases having a burning velocity of 3.9 in/s or less (Low BV). Table 911.1 has been modified accordingly. Category 1B low burning velocity flammable gases are excluded from the explosive flammable gas requirements. A reference to the International Mechanical Code has been added as an exception for the cleaning and purging of flammable gas piping systems requirements. Chapter 11 of the International Mechanical Code includes requirements for cleaning and purging using Category 1B low burning velocity flammable gases.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and was successful for the 2024 Edition of the International Fire Code, in the Group A Hearings held virtually in April 2021.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This code change neither increased nor decreased in the cost of construction. The change clarifies that the requirements in these sections are applicable to Category 1A flammable gases.

CAC Recommendation:

Further Study. The CAC recommendation included, in Table 414.2.5 (3) Footnote c replace “quantities area allowed” with “quantities are allowed” and check the statement about separation control areas not being required. For Section 414.2.5.4, change the reference to California Fire Code from International Fire Code. These edits are associated with SFM 07/22 Part 9, Item 14-2.

Agency Response:

Accept. The term High Burning Velocity and Low Burning Velocity has been spelled out to make it clear for the code user what High and Low “BV” represent. Table 414.2.5 (3) Footnote c, the reference for the separation of control areas not required was removed as it is inconsistent with other requirements within the code. The reference to International Fire Code has been replaced with the reference to California Fire Code in Section 414.2.5.4.

ITEM 4-5

Section 420.9 Domestic cooking appliances

The SFM is proposing to delete the reference to I-1 and replace with R-2.1. I-1 is not used in California, it is referred to as R-2.1. The proposal is clean up.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 4-6

Sections 422 Ambulatory care facilities

The SFM is proposing to maintain the existing requirements for ambulatory care facilities which were classified as I-2.1.

The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3. The SFM proposed amendment coordinates ambulatory care facility separation requirements of the CBC with those of NFPA 101, The Life Safety Code. The proposed SFM amendment eliminates the requirement for a fire partition separation for corridors. This is consistent with CBC corridor requirements for Group B occupancies and NFPA 101 Life Safety Code corridor requirements for ambulatory health care occupancies. The SFM proposed amendment requires a 1-hour fire barrier separation between an ambulatory care facility and an adjacent space or tenant. This is consistent with NFPA 101 separation requirements for ambulatory health care occupancies.

Licensed ambulatory health care facilities that receive reimbursement for Medicare and Medicaid services are required to comply with the provisions of NFPA 101, The Life Safety Code, Chapter 20.

The SFM proposed amendment aligns CBC requirements with those of NFPA 101, The Life Safety Code. Conflicting requirements are a source of confusion for designers, owners and code officials. Conflicting requirements are especially burdensome when owners are required to comply with an applicable standard that is more restrictive.

Eliminating inconsistencies between applicable codes and standards assists with the interpretation, understanding and compliance of building code requirements.

CAC Recommendation:

Further Study. Recommended to check if the SFM proposed amendment to change “partition” to “barrier” in section 422.2 is more stringent than in NFPA 101. Suggested to include more rationale for SFM amendment in Section 422.3.2. SFM to verify 200 foot travel distance for ambulatory patients and 150 foot for non-ambulatory patients in 422.3.4.

Agency Response:

Disagree. The State Fire Marshal re-evaluated the amendment to have a 1-hour fire barrier between an ambulatory care facility and the adjacent space and found that this requirement is consistent with the requirements of NFPA 101. This maintains a minimum level of safety between the two uses.

ITEM 5

Chapter 5 GENERAL BUILDING HEIGHT AND AREAS

ITEM 5-1

Tables 504.3, 504.4 and 506.2

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 5-2

508.2.4 Separation of occupancies

The SFM proposed an amendment that meets the intent of separation between and I-2 and other occupancies.

The SFM proposed amendment is not a new requirement. The SFM proposed amendment updates the occupancy group classification for sleeping units to correspond with current provisions of Section 310. A Group R-2 applies to residential uses with permanent residents. A Group R-1 applies to residential uses with transient occupants. It is not the intent to permit unseparated residential occupancies from Group I-2 occupancies when such residential occupancies house permanent residents.

Incorrect information is a source of confusion for designers, owners, and code officials. Correcting such information assists with the interpretation and understanding of provisions of the code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 5-3

Section 508.3.3, Tables 508.4 and 509.1

The SFM is proposing to delete the reference to I-2.1 and correct the table with existing California amendments to maintain the level of safety between high-risk occupancies.

The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

The SFM proposes to correct the separation of occupancies based on the 2019 Edition of the California Building Code. In the first printing of the 2022 Edition of the California Building Code the values were printed incorrectly and did not carry forward existing California amendments. The value change after printing requires the state agency to formalize the errata in out rulemaking. These errata change reinstates the level of safety of fire separation between high-risk occupancies.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 5-4
Section 509.3 Area limitations

The SFM is proposing to add an exception for Group E laboratories not classified as an H, if they are separated from the rest of the building by a one-hour fire partition. It is not the intent to limit the number of labs in schools, but in ensure they are separated.

CAC Recommendation:

Further Study. Recommended to change “fire partition” to “fire barrier”.

Agency Response:

Accept. The State Fire Marshal changed the 1-hour fire partition to a 1-hour fire barrier as was recommended by the Division of the State Architect as well as the advisory committee members.

ITEM 6
Chapter 7 FIRE AND SMOKE PROTECTION FEATURES

ITEM 6-1
Section 705.5 Fire-resistance ratings

The SFM is proposing errata to correct the reference to the correct Table 705.5, which was Table 602 in the 2019 Edition of the CBC.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 6-2
Sections 708.1, 709.5, 709.5.1, 710.2, 712.1.9, 716.2.2.1, 716.2.6.6 and 717.6.1

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 7

Chapter 7A MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE

ITEM 7-1

Sections 701A Scope, purpose and application and 702A Definitions

Correct the term Wildland-Urban Interface (WUI) used in the text to correlate with the definition of WUI. The proposed change has no change in regulatory effect. The addition of Local Responsibility Areas (LRA) to the “Purpose” is to correlate with the following sections 701A.3 Application and 701A.3.1 Where required.

CAC Recommendation:

Approve as Amended. Recommended to add phrase “as specified in Section 701A.3.1” after “Local Responsibility Areas” in Section 701A.2.

Agency Response:

Accept. To assist the code user in the application of the Chapter 7A requirements the phrase “as specified in section 701A.3.1” was added to the Section 701A.2 Purpose. This creates the ability for local jurisdictions to adopt areas within their respective authorities as are needed for the protection against wildfire.

ITEM 7-2

Section 705A Roofing

The proposed revisions to both Chapter 7A and Chapter 15 regarding the roofing provisions for Fire Hazard Severity Zones (FHSZ). The SFM Wildland Urban Interface (WUI) workgroup met several times in 2022 and came to a consensus on the proposed language. The focus of the SFM WUI workgroup was to correlate Chapter 7A and 15 for roofing requirements in the Wildland Urban Interface. Throughout the discussions a summary of the revisions is as follows:

- All roof assemblies in any Fire Hazard Severity Zone shall be Class A rating when tested in accordance with ASTM E108 or UL790,
- The regulations of Section 1505.1.1 are no longer necessary, as they conflict with the regulations of Section 705A
- Language was updated to reflect the correct terms “Fire Hazard Severity Zones” and “Wildland-Urban Interface” areas.

CAC Recommendation:

Further Study. Recommended to delete the proposed amendment to Section 705A.1 regarding “Exceptions 1 through 4 ...”. This should be coordinated with amendments in Item 11 Section 1505.2. Associated with SFM 03/22 Part 2.5, Items 3 and 6.

Agency Response:

Accept. In addition to removing the references to Exceptions 1 through 4, language was added to the first paragraph referring compliance with Section 1505.2. The exceptions for Class A roof assemblies from Chapter 15, Section 1505.2 remain a path of compliance.

ITEM 7-3
Section 707A Exterior covering

The SFM proposes to delete the exception to 707A.5, 707A.6, 707A.7, 707A.8 and 710A.2 for fascia and architectural trims. Through data collections, these features have been identified as adding the potential for fire spread to the building or structure, when exposed to wildfire embers. Several studies performed by The Insurance Institute for Business & Home Safety (IBHS) as well as data collected from CalFire damage assessment teams have identified that the fascia and other trim details will contribute to the fire spread of a building or structure when exposed to wildfire embers or radiant heat. These features originally thought to be too small to cause any significant damage, has been reassessed. Fire, like water will find the path of least resistance and cause more damage to the building or structure when allowed to be unprotected.

Attached Document A: Quarles2011_Vulnerability of Eaves to Direct Flame and Radiation Included is a report written by Stephen L. Quarles, Ph.D. which provides background data and research to support the proposal to remove the exception. This work presented here is document in the IBHS Research Report [Near-Building Noncombustible Zone](#); page 11 of that report shows an image of the flames impacting the fascia/roof edge. The “previous research” mentioned here from Steve Quarles, including a proceedings paper from 2011 (attached) and in this post [surviving-wildfire](#).

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 7-4
Section 711A Model Ordinance for Fire Severity Zone Adoption

Adopt a model ordinance that provides for the establishment of very high fire hazard severity zones pursuant to the Government Code Section 51179.

Government Code Section 51179.

- a) A local agency shall designate, by ordinance, very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the State Fire Marshal pursuant to Section 51178.
- b) A local agency may, at its discretion, include areas within the jurisdiction of the local agency, not identified as very high fire hazard severity zones by the State Fire Marshal, as very high fire hazard severity zones following a finding supported by substantial evidence in the record that the requirements of Section 51182 are necessary for effective fire protection within the area.
- c) The local agency shall transmit a copy of an ordinance adopted pursuant to subdivision (a) to the State Board of Forestry and Fire Protection within 30 days of adoption.
- d) Changes made by a local agency to the recommendations made by the State Fire Marshal shall be final and shall not be rebuttable by the State Fire Marshal.

- e) The State Fire Marshal shall prepare and adopt a model ordinance that provides for the establishment of very high fire hazard severity zones.
- f) Any ordinance adopted by a local agency pursuant to this section that substantially conforms to the model ordinance of the State Fire Marshal shall be presumed to be in compliance with the requirements of this section.
- g) A local agency shall post a notice at the office of the county recorder, county assessor, and county planning agency identifying the location of the map provided by the State Fire Marshal pursuant to Section 51178. If the agency amends the map, pursuant to subdivision (b) or (c) of this section, the notice shall instead identify the location of the amended map.

(Amended by Stats. 2021, Ch. 225, Sec. 6. (AB 9) Effective January 1, 2022.)

The purpose of the adoption of the model ordinance form is to comply with the mandates of the GOV 51179. This form is the minimum criteria of what shall be presumed as in compliance with the State with a Local Jurisdiction is adopting the Fire Hazard Severity Zones within its jurisdiction. The local jurisdiction shall provide the data as stated in the adopted form but may include additional information.

CAC Recommendation:

Further Study. The CAC recommendation was based on SFM request. Associated with SFM 03/22 Part 2.5, Item 5-1 and SFM 07/22 Part 9, Item 13-2.

Agency Response:

Accept. The proposed model ordinance has been updated to reflect the different adoption scenarios that a local jurisdiction will most likely encounter.

ITEM 8

Chapter 8 WALL AND CEILING FINISHES, Table 803.13 and Section 804.4.2

The SFM is proposing to delete the reference to I-2.1 and propose an erratum to Table 803.13 Group I-2 footnote o. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9

Chapter 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

ITEM 9-1

Sections 903.2.1.2, 903.2.1.3, 903.2.3 and 903.2.7

The SFM proposal is to correct an error where the state amended language says “ ... fire walls of less than 4-hour fire resistance rating...”. It should say “ ... not less than 4-hour...”.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-2

Sections 903.2.8.2 and 903.2.8.3

The SFM proposal is to correct an error for Group R-4. This is an existing amendment to remove the conditions of Group R-4 occupancies. This proposal correlates with the California Fire Code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-3

Section 903.3.2 Quick-response and residential sprinklers

The SFM proposal is to delete language that is not needed for I-2 occupancies. An existing amendment to the California Mechanical Code already prohibits installation of gas fireplace appliances.

The SFM proposed amendment is not a new requirement. A new provision added to the 2021 IBC Section 903.3.2 requires quick-response or residential sprinklers in a Group I-2 smoke compartment containing gas fireplace appliances or decorative gas appliances. An existing HCAI (OSHPD) amendment to California Mechanical Code Section 911.1 prohibits the installation of a vented decorative fireplace appliance in any hospital, skilled nursing facility, intermediate care facility or correctional treatment center. The new provision published in the IBC infers that gas fireplace appliances and decorative gas appliances are permitted in a Group I-2. This is not the case in California.

Misleading provisions in the code lead to confusion, design and construction delays additional cost when prohibited installations must be removed or corrected.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-4

Section 907.2.6 Group I

The SFM is proposing to delete the reference to I-1. I-1 is not used in California. The proposal is clean up.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-5

Section 907.2.6.2 Group I-2

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-6

Section 907.2.9.3 Group R-2 college and university buildings

The SFM is proposing to amend section 907.2.9.3 based on a recommendation from the Office of the State Fire Marshal Fire Alarm Advisory Committee.

The Office of the State Fire Marshal's Fire Alarm Advisory committee has proposed the amended section to address several identified problems and issues brought to the committee from the fire alarm industry, authority having jurisdiction and other stakeholders.

1. The current California Fire Code necessitates that "Required smoke alarms" listed to UL 217 be interconnected with the building Fire Alarm (FA) system in accordance with NFPA 72. This interconnection between UL 217 smoke alarms and a building FA system creates the following potential problems and issues:
 - a. NFPA 72 does not require smoke alarms to be supervised for trouble conditions when connected to the building FA system and this is against the intent for higher reliability and functionality required for students housing.
 - b. Some Smoke alarms may have the capability to be supervised for trouble conditions but not all available UL 217 smoke alarms have this capability.
 - c. The self-test feature on the smoke alarms may cause technical issues when tied into the building FA system.
 - d. Smoke alarms interconnected in tandem within a dwelling unit may cause technical issues for trouble supervision when tied into the building FA system
 - e. The Reset function of smoke alarms via the building FA system may cause technical problems.
 - f. Other potential problems due to compatibility issues between UL 217 alarms and FA systems and UL 864 listed Fire Alarm Control Units (FACU).

2. The intent of the California Fire code in this section is to require more reliable and more functional smoke detection compared to stand alone smoke alarms, which are required in all other R-2 buildings. This intent is based on the specific nature of R-2 buildings used explicitly for student housing since there is supporting data showing more fires, more death and more general fire risk than other R-2 buildings.
3. The more reliable and functional smoke detection is in the students' sleeping areas requires supervision for trouble conditions on the building FA system, (since there is a need to know or supervise when students remove the alarms, etc.)
4. Therefore, ONLY UL 268 smoke detectors should be required in student sleeping areas in NEW construction and NOT UL 217 smoke alarms. The UL 268 smoke detectors will comply with the intent of the code with added reliability and functionality, they will be fully supervised for trouble conditions (device missing, etc.) by the FACU, they will generate a supervisory signal on the FACU, and they will cause the activation of a local alarm within the sleeping area either with an associated sounder base OR with a separate FA system audible appliance.
5. This proposal is based on existing California Fire code Section 907.2.11.7 – The only difference is that this proposal requires mandatory language. The devices “shall be installed” versus the permissive language “shall be an acceptable alternative”.

CAC Recommendation:

Further Study. Recommended to delete the Exception to #3 and clarify/clean up the language in the last paragraph. Associated with SFM 07/22 Part 9, Item 7-4.

Agency Response:

Accept. The State Fire Marshal has deleted the exception to #3 as recommended by the advisory committee because the California Building Code is already more restrictive and smoke detectors are already required to be connected to the fire alarm control unit. Since the smoke detectors are connected to the fire alarm control unit the occupant notification will activate. The last paragraph has been edited for code user legibility.

ITEM 9-7

Sections 907.2.13, 907.5.1.1, 907.5.2.2 and 907.5.2.3

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-8

Section 907.3.3 Elevator emergency operation

The SFM is proposing to further clarify the need for detection to remain in the hoist way for the activation of recall.

This section provides correlation with Section 607.1 of the California fire Code by making it clear that automatic fire detection devices used to initiate Phase I emergency recall of elevators are to be installed in accordance with both Title 8 Elevator Safety Orders and NFPA 72.

For the 2022 edition of NFPA 72, text revisions were made to 21.3.6.1 through 21.3.6.3 to avoid conflicts with ASME A17.1/CSA B44. The resulting language specifically prohibits the installation of smoke detectors in un-sprinklered elevator hoist-ways unless required by ASME A17.1/CSA B44 to initiate Elevator Phase I Emergency Recall Operation as specified in 21.3.14.1(2) and 21.3.14.2(2), or where required by other codes and standards for the actuation of elevator hoist-way smoke relief equipment. If sprinklers are installed in the hoist-way, then the smoke detector (or other automatic fire alarm initiating device) is necessary to provide the required recall feature.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-9

Section 907.5.2.3.1 Public use area and common use areas

The SFM is proposing to add more specific clarifying example where strobes shall be provided.

#6 Rationale: Conference and huddle rooms are specifically intended for meetings purposes. They are intended for common-use by the occupants/employees of the building and/or for public-use by the public, regardless their size. However, since Conference and Huddle rooms are not specifically defined in CBC/CFC as meeting rooms, this proposed change clarifies their use and purpose as rooms intended for meetings.

#12 Rationale: Shared-office rooms are common-use areas used by the occupants/employees of the building, they are shared by two or more persons, and they are enclosed rooms which are different than open/ non-enclosed shared office-space. This specific item also clarifies that a "Private-Office" used by ONE person only, who is a building occupant/employee, will not require a strobe.

#13 Rationale: The term "Normally-Occupied" is used in CBC and in NFPA 72. These rooms are not specifically defined by CBC or CFC. They could vary in size, (be very small or very large), they could have different furniture layouts, etc. and they are normally occupied and used by either the building's occupants/employees and/or by the general public. Therefore, strobe protection is required in these undefined rooms regardless their size and configuration if they are classified and intended by the owner/architect to be used by two or more persons.

#14 Rationale: The term "Normally-Occupied" is used in CBC and in NFPA 72. Storage rooms could be normally used by the occupants/employees of the building and/or by the general public. If these rooms are normally not-occupied such as a private storage room or closet, they are not required to have strobes in them. However, if they are common or public use areas which are normally occupied and used by the building occupants/employees and/or by the public, they should have strobe protection in them.

#15 Rationale: There is already a SFM code interpretation requiring this. It is better to have this requirement in the body of the code rather than on an online code interpretation.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9-10

Sections 907.5.2.5, 909.5.3 and 909.5.3.1

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 10

Chapter 10 MEANS OF EGRESS

ITEM 10-1

Sections 1003.2, 1003.3, 1003.3.1, 1003.3.3.1, 1003.5, 1006.2.1, 1008.3.2, 1010.1.1, 1010.1.1.1, 1010.1.2, 1010.2.9 and Tables 1006.2.1, 1006.3.4(2)

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

1010.1.1 Size of doors.

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

When a door serves as a means of egress in an ambulatory care facility, the SFM proposed amendment maintains the 44" minimum width for doors that must accommodate the movement of bed and stretcher patients.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 10-2

Section 1010.2.4 Locks and latches

The SFM is proposing to delete the reference to I-1 and replace with R-2.1. I-1 is not used in California, it is referred to as R-2.1. The proposal is clean up.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 10-3

Section 1010.2.13.1 Delayed egress locking system.

The SFM proposal to delete model code language and add a pointer to the existing requirements for automatic sprinklers and fire detection in I-2 occupancies when delayed egress systems are installed.

The SFM proposed amendment is not a new requirement. The SFM proposed amendment coordinates requirements in Section 1010.2.13.1, Item 1 for the deactivation of a delayed egress locking system with provisions in Section 1010.2.13 that requires both automatic sprinklers and smoke or heat detection systems in occupancies where a delayed egress system is installed.

Incomplete or incorrect information is a source of confusion for designers, owners and code officials. Completing such information and correcting such references assists with the interpretation and understanding of provisions of the code.

CAC Recommendation:

Further Study. Recommended to revise the amendment to clarify the intent. CAC Action associated with SFM 07/22 Part 9, Item 8-2.

Agency Response:

Accept. The revised sentence clearly indicates that both systems (the sprinkler system, and the smoke or heat detection system) are required to be designed and installed such that actuation of either system disables the delay electronics of the delayed egress locks. This sentence also clearly indicates the requirement the systems respond in that manner – independently if either of the systems activate then the delay electronics of the delayed egress locks are to deactivate.

ITEM 10-4

Sections 1011.2, 1016.2, 1019.3, 1019.4, 1020.2, 1020.5, 1022.3, 1026.4.1 and Tables 1017.2, 1020.2

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3.

1011.2 Width and capacity.

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1

occupancy classification from the California Building Code Sections 304.1 and 308.3.3. When a stairway serves an ambulatory care facility, the SFM proposed amendment maintains the 44" minimum width for stairways that must accommodate the movement of bed and stretcher patients.

Table 1017.2 Exit Travel Distance.

The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3. The SFM proposed amendment adds a new provision to footnote a that references ambulatory care facility means of egress travel distance requirements that are more restrictive than the general requirements for Group B occupancies. A proposed SFM amendment coordinates the travel distance requirements of the CBC with those of NFPA 101, The Life Safety Code. The proposed SFM amendment limits the maximum permitted means of egress travel distance in an ambulatory care facility. The SFM proposed amendment requires the travel distance in an ambulatory care facility not exceed 200 feet. This is consistent with NFPA 101 Life Safety Code means of egress travel distance requirements for ambulatory health care occupancies.

Licensed ambulatory health care facilities that receive reimbursement for Medicare and Medicaid services are required to comply with the provisions of NFPA 101, The Life Safety Code, Chapter 20.

The SFM proposed amendment aligns CBC requirements with those of NFPA 101, The Life Safety Code. Conflicting requirements are a source of confusion for designers, owners and code officials. Conflicting requirements are especially burdensome when owners are required to comply with an applicable standard that is more restrictive.

Eliminating inconsistencies between applicable codes and standards assists with the interpretation, understanding and compliance of building code requirements.

Table 1020.2 Corridor Fire-Resistance Rating.

The SFM proposes to add the footnotes to the appropriate occupancies. Footnotes d. and e. were missed in printing. Footnote d. is assigned to group R-3 and R-4. Footnote e. is assigned to "A" occupancy.

1026.4.1 Capacity.

The SFM proposed amendment deletes reference to Group I-2.1 occupancies. The SFM proposed amendment is associated with the proposed elimination of the Group I-2.1 occupancy classification from the California Building Code Sections 304.1 and 308.3.3. The SFM proposed amendment reinstates Group B ambulatory care facilities in the scope of the section and references additional refuge capacity provisions in other sections of the CBC.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11

Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES, Section 1505 Fire Classification

The SFM proposes to amend Chapter 7A and Chapter 15 regarding the roofing provisions for Fire Hazard Severity Zones.

The proposed revisions to both Chapter 7A and Chapter 15 regarding the roofing provisions for Fire Hazard Severity Zones (FHSZ). The SFM Wildland Urban Interface (WUI) workgroup met several times in 2022 and came to a consensus on the proposed language. The focus of the SFM WUI workgroup was to correlate Chapter 7A and 15 for roofing requirements in the Wildland Urban Interface. Throughout the discussions a summary of the revisions is as follows:

- All roof assemblies in any Fire Hazard Severity Zone shall be Class A rating when tested in accordance with ASTM E108 or UL790,
- The regulations of Section 1505.1.1 are no longer necessary, as they conflict with the regulations of Section 705A
- Language was updated to reflect the correct terms “Fire Hazard Severity Zones” and “Wildland-Urban Interface” areas.

CAC Recommendation:

Further Study. Recommended to delete the proposed amendment to Section 1505.2 regarding “Exceptions 1 through 4 ...”. This should be coordinated with amendments in Item 7-2. Recommended to replace the term “roof covering assembly” with “roof assembly” in Section 1505.5 to be consistent in the use of terminology. Associated with SFM 03/22 Part 2.5, Items 3 and 6.

Agency Response:

Accept. The language regarding “Exceptions 1 through 4 ...” is deleted. The exceptions for Class A roof assemblies from Chapter 15, Section 1505.2 remain a path of compliance.

ITEM 12

Chapter 30 ELEVATORS AND CONVENING SYSTEMS, Section 3008.1.4 Operation

Delete the reference to ASME A17.1-2019/CSA B44-19 and refer to the California Code of Regulations, Title 8 which governs the provisions applicable to elevators.

ASME A17.3 is not applicable in California for the installation of elevators, escalators and moving walks per the California Code of Regulations, Title 8 Elevator Safety Orders. The applicable code standard for new and existing elevators in California is the California Code of Regulations, Title 8, Division I, Chapter 4, Subchapter 6, Elevator Safety Orders.

The following links are available access the [California Code of Regulations online](#).

<https://www.dir.ca.gov/samples/search/query.htm>

[https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IC6D37580D45111DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IC6D37580D45111DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default))

CAC Recommendation:

Further Study. Recommended to study whether to withdraw the amendment to this section and leave the reference to ASME A17.1/CSA B44.

Agency Response:

Disagree. The California Code of Regulations, Title 8 is the reference for the applicable requirements for elevators. This has been coordinated with other state agencies as well as the State Fire Marshal Elevator workgroup. The code user will find that the Elevator Safety orders will point you to the correct edition of the ASME A17.1 standard. This proposal is consistent with the existing amendments made in the 2019 Edition of the California Building Code.

ITEM 13

Chapter 35 REFERENCE STANDARDS

ITEM 13-1

ASME A17.1

Adopt the model code text for ASME A17.1-2019/CSA B44-19. This will make clear to code users that for certain sections of the code the latest edition is adopted. The California amendment referring to the edition as referenced in Title 8 is applied to those code sections that are applicable to elevators. This has been coordinated with the Division of the State Architect.

CAC Recommendation:

Further Study. Recommended to further discuss with DSA if the proposed change is necessary.

Agency Response:

Disagree. The proposed amendment is a joint effort between the State Fire Marshal's Office and the Division of the State Architect. This proposal clearly identifies where the reference standard is to be used in Chapter 11-B. Where the standard is referenced in other Chapters within the code relating to elevators, the appropriate authority is to point the code users to the California Code of Regulations, Title 8. In Title 8 the code user will find the applicable edition as required for the work they are performing.

ITEM 13-2

ASTM E108

Adopt the latest edition of ASTM E108

ASTM E108 is a fire-test-response standard that is used to evaluate roof coverings in both residential and commercial roofing applications for materials used on combustible or noncombustible decks. The evaluation simulates the fire originating outside the building accompanied by wind conditions. The 3 classifications afford different severity of testing parameters and criteria; Class A roof coverings are effective against severe fire test exposures, Class B roof coverings are effective against moderate fire test exposures, and Class C roof coverings are effective against light fire test exposures.

Applicable Products: Roof covering materials, including but not limited to asphalt shingles, sheet roofing, fire-retardant-treated wood shingles and shakes.

Test Procedure: The roof covering material is installed on a test deck to create a roof assembly. The test deck can either be of combustible (plywood or wood boards) or noncombustible (metal, concrete, gypsum) material depending on the intended installation of the product. The test exposure depends on the classification that is being sought by the manufacturer. The test parameters will vary depending on which class is being specified for the evaluation.

There are 6 different test sections that the roof covering can be tested to depending on the type of roof covering and associated characteristics. The sections are: Spread of Flame test, Intermittent Flame test, Burning Brand test, Flying Brand test, Rain test, and Weathering test.

- Roof coverings on combustible decks, other than fire-retardant-treated wood shakes or shingles, shall be subjected to the spread of flame, intermittent flame, and burning brand tests. The flying brand test is only required for these types of decks if there is a potential for the roof covering to break into pieces of flying, flaming brands or particles which continue to glow after reaching the floor. The rain test and weathering tests are only required if the fire-retardant characteristics of the roof covering material has the potential of being adversely affected by water or weather outdoors, respectively.
- Roof coverings restricted to noncombustible decks only require the spread of flame test.
- Roof coverings consisting of fire-retardant-treated wood shakes and shingles shall be subjected to all the test sections: the spread of flame test, intermittent flame test, burning brand test, flying brand test, rain test, and weathering test.

This test procedure utilizes a test apparatus which exposes a roof system to simulated wind conditions and fire sources (test specimen exposure simulates a fire originating from outside environment) by means of an inline blower and either a gas burner or burning brands. The test apparatus framework incline can be adjusted to different slopes as per the test sponsor's instructions, with the default test slope being 5 inches per horizontal foot. The blower is adjusted to simulate a 12 mile per hour wind condition over top of the roof covering. The gas burner (for intermittent flame, spread of flame, and flying brand tests) is adjusted to 1400°F ± 50°F for Class A and B test exposures or 1300°F ± 50°F for Class C test exposure. The brands for Class A and Class B are constructed from 1-inch-by-1-inch wood strips spaced 1/4 in. The Class A brands are 12 inches by 12 inches by 2¼ inch, and Class B brands are 6 inches by 6 inches by 2¼ inch. Class C brands are 1½-inch-by-1½-inch-by-25/32-inch wood pieces with two 1/8-inch saw kerfs. Class A tests use a single brand, Class B tests use two brands, and Class C tests use 20 brands.

Result: The test results will indicate if the roof covering achieves a classification of A, B, or C. For certification projects the final deliverable will be a listing report and authorization to mark the product. For performance only projects, the final deliverable will be a test report.

CAC Recommendation:

Approve

Agency Response:

Accept

**ITEM 13-3
International Fuel Gas Code**

Adopt the International Fuel Gas Code

Many sections in the fire code reference the International Fuel Gas Code. This is a model code standard. The California Mechanical and Plumbing Codes do not address all the specific requirements that the IFGC does. The International Code are developed and coordinated together. Without the adoption of the International Fuel Gas Code, there will continue to be gaps between the California Plumbing and Mechanical Codes. By default, enforcement officials and designers must use the standard to adequately install equipment safely.

CAC Recommendation:

Further Study

Agency Response:

Withdrawn

**ITEM 13-4
NFPA 13**

Make corrections to NFPA 13-22 California amendments that were missed during the Triennial.

The Sections 8.15.5.1 and 8.15.5.2 were moved from the NFPA 13 2016 edition to the Sections 9.3.6.1 and 9.3.6.2 in the NFPA 13 2022 edition. The California amendment to not adopt those sections was missed during the Triennial rulemaking. This proposal is an erratum to correct that oversight.

CAC Recommendation:

Approve

Agency Response:

Accept

**ITEM 13-5
NFPA 24, NFPA 409**

Adopt the latest edition of the NFPA 24 standard. This correlates with the adoption of the 2022 editions of NFPA 13 and 72.

NFPA 409 is the standard that dictates fire protection in aircraft hangars. And with California (and MANY other states) banning PFAS, PFOS, it's been a huge challenge to find a suitable replacement.

The 2022 edition of NFPA 409 came out with a new provision that can be a huge help for Group II hangars. It allows sprinklers only with NO foam. It would be a huge help if this

was adopted sooner than the next triennial to avoid having to file AM&Ms and “re-invent the wheel” since the new Standard now gives another option.

The 2022 edition of NFPA 409 was issued by the Standards Council on 2 October 2021 with an effective date of 22 October 2021. A particularly significant change in the 2022 edition was recognition by the Technical Committee supporting the removal of foam fire suppression systems in Group II hangars due to a multitude of issues including lack of historical data supporting the fuel spill hazard that foam suppression systems were intended to protect. Verbiage approved in NFPA 409 Section 9.1.5 (copied below) permits the use of closed-head automatic fire sprinkler systems for Group II hangars where hazardous operations are not performed:

NFPA 409 Section 9.1.5

For the protection of aircraft storage and servicing areas of Group II aircraft hangars where hazardous operations, including but not limited to fuel transfer, welding, torch cutting, torch soldering, doping, hot work (e.g., welding, cutting, brazing, grinding), spray painting, oxygen service, composite repairs, fuel system or fuel tank maintenance, aircraft cabling, wiring changes, or initial electrical system testing, are not performed, a closed-head automatic sprinkler system in accordance with Section 9.2 shall be permitted.

The committee’s statement regarding this change was,

“...The requirements for foam in a Group II hangar have not kept pace with the current risk of fire in modern hangar operations and aircraft. The low risk of fuel spill fires in non-hazardous operations hangars warrants modified protection requirements...”

One of the major reasons for the change was based on this research.

University of Maryland report

Phase 1 – 2019 Review of Foam Fire Suppression System Discharges in Aircraft Hangars

[Review of Foam Fire Suppression System Discharges in Aircraft](#)

https://www.nata.aero/assets/Site_18/files/NFPA%20409/UMD%20Report%2011-12.pdf

Phase 2 – 2021 UMD Report Focuses on Foam Fire Suppression System Discharges in Aircraft Hangars

[UMD Report Focuses on Foam Fire Suppression System Discharges in Aircraft Hangars](#)

<https://www.nata.aero/pressrelease/umd-report-focuses-on-foam-fire-suppression-system-discharges-in-aircraft-hangars>

CAC Recommendation:

Approve

Agency Response:

Accept

**ITEM 13-6
UL 790**

Adopt the 9th edition of UL 790

UL 790, 9th Edition, February 18, 2022 - UL Standard for Safety Standard Test Methods for Fire Tests of Roof Coverings

These requirements cover the measurement of the relative fire characteristics of roof coverings exposed to simulated fire sources originating from outside a building on which the coverings are installed. They are applicable to roof coverings intended for installation on either combustible or noncombustible roof decks (see 1.4) when the roof coverings are applied as intended. The following test methods are included:

- a) Intermittent-Flame Exposure test;
- b) Spread of Flame test;
- c) Burning Brand test;
- d) Flying Brand test; and
- e) Rain test.

Three classes of fire exposure are described.

- a) Class A roof coverings that are expected to be effective against severe fire exposures. Under such exposures, roof coverings of this class afford a high degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brand.
- b) Class B roof coverings that are expected to be effective against moderate fire exposures. Under such exposures, roof coverings of this class afford a moderate degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brand.
- c) Class C roof coverings that are expected to be effective against light fire exposures. Under such exposures, roof coverings of this class afford a light degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brand.

Tests conducted in accordance with these requirements are intended to demonstrate the performance of roof coverings during the types and periods of fire exposure involved but are not intended to determine the acceptability of roof coverings for use after exposure to fire. These fire test methods do not provide a basis to compare expected performance under all actual fire conditions, but they do provide a basis for comparison of the response of roof coverings when subjected to fire sources that are described herein.

These test methods address roof coverings used over both combustible and noncombustible decks. A combustible deck is generally constructed using materials that do not comply with the requirements of ASTM E136, such as wood sheathing boards, oriented strand boards (OSB), or plywood. A noncombustible deck is generally constructed entirely of materials that comply with the requirements of ASTM E136, such as metal, concrete, or poured gypsum.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 14

Items added per SFM addendum dated February 28, 2023

ITEM 14-1

Chapter 3, Section 310.5 Residential Group R-4

The SFM is proposing errata to the 2022 California Building Code.

Group R-4 in California is not divided into condition 1 and 2. This is an existing amendment to delete the reference to the conditions from the model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 14-2

Chapter 5, Table 504.4 Allowable Number of Stories above Grade Plane

The SFM is proposing errata to the 2022 California Building Code.

The proposed errata is an existing California amendment from the 2006 Triennial rulemaking cycle. At that time the Health and Safety Code Section 18928 was amended to use the International Code Council publication of the building code as the California State model code.

The general purpose of the transition was to update and codify a new edition of the California Building Code (California Code of Regulations, Title 24, Part 2) based upon a more current edition of a model code. The current California Building Code in 2005 was the 2001 California Building Code which is based upon the 1997 Uniform Building Code of the International Conference of Building Officials. This proposed action:

- Repeal the 1997 Uniform Building Code of the International Conference of Building Officials and incorporate and adopt in its place the 2006 International Building Code of the International Code Council for application and effectiveness in the 2007 California Building Code pursuant to Health and Safety Code 18928. Health and Safety Code 18928 requires any state agency adopting model codes to adopt the most recent edition.
- Repeal amendments to the 1997 Uniform Building Code and/or California Building Standards not addressed by the model code that are no longer necessary nor justified pursuant with Health and Safety Code 18930(a)(7).
- Adopt and implement additional necessary amendments to the 2006 International Building Code that address inadequacies of the 2006 International Building Code as they pertain to California laws.
- Bring forward previously existing California amendments, which represent no change in their effect from the 2001 Triennial California Building Standards Code. Some of the existing California amendments will be amended as follows:

- Renumbering in order to fit into the newly adopted text of the 2006 International Building Code.
- Adding or changing the references to the application authority of SFM.
- Language changes for clarification of existing law.
- Not adopting into the text of the 2006 International Building Code .
- Codify non-substantive editorial and formatting amendments from the format based upon the 1997 Uniform Building Code to the format of the 2006 International Building Code.

Furthermore, revisions to 504.2 and 506.4 eliminate the allowances for Group R occupancy buildings protected with an NFPA 13R automatic sprinkler system.

To identify a balanced approach to fire protection based on the historical use of height and area provisions and data demonstrate California's minimum requirements for the built environment have safeguarded the public health, safety, and general welfare of the occupants and to the property as a whole since the 1920s.

The additional safety provided by an automatic sprinkler system has been acknowledged as justification for either increasing the allowable height of a building by one (1) story or increasing the allowable area beyond the limits established in Table 5-A, but not both. The current code allows both without providing any mitigating protective requirements to balance the increased exposure risk to occupants and safety/rescue responders, as well as property protection.

The reduced sprinkler coverage allowed by NFPA 13R (NFPA 13R exempts concealed spaces such as attics) reduces the effectiveness of fire sprinklers within the most vulnerable occupancy types (Group R) for fire hazard. Furthermore, the IBC does not require any additional protective features to mitigate the increase in potential risk associated with a building that is both taller and larger in area, thereby resulting in a potential decrease in public safety. This section is further amended by removing language which permits additional height and story in Group R buildings equipped with an NFPA 13R (instead of an NFPA 13) fire protection system. While the code requires a full NFPA 13 system for other occupancy groups utilizing section 504.2 for height and story increase, it does not currently require mitigating protective features within R occupancies when utilizing the reduced NFPA 13R system for the same purpose. This amendment will address the unmitigated decrease in fire safety currently allowed by section 504.2.

The CALFIRE/Office of the State Fire Marshal (OSFM) recognizes and supports the benefits of automatic fire sprinkler protection in buildings. The need for a balanced approach to fire protection is also recognized and is the basis for this proposal which permits the use of automatic sprinkler systems for an increase in height or area but not both. During the current California code adoption process, building and fire officials reviewed data from various sources in an attempt to justify the increased building size of the 2006 IBC over the allowable areas/heights in all three legacy codes. There appears to be little science behind the table values and formulas, OSFM and California code officials involved in this process are not comfortable and cannot justify the elimination of redundancy from the code and an over-reliance on fire sprinkler systems. Several factors support the need to restore balance to this code:

- a) There is a public expectation of the level of safety inherent in the current codes which become policy upon local adoption. The west coast has a lower fire loss record than the rest of the county, which may be, at least partially attributed to construction requirements. There is an increase in risk that accompanies larger building sizes which cannot be justified considering national fire statistics that are among the worst of any other industrialized nation.
- b) There are no redundant mitigating protective features to address the potential for sprinkler failure due to a disruption in water supply, mechanical failure, lack of proper maintenance, human error, or temporary disruptions to sprinkler systems that occur during typical remodeling and tenant improvement projects. Furthermore, reductions in water supply have resulted after every major seismic event in California, which would render an automatic sprinkler system ineffective if a fire were to occur. What is the true reliability of a sprinkler system? A recent article cites 89% as the figure when both the performance and operational reliability are factored in. There have been at least two major recalls of defective sprinklers. They are out of service for maintenance, construction (TI) and/or unintentional human error. There is also a vulnerability factor – besides seismic, we have experience where systems were taken out by vehicle crash or explosion. In instances of improper design/use or arson, the system can be overcome. Sprinkler systems often do not extinguish the fire and there can be tremendous smoke generation and spread (particularly smoldering or shielded fires, etc). In fact, sprinklers drive the smoke lower and impede visibility. Building size becomes more of an issue to both rescue (panic) and firefighting.
- c) The quantity and capability of emergency response resources is based on the infrastructure and building design that has existed in California, and other states, for decades. Therefore, the level of fire and life safety would be decreased below what we have today in terms of building size. Public safety departments are staffed for current building sizes and larger buildings may lead to larger fires and need for staffing/tactical/infrastructure changes.
- d) This results in a decreased level of public safety, because fire rescue and fire suppression responders would be required to accomplish their emergency response tasks in larger multi-story buildings, without the benefit of increased fire protection based on either sprinkler, type of construction, area separation walls, or some combination thereof.

By limiting the use of a fire sprinkler system to an increase in height or area, but not both serves to restore balance to the code.

This code change also proposes to eliminate the special allowances given for Group R occupancy buildings that are protected with an NFPA 13R automatic sprinkler system as specified in Section 903.3.1.2. Currently, Section 504.2 will allow an increase in the building height of one story and 20 feet where an NFPA 13R sprinkler system is provided if the building does not exceed a total height of four stories or 60 feet which is within the scope limitations of the NFPA 13R standard. Furthermore, Section 506.4 allows an area increase for the installation of a NFPA 13R sprinkler system for Group R buildings that are greater than three stories in height. We do not believe it is appropriate to provide for such allowances for the types of construction which in essence lessens the built-in fire-resistive passive protection where an NFPA 13R sprinkler system is installed. NFPA 13R sprinkler systems are primarily provided for life safety. They were developed for that purpose as

clearly stated in Section 1.2 of the 2002 edition. It is interesting to quote the Annex A discussion of the purpose of NFPA 13R which states: “Various levels of sprinkler protection are available to provide life safety and property protection. This standard is designed to provide a high, but not absolute, level of life safety and a lesser level of property protection. Greater protection to both life and property could be achieved by automatic sprinklers in all areas in accordance with NFPA 13... it should be recognized that the omission of sprinklers from certain areas could result in the development of untenable conditions in adjacent spaces. Where evacuation times could be delayed, additional sprinkler protection and other fire protection features, such as detection and compartmentalization, could be necessary.” We believe that says it all about an NFPA 13R sprinkler systems.

However, the intent of the IBC as expressed in Section 101.3 Intent is as follows: “The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare... and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.” We believe that allowing the use of an NFPA 13R sprinkler system to increase the size of a building would be counter to the intent and purpose of the IBC. Types of construction are designed to limit the height and area of buildings based on the occupancy and the degree of built-in fire-resistive protection and use of combustible or noncombustible construction materials. Buildings are allowed to get larger in area and taller in height with more fire-resistance built in and the lesser use of combustible construction for the building’s structural elements. Therefore, property protection is a critical outcome of the use of types of construction. Of course, type of construction also plays a role in life safety, especially in multi-story buildings, and has an impact on fire fighter safety as well. But an NFPA 13R sprinkler system is basically a partial sprinkler system because the standard does not require sprinklers in many concealed areas including attics. So why should a building protected with an NFPA 13R sprinkler system basically enjoy the same increases as a building more completely protected with an NFPA 13 sprinkler system?

Within the last few years there have been many fires involving buildings protected with NFPA 13R sprinkler systems which have burned to the ground. In most of those cases, the fire was able to get into the unprotected attic space, spread throughout the building, and then burn downward, overpowering the sprinkler system. Certainly, allowable increases in height and area are not appropriate for sprinkler systems that can allow a building to be burned to the ground.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 14-3

Chapter 5, Section 506.2.1 Single-occupancy buildings

The SFM is proposing errata to the 2022 California Building Code.

The model code change was missed in the existing California amendment for the Sa formula of Section 506.2.1 Single-occupancy buildings.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 14-4

Chapter 10, Section 1010.2.9 Panic and fire exit hardware.

The SFM is proposing errata to the 2022 California Building Code.

The comma between the word ‘occupancy’ and ‘assembly’ was missed in the printed and digital copies of the California Building Code. The PDF version is correct. Without the comma the intent appears to change. The errata are to correct the intent and add the comma back in the code text.

CAC Recommendation:

Approve

Agency Response:

Accept

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS

Government Code Section 11346.2(b)(3) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).

The SFM did not rely on any technical, theoretical, and empirical study, report, or similar documents outside of those contained and referenced in this rulemaking in proposing amendments for the California Building Standards Codes.

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS

Government Code Section 11346.2(b)(1) requires a statement of the reasons why an agency believes any mandates for specific technologies or equipment, or prescriptive standards are required.

The SFM believes that the amendments to the code and additional building standards proposed are offered in both a prescriptive and performance base. The nature and format of the code adopted by reference allow for both methods, the following is a general overview of the code proposed to be adopted by reference as well as state modifications:

This comprehensive code establishes minimum regulations for fire prevention and fire protection systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new system designs.

This code is founded on principles intended to establish provisions consistent with the scope of a building and fire code that adequately protects public health, safety, and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products, or methods of construction; and

provisions that do not give preferential treatment to types or classes of materials, products, or methods of construction.

CONSIDERATION OF REASONABLE ALTERNATIVES

Government Code Section 11346.2(b)(4)(A) requires a description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate. It is not the intent of this paragraph to require the agency to artificially construct alternatives or describe unreasonable alternatives.

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

Government Code Section 11346.2(b)(4)(B) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business.

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected small business than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS

Government Code Section 11346.2(b)(5)(A) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business.

The SFM has determined that this proposed action will not have a significant adverse economic impact on business. The SFM affirms that this rulemaking action complies specifically with the mandates of HSC Sections 13143, 18928, 18949.2(b), 18949(c) and the mandates of the statutory authority of the SFM. Numerous public workshops were held during the per-rulemaking phase of the intervening code cycle and no comments have been made that the proposed changes would have significant statewide adverse economic impact on businesses.

Therefore, the SFM has determined that there are minimal facts, evidence, documents, testimony, or other evidence upon which the agency relied to support its initial determination of no effect pursuant to Government Code Section 11346.2(b)(5)(A). The public is welcome to submit any information, facts, or documents either supporting SFM's initial determination or finding to the contrary.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

Government Code Sections 11346.3(b)(1) and 11346.5(a)(10)

The SFM has assessed whether and to what extent this proposal will affect the following:

A. The creation or elimination of jobs within the State of California.

These regulations will not affect the creation, or cause elimination, of jobs within the State of California.

B. The creation of new businesses or the elimination of existing businesses within the State of California.

These regulations will not affect the creation, or cause elimination, of existing businesses within the State of California.

C. The expansion of businesses currently doing business within the State of California.

These regulations will not affect the expansion of business currently doing business within the State of California.

D. The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.

These regulations will update and improve minimum existing building standards, which will provide increased protection of public health and safety, worker safety and the environment.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

Government Code Section 11346.2(b)(5)(B)(i) states if a proposed regulation is a building standard, the initial statement of reasons shall include the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates.

The SFM does not anticipate any increase in cost of compliance with the proposed building standards.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

Government Code Section 11346.2(b)(6) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment.

The SFM has determined that this proposed rulemaking action does not unnecessarily duplicate or conflict with federal regulations contained in the Code of Federal Regulations that address the same issues as this proposed rulemaking.