

**INITIAL 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**

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The Administrative Procedure Act requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

**STATEMENT OF SPECIFIC PURPOSE AND RATIONALE**

(Government Code Section 11346.2)

The specific purpose of this rulemaking effort by the Office of the State Fire Marshal is to act accordance with Health and Safety Code section 18928, which requires all proposed regulations to specifically comply with this section in regards to the adoption by reference with amendments to a model code within one year after its publication.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies addressed in the 2012 International Building Code and be published as the 2013 California Building Code.

The general purpose of this proposed action is principally intended 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 effect is the 2010 California Building Code which is based upon the 2009 International Building Code of the International Code Council. This proposed action:

- Repeal the adoption by reference of the 2009 International Building Code and incorporate and adopt by reference in its place the 2012 International Building Code for application and effectiveness in the 2013 California Building Code.
  - Repeal certain amendments to the 2009 International Building Code and/or California Building Standards not addressed by the model code that are no longer necessary.
  - Adopt new building standards or necessary amendments to the 2012 International Building Code that address inadequacies of the 2012 International Building Code as they pertain to California laws.
  - Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2010 California Building Code.
  - Codify non-substantive editorial and formatting amendments from the format based upon the 2009 International Building Code to the format of the 2012 International Building Code.
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**NOTE OF EXPLANATION:**

For the **2012 Triennial Code Adoption Cycle**, the Express Terms are displayed as follows:

**\*\*PART 1\*\*** Includes the California Amendments SFM proposes to bring forward from the 2010 California Building Code **with changes** as shown, and also identifies the model code standards from the 2012 International Building Code SFM proposes for adoption into the 2013 California Building Code.

**\*\*PART 2\*\*** Displays the standards SFM proposes to bring forward from the 2010 California Building Code **without change**, except for nonsubstantive editorial corrections, for adoption into the 2013 California Building Code; the text is provided for context and the convenience of the code user.

**SUMMARY OF REGULATORY ACTION**

**SFM PROPOSES TO:**

**\*\*PART 1\*\***

1. Bring forward existing California Amendments from the 2010 California Building Code for adoption into the 2013 California Building Code **with amendment**.
2. Adopt standards from the 2012 International Building Code into the 2013 California Building Code **without amendment**.
3. Adopt standards from the 2012 International Building Code into the 2013 California Building Code **with amendment**.
4. Repeal 2010 California Amendments, which are **not** brought forward into the 2013 California Building Code.

**\*\*PART 2\*\***

1. Bring forward existing California Amendments from the 2010 California Building Code for adoption into the 2013 California Building Code **without amendment**, except for editorial corrections.

## **\*\*PART 1\*\***

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[1]

### **CHAPTER 1**

#### **SCOPE AND ADMINISTRATION**

##### ***DIVISION I***

#### ***CALIFORNIA ADMINISTRATION***

The SFM propose to maintain two Divisions within Chapter 1 for existing administrative provisions being brought forward and administrative provisions contained in the 2012 IBC.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

##### **1.1.1**

**Rationale:** The SFM is proposing to repeal the adoption by reference of the 2009 International Building Code and incorporate and adopt by reference in its place the 2012 International Building Code for application and effectiveness in the 2013 California Building Code.

##### **1.1.3.2**

**Rationale:** The SFM is proposing to clarify the non-regulatory nature of the Matrix Adoption Tables and lead code users to understand them as roadmaps for the codes, references in code language to the tables should be deleted. References imply incorporation into the code. Simply making reference to the application sections of the agencies and the authority of local jurisdictions to modify appears to be adequate for the purpose of this paragraph.

##### **1.1.11**

**Rationale:** The SFM is proposing to reinforce the non-regulatory nature of the Matrix Adoption Tables, language is removed which is not correct in all cases. A non-regulatory note is suggested to emphasize that the tables are meant only to be useful aids to the code user.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[2]

### **DIVISION II**

#### **SCOPE AND ADMINISTRATION**

The SFM proposes to maintain the Division II designation for the IBC Chapter 1 Administrative provisions - Sections 101 through 114.

The SFM proposes to only adopt Sections 105.2.1 – 105.2.2, 105.3 – 105.3.1, 105.4, 105.6 – 105.7, 106.1, 106.2 – 106.3, 107.1 – 107.3, 107.4, 107.5, 108.1 – 108.4, 110.1 – 110.3, 110.3.4 – 110.3.6, 110.3.8 – 110.3.10, 110.4 – 110.6, 111.1, 111.2, 111.3 – 111.4, 112, 114.1 – 114.2, 115 and 116 contained in Chapter 1, Division II pursuant to Health and Safety Code Sections 13108, 13113, 13114, 13131.5, 13143, 13143.6, 17921 and 18949.2.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

**Note** (note at beginning of Chapter 1, Division II proposed to be modified)

**Rationale:** The SFM is correcting terminology, editorial change only no change in regulatory effect. [Notes are considered non-regulatory. Substituting the word “indicated” for “identified” mitigates the certain “to show to be” meaning of identification to a softer “to point out” meaning for indicate.]

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[3]

## CHAPTER 2 DEFINITIONS

The SFM proposes to adopt Chapter 2 with amendment and California regulation. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. See item 45 for additional amendments or building standards proposed for Group E occupancies, developed in coordination with the Division of State Architect. Furthermore, the SFM is maintaining the adoption of those existing California definitions or model code definitions as amended in Chapter 2 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

### Section 202 Definitions

**COMMUNITY CARE FACILITY.**  
**FOSTER CARE FACILITIES.**  
**FOSTER FAMILY HOME.**  
**GROUP HOME.**

**Rationale:** The SFM is incorporating the above definitions to correlate with Health and Safety Code, Section 1502 and CCR, Title 22, Social Security Division 6, Licensing of Community Care Facilities, Chapter 5, Group Homes Article 1. General Requirements and Definitions Section 84001. The SFM proposals has change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[4]

## CHAPTER 3 USE AND OCCUPANCY CLASSIFICATIONS

The SFM proposes to adopt Chapter 3 with amendment and California regulation. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 3 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

### **310.5 Residential Group R-3.**

Over the years the State Fire Marshal's Office has fielded questions from the local fire authority statewide regarding the application of regulations found in section 425 of the CBC for foster family homes and alcoholism and drug recovery homes that house ambulatory clients. Regulations found in section 425 of the CBC were intended to protect those clients in a licensed residential care facility or home that house clients that are classified as non-ambulatory or bedridden by the Department of Social Services. Foster Care Homes and Alcoholism and Drug Recovery Homes (where no treatment is provided) that do not house these types of clients and are not licensed to house these types of clients should not be required to conform with the regulations set forth in section 425 as they more closely resemble that of a typical single family dwelling (Group R-3). Also, it was the intention of the legislators that clients and children remain in a home like environment and not overburdened with regulations. This modification if proposed to clarify the intent without creating a change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[5]

## **CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

The SFM proposes to adopt Chapter 4 with amendment and California regulation. See item 42 for additional amendments or building standards proposed for high-rise buildings, developed by the SFM High-rise Task Force. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. See item 45 for additional amendments or building standards proposed for Group E occupancies, developed in coordination with the Division of State Architect. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 4 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[6]

## **CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS**

The SFM proposes to adopt Chapter 5 with amendment and California regulation. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 5 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

**Table 508.4**

**Rational:** The proposed modification aligns the occupancy separations with the provisions of the 2001 California Building Code for the R-2.1 occupancy classification. Prior to the 2007 edition of the CBC, the occupancy separation requirements for the R-2.1 occupancy aligned with the provisions of the R-1 occupancy separations and only required a one-hour fire-resistance rated separation between the R-2.1 occupancy and A, E, B, S, M, and U occupancies.

The 2007 CBC was based upon a model code never previously adopted in California, the IBC. The IBC included an occupancy classification that resembled the R-2.1 occupancy classification – the I-1 occupancy. In an effort to align, to the maximum extent possible with the model code, the SFM adopted the I-1 occupancy classification and abolished the R-2.1 occupancy classification. This modification resulted in several challenges for the Residential Care Facility building design and construction. Therefore, for the 2010 CBC adoption, the SFM re-introduced the R-2.1 occupancy classification and provisions similar to the 2001 CBC. However, the occupancy separation provisions were not re-aligned and rather than the one-hour occupancy separation that was present in the 2001 CBC, the separation requirements of two-hours from the 2007 edition were retained.

The R-2.1 occupancy is a controlled environment, limiting occupants predominantly to residents, staff, and visitors to the residents. Typically, the occupancies other than the R-2.1 occupancy within the buildings are a B occupancy for building support offices and an A occupancy for the main dining room and possibly other common use areas for residents. The buildings are provided with complete automatic sprinkler protection, smoke barriers, and fire detection/alarm systems. The one-hour occupancy separation affords a reasonable level of life safety as intended by the code and does not violate the statutory provisions associated with Residential Care Facilities.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[7]

**CHAPTER 6  
TYPES OF CONSTRUCTION**

The SFM proposes to adopt Chapter 6 with amendment and California regulation. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 6 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

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[8]

**CHAPTER 7  
FIRE-RESISTANCE-RATED CONSTRUCTION**

The SFM proposes to adopt Chapter 7 with amendment and California regulation. See item 42 for additional amendments or building standards proposed for high-rise buildings, developed by the SFM High-rise Task Force. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 7 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

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[9]

**CHAPTER 7A  
MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE [SFM]**

The SFM proposes to maintain the adoption Chapter 7A without modification. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 7A without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

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[10]

## CHAPTER 8 INTERIOR FINISHES

The SFM proposes to maintain the adoption Chapter 8 without modification. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 8 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

### **Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

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[11]

## CHAPTER 9 FIRE PROTECTION SYSTEMS

The SFM proposes to adopt Chapter 9 with amendment and California regulation. See item 42 for additional amendments or building standards proposed for high-rise buildings, developed by the SFM High-rise Task Force. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. See item 45 for additional amendments or building standards proposed for Group E occupancies, developed in coordination with the Division of State Architect. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 9 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

### **907.2.11.1.1**

### **907.2.11.2**

### **907.2.11.5**

**Rationale:** The SFM is proposing amendment to incorporate specific location provisions contained in NFPA 72 for the placement of smoke alarms. This proposal is primarily based on recommendation from the SFM Smoke Alarm Task Force Recommendations for Regulation and Legislation. The following are excerpts from the Final Report:

### Executive Summary

On January 13, 2011, CAL FIRE - Office of the State Fire Marshal convened representatives from various disciplines related to smoke alarms to form the Smoke Alarm Task Force. Their purpose was to address the understanding, utilization, and effectiveness of smoke detection technology including ionization and photoelectric, and other technologies, complying with current California State Fire Marshal listing standards, and used in residential occupancies as required by California regulations. The final Analysis and Recommendation Report to the California State Fire Marshal documents the understanding and utilization of smoke alarm technology through the review and examination of current/relevant studies, reports, and/or scientific data.

### Scope

The scope of the Office of the State Fire Marshal (OSFM), Smoke Alarm Task Force (SATF) project was to address the effectiveness of smoke detection technology including, but not limited to ionization and photoelectric, complying with current California State Fire Marshal (CSFM) listing standards, and used in residential occupancies as required by California statute and regulations. The task force was to review and examine current or relevant studies, reports, and scientific data (see Appendix C); and provide recommendations to the CSFM.

### Recommendations

In order to address concerns wherein occupants are more likely to be able to successfully escape in the event of a fire - the task force submits the recommendations below to be considered. While they capture the intent of the task force, we recognize that ultimate execution of each may require changes in regulations, codes, standards, and even legislation. As a result, it is expected additional work will be needed to develop enforceable language and precise definitions of terms.

*1. The 2010 NFPA 72 requirements for smoke alarm placement in section 29.8.3.4(4) should be adopted directly into California Regulations by transcription. This should reduce the number of nuisance alarms produced due to the location of smoke alarms in proximity to cooking appliances and bathrooms. By transcribing the requirements directly into regulations it also allows building and fire officials who do not have access to a copy of NFPA 72 to better understand where smoke alarms should not be installed.*

*3. Regulations should be developed to minimize unwanted alarms that prohibit the installation of a smoke alarm with conventional ionization technology within 20 feet of a fixed cooking appliance. The effective date of such regulations should be within the next feasible rule making cycle.*

For further information or to review the full report, visit [osfm.fire.ca.gov/SFM\\_SATF\\_Rpt.pdf](http://osfm.fire.ca.gov/SFM_SATF_Rpt.pdf)

Additional modification to NFPA Section 29.8.3.4 is proposed to revise items (4) and (5). This proposal is intended to reduce nuisance alarms attributed to locating smoke alarms in close proximity to cooking appliances and bathrooms in which steam is produced. The proposed provisions are based on the findings in the Task Group Report - Minimum Performance Requirements for Smoke Alarm Detection Technology - February 22, 2008, and are consistent with similar requirements included in the 2010 edition of NFPA 72.

Section 907.2.11 already requires smoke alarms to be installed in accordance with NFPA 72, which theoretically describes where alarms should and should not be installed. As a convenience to the code user, requirements on where smoke alarms should not be installed in proximity to permanently installed cooking appliances and steam producing bathrooms will be included in this section.

This proposal (907.2.11.2.3) clarifies the requirements in Section 901.4 for testing and maintaining smoke alarms, and specifies when the devices need to be replaced. The proposed requirements are consistent with NFPA 72 provisions. In particular NFPA 72 requires smoke alarms installed in one- and two-family dwellings to not remain in service longer than 10 years from the date of manufacture, and UL 217 requires the date of manufacture to be marked on the smoke alarms.

It is recognized that it may not always be practical for the code official to enforce the requirements for testing, maintenance and replacement of smoke alarms in residential dwelling units. However realtors and landlords often have checklists that verify that these dwellings comply with codes and other requirements, and they may be in a position to verify compliance with the proposed provisions when the units are sold or leased.

(907.2.11.2.4) Battery operated smoke alarms currently are not required to have a long life battery which increase the likelihood of the occupant removing the battery or not replacing it twice a year. The activation of a smoke alarm with a reliable batter power will allow timely, accurate notification to the occupants allowing sufficient time for evacuation of the residence in house.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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[12]

## CHAPTER 10 MEANS OF EGRESS

The SFM proposes to adopt Chapter 10 with amendment and California regulation. See item 42 for additional amendments or building standards proposed for high-rise buildings, developed by the SFM High-rise Task Force. See item 43 for additional amendments or building standards proposed for custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force. See item 45 for additional amendments or building standards proposed for Group E occupancies, developed in coordination with the Division of State Architect. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 10 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

### 1004.1.1.1

### 1004.1.1.2

### 1004.1.1.3

**Rational:** The SFM is proposing the above modifications based on proposals submitted for the 2015 IBC that address issues related to cumulative occupant loads. The following is the rational by the original proponent that proposed the modifications. This code proposal has been heard and accepted by the ICC Means of Egress Committee at the ICC Code Hearings held April-May, 2012 in Dallas, TX. Final Action of these modifications to ratify will be made in October 2012 and the SFM will modify accordingly should additional changes be approved. The following is the rational for support of the proposed modifications:

A number of code changes over the past two ICC code cycles have, when combined together, made the code more restrictive as written or interpreted even though as advertised the individual code changes were not intended to increase the cost of construction. The issue primarily revolves around the assignment or accumulation of occupant load from one location to another and whether or not all, or none, or a portion of the occupant load from one area obtaining access to required exits through another story or area is added to the occupant load of that story or area for determination of the number of exits or exit access doorways and egress width.

This code change addresses two areas of concern: Egress on a given level and egress from one story or level through another by way or unenclosed exit access stairways.

In summary on a given level:

This code change reinforces the concept that the occupant load is assigned to each occupied area individually. When there are intervening rooms, each area must be considered both individually and in the aggregate with other interconnected occupied portions of the exit access to determine the number and width of exit access. Portions of the occupant load are accumulated along egress paths to determine the capacity of individual egress elements along those paths. But once occupants from one area make a choice and head out along one of several independent paths

of egress travel, their occupant load is not added to some other area to determine how many paths of travel would be required from that different area as if a second fire were to occur at the same time in that area.

In summary on separate levels:

This code change also attempts to treat egress design along unenclosed exit access stairways through adjacent stories or through adjacent levels (in the case of mezzanines) in a similar manner recognizing previous limited instances where open exit access stairways from stories were considered as exits and the capacity (width) was required to be maintained but the occupant load was assumed to cascade and was not added to the adjacent story providing exit access.

This code change also recognizes mezzanines with independent egress can egress similar to a story in a building. This code change recognizes mezzanines with sole egress through a room or area must have the occupant load added to that room or area and when the egress from a mezzanine is split between an independent exit and other exit access through the room below, the portion of occupants with egress through the room below must be added to the occupant load of the room or space below.

#### **1008.1.9.1**

**Rational:** The SFM is proposing this modification to re-instate reference to the existing SFM Standard for door handles, pulls, latches, locks and other operating devices on doors contained in the CCR, Title 24, Part 12, California Referenced Standards Code. This modification has no change in regulatory effect.

#### **1015.2**

**Rational:** The current language would appear to allow two of three required exit access doorways from a space to lead to a single exit and still be counted as two of the required exits or exit access doors from a space. This proposed code amendment clarifies the intent to maintain exit continuity.

#### **1015.2.2**

##### **1021.1**

##### **Table 1021.1**

##### **1021.2**

##### **Table 1021.2(1) and 1021.2(2)**

##### **1021.2.1**

##### **1021.2.2**

##### **1021.2.2 – 1021.3.1**

**Rational:** The SFM is proposing the above modifications based on proposals submitted for the 2015 IBC that address issues related to exits and exit access. The following is the rational by the original proponent that proposed the modifications. This code proposal has been heard and accepted by the ICC Means of Egress Committee at the ICC Code Hearings held April-May, 2012 in Dallas, TX. Final Action of these modifications to ratify will be made in October 2012 and the SFM will modify accordingly should additional changes be approved. The following is the rational for support of the proposed modifications:

The intent of this proposal is to reorganize Section 1020 for clarity.

**1015.2.2** – Separation for the 3<sup>rd</sup> exit was deleted by E82-04/05 as too subjective, however, this language should be reinserted because now there is no language to describe where additional exits are located.

**1021.1** –The word ‘independent’ is added for clarity (no one should consider a double door as two exits). The minimum number of MOE have been moved into a table format for clarity and ease of reference for other requirements. The exceptions are not needed since the number required is based on exit and/or access to exits. Open parking and outdoor stadiums are exit access stairways from each floor above grade.

**New Table 1021.1** – Requirements from 1021.1 and 1021.2.4 are relocated together into Table format. Allowances are extended to be number of exits and/or number of access to exits (i.e., exit access doorways, exit access stairways, exit access ramps).

**1021.2** – This section is revised for a positive where permitted approach rather than exceptions.

- Item 1 & 2 – combined
- Existing item 3 – deleted because already addressed in 412.7.3 – need to be consistent in references for MOE
- New Item 2 and 4 – revised for exit and exit access
- Existing Exception 4 – deleted because already addressed in 412.3 - need to be consistent in references for MOE
- Existing Exception 5 - addressed in new Item 6
- New Item 5 - revised for exit and exit access

- New Item 6 – revised for exit and exit access; relocated from 1021.2.3. No reason to be separate section.
- Existing Exception 7 – Since this is exit configuration, not single exit, it has been relocated to new 1021.2.2.

**Table 1021.2(1) and 1021.2(2)** – Revise headings to limit number of basements to 1.

**1021.2.1** – The additional sentence adopts the same ratio formula currently in the code but addresses what you would do when dwelling units were in the mix (i.e., there is no occupant load).

**New 1021.2.2** – this was Section 1021.2 Exception 7. Relocated since this is exit configuration for situations where one exit may be within a tenant space and blocked from access from other tenants on the floor.

**Existing 1021.2.2** - Deleted. Basements are now addressed in Table 1021.2(1) and 1021.2(2) so not needed here.

**Existing 1021.2.3** – deleted and relocated to 1021.2 new Item 6.

**Existing 1021.2.4** – deleted and relocated to Table 1021.1

**Existing 1021.2.5** – deleted – 3<sup>rd</sup> stairway is not a required means of egress stairway and already addressed in 403.5.2. Code users should either reference all MOE in Chapter 4 or rely on Chapter 4 and not reference anything.

**Existing 1021.3** - Delete. Now addressed in 1015.2 and 1015.2.1

**Existing 1021.3.1** - Delete. Now addressed in 1015.2 and 1015.2.1. Helistops in exception are addressed in 412.7.3.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

[13]

**CHAPTER 11  
ACCESSIBILITY**

The SFM proposes to not adopt Chapter 11.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[14]

**CHAPTER 11A  
HOUSING ACCESSIBILITY**

The SFM is maintaining the adoption of those existing California regulations or Sections as amended in Chapter 11A without modification as shown in the corresponding Matrix Adoption Table pursuant to Health and Safety Code Sections 13108, 13113, 13114, 13131.5, 13143, 13143.6, 17921 and 18949.2.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[15]

**CHAPTER 11B  
ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS,  
COMMERCIAL BUILDINGS AND PUBLICLY FUNDED HOUSING**

The SFM is maintaining the adoption of those existing California regulations or Sections as amended in Chapter 11B without modification as shown in the corresponding Matrix Adoption Table pursuant to Health and Safety Code Sections 13108, 13113, 13114, 13131.5, 13143, 13143.6, 17921 and 18949.2.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[16]

**CHAPTER 12  
INTERIOR ENVIRONMENT**

The SFM proposes to only adopt Sections 1203.5, 1206, 1208 and 1209 of Chapter 12 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 12 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[17]

**CHAPTER 13  
ENERGY EFFICIENCY**

The SFM proposes to not adopt Chapter 13.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[18]

**CHAPTER 14  
EXTERIOR WALLS**

The SFM proposes to only adopt Sections 1401, 1402, 1403.4, 1404, 1405, 1406, 1407 and 1408 of Chapter 14 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 14 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[19]

**CHAPTER 15  
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES**

The SFM proposes to adopt Chapter 15 with amendment and California regulation. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. See item 45 for additional amendments or building standards proposed for Group E occupancies, developed in coordination with the Division of State Architect. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 15 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 1250, 1502, 1568.02, 1569.72, 1569.78, 11159.2, 13108, 13131.5, 13133, 13143, 13108.5(a), 13210, 13211, 18949.2, Government Code Section 51189.

References: Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204.

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[20]

**CHAPTER 16  
STRUCTURAL DESIGN**

**CHAPTER 17  
STRUCTURAL TESTS AND SPECIAL INSPECTIONS**

**CHAPTER 18  
SOILS AND FOUNDATIONS**

**CHAPTER 19  
CONCRETE**

**CHAPTER 20  
ALUMINUM**

The SFM proposes to not adopt Chapters 16 through 20.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[21]

### CHAPTER 21 MASONRY

The SFM is maintaining the adoption of those existing California regulations or Sections as amended in Chapter 21 without modification pursuant to Health and Safety Code Sections 13108, 13113, 13114, 13131.5, 13143, 13143.6, 17921 and 18949.2.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

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[22]

### CHAPTER 21A MASONRY

The SFM is maintaining the adoption of those existing California regulations or Sections as amended in Chapter 21A without modification pursuant to Health and Safety Code Sections 13108, 13113, 13114, 13131.5, 13143, 13143.6, 17921 and 18949.2.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

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[23]

**CHAPTER 22  
STEEL**

The SFM proposes to not adopt Chapter 22.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[24]

**CHAPTER 23  
WOOD**

The SFM proposes to only adopt Sections 2303.2 – 2303.2.9 of Chapter 23 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 23 without modification.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

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[25]

**CHAPTER 24  
GLASS AND GLAZING**

The SFM proposes to adopt Chapter 24 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 24 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[26]

**CHAPTER 25  
GYPSUM BOARD AND PLASTER**

The SFM proposes to not adopt Chapter 25.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[27]

**CHAPTER 26  
PLASTIC**

The SFM proposes to adopt Chapter 26 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 26 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[28]

## CHAPTER 27 ELECTRICAL

The SFM proposes to adopt Chapter 27 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 27 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

### **Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

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[29]

## CHAPTER 28 MECHANICAL SYSTEMS

The SFM proposes to adopt Chapter 28 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 28 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

### **Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13132.7, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

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[30]

### CHAPTER 29 PLUMBING SYSTEMS

The SFM proposes to not adopt Chapter 29.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[31]

### CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS

The SFM proposes to adopt Chapter 30 with amendment and California regulation. See item 42 for additional amendments or building standards proposed for high-rise buildings, developed by the SFM High-rise Task Force. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 30 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[32]

### CHAPTER 31 SPECIAL CONSTRUCTION

The SFM proposes to only adopt Sections 3101, 3102, 3102.3.1, 3103, 3104, 3105, 3105.4, 3106, 3110 and 3111 of Chapter 31 with amendment and California regulation. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 31 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[33]

**CHAPTER 32  
ENCROACHMENT INTO PUBLIC RIGHT-OF-WAY**

The SFM proposes to adopt Chapter 32 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 32 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[34]

**CHAPTER 33  
SAFEGUARDS DURING CONSTRUCTION**

The SFM proposes to adopt Chapter 33 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 33 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and

published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[35]

**CHAPTER 34  
EXISTING STRUCTURES**

The SFM proposes to only adopt Sections 3401.1 – 3401.3, 3401.4 – 3401.4.2, 3401.6, 3402, 3403.1, 3403.4.1, 3404.6, 3405.1, 3405.1.1, 3406, 3408, 3413, 3414, 3415 and 3416 of Chapter 34 without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 34 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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**[36. The SFM proposes to adopt Chapter 35 with the following amendments and California regulations.]**

See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. See item 46 for existing SFM amendments and California regulations that are brought forward without modification.

**CHAPTER 35  
REFERENCED STANDARDS**

The SFM proposes to adopt Chapter 35 with amendment and California regulation. See item 44 for additional amendments or building standards proposed for solar photovoltaic panel(s) or systems. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Chapter 35 without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

The following NFPA standards are proposed to the latest edition:

**NFPA**

- 10 Not adopted in California see CCR, Title 19.
- 11 Title not correct in IBC. No change necessary to the edition, this is the current edition. Next edition anticipated is 2015.
- 13 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 13D Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 13R Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 14 Title not correct in IBC (an “s” added to “standpipe”). Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 15 Last adoption 01 edition of standard was added by OSFM. This adds updated standard to current edition.
- 17 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 17A Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 20 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 22 Last adoption 03 edition of standard was added by OSFM. This adds updated standard to current edition.
- 24 Last adoption 10 edition of standard was added by OSFM. This adds updated standard to current edition.
- 31 Not current edition. Document has completed revision cycle and updated to the 2011 edition.
- 37 Last adoption 06 edition of standard was added by OSFM. This adds updated standard to current edition.
- 52: Last adoption 06 edition of standard was added by OSFM. This adds updated standard to current edition.
- 54 Last adoption 09 edition of standard was added by OSFM. This adds updated standard to current edition.
- 61 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 72 Title not correct in IBC. Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 80 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 92B This standard has been withdrawn by NFPA because the provisions are now found in the 2012 edition of NFPA 92. This revision needs to be addressed at the reference in IBC section 909.8.
- 92 This standard has been added to replace the withdrawn standard NFPA 92B. The provisions of NFPA 92B are now found in NFPA 92. This revision needs to be addressed at the reference in IBC section 909.8.9
- 910: The title is not correct in the IBC. No change necessary to the edition since this is the current edition. Next edition anticipated is 2015.
- 105 Title not correct in IBC. Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 110 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 111 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 120 The title is not correct in the IBC. No change necessary to the edition since this is the current edition. Next edition anticipated is 2015.
- 211 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 259 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 275 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 285 Not current edition. IBC incorrectly identifies the edition as 2011. There is no 2011 edition of this document. The current edition is 2012. Next edition anticipated is 2017.
- 288 Title incorrect in IBC. No change necessary to the edition since this is the current edition. Next edition anticipated is 2017.
- 289 Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 409 Not current edition. IBC incorrectly identifies the edition as 2010. There is no 2010 edition of this document. The current edition is 2011. Next edition anticipated is 2016.
- 654 Not current edition. IBC incorrectly identifies the edition as 2011. There is no 2011 edition of this document. The current edition is 2013.
- 720 Not current edition. Document has completed revision cycle and updated to the 2012 edition. Next edition anticipated is 2015.
- 1124 Title incorrect in IBC. Not current edition. Document has completed revision cycle and updated to the 2013 edition.
- 2001 Not current edition. Document has completed revision cycle and updated to the 2012 edition. Next edition anticipated is 2015.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[37]

**APPENDIX A  
EMPLOYEE QUALIFICATIONS**

**APPENDIX B  
BOARD OF APPEALS**

The SFM proposes to not adopt Appendix A and B.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[38]

**APPENDIX C  
GROUP U – AGRICULTURAL BUILDINGS**

The SFM proposes to adopt Appendix C without amendment. Furthermore, the SFM is maintaining the adoption of those existing California amendments or building standards in Appendix C without modification.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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[39]

**APPENDIX D**

## FIRE DISTRICTS

### APPENDIX E SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS

### APPENDIX F RODENT PROOFING

### APPENDIX G FLOOD RESISTANT CONSTRUCTION

### APPENDIX H SIGNS

The SFM proposes to not adopt Appendix D through H.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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**[40. The SFM proposes to only adopt Sections I101, I102 and I103 of Appendix I without amendment.]**

### APPENDIX I PATIO COVERS

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

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**[41]**

### APPENDIX J EXCAVATION AND GRADING

The SFM proposes to not adopt Appendix J.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

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**[42]**

The SFM proposes to adopt specific provisions relating to high-rise buildings, developed by the SFM High-rise Task Force.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

The following is an extract from the SFM High-rise Task Force Proposed Code Changes Report, which provides the specific purpose and rationale for item 42.

**Preface**

In June of 2010, the CALFIRE Office of the California State Fire Marshal (OSFM) created a working task group to review current high-rise building regulations and to propose and develop new regulations for high-rise buildings. This task group was titled "Office of the State Fire Marshal's High-Rise Task Force", and was separated into two distinct phases of working task groups - Phase I and Phase II.

The High-Rise Phase II Task Force assignment was to review and develop any potential amendments that were recommended by the High-Rise Phase I Task Force and, as necessary, develop additional amendments relating to fire and life safety issues in high-rise buildings to be considered as additions to the 2013 California Building and Fire Codes and NFPA 13. Upon completion, the high-rise regulation package was to be submitted to the State Fire Marshal.

**Executive Summary**

The Office of the State Fire Marshal (OSFM) created a working task group in June, 2010 to review current high-rise building regulations and to make recommendations for potential new regulations for high-rise buildings. Various jurisdictions across the state have adopted different ordinances based on their operational needs. The goals of this Task Force included developing high-rise regulations that are applicable to multiple jurisdictions and that eliminate inconsistency between local and state requirements.

The task force was comprised of fire department operation personnel, fire protection engineers, building officials, contractors, & hotel/lodging officials, an apartment association and OSFM Staff.

Phase I of the OSFM High-Rise Task Force worked for six months to obtain and assess the professional perspective of fire service operations personnel from Northern and Southern California. These first responders to high-rise building fires were able to learn how the codes affect their work and propose input into the changes they thought should be made to enhance the effectiveness of their work. This exercise contributed significantly to the High-Rise Phase I Task Force and resulted in twenty-six recommendations to the current code requirements.

The Phase II OSFM High-Rise Task Force commenced where Phase I left off and its members worked diligently for the next four months reviewing and developing the potential regulation changes pertaining to high-rise buildings, including the justifications and supportive documentation that were recommended by the High-Rise Phase I Task Force. The Phase II Task Force also considered additional proposals and/or modifications as necessary. This Task Force group developed specific code language and statements of reasons for all recommended regulations and modifications and submitted the completed regulation package to the State Fire Marshal and to SFM's Chief of the Code Development and Analysis Division for review and implementation.

**Scope**

The scope of Phase I of the OSFM High-Rise Task Force was to assess the professional perspective of fire service operations personnel from Northern and Southern California. These first responders to high-rise building fires were able to learn how the codes affect their work and propose input into the changes they thought should be made to enhance the effectiveness of their work.

The scope of the Phase II Task Force was to review the potential regulation changes pertaining to high-rise buildings, including the justifications and supportive documentation that were developed by the High-Rise Phase I Task Force. This Task Force was also asked to consider additional proposals and/or modifications as necessary to achieve their goals. In addition, this Task Force group was responsible for development of specific code language and statements of reasons for all recommended regulations and modifications. Upon completion, their final recommendation package was to be submitted to the State Fire Marshal for review.

### **Goals**

- Promote fire and life safety in high-rise buildings.
- Reduce the need for local ordinances/amendments.
- Reduce the inconsistency between local and state requirements.
- Provide consensus-based recommendations to the SFM by March 1, 2012.
- Include broad stakeholder involvement.

### **Objectives**

- Prioritize the proposed amendments for the 2012 Triennial Code Adoption Cycle.
- Consider further study of lower priority items.
- Review, analyze and further develop where necessary and document the rationale for each proposed amendment.
- Ensure each of the recommendations meets the nine- point criteria.
- Develop specific code language and statement of reasons for each recommended amendment.

### **Acknowledgements**

This final report was developed through a collaborative effort comprised of many hours of meetings, phone conferences, research and analysis. Excellent partnering was demonstrated by many individuals representing many disciplines, experts, and stakeholders who participated on the High-Rise Task Force during both Phase I and Phase II. The Office of the State Fire Marshal thanks each member and their organization for their assistance with this important work.

### **Task Force Members, Phase I**

Vickie Sakamoto, Division Chief – Office of the State Fire Marshal – Chair  
Rick Thornberry, PE – The Code Consortium, Inc. – Co-Chair

Roxanne V. Bercik, Assistant Chief – Homeland Security Division, Los Angeles Fire Department  
Frank Cardinale, Assistant Deputy Chief, Director of Training – San Francisco Fire Department  
Kevin Conant – San Jose Fire Department  
Sean G. Daugherty, Bureau of Fire Prevention, Harbor Division – Long Beach Fire Department  
Marcos Espiritu – County Facilities/High Rise Unit, County of Los Angeles Fire Department  
Jeff Halpert – Glendale Fire Department  
Troy Malaspino – Fire Marshal, Sacramento City Fire Department  
Ernie Paez, Division Chief – Office of the State Fire Marshal  
Sergio Pereira – Fire Prevention Supervisor, San Diego Fire Department  
Kevin Reinertson, Division Chief – Office of the State Fire Marshal  
Barbara Schultheis – Assistant Deputy Chief, Fire Marshal, San Francisco Fire Department

### **Task Force Members, Phase II**

John Guhl– Office of the State Fire Marshal – Chair  
Rick Thornberry –The Code Consortium, Inc. – Co-Chair

Ken Cofflin - Member – San Francisco Fire Department  
Thomas Harvey - Alternate – San Francisco Fire Department  
Vivian Day - Member – County Building Officials Association of California  
(c/o City and County of San Francisco Department of Building Inspection)  
Cliff Dehayward - Member – Apartment Association of Greater Los Angeles  
Guisela Guerra - Alternate – Apartment Association of Greater Los Angeles  
David Diamond - Member – American Institute of Architects, California Council  
(c/o SOM San Francisco)  
Kurt T. Cooknick - Alternate – American Institute of Architects, California Council  
Thomas Dusza - Member – Society of Fire Protection Engineers  
(c/o Rolf Jensen & Associates, Inc.)

Armin Wolski – Member - Fire Protection Engineer,  
(c/o Arup)

### **Recommendations**

The High-rise's Task Force core recommendations relating to fire and life safety issues in high-rise building construction in California and enhance fire and life safety throughout the industry:

### **Rationale for proposed modification to Part 2 and/or Part 9**

## **CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

### **403.3.1**

**Rationale:** Section 403.3.1 currently requires the fire sprinkler system risers serving each floor of buildings taller than 420 feet in height to be supplied from one of the standpipe system risers located in each stair shaft. Additionally, it requires that each standpipe system riser to supply sprinkler system on alternate floors. Under the current code, failure of either standpipe riser will impair the operation of the sprinkler systems on half the floors of the building.

SFM is proposing this amendment requiring the connection of the fire sprinkler system to a minimum of two combination standpipe system risers or sprinkler system risers on each floor which will significantly minimize the risk of sprinkler system failure on every floor in super high-rise structures.

The cost of this additional requirement is minimal for the significant increase in the enhanced level of reliability of the automatic sprinkler system.

### **403.3.2**

**Rationale:** SFM is proposing this amendment because all high-rise buildings in California require a secondary on-site water supply (CBC 903.3.5.2). The additional reliability of connecting the sprinkler system supply to two separate water mains in different streets does not appear to be necessary for high-rise buildings under 120 feet in height that pose a lesser risk than taller high-rise buildings. The 120 feet threshold for fire service access elevators and redundant fire pump systems was chosen. This amendment will result in significant construction cost-savings for buildings in this category. This amendment correlates to SFM proposed amendment CBC 403.3.2.1 regarding redundant fire pump systems.

### **403.3.2.1**

#### **Phase 1 Recommendation:**

# 2 – Add a new Section 403.3.2.1 to require a redundant fire pump for tall buildings.

Phase 1 Statement of Reasons (If Already Developed):

The failure of a fire pump impairs the water supply to fire protection systems in a building. In case of fire pump failure in buildings greater than 120 feet in height, the public water supply may not be adequate to supply the automatic fire sprinkler and standpipe systems. A redundant fire pump increases the reliability of the system that serves fire suppression systems when one of the pumps is out of operation.

**Rationale:** The SFM is proposing this amendment to require redundant fire pump systems for high-rise buildings greater than 200 feet in height. Initially the SFM High-rise Task Force proposed recommendations for 120 (see example below for rationale for such systems). However, during the Building Standards Commissions Code Advisory Committee hearing for the SFM rulemaking package the 120 foot trigger was requested to be further studied prior to the initial 45-day comment period to determine if the 120 foot should be revised to 200 or 225 feet.

The SFM has additionally reviewed local enforcing agencies ordinances that require redundant fire pump systems for high-rise buildings and has revised the height trigger to not place a more restrictive provision beyond what is currently implemented by local enforcing agencies.

The following are example of several local enforcing agencies' requirements/triggers:

- Glendale all high-rises
- Los Angeles City 150 ft
- Orange County Fire Authority 15 stories (approximately 135 ft to 195 ft)
- Sacramento all high-rises
- San Francisco 200 ft

Additionally NFPA 20 – 2013 edition that is proposed to be adopted indicates that "most urban fire departments have the capability of getting sufficient water at sufficient pressure up to the top of a 200 foot tall building." (See Annex A, Section A.5.7.)

Furthermore, fire departments in most California cities are capable of providing water to that height through their pumping apparatus, which can conservatively supply 250 psi. 225 feet equates to roughly 150 psi including friction loss and static pressure, which would leave roughly 100 psi at the roof for hose streams, which complies with NFPA and CBC requirements. The 200 foot is chosen instead of 225 foot, as this adds a little more conservatism to the requirement. This proposal would still allow individual cities to retain their existing ordinance for a lower trigger.

The SFM agrees with the committee comments and has made the revision to 200 feet accordingly.

This amendment will help ensure that adequate water is available for the building automatic sprinkler system and the fire department standpipe system provided for the fire department to fight fires on upper floors of high-rise buildings that are greater than 200 feet tall (about 16 to 22 stories). This amendment also requires each fire pump system to independently serve the required design demands for both the automatic sprinkler and standpipe systems in the building.

The failure of a fire pump will significantly impair the water supply to the water based fire protection systems in a building. In the case of a fire pump failure in buildings greater than 200 feet in height, the public water supply will most likely not be adequate to supply the automatic sprinkler and standpipe systems above that height. See the example described below. A redundant fire pump system greatly increases the reliability of the water based fire protection systems when any one of the fire pumps may be out of operation for repairs or maintenance or is otherwise inoperable or fails. This SFM amendment correlates with the SFM amendment to CBC Section 403.3.2.

**Example:**

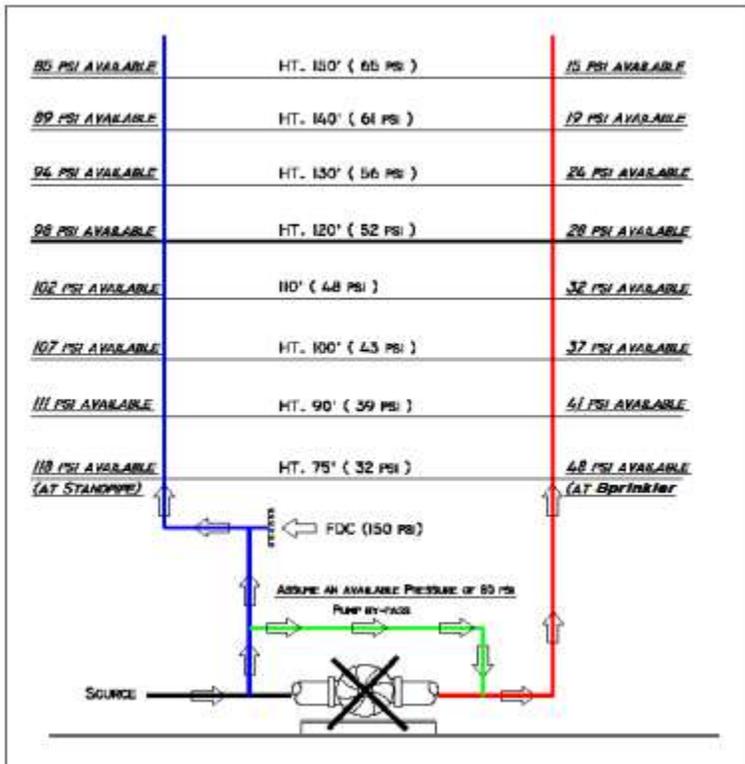
Determine the height threshold to require a secondary fire pump. Illustrate the water pressure distribution for the fire protection systems as the elevation increases, assuming the primary fire pump is out of operation.

**Assumptions:**

- Pump Bypass is provided
  - NFPA 20 Section 5.14.4 states: "Where the suction supply is of sufficient pressure to be of material value without the pump, the pump shall be installed with a bypass".
- Automatic Sprinkler System
  1. The typical building occupancies include primarily office space and residential units (low hazard).
  2. The least amount of water demand (Item #3) is assumed to control the fire in the occupancies listed in Item #1.
  3. Water demand is calculated based on flowing four sprinklers with a total discharge of 70 gpm at a minimum pressure of 7 psi at the sprinklers.
  4. The automatic sprinkler system distribution piping is a loop system. The overall friction loss is calculated to be about 10 psi.
  5. A factor of safety of 10 psi is factored in. The demand at the standpipe connection is *27 psi flowing 70 gpm*.
  6. Friction loss in the standpipe is ignored as being insignificant (0.0005 psi/ft)
- Manual Fire Department Hose Valves:
  - Minimum pressure required at the hose valve outlets is 100 psi. NFPA 14 requires a minimum residual pressure of 100 psi at the outlet of the hydraulically most remote 2½ inch hose valve connection. Many fire departments require additional pressure at the hose valve outlet in order to get 100 psi at the hose nozzle due to friction losses in the hose.
- Water supply:
  - Available residual pressure of 80 psi at the pump bypass.

**Hydraulic Calculations:**

- The schematic diagram below depicts the two water based fire protection system scenarios described above and shows the available pressure at each level for each scenario. The standpipe pressures assume the fire department will pump into the standpipe system at the standard operating pressure of 150 psi.
- The break point is about 120 feet in height where the building height elevation exceeds the fire pump bypass capacity to meet automatic sprinkler system demand and the Fire Department pumper's capacity to meet the standpipe hose demands.



403.3.4 See 913.6 for specific purpose and rational.

#### 403.5.4

##### Phase 1 Recommendation:

# 28 – Clarify where smokeproof enclosures are required. Revise CBC 403 to not include “Every exit enclosure in high-rise.

**Rationale:** The SFM is proposing this amendment to allow exit enclosures which serve three or less adjacent floors to be exempt from the smokeproof enclosure requirements where one of the floors is the level of exit discharge (example: two basements levels and the lobby level or mezzanine and second floor and the lobby). The exit discharge level is required as one of these floors in order to limit this exception to the lower portion of the building.

As currently written, all exit enclosures in a high-rise building are required to be smokeproof enclosures. This includes an enclosed interior ramp on the ground level of the building, or an exit stair from the basement to the exterior with a door at the basement and the only other door discharging to the exterior. There is a minimum benefit

in providing such enclosures as smokeproof. This modification to the existing SFM Amendment will result in significant construction cost savings and will not impact fire and life safety in high-rise buildings.

## CHAPTER 7 FIRE-RESISTANCE-RATED CONSTRUCTION

### 705.12

Phase 1 Recommendation:

# 6 - Add a new Section 705.12 Graphics on Exterior Walls of High-Rise Buildings to require the review and approval by the local fire official for the installation of super graphics on the exterior of high-rise buildings.

Phase 1 Statement of Reasons (If Already Developed):

Local fire departments have concerns regarding the application of graphics and/or wall signs on multi-story buildings when covering large areas of the exterior wall. (This applies to temporary mylar-type “advertising” graphics adhesively-applied to the exterior glazing, and permanent signage mounted on the exterior wall.)

**Rationale:** There is currently no language in the code (either CBC or IBC) pertaining to large graphic applications on the exterior of high-rise buildings. This pertains both to temporary mylar-type “advertising” graphics adhesively applied to the exterior glazing and permanent graphics mounted on the exterior wall. This proposed amendment addresses the following concerns raised by the Phase I Task Force:

1. The materials used on graphics signs should not be more combustible than the materials used on the exterior wall. However, Section 1406.2.2 allows combustible materials to be used up to 40 feet in height above grade, so the proposed amendment for noncombustible or reduced flame spread graphics materials applies only to graphics located above 40 feet in height.
2. The risk of the graphics falling off the building needs to be minimized. This applies both to the appropriate engineering of mechanical attachment for permanent graphics and the adhesive attachment of temporary graphics directly to the surface of the exterior wall.
3. Graphics applied to the exterior wall of buildings should in no way interfere with building ventilation and/or fire and life safety systems in the building. An example of this would be open parking structures that rely on portions of the exterior wall remaining open for natural ventilation and passive smoke evacuation and should therefore not have these openings blocked by additive graphic elements. Another example would be glazing on the exterior wall that is designed to be broken out for passive smoke evacuation, therefore the break-away functionality of the glass should not be impeded by adhesively-applied graphic banners on the surface of the exterior wall.

## CHAPTER 9 FIRE PROTECTION SYSTEMS

### 907.6.1.1

Phase 1 Recommendation:

#30: Fire alarm initiating circuits, notification circuits and signaling line circuits in high-rise buildings shall be Class A in accordance with NFPA 72 and fire alarm circuits installed in high-rise buildings shall be enclosed in continuous metallic raceways in accordance with the California Electrical Code.

Exception: Initiating circuits which serve only a single initiating device and Metallic cable (MC) shall be permitted for fire alarm notification circuits where survivability is not required.

**Rational:** In high-rise buildings, the code relies on a high level of performance and reliability by the fire alarm system to maintain life safety. This includes detection of fire incidents, occupant notification, and controlling building systems to minimize the impact of the fire event. SFM is proposing this amendment regarding requirements for fire alarm wiring installed in high-rise buildings. Item # 1 requires fire alarm circuits to be Class A in accordance with NFPA 72 to enhance the reliability of these critical life safety circuits. Class A circuits will ensure fire alarm performance even if there's a break in the circuit.

Item # 2 requires fire alarm circuits to be protected against fire and physical damage by placing the circuits within metallic raceways (i.e. conduit). CBC Section 909.12.1 already requires that all wiring serving smoke control systems including any fire alarm circuits initiating, monitoring, or controlling circuits to be in continuous raceways. The exception allows the use of metallic cable (MC) for fire alarm notification circuits.

### 907.6.3.3 and 911.1.5 (Part 9 CFC 508.1.5 and 907.6.3.3)

Phase 1 Recommendation:

# 10 – Revise Section 911.1.5 Required Features to require graphic annunciators for all fire alarm system computers and related equipment, including smoke control in all new high-rise buildings.

**Rational:** This proposed amendment would require a matrix style fire alarm annunciator in new high-rise buildings. A matrix annunciator would facilitate quick evaluation of critical fire alarm conditions by responding emergency personnel. Multiple alarms on multiple floors are shown along with many essential supervisory/trouble conditions.

SFM High-rise Phase I Task Group recommended a graphic annunciator for this purpose. This usually includes a building elevation as background, but could also imply individual floor plans.

Upon thorough review and consideration SFM High-rise Phase II Task Group recommended a matrix style panel utilizing a building elevation pattern instead. This concept simplifies the fire alarm system annunciator, and thus reduces the cost.

#### **909.18.9**

**Rational** This State Fire Marshal amendment is needed to insure that the smoke control system and firefighters smoke control display panel is functioning correctly in both the automatic and manual modes as design. This information is essential to the responding fire officers and fighters during a fire event and also to Fire Marshals, Fire Inspectors, Building Engineer and technicians for the required annual testing. Although this information may already be incorporated in the approved plans and various documents, it needs to be readily available in a single document for responding fire department personnel.

#### **909.20.2.3**

Phase 1 Recommendation:

# 9 Revise Section 909.20.2.3 Standpipes (SFM amendment) by adding “Unless otherwise approved by the fire code official” to the beginning of the section.

**Rational:** SFM is proposing this amendment to eliminate the conflict between this section and section CBC/CFC 905.4 Item 1.

The SFM High-rise Task Force determined that the local fire code official should establish the best location based upon their fire department’s operating procedures.

#### **911.1.6 (Part 9 508.1.6)**

**Rational:** Common HVAC systems may be shut-down under alarm or other emergency conditions. Equipment in this room is computer based and may malfunction under elevated temperatures. The intent of this code change is to provide an independent HVAC unit within the room. This may include a fan coil within the room even though chilled water is provided from a common building source. Emergency power to the HVAC is not required, but would be desirable. The section is intentionally left performance-based to allow for multiple options based upon building systems.

The intent of Task Force Group 1 is met.

This section is for new buildings and would only apply to existing building if the Fire Command Center is relocated or completely renovated.

#### **913.6 and 403.3.4 (Part 9 604.2.14.1.1 and 913.6)**

Phase 1 Recommendation:

# 25

Revise Section 604.2.14.1.1 Fuel Supply of the 2010 CFC to increase the fuel supply capacity from 6 hours to 8 hours for standby power systems. Additionally add a statement to require that a minimum fuel supply be always available.

Phase 1 Statement of Reasons:

Potential amendment #25 applies to all fuel supply for generators serving the standby power of highrise buildings. The standby power serves the systems that focus more on the continued operation of critical equipment in a building such as elevators, and fire pumps. CFC section 604.14.1 requires that the fuel supply shall be sufficient to serve the systems for a minimum duration of 6-hour with the exception of fire pumps having a fuel supply capacity of minimum 8-hour. There is currently no provision in this code to set a threshold for the minimum fuel level before refueling is required. It is possible that the tank fuel level drops too low due to the system testing. This code section is modified to require the fuel supply to be maintained 6 hour all times.

**Rational:** SFM is proposing this amendment based on feedback from the SFM High-Rise Phase I Task Group. This amendment modifies this Code section to clarify the minimum capacity of the fuel tank to assure that the minimum required fuel supply is available at all times for the operation of the equipment required to be on standby power in high-rise buildings.

This proposed amendment applies to all fuel supplies for generators serving the standby power system in high-rise buildings. The standby power serves the systems that focus more on the continued operation of critical equipment in a building such as elevators, and fire pumps. CFC section 604.2.14.1 requires that the fuel supply shall be sufficient to serve the systems for a minimum duration of 6 hours with the exception of fire pumps having a fuel supply capacity for a minimum of 8 hours. There is currently no provision in the code to set a threshold for the minimum fuel level before refueling is required. During system testing, it is probable that the tank fuel level will drop, so this code section is being modified to assure that the fuel supply will be maintained for a minimum of 6 hours for full-demand operation of the system at all times.

To accomplish this, SFM is relocating the current amendment in CFC Section 604.2.14.1.1 to new CBC Section 913.6 Fire Pumps in High-rise Buildings and a new CFC Section 913.6 Fire Pumps in High-Rise Buildings. A new CBC Section 403.3.4 Fire Pumps is also being added as a pointer.

## **CHAPTER 10 MEANS OF EGRESS**

### **1007.8.1**

**Rational:** Current IBC language allows the Communication System Receiving Station to be in the Fire Command Center (FCC). The FCC is normally unoccupied and the voice communication system may be used in other than fire department response emergencies where the FCC may not be used. This amendment requires the building owner and fire department authority to concur on a specific location based upon building design, building operations, and fire department operations.

SFM High-rise Phase I Task Group recommendation for two on-site locations was not accepted by the Phase II Task Group, as some equipment can only work correctly with a single call monitoring location. Additional code language would be necessary to assure proper equipment performance. In addition, a call monitoring location may be a security desk in the lobby. Fire department operations are often staged in the lobby which is also usually adjacent to the FCC. The security desk may be the best location under these conditions.

An automated system directly calling 911 could tie up a 911 operator who may not be familiar with the building specifics. Off-site monitoring locations are readily available but not necessarily constantly attended. *"An approved"* was added to "monitoring location" to prevent the use of a monitoring location that may not be constantly attended.

### **1007.8.2**

Phase 1 Recommendation

# 13 – Revise Section 1007.9 Signage to require that signage clearly explain the use of the two-way communication system by persons with disabilities during an emergency, and note the location of the elevator lobby within the building and the address of the building.

Phase 1 Statement of Reasons (If Already Developed):

The majority of information is included in CBC Section 1007.8.2, which is identical to the 2012 IBC Section 1007.8.2. Building address is added along with additional floor location information. DSA Access Compliance Division should be provided with language for concurrence and Chapter 11 signage coordination.

**Rational:** SFM is proposing this amendment because the SFM High-rise Task Group determined that the word "location" is vague and additional information should be provided.

The information proposed is sufficiently specific to determine the location of the individual initiating the call with the communication system receiving station being either an internal building location or an outside monitoring service.

### **1008.1.9.12**

Phase 1 Recommendation:

# 15

Revise Section 1008.1.4.6 Access-Controlled Elevator Lobby Egress Doors (SFM Amendment) to clarify that it is not intended to apply to elevator lobbies that serve as part of the means of egress through which occupants must pass to reach an exit on the opposite side of the lobby and that the approved smoke detection system need only consist of smoke detectors located in the elevator lobby and one located outside of the elevator lobby directly adjacent to the elevator lobby doors, and to require a master switch located in the Fire Control Room for the fire department to use to manually unlock all such doors located in the building.

**Rational:** This proposed State Fire Marshal amendment is a clarification of the intent of the current amendment which is to limit its application to elevator lobbies in office buildings where the required path of egress travel to reach an exit stairway does not pass through the elevator lobby. It also clarifies that the smoke detection system requirement is intended to be a single smoke detector located at each set of the elevator lobby doors on the tenant side ceiling. It also requires a remote master switch for unlocking the elevator lobby doors to be provided in the Fire Command Center similar to the requirement for stairway door locks. This proposal also reformats and edits the section to make it more user friendly and easier to interpret and enforce.

#### **1022.10, 1022.10.1**

Phase 1 Recommendation:

# 20 approved by high-rise phase ii task force 2/24/12

Delete the reference to "Pressurized Stairways" in CBC / CFC Section 1022.10 Smokeproof Enclosures and Pressurized Stairways and clarify the matrix adoption table for Chapter 9 that Section 909.20.5 Stair Pressurization Alternative is not adopted by the State Fire Marshal.

**Rational:** This amendment is strictly editorial and arose because of the fire department operational issues related to pressurized stairs and vestibules. This needs to be correlated with CBC / CFC Section 909.20.5 and the SFM amendment to it that currently deletes pressurized stairways as an option to smokeproof enclosures.

### **CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS**

#### **3007.7.4**

**Rational:** This proposed SFM amendment is to clarify that it was not the intent to require additional space for each additional fire service access elevator opening onto the elevator lobby. The intent of the size requirement was merely to provide sufficient space to conduct firefighting operations. The 2012 IBC has a new requirement for a second fire service access elevator which was not related to the section on lobby size.

The current IBC size requirement is the result of a successful Public Comment to Code Change G197-07/08 submitted to the ICC by the proponent representing the Los Angeles Fire Department. The proponent originally wanted 50 square feet for each additional elevator car served by the lobby but that was disapproved by the ICC General Code Development Committee. The Public Comment deleted the 50 square feet criterion and added the minimum dimension requirement of 8 feet. A detailed rationale for that approach can be found in the Commenter's Reason submitted with the Public Comment to the ICC. So this proposed code change implements and clarifies the intent of the Public Comment that was approved by the ICC.

**[Additional modifications related to High-rise building outside the scope of the SFM High-rise Task Force.]**

#### **909.18.9**

**Rational** This State Fire Marshal amendment is needed to insure that the smoke control system and firefighters smoke control display panel is functioning correctly in both the automatic and manual modes as design. This information is essential to the responding fire officers and fighters during a fire event and also to Fire Marshals, Fire Inspectors, Building Engineer and technicians for the required annual testing. Although this information may already be incorporated in the approved plans and various documents, it needs to be readily available in a single document for responding fire department personnel.

#### **Chapter 2 definitions**

##### **Direct access**

##### **1027.1**

##### **3007.7.1**

##### **3008.7.1**

**Reason:** The SFM is proposing the above modifications based on proposals submitted for the 2015 IBC that address issues related to FSAE and Occupant Evacuation elevators lobbies. The following is the rational by the ICC Code

Technology Committee that proposed the modifications. This code proposal has been heard and accepted by the ICC General Committee at the ICC Code Hearings held April-May, 2012 in Dallas, TX. Final Action of these modifications to ratify will be made in October 2012 and the SFM will modify accordingly should additional changes be approved. The following is the rationale for support of the proposed modifications:

The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

This proposal is one of several proposals submitted by the CTC related to elevator lobby provisions. The ICC Executive Board directed the Code Technology Committee (CTC) to study the issue of elevator lobby separations in November 2010 due to the number of code change proposals submitted addressing this issue over a number of code change cycles. The Code Technology Committee formed a study group on the elevator lobby separation issue in December 2010. Note that this subject had been previously addressed by CABO/BCMC in 1986 with a similar conclusion. The code change proposals submitted are the result of the CTC's study of the issue. Note that the scope of the activity was as follows:

#### Scope

- Review the need for elevator lobbies,; with emphasis on building use, building and hoistway height, active and passive fire protection features associated with the aforementioned.
- Review the differences and specific needs when dealing with elevator lobbies of traditional-use elevators, fire service elevators, and occupant evacuation elevators.
- Review related code provisions, such as egress from and through elevator lobbies.
- Review the appropriate use of alternatives including pressurization of hoistways, additional doors, roll-down style barriers, and gasketing systems.
- Review with members of elevator industry to scope the requirements of applicable elevator reference standards as it deals with elevator lobby design, use and construction.
- Review design and construction requirements for elevator lobbies, including but not limited to dimensions, location and separation.
- Review applicable code change history, technical studies and loss statistics as part of this review.

Based upon the extensive nature of this area of study, 5 Task Groups were formed during the process to provide in-depth review and to manage the number of issues. These task groups developed a number of proposals that were coordinated throughout the process.

More information on this CTC area of study can be found at the following link.  
<http://www.iccsafe.org/cs/CTC/Pages/ElevatorLobbies.aspx>

The focus of this proposal is on how the direct access requirements of Section 3007.7.1 and 3008.7.1 are applied. Both FSAE and Occupant Evacuation elevators lobbies call for direct access to the stairway. The term direct access is not necessarily clear in its meaning and could if applied as intended place severe design limitations on some buildings. The intent of this proposal is to set out a viable option for the stairs to be more remotely located from the lobby. A package of requirements that provides fire resistance rated construction and smoke and draft protection is provided. A definition is also provided to clarify the use of the term. Section 1027.1 was revised slightly since the current use of the term "direct access" in that case has a different meaning.

Additional modifications are proposed to revise it for the SFM provisions for existing smokeproof enclosures. This code change is necessary to clarify the SFM's intent that the fire access elevator lobby access a smoke proof enclosure and therefore access the stairway through the vestibule. The SFM has amended Section 909.20 of the IBC to not permit pressurized stairways and to require smoke proof enclosures that incorporate pressure differences through the pressurization of a vestibule and a stairway. The 2012 IBC commentary and handbook are structured to allow access to pressurized stairways that the SFM has chosen not permit and to require pressurized smokeproof enclosures. By not adopting change it will not be clear that the fire service access elevator lobby can be accessed directly from the stairway portion and not via the smoke proof enclosure vestibule. Accessing the stairway

pressurized to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the stair shaft relative to the fire service access elevator lobby may result in the need to provide heavy door closers to force shut and door opening forces exceeding 15 lb.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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#### [43]

The SFM proposes to adopt specific provisions relating to custody, correctional and the rehabilitation facilities, developed by the SFM I-3 Task Force.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The following is an extract from the I-3 Occupancy Codes Task Force Proposed Code Changes Final Report, which provides the specific purpose and rationale for item 43.

#### **Acknowledgements**

This report was developed through a *collaborative* effort and many hours of research, analysis *and discussions*. *Excellent partnering* was demonstrated by the many individuals, disciplines, experts, and stakeholders participating with the I-3 Occupancy Codes Task Group. Included in those efforts are (in alphabetical order):

#### **Task Force Members**

Steve Guarino, Supervising State Fire Marshal – Chair

Lorenzo Martin Lopez, Vice President, Nacht Lewis Architects – Co- Chair

Virgil Matheny – CDCR

Joe McAtee – California Medical Facility

Brian McLaughlin – Arup

Cindy Moore – State Fire Marshal

Troy Morris – Deuel Vocational Institute

Michele Nachtmann – State Fire Marshal

Michael Bush – CDCR

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Catherine Chan – HOK

Paul Chatham – CDCR

Ali Fatah – City of San Diego

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Debi Nishimoto – Department of Mental Health

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Sanjay Aggarwal – RJA Group

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Ernie Paez – State Fire Marshal

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Bill Robertson – State Fire Marshal

Gordon Rogers – Kitchell, CEM, Inc.

Maynard Feist – Lionakis

John Guhl – State Fire Marshal

Richard Hoerner – Lionakis

Jeffrey Maddox – The Fire Consultants

Jon Marhoefer – San Bernardino Sheriff's Dept.

Thomas Trimberger – Power Utilities Bureau Veritas

The Office of the State Fire Marshal thanks each member and their organization for their assistance with this important work.

#### **Preface**

On September 22, 2011, the Office of the State Fire Marshal convened representatives from various disciplines related to in-custody, correctional and the rehabilitation industry. The I-3 Occupancy Task Group was to provide information and suggested recommendations to the State Fire Marshal on issues related to the changing correctional and in-custody infrastructure California is currently faced with. Our key stakeholders include members of the California Fire Service, California Correctional Industry, Building Officials, Architects, Fire Protection Engineers, State and County agencies.

A multitude of court orders and a change in a rehabilitative thought process, on both a local and state levels, has transformed construction methodologies for detention and correctional facilities.

In 2001, a federal class-action lawsuit alleged that the state of medical care in California state prisons violated the 8<sup>th</sup> amendment of the U.S. Constitution, which prohibits cruel and unusual punishment. In 2002, the State settled the lawsuit by agreeing to reform the system and provided within its secured facilities the ability to:

- Providing health care to 166,000 inmates (93% male, 7% female).
- Delivering health care at 33 adult institutions in California

To achieve court mandates, California is tasked with constructing sub-acute medical and mental health care facilities (I-2 occupancies) for patient-inmates within the California state prison system (I-3 occupancies). *The code currently does not address the specific construction provisions for combining these occupancies.* This Task Group has evaluated existing codes and has proposed code revision that will clarify the specific provisions that are necessary to facilitate inmate care while maintaining a secure environment.

The purpose of this task group is to advise the State Fire Marshal *with regard* to fire and panic safety regulations and building standards concerning facilities where persons are restrained *while ensuring a safe environment for both security and fire safety requirements.* The task group was also tasked to identify facilities or portions thereof, where persons are restrained that would be classified by the California Building Code as group I-3 occupancies.

### **Executive Summary**

California has a prison crisis; overcrowding, increasing healthcare costs and 70% recidivism rate. In an effort to address these issues California expanded the mission of the Department of Corrections to include "rehabilitation." These changes in methodology have resulted in a *need* to re-evaluate how correctional facilities *should be* constructed.

Federal Judge Thelton E. Henderson, of the U.S. District Court for Northern California presides over the *Plata v. Schwarzenegger* case in which medical care in California's adult prisons was found to be unconstitutional. After the State failed to make court-ordered corrections, Judge Henderson put the California Prison system into Receivership.

The Federally appointed Receiver has requested;

- \$6 billion to build a new stand-alone medical prison on the grounds of existing prisons in Stockton. The Receiver indicates that this facility is necessary in order to accommodate the needs of 10,000 inmates his office has identified as requiring long-term care (one-half of whom have primarily medical needs, while the other one-half have primarily mental health needs).
- \$1 billion to renovate, upgrade, and expand the existing medical space at 32 state prisons.
- \$1 billion mainly to build new dental facilities as part of the Perez court case regarding inmate dental care.

On May 23, 2007, the Governor signed into law Chapter 7, Statutes of 2007 (AB 900, Solorio), in order to relieve the significant overcrowding problems facing state prisons. Specifically, AB 900 authorized a total of approximately \$7.7 billion for a broad package of prison construction and rehabilitation initiatives:

- The measure allocated \$2.4 billion for 16,000 infill beds.
- Assembly Bill 900 allocated \$2.6 billion to construct up to 16,000 beds at "secure reentry facilities"—with up to 500 beds each—for inmates within one year of being released from custody prior to parole.
- The measure allocated about \$1.1 billion to construct medical, dental, and mental health treatment or housing for inmates.
- \$1.2 billion to help counties construct local jail facilities to help address overcrowding in these facilities.
- \$300 million from the General Fund to address sewage, water, and other types of infrastructure problems at existing prisons.

In addition to addressing the construction needs for the changing correctional industry, the California Court System is revamping its infrastructure.

SB 1407 provided funding urgently needed for courthouse improvement projects in California. The following statistics illustrate the critical need for replacement and renovation of California's courts:

- More than 40 percent of court facilities have no means to bring in-custody defendants into courtrooms without using public hallways.
- More than two-thirds have inadequate security.
- One-quarter of courtrooms have no space for a jury.
- More than three-quarters lack adequate access for people with disabilities.
- More than a quarter is at risk of significant damage in an earthquake.

Providing safe, secure, accessible, and fire safe courthouses is a critical priority for California. The most immediate and critical needs for courthouse construction focuses on buildings that have been identified for years as in need of replacement or renovation which includes in-custody defendants transfer and holding facilities.

### Scope

The scope of the *Task Group* is to review and evaluate the current California Code of Regulations, Title 24 – California Building and Fire Codes, specifically Group I-3 provisions and other facilities or occupancies where persons can be restrained. I-3 Occupancy Codes Task Group reviewed these codes to determine if revisions (amendments) are needed for the next California Code cycle *in answer to the above noted needs and methodologies*.

The task group has developed, and in this report *provided*, recommendations to the State Fire Marshal for consideration and/or implementation into California Code of Regulations, Title 24 – California Building and Fire Codes.

### Committee Goals

The I-3 Occupancy Codes Task Group goals were to evaluate existing building and fire codes, and to evaluate the industry through a consensus process in order to:

1. Provide clarity to all stakeholders.
  - Re-evaluate existing code and SFM code interpretations
  - Better communication between Stakeholders regarding new code and interpretations
  - Provide balance between fire and life safety and security.
2. Provide unified consensus for regulations and standards.
  - Look at all regulations and codes for accuracy, ambiguity and consistency as they relate to areas where persons are restrained.
  - Review and make recommendations for proposed code changes to the State Fire Marshal in accordance with Health and Safety Code Section 18930.

### Consensus on Recommendations

The task force worked effectively to compile this report and for the most part agreed on the content, with some exceptions. The task group agreed to ensure that any recommendations provided to the State Fire Marshal would represent a strong consensus of the voting members. Therefore the members required that each recommendation obtain a 2/3 majority vote. All recommendations received task force consensus.

### Recommendations

The I-3 Occupancy Codes Task Group’s core recommendations will clarify Jail, Prison and Courthouse construction in California and enhance fire and life safety throughout the industry:

### Rationale for proposed modification to Part 2 and/or Part 9

## CHAPTER 2 DEFINITIONS

### 202 Definitions

#### CELL

The I-3 Occupancy Codes Task Group reviewed the definition of “Cell” and proposes to change the definition to clarify use conditions already in practice throughout the state. The current definition does not adequately define “cell” as used within the content California Code of Regulations, Title 15, entitled “Crime Prevention and Corrections”.

California Code of Regulations, Title 15, § 3269, Inmate Housing Assignments, provides operational expectations that all inmates are housed in double cell. Single cell housing status may be considered for those inmates who demonstrate a history of in-cell abuse, significant in-cell violence towards a cell partner, verification of predatory behavior towards a cell partner, or who have been victimized in-cell by another inmate.

#### **COURTROOM DOCK**

The I-3 Occupancy Codes Task Group reviewed existing definitions and found no definition for “*Courtroom Dock*”. The Administrative Office of the Courts advised SFM that the current common use term for area within a courtroom where persons may be restrained and are awaiting court proceedings is “Courtroom Dock”. The I-3 Occupancy Codes Task Group proposes to add this definition to clarify use conditions already in practice throughout the state.

#### **COURTHOUSE HOLDING FACILITY**

The I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes rooms, cells, cell complex or building specific to court facilities where persons are confined for the purpose of a court appearance for a period not to exceed 12 hours. The addition of this term “Courthouse Holding Facility” would differentiate between temporary holding rooms, temporary holding cells, and cells where persons are kept for less than 24 hours, and housing cells within jails and prisons.

#### **DETENTION ELEVATOR**

The I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes an elevator which serves only in-custody individuals within a secure and restrained environment such as high-rise jails and courthouses. The addition of the term “Detention Elevator” would differentiate between passenger or freight elevators and provide for appropriate fire, life safety and security regulations.

#### **DETENTION TREATMENT ROOM**

The I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes a room or rooms in which various treatments or procedures requiring special equipment may be performed. These rooms may also be used for person’s in-custody or inmates receiving therapeutic interaction or treatment contracted by a trained professional. Detention Treatment Rooms may be used by law enforcement personnel or legal counsel for interviews and interrogation.

Detention Treatment Rooms in detention areas are defined to allow for special circumstances which exist when persons are systematically escorted and locked in rooms with doors equipped with paracentric (security bolt) hardware which are incompatible with closers and self-closing devices.

#### **RESTRAINT**

The I-3 Occupancy Codes Task Group reviewed the definition of “restraint” and proposes to change the definition to clarify use conditions already in practice throughout the state. The current definition does not adequately define “restraint”. This revision makes clear “restraint” is applied in the same fashion to:

- holding cells and temporary holding adjacent to courtrooms
- courtroom docks in courtrooms
- secure interview rooms
- handcuffed/shackled secured to or not attached to chair/bench and, shall not be practiced in hospitals as well as the other care occupancy groups already listed in the current code language.

#### **SECURE INTERVIEW ROOMS**

The SFM I-3 Occupancy Codes Task Group on Prisons, Law Enforcement, and Jails reviewed the current definitions and found no definition that adequately describes a room/s where persons are kept by law enforcement for the purpose of interviewing either witness, persons of interest or detainees less than 24 hours,

#### **TEMPORARY HOLDING CELL, ROOM or AREA**

The SFM I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes a room/s where persons are kept for less than 24 hours, The addition of this term “Temporary Holding” would differentiate between temporary holding rooms where persons are kept for less than 24 hours, and housing cells where persons sleep overnight and/or reside.

#### **TEMPORARY HOLDING FACILITY**

The SFM I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes a groups of rooms where persons are kept for less than 24 hours, The addition of this term “Temporary

Holding Facility” would differentiate between groups of temporary holding rooms where persons are kept for less than 24 hours, and housing cells where persons sleep overnight and/or reside.

### **TENABLE ENVIRONMENT**

The I-3 Occupancy Codes Task Group reviewed the current definitions and found no definition that adequately describes “tenable environment”. *This definition helps to quantify requirements found in Section 408.9 and 909. This definition is in-line with nationally recognized codes and standards. [From NFPA 92B – Smoke Management Systems in Malls, Atria, and Large Spaces.]*

## **CHAPTER 3 USE AND OCCUPANCY CLASSIFICATIONS**

### **308.5, 308.5.1, 308.5.2, 308.5.3, 308.5.4, 308.5.5, 308.5.6, 308.5.7, 308.5.8**

These new definitions and conditions are necessary for two uses that currently are used in law enforcement buildings but do not meet the definitions of other conditions listed in the model code or CBC. These technically employ the use of restraint (locked doors) and therefore are I-3 occupancies, but fall well below the security and danger levels described in the other conditions. As temporary rooms for interviews or staging, which are continuously observed by law enforcement personnel, they should not be held to the type of restrictive construction required for other I-3 conditions. These newly defined uses should be allowed in sheriff’s offices, police stations, border patrol buildings, FBI office, DEA, etc., which are B occupancies. The inclusion of a small number of lockable rooms which are under supervision should not require the entire building to meet I-3 conditions. The alternative would be to handcuff or shackle detainees to a desk or bench which would be more risk to life safety. These code additions allow CSA and the SFM to regulate a use which already is in practice. Since these requirements are in addition to the regulations in Section 1231, these specific definitions do not conflict with 1231.1. Section 1231.2.2 requires bunks for inmates held for more than 12 hours. Chapter 1231 may not apply to facilities operated by Federal law enforcement located in leased buildings such as those by the FBI or DEA and CBP and ICE.

## **CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

### **407.2.2**

In Group I-3 occupancies where glazing separates nurses stations from the corridor due to security requirements, the addition of glazing should not require the walls surrounding such a nurses station (which may be located entirely within a rated corridor) to be rated. This provision should apply since the addition of glazed walls provides greater fire and life safety elements than an open nurse station does because it would decrease the spread of smoke or fire from entering the corridor. The addition of fire and smoke protected glazing and or wall assemblies add to both the cost and complexity of construction without the benefit of any additional fire and life safety measures.

### **407.3.1.1**

This code section provides challenges for doors in detention and/or secures mental health facilities for the following reasons:

- closers are not safe in secure environments
- doors must swing out of rooms (to avoid the potential for barricades)
- doors should not be located in alcoves (to maximize visual control)
- 1227.5.1 requires 8'-0" clear corridors
- Inmates are moved one at a time in these secure facilities eliminating the possibility of bed movement conflicting with others in the corridor and thus easing the requirements for 8' corridors

For these reasons, Section 407.3.1 would require corridors to 16'-0" wide to meet all requirements.

### **408.1.2.2**

1018 requires a corridor whenever the occupant load is 6 or more. This does not consider the concept of intervening spaces per 1014.2. Table 1018 should be clarified so that 1014 can apply. Table 1018 already refers to 408.1.2.2 which allows for open bar construction in housing units. CBC is also more restrictive than the IBC with greater fire resistance requirements. Furthermore, detention grade glazing cannot be constructed to meet fire resistance requirements.

In B occupancies, open offices do not automatically require corridors amidst cubicles when the occupant load is greater than 30. Likewise, corridors should not automatically be required in I-3 occupancies when the occupant load is greater than 6. Just like dayroom space in cells is not required to be rated (the dayroom is essentially an intervening space) circulation in housing wings should not be required to be rated which is why open barred fronts are allowed. As long as there is a clear and discernable path to an exit, the circulation should be considered an intervening space until it discharges into a collector corridor or leads to the exterior.

#### **408.1.2.3**

For small courthouses, construction type is driven by I-3 portion occupancy, which typically only occupies less than 10 percent of the overall area of the building. It is unreasonable to require a very small portion of the building to dictate the construction of the entire building, and as good stewards of public monies, we should allow for exceptions for courthouse facilities. This proposed change would still require the I-3 portion to be constructed in a manner consistent with what is required for that occupancy.

#### **408.1.2.4**

Administration space and inmate treatment space have different building requirements and ideally would be constructed next to one another, but space limitations are requiring them to be stacked. Administration areas above Type I detention occupancies (similar to podium construction), when separated by 3-hour horizontal construction, should be allowed to be of less restrictive construction provided independent free egress is allowed for the administration area. This arrangement provides a higher degree of fire and life safety than requiring the administration area to fall within the I-3 requirements and exit into locked portions of the building below. This configuration provides separate and distinct emergency egress for non law enforcement support and professional staff, improving egress times and allows correctional staff to focus on inmate evacuation.

#### **408.1.2.5**

The I-3 Occupancy Codes Task Group reviewed the fire-resistance rating requirements for corridors serving cell complexes and temporary holding rooms, including courthouse holding. The proposed change would differentiate the level of protection based upon the difference in fire risk between temporary holding rooms where persons are kept for less than 24 hours, and housing cells where persons sleep overnight and/or reside.

Temporary holding rooms, including courthouse holding areas, have far less combustible content and sources of ignition and should not be held to the same restrictions as I-3 sleeping areas. Occupants of these spaces are there for limited periods of time. These spaces impose lower risk than housing units because occupants cannot accumulate or store combustibles. Temporary holding area is generally an incidental use that is provided with a 2-hour occupancy separation as required by the Code. Therefore, a fire-resistance rating is not necessary for corridors serving temporary holding occupancy with an occupant load of 20 or less due to the presence of lower fire load, incidental use, supervision, and occupancy separation.

#### **408.1.2.6**

The IBC and CBC are overly restrictive for buildings including restrained occupants in that regardless of the duration of restraint or the degree of supervision and regardless of the number occupants restrained, construction requirements for jails and prisons are imposed for facilities used to interview detainees. This code change addresses temporary holding facilities that include up to 9 restrained occupants within the building such as may occur at ports of entry into the United States, police substations and certain court facilities. Since no sleeping will occur, smoke control should not be required. Furthermore requiring non-combustible fire resistive construction throughout is overly restrictive. Requiring at least fire resistant construction will allow locations on the second floor. The requirements allow for a level of defend in place protection as is assumed in most institutional occupancies and provides for notification, fire suppression and construction. The limited number of restrained supervised individuals will allow for timely evacuation of individual detainees held by members of law enforcement. While not limiting the number of rooms and restrained persons in a building, this change limits the number of restrained occupants in fire areas and therefore requires fire barriers and horizontal assemblies to include more than 6 restrained occupants or 4 interview rooms in a temporary holding facility.

These requirements are in addition to the regulations in Section 1231 and do not conflict with 1231.1. Section 1231 may not apply to facilities operated by Federal law enforcement located in leased buildings such as those by the FBI or DEA and CBP and ICE that this section can apply to when the law enforcement facility will be located in a leased building and not on federally owned property.

#### **408.1.2.7**

The IBC and CBC are overly restrictive for buildings including restrained occupants in that regardless of the duration of restraint or the degree of supervision and regardless of the number occupants restrained, construction requirements for jails and prisons are imposed for facilities used to interview detainees. This code change addresses interview rooms where detainees are held or interviewed typically by members of law enforcement. While not limiting the number of rooms and restrained persons in a building, this change limits the number of restrained occupants in fire areas and therefore requires fire barriers and horizontal assemblies to include more than 6 restrained occupants or 4 interview rooms in a building.

#### **408.2**

The I-3 Occupancy Codes Task Group reviewed the existing use of the term “prisoner dock” and found no definition for “prisoner dock” as it’s used in Section 408.2 Exception 3. The Administrative Office of the Courts has advised SFM that the current common use term for areas within a courtroom where persons may be restrained and are awaiting court proceedings is “Courtroom Dock”. The I-3 Occupancy Codes Task Group proposes to change the term prisoner docks to courtroom dock to clarify use conditions already in practice throughout the state.

#### **408.2.1**

In 2001, a federal class-action lawsuit alleged that the state of medical care in California state prisons violated the 8<sup>th</sup> amendment of the U.S. Constitution, which prohibits cruel and unusual punishment. In 2002, the State settled the lawsuit by agreeing to reform the system and provided within its secured facilities the ability to:

- Providing health care to 166,000 inmates (93% male, 7% female).
- Delivering health care at 33 adult institutions in California

To achieve court mandates, California is tasked with constructing sub-acute medical and mental health care facilities (I-2 occupancies) for patient-inmates within the California state prison system (I-3 occupancies). The code currently does not address the specific construction provisions for combining these occupancies. The proposed code revision will clarify the specific provisions that are necessary to facilitate inmate care while maintaining a secure environment.

#### **408.3.10**

The I-3 Occupancy Codes Task Group suggests that the 200 ft travel distance is overly conservative for staff areas within an institution. Staff areas such as storage, control rooms, tunnels and officer areas have a similar or smaller fire load than Group B office areas which are permitted the 300 ft distance. Even this distance is based on a slow travel speed to accommodate a wide variety of movement speeds.

The staff in an institution should be moving at faster speeds than the average person.

#### **408.3.11**

The 2010 CBC section 1015.1 item 4 indicates “In detention and correctional facilities and holding cells” two means of egress are required when the occupant load exceeds 20. Table 1015.1 indicates the maximum occupant load for 1 means of egress is 10. We have reviewed the 2001 CBC and in our opinion section 1015.1 item 4 is a combination of 2001CBC 1004.2.3.3 exception 2 and Appendix 3 section 331A.1. The first code section establishes the required occupant load of 20 for holding cells while the second code section establishes 20 occupants for the occupancies related to Appendix 3A (prisons, jails, reformatories, and other detention facilities). It is our opinion that the intent was to carry over the 2001 requirements but the IBC number in the table was missed.

#### **408.6.1**

The I-3 Occupancy Codes Task Group suggests that the 150/ 200 ft travel distance is overly conservative for staff areas within an institution. Staff areas such as storage, control rooms, tunnels and officer areas have a similar or smaller fire load than Group B office areas which are permitted a greater distance. Even this distance is based on a slow travel speed to accommodate a wide variety of movement speeds. The staff in an institution should be moving at faster speeds than the average person and can travel the extra 50 ft.

#### **408.9, 408.9.1**

The design community has struggled with understanding the intent of this code section, and the benefit it provides to life safety. 408.9 is based on the need for operable windows which pose a security threat in I occupancies. Operable windows provide limited benefits to fire and life safety because they must be manually operated. However, we understand the need to address the tenability of areas where inmates might be asleep and their escape is delayed by the need to unlock their cells. The proposed language clarifies the intent of code by limiting the requirement to overnight sleeping areas where inmates are locked in their cells, and provides exceptions for commonly built housing types. The proposed language should result in cost savings.

#### **408.12**

The addition of this section (408.12) clarifies correctional medical and mental health use occupancies (or all Group I occupancies).

### **CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS**

#### **Table 503 footnote e**

This correlates to the new Section 408.1.2

### **CHAPTER 9 FIRE PROTECTION SYSTEMS**

#### **903.2.6.2**

The I-3 Occupancy Codes Task Group reviewed the history and current correctional operation associated with this Section and its exceptions and proposes to repeal the exceptions in this rule making. These exceptions are a holdover from barred cell front construction. It is no longer allowed to apply to cells with solid cell fronts.

#### **907.2.6.3**

This is intended to clarify that this code section, which eliminates the need for smoke detection in temporary holding cells in I-3 occupancies as is allowed for sleeping rooms per 907.2.6.3.3. Temporary holding cells have far less combustible content and sources of ignition. Occupants of these spaces are there for limited periods of time. These spaces impose less risk than sleeping cells and day rooms which are exempted per 907.2.6.3.3,.

#### **907.2.6.3.3**

Exception 2, is intended to clarify that this code section, which eliminates the need for fire and smoke detection in cells in I-3 facilities, also applies to medical/mental health facilities which are a correctional medical and mental health facilities.

Exception 3: The SFM is proposing this exception regarding smoke detection in inmate cells or cell cases that house two or fewer inmates. These inmate cells located in housing units are being continuously monitored by correction staff. The cells are constructed with noncombustible materials. Inmate cells are required to have automatic fire sprinkler protection and smoke detection in corridors. Inmate cells are also limited in the amount of combustible materials. Correctional staff can manually activate the fire alarm if needed.

Note: this exception does not apply to medical facilities.

Exception 4: The SFM is proposing this exception regarding smoke detection in dayrooms located in inmate housing units of detention facilities where 24 hour direct supervision is proved by correctional staff. The high ceilings in these dayrooms prohibit the operational effectiveness of smoke detectors installed on the ceiling. Dayrooms are constructed with noncombustible materials and have automatic fire sprinkler throughout. Dayrooms are under continuous supervision by correctional staff that can manually activate the fire alarm if needed.

#### **907.3.2.1, 907.3.2.4**

Delayed egress doors are required in order to secure secondary exits from courthouses. The alternative would be to allow terrorists or other criminals to open a secondary exit from the inside to allow other armed or otherwise dangerous individuals to enter. Courthouses are heavily staffed and are equipped with sprinklers and smoke detection, and therefore delayed egress poses no threat to life safety. In order to allow for delayed egress (which actually increases life safety) the requirements for smoke detection should only be required in corridors, mechanical and electrical spaces to be covered by smoke detection.

### **CHAPTER 10 MEANS OF EGRESS**

#### **1008.1.9.7**

Delayed egress doors are required in order to secure secondary exits from courthouses. The alternative would be to allow terrorists or other criminals to open a secondary exit from the inside to allow other armed or otherwise dangerous individuals to enter. Courthouses are heavily staffed and are equipped with sprinklers and smoke detection, and therefore delayed egress poses no threat to life safety.

Requirements for smoke detection throughout, in order to allow for delayed egress (which actually increases life safety) should require only corridors and mech/elec spaces to be covered by smoke detection.

**Table 1015.1 Footnote b**

The 2010 CBC section 1015.1 item 4 indicates “In detention and correctional facilities and holding cells” two means of egress are required when the occupant load exceeds 20. Table 1015.1 indicates the maximum occupant load for 1 means of egress is 10. We have reviewed the 2001 CBC and in our opinion section 1015.1 item 4 is a combination of 2001 CBC 1004.2.3.3 exception 2 and Appendix 3 section 331A.1. The first code section establishes the required occupant load of 20 for holding cells while the second code section establishes 20 occupants for the occupancies related to Appendix 3A (prisons, jails, reformatories, and other detention facilities) . It is our opinion that the intent was to carry over the 2001 requirements but the IBC number in the table was missed.

**1015.1**

If the changes to 408.1.2.5 are incorporated into the CBC, this exception (which is unclear) should be eliminated. However, if 408.1.2.5 is not adopted, then this section must remain. Refer to rationale for 408.1.2.5.

**TABLE 1016.2 Footnote a.**

This change is required for the addition of 408.3.11. The I-3 Occupancy Codes Task Group suggests that the 200 ft travel distance is overly conservative for staff areas within an institution. Staff areas such as storage, control rooms, tunnels and officer areas have a similar or smaller fire load than Group B office areas which are permitted the 300 ft distance. Even this distance is based on a slow travel speed to accommodate a wide variety of movement speeds. The staff in an institution should be moving at faster speeds than the average person.

**Table 1018.1 Footnote b**

This correlates to the new Section 408.1.2

**1025.4**

Often in I-3 occupancies, horizontal exits are required to achieve the exiting requirements and maintain security. In group I-3 occupancies, an exit is not necessary from each individual fire compartment if there is access to an exit through other fire compartments without passing through the fire compartment of fire origin. This provision is intended to promote the use of horizontal exits in detention and correctional occupancies. Horizontal exits provide an especially effective egress system for an occupancy in which the occupants, due to security concerns, are not commonly released to the outside.

**1028**

The I-3 Occupancy Codes Task Group reviewed the current requirements for Group A occupancies found with correctional and detention facilities. The requirements of 1028 are not compatible with I-3 facilities. Since I-3 facilities are already built to more restrictive requirements than necessary for Group A occupancies, and because quantity and size of exits are spelled out in other areas of Chapter 10, this code section creates confusion on buildings that are Group I-3 occupancies as their primary occupancy. The provision found in Section 1028 are less stringent than the requirements for Group I-3 occupancies.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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**[44]**

The SFM proposes to amend, modify or adopt new building standards relating to solar photovoltaic panel(s) or systems into chapters 5, 6, 9, 15, 31 and 35.

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

## **CODE CHANGES FOR SOLAR PV INSTALLATIONS DEVELOPED IN PART THROUGH THE GOVERNOR'S OFFICE OF PLANNING AND RESEARCH PROJECT)**

Governor Brown and the Legislature have set aggressive goals to develop renewable energy, most notably the State's Renewable Portfolio Standard (RPS) requiring that one-third of California's energy come from renewable sources by 2020. Additionally, Governor Brown has set a target to develop 12,000 megawatts of small-scale renewable energy (known as "Distributed Generation") in the state by 2020. These goals are aiding California's economic recovery: renewable energy projects are creating jobs across the state; providing consumers price stability on their electricity, and increasing energy reliability in California communities.

Considering current targets and the economic benefits of renewable energy, state government should take expeditious action to remove any unreasonable barriers that constrain renewable energy growth. This need is urgent: the state's statutory targets (such as RPS demand) rapid expansion of renewable energy; federal incentives that drive renewable development expansion may sunset soon, and some of the state's own programs such as California Solar Incentive will end soon.

Challenges with permitting renewable energy projects have stifled renewable energy growth to date and Governor Brown has called for his office to streamline this permitting. Permitting solar photovoltaic (PV) projects specifically—among the most common and proven renewable technologies—is a large problem. Currently, a patchwork of local installation standards and code interpretations place different requirements on solar PV projects. For example, several cities in a single county can maintain different requirements for a standard rooftop solar installation. These different local standards exist, in part, because the current state codes do not specifically address several aspects of solar PV installations. This localized patchwork of requirements makes solar PV development slower, more complex and more expensive.

California's building and electrical codes under Title 24 already include several requirements for solar PV projects. However, these codes have not been updated to address several elements of solar PV installations. In the absence of statewide standards and guidance, local governments have developed their own requirements, many of which are unreasonably restrictive. A solution to this problem is to update relevant portions of the code to clarify and standardize requirements for solar PV installations across the state.

Considering the priority and urgency for renewable energy development, several non-controversial code amendments could be expedited in advance of the triennial code adoption process. If these code changes can be passed in an expedited manner, beneficial solar PV projects can be built across the state almost immediately which are currently stifled by a lack of permitting clarity.

## **CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS**

### **503.1**

#### **Figure 5-1**

**Rationale:** Roof top solar structures constitute additional story and floor area.

Consider exception for solar panel structures including solar carport and open solar structures with conditions.

Under current state code, rooftop solar structures can be interpreted to constitute an additional story of the building, increase the overall building height or where there is a use underneath such as solar carports, increase the floor area of the building. As a result, solar installations may not be allowed in buildings that are built to the maximum height, story or floor area. The proposed code revision provides an exemption for photovoltaic systems from these code restrictions.

**Exception 2:** This amendment allows solar PV systems to be installed above the maximum building height specified by code with limitation. This amendment will make it feasible to install rooftop solar PV systems on top of buildings that are built to the maximum height which is especially common in existing buildings. It will also make it practical for PV panels to be installed above the roof with the required tilt angle and be at a height that avoids interference with vents and equipment on the roof.

**Exception 3:** The amendment allows solar PV panel installations over parking stalls to be installed without being considered a story or floor area, these restrictions may prevent solar PV systems from being installed in buildings that have the maximum number of stories or floor area which is especially common in existing buildings. The exception requires minimum spacing between solar PV panel structures to allow fire access and provide a fire break.

## **CHAPTER 6 TYPES OF CONSTRUCTION**

## 602.1

**Rationale:** This section requires that solar panels and their supporting structures provide the same fire resistive construction as the main building

Consider exception for solar panel installations

Current state code requires that all structural members in certain types of building, typically larger buildings, to have a certain minimum fire resistance rating which means providing fire proofing. Fire proofing of solar PV structures can be very costly making such installation infeasible. Given the light weight of solar panels, this code requirement is unnecessary for solar structures. The proposed revision provides clarification that this code section does not apply to photovoltaic systems.

**Exception 1:** This exemption applies to solar PV panels that have no use underneath and therefore are considered equipment, this code section does not apply to structural members supporting equipment. This amendment provides clarification.

**Exemption 2:** This exception applies to solar PV panel assemblies that may or may not have a use underneath but have adequate opening to allow heat and gases to escape. Since there is no heat accumulation, there is no need for requiring supporting members to have fire resistance rating. Additionally, configurations meeting the exemption are considered equipment and are not subject to the requirement of this code section. This amendment provides clarification.

**Exception 3:** This exception allows non-combustible structural members that support only solar PV panels over parking stalls to be exempt from meeting the fire resistance rating that is required by this section. Solar PV panels are light weight, do not support occupants, and are not used as walking surface because of their electrical charge and low structural capacity, this exemption treats solar PV panels in this configuration as equipment. The exception requires minimum spacing between solar PV panel structures to allow fire access and provide a fire break.

## CHAPTER 9 FIRE PROTECTION SYSTEMS

### 903.3.1.1.1

**Rationale:** This section triggers requirement for fire sprinklers in buildings which often triggers sprinklers under solar systems. There are exceptions for certain type of occupancies, however no exemption for solar

In buildings that are required to be provided with fire sprinklers throughout, the code requires that all parts of the building be provided with fire sprinkler coverage. Some local governments have interpreted this to require fire sprinklers underneath elevated photovoltaic panels on the roof, which can be very costly. The proposed code revision provides exemption for photovoltaic systems that have no use underneath from fire sprinklers.

**Exception 5:** This exception provides clarification that fire sprinklers are not required under solar PV panels that have no use underneath. In this configuration, they are considered equipment.

**Exemption 6:** This exception applies to solar PV panel assemblies that may or may not have a use underneath but have adequate opening to allow heat and gases to escape. Since there is no heat accumulation, the fire sprinklers will not have proper activation and operation. Additionally, configurations meeting the exemption are considered equipment and are not subject to the requirement of this code section. This amendment provides clarification.

## CHAPTER 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

**Rationale:** Revisions to 2012 IBC Sections 1505.8, 1505.9 and 1509.7.2 are initially based on ICC proposals for the 2015 IBC, proposed by Solar Energy Industries Association (SEIA) in which the SFM agrees with the primary concept. These proposal have significant merit to resolving several issues with the IBC. The SFM is following these proposals in anticipation that they will be approved in late October at the ICC Final Action Hearings with modification. The primary basis for this submittal is to provide a base and place holder for the California rulemaking cycle and to modify as necessary the 45-day comment period. Current 2012 IBC text, propose S19–12 to amend 1505.1 and 1505.8, S21–12, S55–12, S57–12 combined into one proposal to amend 1509.7.2. The following is to specific purpose and rational as proposed by SEIA

### 1505.8 and 1505.9 (modifications based on S19–12)

**(S19–12) Reason:** The current IBC requirement to classify photovoltaic systems consistent with the requirement for roof covering materials does not adequately address fire performance evaluation considerations. Fire testing of rooftop mounted (stand-off, rack-mounted) photovoltaic systems was conducted by the Solar America Board for Codes and Standards in conjunction with Underwriter's Laboratories. Their test results did not confirm that a Class A classified roof combined with a Class A classified photovoltaic module would automatically result in an overall Class

A assembly. In some cases, systems would perform better, in many worse. This lack of correlation does not address the overall fire performance concern expressed by ICC members at previous hearings.

The intent of this code change is to control roof surface fire propagation and fire spread from the roof surface to a building's interior. The UL 1703 Standards Committee has been working on revised roofing classification testing employing a complete system comprised of a representative roof covering combined with the photovoltaic panels/modules being evaluated. This will provide assurance that the roof will be rated as the code intends with the specific panel or module system being used.

For further information on Solar ABC's on-going fire testing, visit [http://www.solarabcs.org/current-issues/fire\\_class\\_rating.html](http://www.solarabcs.org/current-issues/fire_class_rating.html) The revisions to 1509.7.2 direct the user to 1505 where the roof covering and PV panel testing is located. A new section is added to 1505.9 to require that the panel is to be evaluated to UL1703, not UL790 or ASTM E108. The exception's second sentence intends that the Class A, B, or C fire classification listed PV panel/module system be consistent with any other fire classification requirement for the roof covering contained within the IBC. In some cases, the code may restrict the roof classification to a higher category than what is required simply based on type of construction.

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

#### **1509.7.2 (Modifications based on S19–12, S55–12, S57–12 and S58–12)**

**(S19–12) Reason:** This section intends to require flush mounted PV roof coverings or PV integrated roof cladding systems to comply with UL790 or ASTM E108. This is appropriate for these types of systems.

The current language used in this section implies that a stand-off rack mounted panel or module system is also required to be evaluated to UL790 or ASTM E108. These types of stand-off systems have differing fire characteristics that are better evaluated using UL1703 method for fire classification. This is currently required under Section 1509.7.2.

The proposed change will clarify which test is appropriate for BIPV systems used in a roofing application.

**1509.7.2 Exception 1. (S55–12) Reason:** Fire testing of photovoltaic panels/modules was conducted on various roof systems by Underwriter's Laboratories in conjunction with Solar America Board for Codes and Standards (Solar ABC's). This study was conducted to assess the influence of PV panels/modules on the performance of classified roofing systems. This testing found that PV panels/modules placed in contact with the roof deck eliminated channeling of fire that was observed in some of the fire testing for elevated rack mounted systems. Channeling has been shown to contribute to flame spread when conducting the "spread of flame" test component of the fire classification evaluation. When PV panels/modules are installed in contact with the roof, the fire classification of the underlying roof system was not diminished. Therefore, this exception meets the ICC membership's intent to ensure that the installation of PV panels/modules do not degrade the fire classification rating of underlying roof systems.

**1509.7.2 Exception 2. (S57–12) Reason:** Fire testing of photovoltaic panels/modules was conducted on various roof systems by Underwriter's Laboratories in conjunction with Solar America Board for Codes and Standards (Solar ABCs). This study was conducted to assess the influence of PV panels/modules on the performance of classified roofing systems. This testing found that PV panels/modules raised sufficiently above the roof deck reduced heat flux temperatures and mitigated any deleterious effects caused by channeling of fire underneath raised "rack mount" systems. Channeling has been shown to contribute to flame spread when conducting the "spread of flame" test component of the fire classification evaluation. When PV panels/modules are raised at least 12", the fire classification of the underlying roof system was not diminished. Therefore, this exception meets the ICC membership's intent to ensure that the installation of PV panels/modules do not degrade the fire classification rating of underlying roof systems.

**1509.7.2 Exception 3. (S58–12) Reason:** Fire testing of photovoltaic panels/modules was conducted on various roof systems by Underwriter's Laboratories in conjunction with Solar America Board for Codes and Standards (Solar ABCs). This study was conducted to assess the influence of PV panels/modules on the performance of classified roofing systems. This testing found that PV panels/modules provided with perimeter fire barrier flashing extending from the panel/module to the roof eliminated channeling of fire that was observed in some of the fire testing for elevated rack mounted systems. Channeling has been shown to contribute to flame spread when conducting the "spread of flame" test component of the fire classification evaluation. When PV panels/modules are installed with barrier flashing, the fire classification of the underlying roof system was not diminished. Therefore, this exception meets the ICC membership's intent to ensure that the installation of PV panels/modules do not degrade the fire classification rating of underlying roof systems.

For further information on Solar ABC's on-going fire testing, visit [http://www.solarabcs.org/current-issues/fire\\_class\\_rating.html](http://www.solarabcs.org/current-issues/fire_class_rating.html)

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

#### **1511.1**

**Rationale:** The SFM proposed to reproduce Section 605.11 of the IFC into CBC Chapter 31, this amendment provides reference for clarity and consistency.

#### **1511.1.1 Reference to 602.1 provided for new provisions relating to fire-resistance ratings.**

**Rationale:** The SFM proposes this amendment to provide reference to the provisions proposed to section 602 for clarity and consistency.

### **CHAPTER 31 SPECIAL CONSTRUCTION**

#### **3111 through 3111.5 (IFC 605.11 reproduced)**

The SFM proposes to reproduce the provisions of International Fire Code 605.11 into the California Building Code to provide for uniform design and enforcement. Many local enforcing agencies currently provide enforcement of the SFM solar photovoltaic power systems guidelines, which were the basis of the 2012 International Fire Code Section 605.11 provisions, or other locally adopted provisions through the building department/official which typically do not enforce the California Fire Code. Furthermore, the SFMs intent to have these provisions reproduced into the California Building Code is to afford local communities the ability to provide adequate enforcement without the reference to a different code or standard. .

### **CHAPTER 35 REFERENCED STANDARDS**

#### **2010 NFPA-13 (CHAPTER 35)**

#### **NFPA 13 2010 Edition (modifications) Rationales:**

##### **Section 8.15.7**

**Exception 1:** This exception provides clarification that fire sprinklers are not required under solar PV panels that have no use underneath. In this configuration, they are considered equipment. This amendment provides clarification.

**Exemption 2:** This exception applies to solar PV panel assemblies that may or may not have a use underneath but have adequate opening to allow heat and gases to escape. Since there is no heat accumulation, the fire sprinklers will not have proper activation and operation. Additionally, configurations meeting the exemption are considered equipment and are not subject to the requirement of this code section. This amendment provides clarification.

#### **NFPA 13R 2010 Edition (modifications)**

##### **Section 6.6.8**

**Exception 1:** This exception provides clarification that fire sprinklers are not required under solar PV panels that have no use underneath. In this configuration, they are considered equipment.

**Exemption 2:** This exception applies to solar PV panel assemblies that may or may not have a use underneath but have adequate opening to allow heat and gases to escape. Since there is no heat accumulation, the fire sprinklers will not have proper activation and operation. Additionally, configurations meeting the exemption are considered equipment and are not subject to the requirement of this code section. This amendment provides clarification.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[45]

The SFM proposes to amend, modify or adopt new building standards relating to school construction into chapters 2, 4, 9 and 10

(Note: See Part 2 [item 46] of this document for existing California amendments brought forward from the 2010 California Building Code for adoption into the 2013 California Building Code without change except for nonsubstantive editorial corrections.)

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

## **CHAPTER 2 DEFINITIONS**

### **CHARTER SCHOOL**

The SFM is incorporating definition for charter schools already in regulations for code application.

### **MODERNIZATION PROJECT (Covered by new section 442.2 / 442.3)**

### **NEW PUBLIC SCHOOL CAMPUS (Covered by new section 442.2 / 442.3)**

### **PORTABLE BUILDING (Covered by new section 442.2 / 442.3)**

### **PORTABLE BUILDING EXEMPTED (Covered by new section 442.2 / 442.3)**

### **RELOCATABLE BUILDING**

**Rationale:** The SFM is proposing modifications to the above definitions in coordination with the Divisions of State Architect to clarify the application of California Education Code Section 17070.10 for public school construction. New language with definitions is found within Chapter 4 that eliminates the need for repeating definitions pertaining to schools in Chapter 2. New definition for "Relocatable Building" is required for both Chapter 4 and 9 code provisions for schools.

## **CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

### **442, 442.1, 442.1.1, 442.1.2, 442.1.3, 442.1.4, 442.1.5, 442.1.6, 442.2, 442.2.1 (Replaces 903.2.3.1.1, 907.2.3.7 and 907.2.3.7.1), 442.2.2 (Relocated provisions of 903.2.3.1.1), 442.2.3, 442.3, 442.3.1, 442.3.2 (Relocated provisions of 907.2.3.7.1), 442.3.3 (Relocated provisions of 907.2.3.7.2)**

**Rationale:** The SFM is proposing modification to the above sections in coordination with the Divisions of State Architect to clarify the application of California Education Code Section 17070.10 for public school construction that incorporates state funding for fire alarms and fire sprinklers. Portions being added to Section 442.2 for the situation where state funded projects are unique with special detailed requirements and are seemingly conflicting to non-state funded projects found in Chapter 9. This change of location for the language is to clearly segregate state funded public school construction projects from non-state funded public school construction projects. It has no financial impact to school districts as the changes do not impose new requirements. Renumbering of sections is required to accommodate the modifications.

## **CHAPTER 9 FIRE PROTECTION SYSTEMS**

### **903.2.3, 903.2.3.1, 903.2.3.1.1, 903.2.3.1.2 (Relocated deleted text to 442.2.2)**

**Rationale:** The SFM is proposing modification in coordination with the Divisions of State Architect to clarify the original intent of California Education Code Section 17070.10 for public school construction that incorporates state funding for fire alarms and fire sprinklers. Portions being added to Section 442.2 for the situation where state funded projects are unique with special detailed requirements and are seemingly conflicting to non-state funded projects found in Chapter 9. This change of location for the language is to clearly segregate state funded public school construction projects from non-state funded public school construction projects. It has no financial impact to school districts.

Specifically Section 903,2 have been relocated to 442.2 and modified specifically for there application, 903.2.3 Exceptions 2, 3, and 4, not included because they are not Group "E" occupancy. It was never the intent to include accessory structures or buildings which are non-educational in this section. The requirements for sprinklers would be addressed in their separate occupancy group.

### **907.2.3, 907.2.3.1, 907.2.3.3, 907.2.3.7 and 907.2.3.7.1 (Relocated provisions to 442.2)**

**Rationale:** The SFM is proposing modification to the above sections in coordination with the Divisions of State Architect to clarify the application of California Education Code Section 17070.10 for public school construction. The 2012 IBC has entire fire alarm section dedicated to manual fire alarms for schools; therefore similar provisions are proposed to be taken out of State Amendments 907.2.3.

Exception Section 2.4 has been added to bring consistency with former code language concerning school manual pulls.

The new IBC requirement for emergency voice/alarm communication affects both public and private school projects. An established school campus, in some cases, will not have associated equipment in the existing fire alarm system to accommodate this new provision without additional upgrades and associated costs added to the project. Exception #4 is allowing for this condition.

Code language that is applicable to receiving state funding pursuant to Leroy F. Greene School Facilities Act of 1998 has been moved from Chapter 9 to Chapter 4 for specific application that involves Public School, K-12 projects.

Section 907.2.3 last paragraph was changed to include all fire suppression systems as expressing the intent of this paragraph and the need for all system fire alarm components to be connected to the building fire alarm system.

This change of location for the language is to clearly segregate state funded public school construction projects from non-state funded public school construction projects. It has no financial impact to school districts as the changes do not impose new requirements. Renumbering of sections is required to accommodate the modifications.

### **907.5.2.4**

**Rationale:** The SFM is proposing modification to the above sections in coordination with the Divisions of State Architect to clarify the specific number of exterior audible alarms for playground area(s) and to clarify that all buildings do not require an exterior audible device or multiple devices.

History:

There have been a large number of projects that have been submitted for plan review where design professional placed at least one audible device on the exterior of each building fronting a playground with audible devices on each side of buildings to notify those who are "around" the area(s). This could include a group of several portable buildings each having one to three exterior audible devices. The large number of notification devices reportedly can amplify the alarm sound up to 5 blocks away from the school site, often through residential areas. There have been numerous complaints from residents. The intent of the code is to notify *playground occupants* that there is a fire and not to enter buildings. A single device will be sufficient.

## **CHAPTER 10 MEANS OF EGRESS**

### **1008.1.1**

**Rationale:** The SFM is proposing modification to the above sections in coordination with the Divisions of State Architect is proposing modification to include new requirements of state law found in Education Code Section 17075.50. This change requires that new buildings for K-12 schools that utilize state funding and are submitted to DSA for review of plans after July 1, 2011 shall include locks that allow all doors to classrooms, and any room with occupancy of more than five persons, to be locked from the inside. Doors that are locked from the outside at all times and pupil restrooms are exempt. The purpose of this law is to provide protection to occupants in the event of lockdown of a school during a violent incident. For example, if a gunman goes on a shooting spree a teacher/student can lock the door from the inside and not expose himself to the danger. New code language reflects requirements of the law.

Language not found in former editions of the IBC, IFC, CBC, or CFC

## **\*\*PART 2\*\***

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[46]

The SFM carrying forward previously existing California building standards or amendments, which represent no change in their effect from the 2010 California Building Code and is displayed for context and for the convenience of code users. Furthermore, the SFM proposes to codify non-substantive editorial and formatting amendments from the format based upon the 2009 International Building Code to the format of the 2012 International Building Code.

### **CHAPTER 1**

#### **SCOPE AND ADMINISTRATION**

##### **DIVISION I CALIFORNIA ADMINISTRATION**

###### **SECTION 1.1 GENERAL**

###### **1.1 – 1.1.12**

The SFM is proposing to maintain the adoption of those existing California regulations contained Sections 1.1 through 1.1.12 without modification.

###### **SECTION 1.11 OFFICE OF THE STATE FIRE MARSHAL**

###### **1.11 – 1.11.10**

The SFM is proposing to maintain the adoption of those existing California regulations contained Sections 1.11 through 1.11.10 without modification.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

##### **DIVISION II SCOPE AND ADMINISTRATION**

The SFM proposes to maintain the Division II designation for the IBC Chapter 1 Administrative provisions - Sections 101 through 114.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

### **CHAPTER 2 DEFINITIONS**

#### **201.3**

#### **201.4**

The above Sections as amended or Sections containing California regulations are brought forward without modification. Editorial and formatting revisions that revise section numbers, references to other sections or relocated specific sections have been made due to the restructuring of the model code provisions. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **202 Definitions**

**BUILDING.**

**CLINIC, OUTPATIENT.**

**CONGREGATE LIVING FACILITIES.**

**COVERED MALL BUILDING.**

**Mall.**

**Open mall.**

**Open mall building.**

**DETOXIFICATION FACILITIES.**

**DORMITORY.**

**ENFORCING AGENCY.**

**FIRE APPLIANCE.**

**FIRE-SMOKE BARRIER.**

**HAZARDOUS SUBSTANCE.**

**HOLDING FACILITY.**

**HOUSING UNIT.**

**HOSPITALS AND PSYCHIATRIC HOSPITALS.**

**LABORATORY.**

**LISTED.**

**LIQUID TIGHT FLOOR.**

**LOBBY.**

**MODERNIZATION PROJECT.**

**MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES AND PRODUCTION LOCATIONS.**

**NEW PUBLIC SCHOOL CAMPUS.**

**NONCOMBUSTIBLE.**

**NURSING HOMES.**

**PERMANENT PORTABLE BUILDING**

**PORTABLE BUILDING.**

**PORTABLE BUILDING, EXEMPTED.**

**PROTECTIVE SOCIAL CARE FACILITY.**

**PHYSIOLOGICAL WARNING THRESHOLD LEVEL.**

**RESIDENTIAL CARE/ASSISTED LIVING FACILITIES.**

**RESTRAINT.**

**SMALL MANAGEMENT YARD.**

**STATE-OWNED/LEASED BUILDING.**

**WAITING ROOM.**

The above Definitions as amended or California definitions are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

**AGED HOME OR INSTITUTION.**

**BEDRIDDEN PERSON.**

**CARE AND SUPERVISION.**

**CATASTROPHICALLY INJURED.**

**CELL COMPLEX.**

**CELL TIERS.**

**CENTRAL CONTROL BUILDING.**

**CHILD CARE CENTER.**  
**CHILD OR CHILDREN.**  
**CHRONICALLY ILL.**  
**CONGREGATE LIVING HEALTH FACILITY (CLHF).**  
**CONGREGATE RESIDENCE.**  
**DAY-CARE.**  
**DAY-CARE HOME, FAMILY.**  
**DAY-CARE HOME, LARGE FAMILY.**  
**DAY-CARE HOME, SMALL FAMILY.**  
**DAY ROOM.**  
**ELECTRIC VEHICLE.**  
**FIRE-RETARDANT TREATED WOOD.**  
**FULL-TIME CARE.**  
**HIGH-RISE BUILDING.**  
**Existing high-rise structure**  
**High-rise structure.**  
**New high-rise structure.**  
**HIGH-RISE BUILDING ACCESS.**  
**INFANT.**  
**LABORATORY SUITE.**  
**MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY.**  
**NONAMBULATORY PERSONS.**  
**ORGANIZED CAMPS.**  
**PERSONAL CARE SERVICE.**  
**RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI).**  
**RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE).**  
**RESIDENTIAL FACILITY (RF).**  
**TERMINALLY ILL.**  
**WINERY CAVES.**

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**AGED HOME OR INSTITUTION.**

**BEDRIDDEN PERSON.**

**BOARDING HOUSE.**

**CARE AND SUPERVISION.**

**CATASTROPHICALLY INJURED.**

**CHILD-CARE CENTER.**

**CHILD OR CHILDREN.**

**CHRONICALLY ILL.**

**CONGREGATE LIVING FACILITIES.**

**CONGREGATE LIVING HEALTH FACILITY (CLHF).**

**CONGREGATE RESIDENCE.**

**DAY CARE.**

**DAY-CARE HOME, FAMILY.**

**DAY-CARE HOME, LARGE FAMILY.**

**DAY-CARE HOME, SMALL FAMILY.**

**DORMITORY.**

**FULL-TIME CARE.**

**GROUP HOME.**

**INFANT.**

**MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY.**

**NONAMBULATORY PERSONS.**

**PERSONAL CARE SERVICE.**

**RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI).**

**RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE).**

**RESIDENTIAL FACILITY (RF).**

**TERMINALLY ILL.**

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**HIGH-RISE BUILDING ACCESS.**

**NEW HIGH-RISE BUILDING.**

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**CELL.**

**CELL COMPLEX.**

**CELL TIERS.**

**CENTRAL CONTROL BUILDING.  
DAY ROOM.  
DORMITORY.  
HOLDING FACILITY.  
HOUSING UNIT.  
RESTRAINT.  
SALLYPORT.  
SMALL MANAGEMENT YARD.**

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## CHAPTER 6 TYPES OF CONSTRUCTION

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## CHAPTER 7 FIRE-RESISTANCE-RATED CONSTRUCTION

### 702.1 Definitions.

**ANNULAR SPACE.**

**BUILDING ELEMENT.**

**CEILING RADIATION DAMPER.**

**COMBINATION FIRE/SMOKE DAMPER.**

**DAMPER.**

**DRAFTSTOP**

**F RATING.**

**FIRE BARRIER.**

**FIRE DAMPER.**

**FIRE DOOR.**

**FIRE DOOR ASSEMBLY.**

**FIRE PARTITION.**

**FIRE PROTECTION RATING.**

**FIRE-RATED GLAZING.  
FIRE RESISTANCE.  
FIRE-RESISTANCE RATING.  
FIRE-RESISTANT JOINT SYSTEM.  
FIRE SEPARATION DISTANCE.  
FIRE-SMOKE BARRIER.  
FIRE WALL.  
FIRE WINDOW ASSEMBLY.  
FIREBLOCKING.  
FLOOR FIRE DOOR ASSEMBLY.  
HORIZONTAL ASSEMBLY.  
JOINT.  
L RATING.  
MEMBRANE PENETRATION.  
MEMBRANE-PENETRATION FIRESTOP.  
MEMBRANE-PENETRATION FIRESTOP SYSTEM.  
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## **CHAPTER 7A MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE**

### **701A through 710A.4**

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## **CHAPTER 9 FIRE PROTECTION SYSTEMS**

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#### **902.1 Definitions**

#### **ALARM NOTIFICATION APPLIANCE.**

#### **ALARM SIGNAL.**

#### **ALARM VERIFICATION FEATURE.**

#### **ANNUNCIATOR.**

#### **AUDIBLE ALARM NOTIFICATION APPLIANCE.**

#### **AUTOMATIC.**

#### **AUTOMATIC FIRE-EXTINGUISHING SYSTEM.**

**AUTOMATIC SMOKE DETECTION SYSTEM.**  
**AUTOMATIC SPRINKLER SYSTEM.**  
**AVERAGE AMBIENT SOUND LEVEL.**  
**CARBON DIOXIDE EXTINGUISHING SYSTEMS.**  
**CEILING LIMIT.**  
**CLEAN AGENT.**  
**CONSTANTLY ATTENDED LOCATION.**  
**DELUGE SYSTEM.**  
**DETECTOR, HEAT.**  
**DRY-CHEMICAL EXTINGUISHING AGENT.**  
**ELEVATOR GROUP.**  
**EMERGENCY ALARM SYSTEM.**  
**EMERGENCY VOICE/ALARM COMMUNICATIONS.**  
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**FIRE ALARM CONTROL UNIT.**  
**FIRE ALARM SIGNAL.**  
**FIRE ALARM SYSTEM.**  
**FIRE APPLIANCE.**  
**FIRE AREA.**  
**FIRE COMMAND CENTER.**  
**FIRE DETECTOR, AUTOMATIC.**  
**FIRE PROTECTION SYSTEM.**  
**FIRE SAFETY FUNCTIONS.**  
**FOAM-EXTINGUISHING SYSTEM.**  
**HALOGENATED EXTINGUISHING SYSTEM.**  
**INITIATING DEVICE.**  
**MANUAL FIRE ALARM BOX.**  
**MULTIPLE-STATION ALARM DEVICE.**  
**MULTIPLE-STATION SMOKE ALARM.**  
**NOTIFICATION ZONE.**  
**NUISANCE ALARM.**  
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## **CHAPTER 10 MEANS OF EGRESS**

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**1028.6.4**  
**1028.9.1**  
**1029.1**  
**1029.4**

The above Sections as amended or Sections containing California regulations are brought forward without modification. Editorial and formatting revisions that revise section numbers, references to other sections or relocated specific sections have been made due to the restructuring of the model code provisions. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 11A HOUSING ACCESSIBILITY**

### **1118A.1**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 11B ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS AND PUBLICLY FUNDED HOUSING**

### **1114B.2.1**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 12 INTERIOR ENVIRONMENT**

**1203.1 .**  
**1203.2.1**  
**1203.3.2**  
**1203.4.2**  
**1203.4.2.1**  
**1203.5**  
**1205.4.1**  
**1206.3.3**  
**1209.3**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES**

**1503.4**  
**Table 1505.1**  
**1505.1.1**  
**1505.1.2**  
**1505.1.3**  
**1505.1.4**  
**1505.6**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

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## **CHAPTER 21 MASONRY**

**2113.9.2**  
**2113.11.1.2**  
**2113.15**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

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## **CHAPTER 21A MASONRY**

**2113A.9.2**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 26 PLASTIC**

### **2603.4.1.12**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 27 ELECTRICAL**

### **2701.1**

### **2702.1**

### **2702.2.9**

### **2702.2.11**

### **2702.2.12**

### **2702.2.13**

### **2702.2.15**

### **2702.2.21**

### **2702.3**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 28 MECHANICAL SYSTEMS**

### **2801.1**

### **2802**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

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## **CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS**

**3001.2**  
**3001.4**  
**3001.5**  
**3002.4**  
**3002.4a.1 through 3002.4a.7**  
**3002.5**  
**3002.9 through 3002.9.5**  
**3003.2 through 3003.2.1.2**  
**3003.3**  
**3004.1**  
**3004.3.1**  
**3006.4.1**  
**3006.5**  
**3007.1**  
**3007.2**  
**3008.1.2**  
**3008.2**  
**3008.2.1**  
**3008.3.1**  
**3008.7.6**  
**3008.8.1**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

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## **CHAPTER 31 SPECIAL CONSTRUCTION**

**3102.1**  
**3102.3.1**  
**3103.1**  
**3105.4**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

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## **CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION**

**3309.2**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## **CHAPTER 34**

## EXISTING STRUCTURES

**3401.3**

**3401.7**

**3411.8.2**

**3413 through 3413.13.3.3**

**3414 through 3414.27**

**3415 through 3415.8**

**3416 through 3416.7**

The above Sections as amended or Sections containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

## CHAPTER 35 REFERENCED STANDARDS

### ASME

A17.1/CSA B44—2007

### BPE – 2009

### ASTM

E648–04

E662–09

### FM

3260–00

3011–99

4430–80

### ICC

~~ICC/ANSI A117.1—09~~

ICC 300—12

~~IBC—12~~

~~IFGC—12~~

~~IMC—12~~

~~IPC—12~~

~~IPMC—12~~

~~IRC—12~~

ICC ES AC 331

ICC ES AC77

~~WUIC—12~~

### NFPA

92A—09

170—09

### SFM

SFM 12-3

SFM 12-7-3

SFM 12-7A-1

SFM 12-7A-2

SFM 12-7A-3

SFM 12-7A-4

SFM 12-7A-4A

SFM 12-7A-5  
SFM 12-8-100  
SFM 12-10-1  
SFM 12-10-2  
SFM 12-10-3

**UBC**

UBC Standard 15-2  
UBC Standard 15-3  
UBC Standard 15-4

**UL**

13-96  
38-99  
193-04  
199-95  
217-06  
228-97  
260-04  
262-04  
268A-98  
312-04  
346-05  
464-03  
497B-04  
521-99  
539-00  
632-00  
753-04  
813-96  
864-03

The above reference standards as amended or reference standards containing California regulations are brought forward without modification. There is no change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2012 International Building Code and published as the 2013 California Building Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

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

(Government Code Section 11346.2(b)(2))

The SFM did not rely on any technical, theoretical, and empirical study, report, or similar documents outside of those contained in this rulemaking in proposing that CBSC adopt said model code as a reference standard for the placement of existing SFM regulatory amendments for the California Building Standards Codes.

**STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:**

(Government Code Section 11346.2(b)(4)) 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 model code any additional building standards proposed are offered in typically both a prescriptive and performance base. The nature and format of the model code adopted by reference afford for both methods, the following is an general overview of the model codes proposed to be adopted by reference as well as state modifications:

This comprehensive fire code establishes minimum regulations for fire prevention and fire protection systems using prescriptive and performance-related provisions. It is founded on broadbased 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 particular types or classes of materials, products or methods of construction.

The International Building, Residential and Fire Code provisions provide many benefits, among which is the model code development process that offers an international forum for building and fire safety professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

#### **CONSIDERATION OF REASONABLE ALTERNATIVES**

(Government Code Section 11346.2(b)(3)(A))

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)(3)(B))

The SFM has determined that no alternative available that 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, no alternatives have been identified or that have otherwise been identified and brought to the attention of the SFM that would lessen any adverse impact on small business.

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

(Government Code Section 11346.2(B)(4))

The SFM has made an determination that this proposed action will not have a significant adverse economic impact on business. Health and Safety Code Section 18928 requires the SFM, when proposing the adoption of a model code, national standard, or specification shall reference the most recent edition of the applicable model code, national standard, or specification. Therefore, there are no other facts, evidence, documents, testimony, or other evidence on which the SFM relies to support this rulemaking.

#### **DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS**

(Government Code Section 113465.2(b)(5))

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

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